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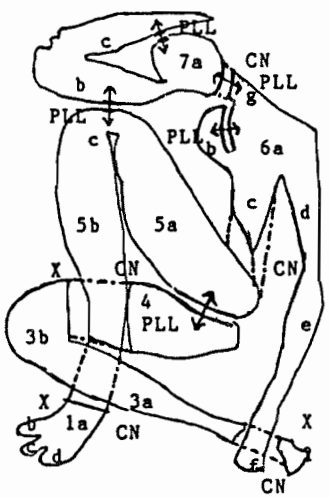
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Göran Sonesson

Pictorial concepts

Inquiries into the semiotic heritage and its relevance for the analysis of the visual world





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Pictorial concepts

Inquiries into the semiotic heritage and its relevance to the interpretation of the visual world

Göran Sonesson



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Abstract

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Pictorial concepts is a critical survey of the theories developed within the recently emerging field of pictorial semiotics, a science which studies the laws and regularities attendant on each and every case of depiction. Taking a critical but conciliatory stance vis-à-vis the divergent traditions of semiotics, the author searches for the common denominator of their concepts which he then proceeds to integrate into a comprehensive framework.

Three problems, in particular, have been addressed: the way in which the pictorial sign points to the world of perceptual experience (iconicity); the manner in which the visual fragment it frames is connected to the visual world at large (indexicality); and the way in which a surplus of meaning is produced by the picture itself (plastic language and connotation). These issues are discussed, taking account of all relevant theories developed within European and American semiotics, as well as of some facts and conceptions stemming from cognitive psychology, linguistics, and philosophy.

The value and limits of the linguistic model are fully appraised, the reasons for the downfall of structuralism are elucidated, and more important semiotic conceptions, such as the Greimas school and the Groupe μ, are given their due. The methods employed are those of argumentative analysis and critique, as applied to the theories, and of "text" analysis, as far as the pictures are concerned.

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Para Ana-en-el-país-de-las-maravillas.

Preface and Acknowledgements

This is, I am afraid, a curious book, for, while it is designed to show the viability of the semiotic approach, it reads mostly as a chronicle of errors and fallacies, attributed in part to some of the most celebrated exponents of latter-day semiotics. Thus, to the opponents of semiotics, the book runs the risk of demonstrating what they thought they knew all along; whereas, at the same time, it could be taken by semioticians to contain an insidious attack on an endangered cause.

The subsequent pages will sufficiently make clear the importance of semiotics as an indispensable tool of intellectual understanding in our time. Furthermore, the best way to make progress in an emerging discipline must be to apply a thorough-going critique, not to the work of its most confused and feeble representatives, but to that of the best thinkers in the field; for the errors of the latter, even if based largely on simple misunderstanding of terms, stand a greater chance of being illuminating. On such a general call for rationality I must rest my case, until the reader is ready to assimilate the concrete results presented in the following.

We will be concerned with understanding then, not only what is wrong with the linguistic model in semiotics, but also in what respect the model may not be all that mistaken after all. In a sense, what follows is a review of a number of theories pertaining to the nature of the pictorial sign and, more broadly, the nature of pictorial meaning as conceived in semiotics and some neighbouring fields. As the subtitle indicates, we are even interested in accounting more generally for the way meanings are visually conveyed.

In addition, we will also propose a few contributions to general semiotics. The first part, notably, tries to bring an array of semiotical theories down to their common denominator, and is thus general in import, though the issues are most of the time illustrated with pictorial examples. Chapter I.4. discusses *figurativity* and *operativity* on a quite general basis. Our close reading of Hjelmslev's theory of *connotation,* followed by a critique of what Hjelmslev *really* said, in chapter II.4., should be of general semiotic interest, and is of necessity largely based on linguistic examples. Also our discussion of features, in III.4., hopefully forms part of that semiotics whose laws are, as Saussure said, *also* applicable to linguistics.

The research reported here, as well as the printing of the manuscript, was made possible by grants from the *Swedish Research Council for the Humanities and Social Sciences* (HSFR). Thanks are due to the members of the Aesthetics Commission of that Council, for suggesting in 1982 the creation of a Semiotics Project, and in particular to professors Gram-Holmström and Sandström, who took on the administrative responsibility for the project at its initiation, as well as to professor Furuland, without whose unfailing support the project would not have been able to survive so many vicissitudes.

The original impetus for the contrastive discussion of the work of Barthes and Floch, in part II, stems from the preparation of a course on pictorial semiotics, given at the *Institute of Art History* at *Lund University* at the suggestion of Jan-Gunnar Sjölin. The ideas underpinning the discussion of *connotation* in II.4., and the critique of the triple cinematographic *articulation,* evolved from the material prepared for a course given in collaboration with Jan Olsson at the *Department for Theatre, Drama, and Film,* at *Lund University.* Some arguments here, however, have come a long way, developing out of the work I did at the *Escula Nacional de Antropología,* and

in the *Centro de Estudios Mayas,* in México D. F., during the fateful years of 1981 and 1982. In a more indirect way, many preoccupations already present in my theses in linguistics and semiotics (1978) finally bear fruit here. I would like therefore to acknowledge what, in my very peculiar way I am afraid, I learnt from my thesis tutors, professor Malmberg at *Lund University*, and professor Greimas at *Ecoles des Hautes Etudes en Sciences Sociales.*

Most sections of part one, and the initial chapter of part two, were discussed at the *Semiotics Seminar,* which I led at the *Institute of Art History* in Lund, beginning in 1985. I owe a lot to the active members of that seminar, whose questions have forced me to make my arguments more explicit, and to illustrate them more thoroughly with pictorial examples. I am grateful to some of the authors discussed, notably the semioticians Bouissac, Floch and Thürlemann, and the psychologists Gardner and Winner, who have greatly facilitated my work by sending me some of their as then unpublished, or recently published, articles.

I would also like to thank professor Sandström, as well as senior lecturers Sjölin at the Institute of Art History, Lund, Pettersson, at the Institute of Linguistics of that same university, and Sörbom, at the Institute of Aesthetics in Uppsala, for having read and commented on the manuscript.

A very special thanks is due to Thore Pettersson, for having sent out a missive to faraway Mexico in 1982, informing me that Sweden was ready at least to receive some small dose of semiotics. I also owe an immense debt to Professor Sven Sandström, not only for having accepted to house the project at his institute, but for all he has done to further the project through the years. Here I stop, because I still have to discover a semiotic system sufficiently subtle to express even a small amount of what I owe to my companion, Ana Tejera.

Malmö/Lund, Sweden, 1983 to 1987

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Introduction:
Pictorial semiotics – between the Procrustean bed and the Tower of Babel

The distinguished art historian E. H. Gombrich predicted, as early as in 1960, that his own discipline was to be increasingly supplemented in the future by inquiry into "the linguistics *of the visual image": (p. 7; my italics). He may have regretted the exact wordings of his prognostic, when, later on in the sixties, the formula was taken quite literally by newly-fledged members of that emerging species, the semioticians. Indeed, Umberto Eco (1968), starting out from Gombrich's own comparison between Constable's "Wivenhoe Park", and a number of photographs taken from the same location, busied himself showing that pictorial signs were just as conventional, discrete, and doubly articulated, as verbal signs have been demonstrated to be. Eco (1976) was soon enough to revise this stance somewhat. As late as 1978, however, the celebrated psychologist J. J. Gibson complained that, whereas the science of language is well established, nothing even approximating a "science of depiction" exists (p. 228; my italics). No doubt Gibson ignored the fact that, by that time, pictorial semiotics was flourishing in quite different quarters.*

But could then pictorial semiotics be that science, in some sense parallel to linguistics, invoked by Gombrich and Gibson? Perhaps Gombrich was really thinking of some more local development within the limits of art history; but that would be to neglect the fact that most pictures ever made, and made today, were never meant to be products of art. As for Gibson, he may well be referring to the important contributions towards a psychology of picture perception made at the time, and even a little before that, by Gibson himself, as well as by Hochberg, Kennedy, Hagen, and others. But, to pursue the parallel, psycholinguistics is not linguistics, and so the new "science of depiction" cannot simply be a section of psychology.

Or rather, psycholinguistics does not exhaust linguistics, and so we should also expect there to be more to the "science of depiction" than the psychology of picture perception. For although that is implied by the comparison with linguistics as we know it from the present century, psychology does not have to be rejected as a part of this new science. Indeed, both Saussure and Chomsky paid lip-service to the idea that linguistics is a part of general or cognitive psychology; but they, as well as their followers, have all denied the relevance of psychological methods and results to the linguist's craft, defending the rights of what came to be known as "pure" or "autonomous" linguistics. As a methodological postulate, this contention proved productive for a time, but today, it appears to be nothing more than a curious revival of the doctrine of the double truth, which one would have thought had become extinct, as the divorce of Philosophy and Theology was consummated at the end of the Middle Ages. The linguistic autonomy postulate, however, has been taken over by certain schools of semiotics where, because of the wider scope of semiotics, it makes even less sense. At the same time, linguistics itself at last seems to be becoming more "integral" (cf. Sonesson 1979a), constructing its model from the conjoint evidence of grammar and psychology (as for instance in Miller & Johnson-Laird), as well as from that of sociology, anthropology, and other disciplines. Also, as Chomsky indicated while doing everything to avoid its implementation, linguistics is becoming a part of cognitive psychology, and thus also of cognitive science, which now increasingly integrates the efforts of psychology, artificial intelligence, and philosophy (cf. Gardner 1984; 1985; Glass et al. 1979; etc.). It remains to be seen whether one day, following Saussure's premonition, linguistics, as a part of semiotics or semiology, will emerge as a part of social psychology, itself a part of general psychology. A better bet for the moment, however, is that semiotics, perhaps with the rest of social psychology, will also enter the framework of cognitive science.

Meanwhile, pictorial semiotics may really turn out to be that science of which Gombrich and Gibson are the prophets. Like the science of language, it is concerned with discovering general, not particular facts, and so to

inform us about depiction, and about the picture in general, not about individual pictures. Its methods are varied, comprising, in addition to textual analysis taken over from linguistics (and almost always misinterpreted), the well-known experimental method found in psychology, and the method of imaginary variation employed in philosophy. Or, at least, these are the methods used by numerous investigators claiming themselves to be semioticians. This raises questions as to the specificity *of semiotics, and as to the legitimacy of construing it as a separate discipline; and indeed, these issues will be addressed in our first part, particularly in the first chapter.*

The shortcomings of pictorial semiotics are largely those found in semiotics generally. It is disturbing to find that, of two researchers devoted to the resolution of the same problem, one will declare himself to be doing semiotics, while the other believes himself be proceeding along the traditonal lines of psychology, sociology, anthropology, art hisory, literary history, or what have you. Two other issues, both of which can be epitomized by the dizzying dialectics of the Procrustean bed and the Tower of Babel, appear to be problematic, and have determined the approach taken here: the seeming incompatibility of different schools, conceptions and traditions inside the field of semiotics; and the use by many semioticians of linguistic concepts, the meaning of which they appear to ignore.

To the outsider, semiotics may well seem a Procrustean bed, as Wendy Steiner (1981:9) aptly puts it; but the initiated, according to the same observer, is more likely to be reminded of the Tower of Babel. In fact, the emic *and* etic *approaches, the perspectives of the participant and of the uncommitted student, are, as anthropology teaches us, complementary, and so semiotics could well turn to be both a bit Babylonian and somewhat Procrustean in essence. The most well-known form of semiotic Procrusteanism is of course the employment of the linguistic model in the interpretation of objects which are not themselves linguistic, or not merely linguistic. We will return to the problems of linguisticism below. As for semiotic Babylonianism, it is well provided for, thanks to the existence of numerous schools, which actively ignore each other, using different terms for identical phenomena, and even taking over the terms from Saussure, Hjelmslev, Jakobson, Peirce, Chomsky, or some other of the putative foundingfathers, in different and differently deviant senses. Numerous results, theories, models and descriptions turn out to be incomparable – and that is disastrous to a discipline that aspires to be a science of general laws.*

Thus, to contain our several Babylonians we will construct our own Procrustean bed, out of the debris left by the multifarious semiotic heritage; but our bed has been made by measure so as to hold the central parts of most Babylonian bodies, and instead of just cutting off the protruding parts, we have tried to find extra beds for them. Differently put, one of the aims of the present work is to reduce a number of semiotic theories to their common denominator, in order to be able to discover and evaluate their real differences. This is the task, in particular, of the first part, and it is most explicitly addressed in the first chapter.

And this again brings us to the problem of semiotic specificity. For while the doctrines and methods of two semioticians may prove to be incompatible, some semiotic work is hardly to be distinguished from contributions made to other disciplines. This is not only a problem of definition and delimitation, however. Often enough cognitive psychology, the psychology of perception, and more broadly, cognitive science, seem to be talking about the same or similar things in yet another Babylonian dialect. Thus, we have also tried to reduce elements of these sciences to our ecumenic semiotic framework, so as to be able to borrow freely from their particular results, as well as from their more general insights. Such a procedure really reflects our suggestion, made in the first part, that the three methods of semiotics must be brought to bear on each other's results, if ever an integrated framework of semiotics is to evolve. For the three methods of semiotics are also those of linguistics, psychology, and philosophy.

The indebtedness of semiotics to these three disciplines not only stems from the issue of methods, however. Philosophy, linguistics, and some provinces of psychology have indeed been the only places where, outside semiotics, questions of meaning *could be discussed, and we shall not hesitate to invoke the results of these discussions, nor to compare them with the doctrines of contemporary schools of semiotics. As to the privileged case of linguistics, we will take a complex stand. While the linguistic model was much abused in the sixties, it had in fact a heuristic value; and it is to be regretted that in most parts of the semiotic movement the model has now been thoroughly rejected, without the different levels of the comparison involved having been distinguished, for while there is little reason to suspect that something similar to the phoneme, or to word order, can be found in every single semiotic system, the auspices for discovering in each case a relation of the general type of the sign function would appear to be much better. It is with the utmost caution then, that we must treat the linguistic metaphor in semiotics.*

But it so happens that the linguistic Procrusteanism of early semiotics was a Procrusteanism that failed as such, both conceptually and methodologically. As for the latter failure, we show in the first part that not even Lévi-Strauss managed to be a structuralist, *in the sense given to that term in linguistics, for his preconceptions are from the very beginning quite opposed to the postulates of the structuralist method: yet this is perhaps what saves Lévi-Strauss's work from complete irrelevance. Now, it is obvious to anyone trained in linguistics that Lévi-Strauss, as well as many of the most celebrated*

semioticians, have a very shallow understanding of linguistic concepts, and so their analogies, as pointed out, in particular by French linguists, can hardly be trusted. But we must go beyond such facile observations, unearthing the reasons,deeply embedded in the objects of study, which make the linguistic parallels miscarry, then use these as points of departure for the construction of new and better models. This is also why, particularly in the third part, we shall discuss theories which have possibly already been abandoned by their originators. Thus, for instance, Eco's doctrine of the triple cinematographic articulation, and of the double articulation of still pictures, will be subjected to extensive criticism, not to shoot at a dead hobby horse, but in order to discover the reasons for its deathly pallor. When we have grasped not only that *the very terms of the comparison fail to apply to pictures, but also* why *this must be so, we shall have also begun to comprehend just a little more about pictures.*

As for cognitive psychology, we shall refer not only to some of its particular results but to some fragments of its conceptual framework, which may be profitably invoked also in semiotics: hence, in the third chapter of the first part, the concept of the prototype category; *and in the last chapter of part three, the models of similarity and comparison. More extensively we discuss different theories of perceptual psychology as they relate to picture perception, in the first four sections of chapter three, in part three. Interestingly, evidence for these different perceptual theories is not so much derived from traditional experimental techniques as from rather philosophically sounding elucidations of perceptual consciousness, and from the (very cursory) application of "text analysis" to elementary pictures. Thus, while psychology remains distinct from semiotics, we are on familiar ground.*

This brings us to the last and perhaps strangest of the fellows invited into our Procrustean bed: philosophy mainly represented here by Husserlian phenomenology. Thus, the first part of the book notably in its first two chapters, will take up the work of a number of authors, who may be claimed equally for philosophy and semiotics; and we will even discuss a few philosophers who would certainly resist being labelled semioticians. But phenomenology will occupy a very special position in this work. We will even allow it to determine some of the dimensions of our Procrustean bed (so as to make it somewhat less Procrustean). This is not only because one of Husserl's earliest articles was entitled "semiotics" (Husserl' 1891) or because, under other labels, his works cover such a wealth of semiotics topics that their study could, in Lange-Seidl's (1986:177) words become "a bonanza for semioticians". More importantly, unlike most other recent philosophies, phenomenology, in the work of Husserl himself and in that of such comparatively orthodox followers as Gurwitsch, Schütz, Strasser, Luckmann, Holenstein, and to a certain extent Merleau-Ponty, is concerned with meaning in the most general sense, beginning with perception, not only with linguistic meaning. Also, it directs our attention to "the world taken for granted", and thus helps us to evaluate the different models proposed by semioticians which often enough, I believe, tend precisely to take too much for granted. Of course, our own use of phenomenology will be largely derivative, but we shall propose some refinements, of the notion of appresentation *and, at the end, even of the repertory of regularities found in the* Life-world.

So far, I may have given the impression first, of finding more faults with present-day semiotics than good points, and, in the second place, of being willing to reduce it to psychology, philosophy, and linguistics – so the question then arises why we should bother about semiotics at all. The whole of this book is designed to answer that question; but some elements of the answer can still be given here. To begin with, semiotics is probably no more confused than most other sciences, at least as they were at the time of their institutional consolidation. Secondly, there is no doubt a lot of bad work in semiotics, as in all sciences, but the kind of errors discussed here are "intelligent mistakes", only so little off the mark that it is worthwhile retracing the steps. Thirdly, at lower levels of generality than those we have so far considered, remarkable feats have been accomplished by semioticians and, to my mind, particularly so in pictorial semiotics. in this book we owe innumerable insights to the excellent "textual analyses" applied to pictures by Floch, Thürlemann, Groupe μ, Tardy, Gauthier, Koch, Nöth, Hünig, Williamson, and others, as well as to the more theoretical and/or experimental contributions of Krampen and his collaborators; and to Lindekens, Gubern, Vilches, and Perez Tornero. It has been impossible to do justice to many of these writers in the present context, but the work of the first set of authors has determined an important method of this survey, which consists in the analysis *of other semioticians'* analyses, *being at the same time a* meta-analysis *of their analyses, and a renewed analysis of the object studied. Again, these re-analyses have been worthwhile for the very reason that the analyses were so good to begin with.*

What, then, about the unity, and the specificity of semiotics? This question will be taken up in the first chapter of part one, where a number of suggested criteria of delimitation will be tried out and found wanting: the doctrines of the founding-fathers Saussure and Peirce; a specific method; extrapolations from the linguistic model; and, with seemingly more luck, a specific attitude. Although this must seem paradoxical to those who still remain with the idea that semiotics is an ahistorical science, we will suggest that semiotics is best viewed as a particular intellectual tradition, which hands down a series of connected problems through the centuries. As it happens, these problems are roughly the same as those treated by the French "ideological" school, to

which semiotics is historically connected, as well as by the participants in the discussion about the Geisteswissenschaften, which means they are the basic questions common to the human sciences and to all social practice; but semiotics takes a more empirical approach to these questions – or rather, it tries to bring wide-ranging theories in somewhat closer connection to what we have, and can produce, from empirical evidence.

The title of our first part should not be taken too literally; it is in part a pun on the objects, some Northwest coast masks, considered in that analysis of Lévi-Strauss's particularly discussed in the course of this part; but beyond that, it is also meant to suggest that, when closely scrutinized, Lévi-Strauss emerges as much less of a structuralist than he himself believes. As we said above, he is far from being alone in that, and he is rather fortunate in not being a structuralist, since the world of our experience may well contain fewer structures, in the strict sense of the word, than was once believed. The general idea of this part is indeed that we must go beyond structuralism, not to "post-structuralism", whatever that is, but to some position from which we can still give structuralism its (limited) due. After the chapter on semiotic specificity, referred to above, there follows a chapter which contains a thorough discussion of the different meanings given to Indexicality, a notion that seems confused already in the work of Peirce, and which has become increasingly so ever since; but the central part of the chapter is preceded by a description of Husserl's theory of the Lifeworld, reviewed in relation to some relevant material from the psychology of perception. The third chapter tries to make sense of the notion of category, and of various conjunctions of categories, such as hierarchy, structure, and configuration. The fourth chapter then relates the work of Piaget and Lévi-Strauss on the one hand, and of Piaget and Husserl on the other, and reconsiders Lévi-Strauss's myths in relation to the distinction between "operativity" and "figurativity", as made by Piaget and Gardner. Throughout this first part, general semiotical problems are thus discussed but, whenever possible, pictures or other types of visual signs are used for illustration.

Just as indexicality is epitomized in the first part, the idea of a secondary language is the pervading theme of the second part. Two types of secondary language are examined: connotational language, as defined by Hjelmslev and made popular by Barthes, and plastic language, introduced independently it would seem, by Floch and Groupe μ, in opposition to iconic language. In the first chapter, we review in detail Barthes's analysis, establish the existence of at least four quite unrelated notions of connotation, and show that none of these have anything to do with Panofsky's iconological levels. Because of some problems with the interpretation of connotation, as the term is used by Barthes, in the second chapter we turn to the consideration of some semiotical and philosophical theories concerning meaning as use, and use as meaning, as well as about meaning as identification. The third chapter then scrutinizes, among other things, two of Floch's pictorial analyses, pointing out the interest of the approach as well as the problems it raises. Psychological evidence is also brought to bear on some of the central presuppositions of these analyses, in particular on the notion of "semi-symbolicity", which seems close to Piagetian "figurativity" examined in the first part. The second part then concludes with a close reading of Hjelmslev's own text on connotation, which also includes some discussion of the consequences of this concept for the various sign functions, and of the applicability of this "orthodox" concept of connotation to pictures.

The theme of our third part is, first, iconicity as a possible candidate for the definition of the pictorial sign, and then increasingly, the specific character of pictorality. Peirce's theory of signs in general, and his theory of icons in particular, are explored in the first chapter, where they are also contrasted with Saussure's conception and related to the theory of one predecessor, Degérando. We also consider the possibility that iconicity, in the sense of similarity, may have a function different from the motivational one, in the pictorial sign. The second chapter extensively reports and evaluates a number of conventionalist critiques of similarity theories for pictures, from Bierman, Burks, and Greenlee, to Goodman, Eco, and their respective disciples. Then in chapter three, evidence and theories concerning the same issue, but stemming from the psychology of perception, are reviewed, together with the observations of Wollheim and Husserl, which are closer in spirit to perceptual psychology.

Against this background we proceed to examine the different meanings of the notion of feature, as found in linguistics, perceptual psychology and semiotics. In the rest of chapter four, we first expose the confusions behind the application of the concept of double articulation to pictures, and then we show that in the pictorial sign there is nothing similar either to the first or to the second linguistic articulation, but a different process, which we term resemanticization. Chapter five is concerned with the study of some of the dimensions along which pictures may vary, and in so doing, analyzes both a cut-out by Matisse and some comic strips. After the internal comparison there follows an external one, where the pictorial sign is contrasted with other iconical signs, such as the metaphor, the dummy and the symbol (in the European, not the Peircean sense). And this comparison, which forms our sixth chapter, concludes the third part, and also this book.

Since this is not a philosophical treatise, we will not have arrived, at the end, at a complete and entirely coherent doctrine of the pictorial sign. Rather, we will have staked out some blind alleys of pictorial semiotics, and this may in due time permit us by implication to close in

on some of the real thoroughfares. Meanwhile, I believe, semiotics will have become somewhat less Babylonian and also, with luck, somewhat less Procrustean. But then again, that can only be the judgement of the initiated.

Part I.

Unmasking Levi-Strauss; or: beyond structuralism in semiotics

"Dans les catégories, on erre; hors d'elles, au-dessous d'elles, en-deça d'elles, on est bête."

Foucault 1970:902

Almost anything, it would seem, may be termed semiotics – as a number of semiotic congresses (notably Chatman et al. 1979; Borbé 1983) have shown us by now. On the other hand, what seems on the face of it to be the same kind of study is claimed to represent a semiotical approach, only to be called psychological, sociological, philosophical and so on, in another context. If we are to avoid being silly, as the term is explicated by Foucault, we will have to start fixing the category of semiotics. The bulk of the first part, and in particular the first chapter, is concerned with the putative specificity of semiotic studies. Considered from the different vantage points of its history, its models, its methods and its point of view, semiotics (i.e. a fair amount of extant semiotic theories) emerges as a discipline whose originality consists in treating meaning *as meaning* (which of course leaves us with the question what meaning *is*).

But if semiotics manages in that respect to steer clear of the "nothing-but-ness" (Cf. Koestler 1978) of other approaches, it appears to be rather reductionist on another count, treating all meaning as being of a kind. Taking our inspiration from phenomenology as well as from cognitive psychology, we will argue for a revisionist version of semiotics, which admits of many meanings of meaning, not because semioticians are silly, as Ogden & Richards would seem to think, but because meaning itself is multiple. This position will permit us to expose the insufficiences of the linguistic model in semiotics, while refraining from rejecting it altogether, at the same time as we promote a version of the medical model adapted from Sebeok (I.1.2.). In the same vein, we will retain the notion of *structure* (in the sense of structuralist linguistics), and yet argue against its universal validity, showing its non-operativity in much of would-be structuralist work, as in that of the structuralist cultural hero Lévi-Strauss. Beyond signs and structures, more elementary meanings of meaning will emerge from our discussion of the contexts of perception (I.2.) and of the *Gestalten* and other kinds of wholes redeemed by recent perceptual psychology (I.3-4). As Mukařovský intuited long ago, not all wholes are structures – and neither are they configurations.

In the second chapter, the Greimasian notion of a semiotics of the "natural world" is compared to Husserl's idea of a *Lifeworld,* the "world taken for granted", which forms the basic layer of signification. Using the "medical" model to analyze perception, we set the frame for a critical look at Peirce's theory of abduction and of indexical signs. The extremely varied meaning relations resulting from our reanalysis will be shown to be operative at different levels of pictorical meaning. *Indexicality* – which can in the end only be understood as the general connectedness of the perceptual world – turns out to be fundamental, not only for the divergent professions of Sherlock Holmes and the ethologist, but for the everyday practices of the common sense world.

As we consider all semiotic theories to be basically theories about the spontaneous categorizations taking place in the Lifeworld, we go on, in the third chapter, to investigate the nature of the category of category, and then have a look at various complications of the categorical framework: hierarchies of categories, oppositions, and other relations. What is important here is the converging evidence, stemming from cognitive psychology, phenomenology, and art history, that "natural categories" tend to be organized around *prototypes,* rather than being defined by sufficient and necessary attributes. At the end of this long theoretical journey, we will at last see clearly what went wrong, when Lévi-Strauss faced the Northwest Coast masks.

Those *quadratures of the hermeneutic circle* that we consider next are further complications of the category, such as the semiotic square, the proportionality, and the sign. Similarities between Lévi-Strauss and Piaget, pointed out by the psychologist Gardner, and between Piaget and Husserl, remarked on by the phenomenologist Gurwitsch, are examined, while figurativity and

operativity are both given their due. In spite of the effort given here to formalization, we do not pretend to be able to quadrate the hermeneutic circle entirely, for in the end, figurativity must be irreducible. It may be helpful, nevertheless, both to inscribe and to circumscribe the circle, for – so the argument goes – that is what we all are doing, in the practice of the Lifeworld, all the time.

Chapter I.1.
The quest for semiotic specificity

> *"/. . ./ it is fitting to speak of every human cognitive reaction – perceiving, imaging, remembering, thinking, and reasoning – as an* effort after meaning."
>
> *Bartlett 1932:44*

If it was not born out of the spirit of structuralism, semiotics may perhaps be explained, contrary to that very spirit, from the history and traditions of the inquiry into meaning (I.1.1.). Then again, even history may need a principle of organization to become visible, and in the present case that principle may stem from the attachment to certain models (I.1.2.), from the recourse to specific methods (I.1.3.), or, in a peculiar sense, from the choice of a particular point of view (I.1.4.). We will consider these possibilities in turn. However, the answer, as is often the case, will turn out to be rather more complex than the question. Therefore, the questions raised in this chapter only serve to prepare a more extensive treatment.

I.1.1. In search of history – Regilding the legend

Even the Ancient Greeks pondered, among other things, the meaning of meaning. So one may want to say, with Sebeok, that semiotics takes its origin from Hippocratic medicine och Stoic philosophy, or alternatively, following Todorov's interpretation, that the Sceptics of Late Antiquity and, in a deeper sense, Augustinus, initiated proper semiotical investigations. But if one thinks that a science is born only when a new domain of knowledge has been delimited and given its specific name, when an object of study has been defined and at least some concepts that may serve to develop the domain of investigation have been eloborated, then John Locke seems to be the real father of semiotics. Indeed, he divided all human knowledge into three parts: physics, pragmatics, and semiotics, and he assigned to the latter branch the task of studying "the nature of signs the mind makes use of for the understanding of things, or conveying its knowledge to others" (Locke 1690), which still seems an interesting characterization of the semiotic domain of study. Or course, as we shall see, not all meanings are signs, but the fundamental problem with this definition is another one, which is of a structural type: considered as elements in a partition of the whole field of human knowledge, physics would seem to correspond to all the natural sciences of our day, pragmatics turns out to be our ethics, and semiotics would be coextensive with the whole of present-day humanities and all the social sciences. Now what could be the point of returning to that indistinction of the different sciences, if that is really what semiotics is all about? But the meaning, the *telos* of the history of semiotics, if there is any, is not necessarily contained in its origins.

Semiotics, then, was neither invented, nor rediscovered by Saussure and Peirce around the turn of the century, as one golden legend has it. Rather, beginning with Locke, there seem to be two separate, more or less continuous traditions of semiotic studies which reach the present, one of them more philosophically-minded, predominantly German and occupied with the classification of signs into types, the other one French in its origins and more concerned with the empirical study of signifying phenomena and the development of methods adapted to that study. The first tradition takes its origins from Leibniz and Lambert, immediately following Locke, and goes on with Bolzano, Husserl, and Peirce in the 19th century, to be continued at the present not only by Orthodox Peirceans, such as Bense, Walther, and Deledalle, but also by more original sign classifiers, such as Eco, Sebeok, and Thom.

Meanwhile, the followers of Locke in France, Condillac and the "ideological school", began breaking down signs into their elements and attending to their interrelations, and thus anticipated and probably inspired Saussure (as Aersleff has shown), through the intermediary of Taine and Bréal. Saussure, in his turn, not only profoundly influenced most of contemporary linguistics but was also the fundamental source of a number of more general semiotic approaches, from Russian Formalism, the Prague School, and Hjelmslevian Glossematics, to French Structuralism.

Despite this long history, the "ideologues" appear to have a clearer conception of semiotics, which they called "ideology", than their latter-day followers. They originated the different social sciences (including the term, as Gusdorf observes) as well as the humanities, but they also felt the need for an "analyse de nos sensations et du nos idées", which was to form the basis of all the other sciences, since every science must "procéder du connu à l'inconnu", as Daube (1805:3) put it, implying that nothing is better known to us than our own ideas. That, of course, is doubtful, and so is the sensationalist atomism which was the ideology, in the colloquial sense, of "ideology" (but cf. on Daube in I.3.4.). What is important, however, is that "ideology" is given a position in relation to the other sciences, which semio-

tics has yet been unable to establish for itself, although Saussure claimed its position was determined beforehand. Destutt de Tracy even anticipated Saussure in affirming that "ideology" should formulate general laws, like physics.[1]

Something more than the delimitation of a particular field of study may be required, if semiotics is to exist as a separate science: perhaps a peculiar method, some particular procedures of analysis, a system of analytical concepts. Once again, the "ideologues" anticipated Saussure and the Prague school, but a more systematic and repeatable framework was designed only by Hjelmslev and the Greimas school and used in the analysis of numerous objects. Only in the hardline version of the Stuttgart school has Peircean semiotics served as a method of analysis, applied to individual works. A further requirement for the constitution of a science might be the existence of separate institutions; then, if we except the institutions of "Ideology", which were short-lived *as* "ideological" institutions, semiotics is a very recent phenomenon indeed, beginning in the sixties of the present century with the research centres in Paris, Bloomington, and Tartu; the yearly reunions in Urbino, Toronto, and Alby; the International Association for Semiotic Studies with its enormous congresses in Milan 1974, Vienna 1979, and Palermo 1984; and a lot of national and international semiotic journals, linked to national and local associations. Only in the contemporary world, then, has semiotics become a hard institutional fact, which could itself be made an object of a semiotic investigation. It is difficult to believe that today's semiotic institutions could still disappear as completely as the "ideological" ones did. On the softer level of ideas, however, "ideology" may well be the one most solidly founded.

Is this, then, the authentic history of semiotics – or just another legend? Surely, it must be one of the true histories of semiotics. If there is no unique causality in history, as Weber has argued, if time is an entangled, interlocking web of influences, actions, and retroactions, and if meaning is bestowed on the act, not while it is acted out, but in a retrospective view, from the point of its completion as Weber and Schütz claim (and as Pasolini has said about life seen from the moment of dying – and about film), then there will be many possible and true histories of semiotics, as of anything else; and then our version, like all others, can only be justified as a series of approximations to present-day semiotics, or to a particular conception of what semiotics should be like.[2] We are not falsifying history, but only following one of the strings in Ariadne's ball (cf. I.2.): only part of the causalities and motivations of lived history becomes relevant in the interpretational scheme for recounting it. That is just the ordinary human practice of writing history in order to go on making it.

Suppose, then, that the history-of-something could only be a series of implications read backwards which cut cross the intricate web of History as it is lived. In that case, in order to get something out of history, we have to begin by putting something into it, in our case a certain minimal conception of what semiotics should be. In a first approximation we may think of semiotics as that *nomothetic* (i. e. law-seeking) human and social science which studies the general principles according to which meaning is constituted for man, thus serving as a basis for all human and social sciences. Meaning, it would seem, is always human (or at least, as Sebeok has argued, restricted to living organisms) and always social, as de Tracy and Sassure realized when they conceived of semiotics as a part of sociology and social psychology respectively.

More in particular, we would assign to our semiotics the following tasks: 1) To find the general laws according to which meaning is organized, in each and every society, and in particular in those societies which have been left unstudied by anthropology, i. e. modern, occidental societies; 2) To render comparable, in their similarities and differences, the results of the different human and social sciences, through the unification of their concepts and methods; 3) To clarify the specificity of each of the sciences through an investigation of their core concepts. The bulk of the following studies are thus concerned with the specificity of the "visual concept", to use Arnheim's term, and more particularly, the "pictorial concept", which are central to the psychology of visual perception and to art history, respectively. 4) While the human sciences are ordinarily conceived as idiographic sciences, i. e. concerned with the description of single, unique works, uniqueness can only be rationally understood as a combination of, or deviation from, general principles, which have to be reconstructed in a nomothetic approach. 5) Social sciences were originally based on physical analogies ("social physics" and so on), but have lately borrowed their analogies from cultural activities, such as theatre, grammar, play, etc. Geertz (1983:22) observes that humanists "who reputedly know something about what theatre and mimesis and rhetorics are", may be called upon to judge the viability of these metaphors. However, more often than not, humanist scholars rely on purely intuitive understandings of such core concepts. Semiotic clarification will thus be needed, also for these analogies to work.

Ignoring the continuity of the tradition and the use of that specific term, semiotics in this sense seems to have been on the point of coming into being at least three times in recent history: at the end of the 18th century, with the ideological school; at the turn of the century, with the discussion about the *Geistewissenschaften* by Dilthey, Rickert, Weber and others, and the inception of Husserlian phenomenology; and with structuralism, as it was diversely conceived in Prague, Copenhagen, and Paris. To the ideologues, meaning was atomistic and sensation-based; the *Geisteswissenschaftler* thought it might be of a more holistic character and develop in his-

tory; but the structuralists considered it was made up completely of relations. This is surely a gross oversimplification, but it does tell us something about the particular partialities of the three epochs of semiotic history. It must be the task of present-day semiotics to temper these exaggerations, reconsider the facts, and give to each his own: elements, configurations, and structures. And, of course, history.

I.1.2. The linguistic model – A view from the semiotic tripod

To the outsider, semiotics simply means taking linguistics as a model in the explication of non-linguistic meanings. Saussure, who is the reputed originator of this approach in fact said that semiotics should find general laws which were *also applicable* to language. He also said, it is true, that linguistics, as the most developed part, could be the "patron" of the new science, whatever that may mean. It was rather Barthes (notably 1964 a) and the French structuralists generally, who conceived of semiotics as a simple transposition of the concepts developed for linguistics by Saussure and Hjelmslev to other domains. Since then the linguistic model seems to have been universally rejected, either explicitly or through the redefining of once linguistic terms (i. e. Greimas & Courtés 1979; 1986). However, the outright rejection of the linguistic model would seem to be at least as naive as its earlier unqualified acceptance: to use one science as a metaphor for another implies so many choices at different levels, that there can be no rational way of undoing them all at one stroke. So let us have a look at some common versions of fashionable anti-linquisticism in semiotics.

First of all, it is possible to oppose every kind of rational discourse, all systematic theories and methods, i. e. the whole scientific enterprise. The rejection of rationality brings us outside science, but the sense given to rationality must be philosophically determined. Here, we will only consider more particular objections. Idiographic interests often lead to a defence of the ineffability of the individual, which supposedly demonstrates the impossibility of finding general laws in the humanities. Partial answers to these doubts will be given in later chapters (see I.3–4).

Those who are dissatisfied with the theories of Saussure, Hjelmslev, or Chomsky, usually come to reject the linguistic model in general; but clearly, other linguistic theories, notably those which are more particularly geared to semantic problems, such as those of Coseriu, Halliday, Baldinger, Nida, etc., may turn out to be more capable of being semiotically extended, as will indeed be suggested later in some particular cases. By the same token, not all linguistic theories have static models (cf. Bakhtine 1929); not all proclaim the self-contained nature of language, and thus the autonomy of linguistics, or semiotics (cf. Sonesson 1979 a); not all declare the unit of meaning be the sign, an idea to which Eco and Greimas have taken exception, and which we will qualify in a different manner (cf. I.2.5.); or that meaning is structural in nature, which is something we will question in later chapters (cf. I.3.). And if it seems unreasonable to analyze a work of art which is part of our culture, using mechanical procedures, as with an exotic language, then in fact many linguistic theories also have recourse to the user's knowledge, as in Hjelmslev's commutation test och Chomsky's judgment of grammaticality. So far then, putative criticism of the linguistic model only applies to particular versions of it.

Even if all *extant* linguistic theories should prove to be inadequate in semiotics, it does not follow that a new theory could not be developed which would apply to language as well as to other semiotic phenomena. But the critique of linguisticism may also be understood as a principled objection: language is taken to be too different from such phenomena as pictures, films, gestures and so on, for a single theory to be conceivable. In this case, however, it is clearly the intuitive, pre-theoretical notions of the picture, the film, etc, which are compared with the *concept* of language as reconstructed in linguistic theory, and that is hardly a fair comparison. Nor could there be any profit in comparing the unexplicated Lifeworld notions of, for example, language and pictures. A combination of these two confusions seems to explain the simplistic rejection of the linguistic model in pictorial semiotics which is to be found in the work of Damisch (1971 a; 1972; 1979) and may also be responsible for some rather peculiar epistemological conceptions in the picture semiotics of Barthes and Marin (Cf. II.1.1.).[3]

Even those who disclaim the linguistic model may be able to appreciate the heuristic value of putting linguistic questions to non-linguistic phenomena in order to come up with contrasting answers. In a famous article, Metz took the traditional metaphos "film language" literally, just to show that the semiotic system of the cinema is really very differently organized from that of verbal language (Cf. Metz 1968). Though the conclusion seems to be at least partly warranted, the problem is once again that a purely intuitive notion of the cinema is compared with the theoretically reconstructed concept of language, elaborated in the Saussure/Hjelmslev tradition. We must probe much deeper into the Lifeworld notions involved, before anything can be made of such comparisons.

From yet another point of view, the rejection will have to be qualified. Even in the theories of Saussure, Hjelmslev, and the Prague school, there are concepts at different levels of generality and abstraction: phonemes, word order, predicates, and syntagmas (in one meaning) may be specific to language, if indeed they have any existence there, but features, sign functions, articulations, and connotations probably will turn out to be more generally valid. But the real core concepts of lin-

guistic structuralism seem to be found on even higher levels of generality: the *principle of pertinence,* for example (which is behind the form/substance distinction), and the Prague school notion of a *function* obtaining between different realms of reality (as, for example, the signifier and the signified). The principle of pertinence says, simply put, that the identity of a given phenomenon depends on only some of its features and that the variation of these features inside certain limits does not destroy the experienced identity of the phenomenon in question. The *principle of alterfunctionality,* if we may thus baptize the general idea behind the sign function, stipulates that the criteria which pick out the relevant features and determine the limits of their variability, are to be found in something which is experienced as on another level of reality than the phenomenon itself. Prieto (1975 a, b; 1981) has much insisted on this last principle, to the point of reducing all pertinence to alterfunctionality (Cf. II.2.2.). Others, though being less clear about what they were doing, have reduced all pertinence to a particular case of alterfunctionality, the sign function (e. g. Barthes, Eco).[4]

So far, we have been defending the linguistic model, but it does not follow that it is adequate, least of all for all purposes. Since Sebeok (1976) derives semiotics from three sources ("the semiotic tripod"), viz. Hippocratic medicine, Stoic philosophy, and recent linguistics, it may be profitable to search for the other models. The philosophical model is perhaps the definition by sufficient and necessary properties, from Plato to Katz & Fodor, and from Porphyry to Eco (cf. Eco 1984: 46 ff), which embodies a principle of pertinence, but no explicit alterfunctionality.[5] If there is a medical model, it should tell us what a symptom is like: Sebeok (1976:42, 124) says it is "a compulsive, automatic, nonarbitrary sign, such that the signifier is coupled with the signified in the manner of a natural link". But this is not very specific, since it only requires the sign function to be motivated (as the icon and the index) and compulsive.

Barthes (1972) undauntedly puts the medical symptom into the linguistic strait-jacket, supplying it with syntagms and paradigms, signifiers and signifieds, morphemes and interjections. He even claims it could be doubly articulated: scurvy, he says, when it was identified 150 years ago, possessed four symptoms, which separately indicate other diseases. But this example does not show anything of the sort. To begin with, the sign may be composite, the recurring elements not being merely distinctive, but contributing more or less the same shade of meaning to the compound (as in linguistic compounds, which are not, for that reason, triply articulated). In fact, symptoms combine to diseases in a way which is also different from that of compound words, because one single symptom can already have the entire disease as its meaning, though given in a dubitative mode, whereas a part of a verbal compound only corresponds to part of the meaning of the compound (cf. III.4.2. and III.6.1/3.).

Using for simplicity's sake the terms "content" and "expression", we shall say that the expression of the symptom is not in any sense heterogeneous to its content but of the same kind and, in fact, a part of it; the expression is probabilistically, rather than deterministically or conventionally coupled to the content; the more expressions that are produced for the same content, the more firmly the content is established; when all possible expressions for a particular content have been given, the complete series of expressions is indistinguishable from the content; the distinction between expression and content of the symptom is therefore only provisionally valid. This meaning of meaning is probably also found in the sediments of geology and the vestiges of archeology; it will be shown to be adequate to ordinary perception (in I.2.2.), and, somewhat modified, to the pictorial sign (in III.4–5.). Indeed, the symptom, it would seem, is a more fundamental, more generally valid meaning of meaning than the sign.[6]

I.1.3. The recourse to method. The dandelion case.

> *"On a dit avant moi, et j'ai répété que nous ne connaissons que des rapports"*
>
> *Daube 1805:39*
>
> *"Il n'est, ce pissenlit – et ne devient intelligible comme tel, c'est-à-dire aussi comme objet offert aux sens, donné dans son 'beaucoup plus' – que par les rapports de similitude et de difference qui permettent de l'isoler"*
>
> *Pingaud 1966:3 (about Lévi-Strauss).*

Semiotics seems to be different from the humanities, at least as these are traditionally conceived, in so far at it is concerned with general laws and principles rather than individual facts. This distinction is not as clearcut as it might appear, as will be shown below. However, it is apparently much more difficult to distinguish semiotics from philosophy and from some of the social sciences, in particular from psychology and sociology, since they often seem to seek laws for the same objects. But perhaps semiotics may be further characterized by the use of a particular method. Structuralism certainly vindicated its own method, but does this claim carry over in any sense to present-day semiotics? In fact, many writers whose research interests are clearly idiographic, i. e. directed to the unique work of art rather than to general laws, claim to be doing semiotics because they make use of a specific, supposedly structural method (ignoring for the present the even stranger case of "post-structuralism"). But even if we retain the nomothetic research interest as one criterion, there are problems with using the method as a second one and even as a corollary:

The structural method, it would seem, consists in treating any meaningful phenomenon occurring in a cul-

ture, e. g. a sentence, a work of art, a piece of behaviour, as being *the "text" of a given "system",* i. e. as being exhaustively (at least from a certain point of view) reducible to a series of repeatable elements and the rules for their combination. The repeatability of the elements may be potential, of course, as in the case of the system valid for only one film suggested by Metz, but normally the extrapolation of the system will be based on a number of occurrences, as in linguistics and in narratology.[7] Piaget (1968) is presumably quite right in suggesting that structuralism, in this minimal sense, is simply the same thing as the scientific attitude, and the complete works of Piaget and his collaborators go a long way to showing that the knowledge about the world acquired by the child depends on the construction of conceptual schemes developed from experience in order to be applied to new experience, thus foreshadowing the very mechanism of science.

The second postulate of structuralism, however, makes a radical distinction between the object to be studied, which is the *system,* and the materials subjected to study, to which the operations are applied, which are the *"texts",* i. e. the actual sentences, works of art, pieces of behaviour, and so on, as these are found in the culture – or so we will suppose to begin with. But the core principle of structuralism tells us that the identity of the elements *in the "texts"* have to be determined through recourse to the relations which the elements entertain to each other *in the system.* These three postulates, that the unique occurrence can be reduced to general categories and rules, that these categories and rules have to be reconstructed from the occurrences, and that the identity of the elements depend on their interrelations in the system, are to my mind the essence of structuralism. Many other epistemological presuppositions certainly have come to the fore since the Paris intelligentsia assumed its heritage in the sixties, and many of those may then have seemed more important. To Saussure, only differences were relations of importance; Trubetzkoy though of these differences as dimensions on which two or more categories were mounted; and Jakobson reduced them all to binary, privative oppositions (e. g. white vs non-white, rather than white vs black). All these presuppositions may be questioned, but for the moment we will dwell exclusively on the three above-mentioned postulates of structuralism, in particular on the last two.

This conception of meaning should have consequences, even for the analysis of a concrete work of art, and so on. Since the identity of a unity of analysis, i e. its relevant features, can only be determined in the system, whereas the system can only be known through a series of concrete occurrences, each new analysis of a work of art of a certain type will have repercussions on earlier analyses of other works of art of the same type. Features that at first seemed critical may prove to be negligible, or new features of relevance will perhaps have to be taken into account or else the limits between putative units of analysis may turn out to be wrongly placed.[8] If the categories suggested by the analyst do not recur, in the same text and preferably in others, the earlier analysis needs to be revised in the light of the later ones, although these do not have to concern the same work of art, only one of the same general type (the type restriction is essential and will be discussed later in this section). So there is no way to conclude once and for all the analysis of a given work of art. Neither can the analysis ever be restricted to just one instance of a type.

Clearly, these are requirements which are not normally imposed on traditional forms of literary or art historical analyses. On the other hand, since access to the system is only to be gained through the different "texts" which derive from it, a structural analysis will necessarily also say a lot about the particular work of art. Very few traditional analyses of poems would seem to go further in the elucidation of details than the structuralist analysis of Baudelaire's "Les Chats" given us by Jakobson and Lévi-Strauss.

The "system" of structuralist analysis may exist at different levels of generality, but it must always (at least potentially) go further than the particular "text". This level may be *literarity,* as it was for the Russian formalists and the first Prague school (as it will be *pictorality* for us); or it may be the level of particular genres, as in the later Prague school, and in the more recent work of Todorov (1978) and Genette (1982); and it may even be the works of one artist, if we resolve to look for the traits which make use of the author as a "principle for the classification of discourses" less arbitrary than Foucault (1969: 1971) implied. Other lines of division are certainly possible: publicity, narrative, art, and so on are categories which cut across the above-mentioned hierarchy.

Aestheticians used to think that at least some of these categories were inadmissible "metaphysical" inventions, but they certainly are real, at least in certain cultures. However, there seems to be no structural access to the category which determines which "texts" are relevant for the constitution of the system. This observation also holds in the case of linguistics: in order to decide which are the phonemes or the vocabulary of, say, the French language, i. e. we have to be able to separate genuine instances of French from those of other languages, from French dialects, creoles, etc. The structuralist method, as we have come to know it so far, is consequently insufficent to serve as the sole foundation of science.

There are a number of other reasons, however, why the structural method cannot be used to define semiotics. First of all, this would amount to an exclusion of the second major tradition of semiotics, usually referred to as the Peircean one (although it really extends from Locke to Sebeok Cf. I.1.1.), and which may be said to use the system, or rather some intuitions about the sys-

tem, as the material as well as the object of the investigation. When Peirce makes his different classifications of signs, there is no hint of his having any other source of information than his own intuition. In fact, his intuition even has the peculiarity of making him se all systems in the form of triads, and triads of triads. Indeed, the way in which Peirce, Lambert, and Degérando, take an interest in meanings is basic to their philosophical preoccupations generally. On the other hand, many recent semioticians (i. e. authors who call themselves semioticians), in particular those interested in picture semiotics, make use of the classical psychological experiment. Koch, Nöth, and Hünig for instance, all use psychological results for the elaboration of their analytical models; Krampen, Espe, and Lempp employ the psychological experiment as their sole research tool; and Lindekens, Tardy, and Porcher divide their work between structural text analysis and the psychological method. The difference between the publications of the last two series of researchers and those of certain cognitive psychologists certainly is not very apparent. Before we go on, it will be necessary to consider at least a few of the traits which distinguish the philosophical and the psychological methods.

One may well ask if there is such a thing as a philosophical method. Although they lacked his methodological consciousness, earlier philosophers probably adumbrated what Husserl was to codify as *ideation* or *imaginary variation.* According to Husserl (1962 a: 67 ff) we may use any arbitrarily chosen item of a category as a point of departure and then introduce successive modifications of its various attributes in order to discover which variations will stay inside the limits of the same essence or *eidos.* Empirically, we expect the dog to run and fetch the bone, but there is no necessity for this event to happen always. But the spatiality of the perceived world seems necessary to us (p 70).[9] Once it has become a part of a variational multiplicity, the empirical example becomes unreal, a mere possibility, exactly as the other members of the multiplicity (p 74). In the act of ideation, we discover not only the general essence itself but also the range of its variation (p 79). In our terms, all this means is that the system is somehow given independently of its instances, or it could not serve to check the limits of their variability. Intuition is certainly required for the method to work, but it is not taken at face value: instead all the possible variations are laboriously tried out. Anyone who has read Husserl's research manuscripts realizes that he was well aware of Strasser's (1967) point, that one obviousness may hide another from view. For the first time, it seems, intution acquires a discursive dimension.

What is here, somewhat abusively, termed the *classical psychological method,* consists in the modification of one isolated feature of a situation, the independent variable, to study its incidence on another feature of the situation, the dependent variable. Normally, this will be repeated for a great number of individual cases. We may investigate how often the dog will really run to fetch the bone, to use Husserl's example or, in a case more famous in dog memory, how frequently the dog will effectively salivate on hearing what it probably takes to be the dinner bell. A fragmentary "text" is thus proposed by the investigator and completed by the experimental subjects, and the system is constructed on the basis of the majority reaction. As in ideation, possible combinations are distinguished from impossible ones, at least by implication, but the variation, instead of being imaginary, takes place in reality.[10] The psychological experiment would seem to take us from the system to the text and then back again.

So far, we have seen that traditional philosophical and psychological methods are used by would-be semioticians, instead of or alongside the structuralist method. But linguistic structuralism, at least the Prague and Copenhagen schools, has its own version of the variation method, usually termed the *commutation test.* Only timidly and in a rather confused manner has this method been used outside linguistics, notably in picture semiotics (Cf. Gauthier 1979:39 ff; Porcher 1976. See III.4.)[11] Typically, the identity of a phoneme is determined by varying different properties of a sound (given as a part of a word which is unchanged by the variation) and then judging the consequences for the identity of the meaning: if a different meaning ensues, the new sound is also a new phoneme (Cf. note 8).

Not only the "texts" actually given but also those potential "texts" which may be constructed from a knowledge of the system will now serve as the materials of the investigation. Since this aspect of the structuralist method has largely been ignored by the promotors of structuralist semiotics, one may well ask why it was ever felt to be necessary. There are at least two reasons: first of all, the recourse to intuition permits us to avoid having to revise all earlier analyses each time a new "text" is analyzed, because some aspects of the "text" may be anticipated intuitively. Secondly, content is the individuator of expression, and only those who master the system are able to see through expression to the meaning. Alternatively, one may of course investigate the co-occurrence relations between signs and situations, as Harris (1951:186 ff) suggested, but that is only an indirect measure of meaning, and is certainly much more difficult to interpret.

The commutation test is different from ideation in many ways, and it is in its logical form only a particular case of the correlation between independent and dependent variables. To begin with, commutation depends on *alterfunctionality* (Cf. I.1.2.): the identity of the phoneme (or of any other object) hinges, in the last analysis, not on the identity of the expression plane of the sign of which it is a part, but on the identity of the content plane.[12] According to Hjelmslev, even the features of the content may be varied, to see if a change in the expres-

sion plane ensues; however, in both cases there is a correlation between what is felt to be two separate planes of reality, expression and content. Ideation, on the other hand, takes place not only on *one homogeneous plane of reality,* but *inside a given concept:* the features of an arbitrary thing are changed in order to see if it can still, so modified, be subsumed under the same (or any possible) concept. For instance, a world without spatiality is not a world in our sense, and a cube without its six sides would not really be a cube.

Also in the commutation test the properties of a particular thing, the sound, are varied, but our interest is not directed to the perdurable identity of the sound itself but to the identity of another, correlated thing, the corresponding meaning. Ideation would not be enough to sort out those features which are relevant, the *form* of the sign, in the sense of Hjelmslev, i e. those features which must be repeated identically for the sign to be *the same sign.* On the other hand, commutation leaves untouched the task of ideation, since the general category is never varied: no feature of a phoneme will ever be exchanged for an irrational number, a fallen angel, Greta Garbo, or any element which pertains to other categories. When Jakobson points to the temporal nature of auditive signs, as against the spatiality of visual ones, his source must be ideation, not commutation.[13]

There are other differences as well, however. Husserl's "free variation in the imagination" is really free, to the point of taking its departure from an arbitrary thing of the world and letting us choose at our own discretion the properties and the parameters which are to be varied. Structuralism requires us to construct parameters which could possibly span the distance between one actual example and another one and to modify them in the sense which is suggested by the examples. So the variations are severely constrained, the more so the more examples are taken account of. Ideation clearly applies to very general categories only: the world, time, the perceptual thing, the sign, etc. The layers of knowledge in the informant's mind which are exploited also differ: in the case of the commutation test, it is the knowledge common to all members of a speech community or, more generally, a particular culture; in the case of ideation, it is a kind of knowledge possessed by a participant in any Lifeworld, i. e. in any human community. In both cases, the common possession of that knowledge is simply presupposed, not proven, since only one informant, who is often also the experimenter, is used.

In the psychological experiment, on the other hand, any variables may be correlated. In one type, physiological, physical, or simliar kinds of measures will be related to mental facts, e. g. in the Fechner-tradition, where for example physical augmentations of a light stimulus are related to perceived brightness.[14] In cognitive psychology, however, both variables are often mental facts or "meanings". For our purpose, we will have to distinguish different variants of this second type of correlation. In some cases, the two variables and the correlation between them do not only serve as materials of the study but constitute its object of study as well. This would seem to be the case, on a certain level, in psycholinguistics, when a group of native speakers are made to execute the commutation test, or to give a judgment of grammaticality, or when Gauthier and Porcher have groups to estimate the effects of exchanging elements in pictures.

More commonly, it is really a third element which constitutes the object of study. For example, by studying the relations between a linguistic expression and an extralinguistic situation, linguistic content could be determined, following Harris' suggestion. In fact, this seems unfeasible, as long as no general theory of the organization of Lifeworld situations (apart from the rather arbitrary frameworks suggested by Firth, Coseriu, and Slama-Casacu) has been developed.

Of more practical importance would seem to be the different *indirect operations* sometimes used in psychological approaches to semantics: word associations, submitted to factor analysis, are taken by Deese to indicate similarity of meaning (Cf. Miller & Johnson-Laird 1976:249 f); judgments of similarity applied to word pairs are translated by Rips, Schoben, and Smith into locations in a diagram, which are thought to parallel distances in "semantic space" (Cf. Clark & Clark 1977:434 ff); somewhat more directly, Rosch (1975 b) has her experimental subjects indicate on a spatial layout the distances they feel to obtain between objects in a category; and Miller asks people to sort cards on which words are written into piles, using similiarity of meaning as their criterion (Miller & Johnson-Laird 1976:254 ff). The distinction between the features which are varied and the object of investigation should be obvious. Usually, the indirect measure will also be of a quantitative nature, whereas the object of investigation is a quality.

If we now look more closely at what we considered above to be a direct study of mental correlations, we will discover it to be another kind of indirect operation: in the case of each individual semantic judgment, we actually obtain direct information, but the frequency of a certain type of semantic judgment is only an indirect, quantitative measure of the general facts of semantics. The smaller the scope given to the interpretations of the informants, the more of it must be left to the experimenter. To devise "two or more experimental operations which converge on the single concept" (Garner 1974:186) is certainly useful. However, if two indirect measures are ever to converge, some guiding intuition would seem to be required to begin with. Psychology alone cannot give us the theory which connects the abstract experimental measures with real world experience (this will be illustrated in the next chapter).

The following chart summarizes some of the differences between the methods of variation discussed so far:

	IDEATION	COMMUTATION	EXPERIMENTATION
Variables:	*imaginary.*	*one real, the other imaginary but structurally constrained.*	*real.*
Locus of variation:	*imagination.*	*imagination.*	*reality.*
Dimensions varied:	*any, of high generality.*	*in the direction given by other examples; low generality.*	*any?*
Controlling instance:	*container concept*	*correlated concept (and implicit container concept).*	*reality (apart from implicit container concept).*
Agents of variation:	*one.*	*one.*	*experimenter manipulates the first variable, several others the second.*
Knowledge assessed:	*common.*	*particular.*	*any kind?*
Relation to object of study:	*direct.*	*direct.*[15]	*normally indirect.*

Table I. The variations of variation

Given this chart, we could now try out all possible combinations of our several distinguishing properties. This would of course amount to an application of the method of variation onto itself. Fortunately, it will not be necessary to go through with this tiresome procedure in the present context. However, it is interesting to ask *what kind of* variation this method of variation applied to itself would be. Since the dimensions of possible variation are generated by the given examples, the variations will be structurally constrained, as in commutation, but on the other hand no alterfunctionality is present, since there is no correlated concept on another plane. Some essential relations may obtain inside our concept since, for example, only very general dimensions would seem to be accessible to common knowledge. However, our intuitions about the concept of variation do not seem to go very far, so that only empirical considerations, i. e. the controlling instance reality, can tell us which of the imaginary constellations of properties are feasible. There is really nothing new about this hybrid variety of variation, though it may not have a separate name: Shaumjan used it when he conceived of a "genotypical" syntax, whose numerous combinations were only partly realized in actual, "phenotypical", syntax; Genette (1983:88 ff) employed it in his narratological taxonomies, arguing that the important thing is "le principe combinatoire lui-même": Raymond Lull, Wilkins, and many other constructors of "universal characters" also applied this method, although unlike Shaumjan and Genette they never considered the possibility that some of the positions offered by the system may turn out to be vacant.[16] This procedure, which may be termed structural in a limited sense ("numismatic", as Jakobson put it, cf. III.4.1), could of course be considered to be peculiarly semiotic as well, but then it is not clear why we should exclude ideation and experimentation and all the intermediary cases from semiotic methodology.

Firstly, we have seen that philosophical and psychological methods are used in semiotics, alongside text analysis. Then we have been unable to establish any definite limits between commutation and other methods of variation. Next, we shall find that text analysis is also used outside semiotics, notably in some parts of sociology and psychology. For example, the "natural history approach" applies analytical categories to spontaneous behaviour in the actual world, e. g. to the meeting ritual before a party, to a psychiactric interview, to the telling of a joke, to a telephone call and so on (Cf. the works of Birdwhistell, Argyle, Kendon, Scheflen, Schegloff, Sacks, etc.). Further, the "protocol analysis" of recent cognitive psychology and artificial intelligence asks the experimental subject to verbalize every stage of his thinking, while he is solving a mathematical problem or writing a poem, and the resulting transcript is then subjected to a segmentation using a standing list of analytical categories (Cf. the work of Simon as referred to in Hunt 1982; Glass et al 1979; and that of Perkins 1977; 1981).

It might be argued that the "text" subjected to analysis, in the first case normally a video tape recording, in the second a verbal transcript, is really only an indirect support of another "text", which is the real theme of the investigation, social interaction and the workings of the mind respectively. While that is certainly true, semiotics also have to limit its analysis to what becomes visible from a certain point of view (Cf. the notion of the *heterogeneity* of the text, in II.4.), and no methodological repercussions seem necessary. However, whereas "protocol analysis" as well as the "natural history approach" conform to the first and second postulates of structuralism, they do not seem to obey the third postulate: the categories are not defined through recourse to their interrelations in the system. When, for example, Simon breaks up one of his protocols in stages as "problem formulation, incubation, solution", and so on, he really relies on an immediate, unstructured intuition accessible to any member of his culture and speech community (Cf. Glass et al 1979:412 ff). The test of fitting the same categories to new textual instances is certainly much more difficult to stand, if a structural relationship is presupposed. However, if the specificity of the semiotic method resides only in the epistemological assumption of reality being structural in nature, semiotics will simply prove to be coterminous with structuralism! But we already know that that conclusion is unacceptable, be-

cause it excludes part of the semiotic tradition. As will be seen below, this criterion, if applied rigorously, would also exclude at least part of the analyses made by would-be structuralists.[17]

We will choose as our example one of the major structuralists outside linguistics, Lévi-Strauss, and the analysis incriminated will be his study of a couple of Indian masks from the American Northwest Coast. Before going into the details of Lévi-Strauss' approach, it will be necessary to investigate what it would mean for an object of *visual* perception (as a picture or a mask) to be *structured.* Though hardly acquainted with linguistic structuralism and its congeners in the humanities, the psychologist Garner (1974:21) maintains that "to perceive is to perceive a stimulus and the nature and number of its alternatives".[18] The properties of each stimulus are shown experimentally to depend on the total set of its alternatives, as well as the known subset. To illustrate this, suppose there are four dimensions of variation, taking two values each: shape, which may be a circle or a square, an opening in the contour of the figure, which may occur to the right or to the left; a line in the centre of the figure, which may be vertical or horizontal; the shape of the line, which may be straight or wavy. That will give us 16 different configurations (fig. 1 a). But if the values of the first two dimensions are correlated, so that the opening position on the square is to the right and that of the circle to the left, we get a redundant subset (fig. 1 b).

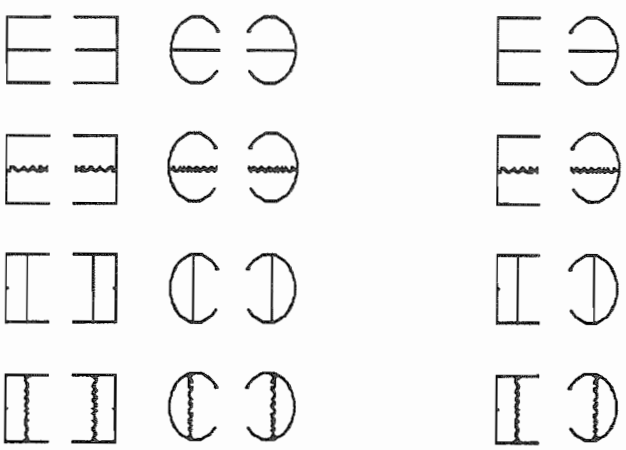


Fig. 1 a

Fig. 1 b

The distinction between total set and subset seems to correspond to what Hjelmslev (1959:80) calls "schéma" and "norme" and, pending other differences between the two approaches, what Coseriu (1958:29 ff) calls "sistema" and "norma": on the one hand, the ideally possible combinations, on the other hand those combinations which are accepted in the culture. In the present case, while the limited culture of our experimental situation will only afford us the 8 alternatives of the subset, the vacant alternatives can be generated through a re-combination of the properties of the stimuli (and that is how history works, as Coseriu has shown in the case of language).

More importantly for the moment, a different subset would make different properties of the same stimulus relevant: for example, the shape E, which here appears as a square with an opening to the right and a straight, horizontal line may, in a different set of alternatives, turn out to be a combination of five strokes, or one of the letters, or even, if the set is composed of numerals, the inverted digit 3 (Cf. Garner 1974:12). That would amount to a different segmentation of a given stimulus and the use of different dimensions of variation. Going beyond Garner's considerations, the analysis could be further complicated taking account also of alterfunctionality: suppose, for example, that we decide to assimilate conventionally all stimuli containing only the feature "straightness" with the meaning "enter" and all the others (in fig. 1 a.) with the meaning "do not enter", a new "global" dimension of variation would have been introduced, and a different segmentation of the stimuli would be necessary.

The visual stimulus studied by Lévi-Strauss is certainly much more complicated, but his analysis is, if I am not mistaken, much less so, i. e. the part of the analysis which is explicitely stated. The point of the following meta-analysis is not to show that Lévi-Strauss is a bad structuralist; rather, it will be suggested that a purely structural analysis of this kind of object could not be adequate, and that Lévi-Strauss has failed to notice this fact.

To begin with, Lévi-Strauss (1975, I:32 ff) describes to us one of the ritual masks used by the Salish Indians, which he calls the Swaihwé mask: its mouth is wide-open, the lower jaw is drooping with an enormous tongue lolling out, the eyes are protuberent, the predominant colour is white, and its decoration consists in bird feathers. Then Lévi-Strauss goes on to tell us, that this mask will only acquire meaning if related to another mask (p 34),[19] and he even offers to deduce the properties that the second mask must have from those of the first one (p 102 f): it will be black, and instead of feathers it will have hair; its eyes should be sunken, and the mouth must have a shape which does not permit the tongue to show.

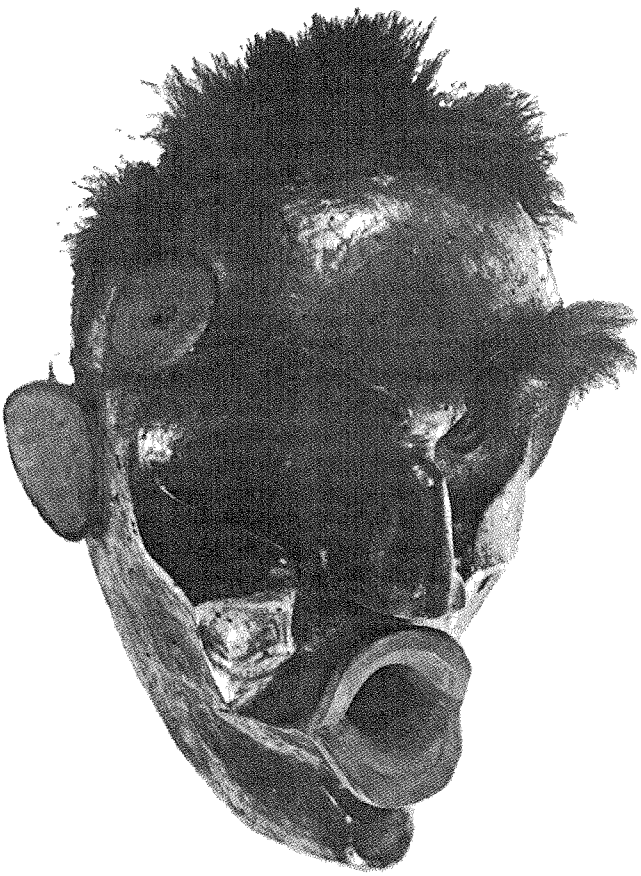
Once it has been deduced, the mask can also be found: it is the Dzonokwa mask of the Kwakiutl Indians (p 104). The details of this analysis will interest us later (Cf. I.3.5. and pl. I–II.). For the moment, it will be sufficient to note that what Lévi-Strauss has been doing here is exactly the opposite of a structural operation: instead of letting two or more objects interdefine each other, as in the Saussurean paradigm and the Garner set, he seizes on one isolated object, arbitrarily selects a few of its properties, determines without hesitation on which



Pl. I. The swaihwé (or xwéxwé) mask (from Lévi-Strauss 1975).

dimensions these properties may be situated and what are their alternative values, then constructs his much-needed scare-crow – and sets out to find it in reality. Differently put, it is from one object and a principle of pertinence which is never justified that he deduces another object, whereas the structuralist procedure would require him to derive a principle of pertinence from the relations between two or more objects and then use this principle to determine the identities of the objects involved. Working in this manner on the item E taken from Garner's simple alternative set (fig. 1 a), Lévi-Strauss could as well come up with a letter, an inverted digit, a different combination of five strokes, or what have you!

A plausible objection would be that we are confusing the rhetoric of presentation in Lévi-Strauss' book with the actual research procedure employed: it is in fact probable that he knew about the existence of both the masks before he even began to interpret the first one. And yet it is obvious that Lévi-Strauss starts out from the isolated Swaihwé mask, whose meaning he identifies at a glance: it is a face, of course, though a rather deviant one. And from this global intuition, which is never mentioned in the book, stem the units of analysis (eyes, mouth, tongue, etc.) and their expected opposite values (protuberent vs sunken, and so on). If the analysis had been structural in a real sense, it seems probable that the relations between the two masks would have determined a very different way of breaking them up into segments, and these segments might very well be assigned other values on other dimensions. The difference in units of analysis would probably be of less consequence for the two principal masks in Lévi-Strauss' analysis (pl.I–II.) than for the assumed variants of these masks (Cf. Lévi-Strauss 1975, I:31,67,76,80,101–103, etc.), since the former two are even geometrically rather similar. The values of the dimensions would change, however: instead of sunken and protuberant eyes, we would have holes opposed to protuberances (but that would not work for all the variants, since one, p. 103, has protuberances with holes). Apart from the colour opposition, Lévi-Strauss never stops to consider the expression plane of the masks, although there are a number of interesting differences (Cf. I.3.5.).



Pl. II. The Dzonokwa mask (from Lévi-Strauss 1975).

But if we remember that the terms compared in a structural analysis must be known to form part of the same system (as the phoneme system of French can only be established if the sounds compared are French sounds and not, for example, a citation from English by a French speaker), we may well ask why we should ever get to relate two masks used by different Indian tribes. If Lévi-Strauss was looking for the mask panoply of the Human Mind, he would certainly have to take account of many more masks. However, Lévi-Strauss (1975, II:12 ff) later establishes that both masks are used by both cultures, though they have different names and their ritual roles are reversed. This brings us to meaning: could it justify the principle of pertinence implicitly invoked by Lévi-Strauss? First of all, it seems that some of the variants recognized in the book lack many of the presumed criterial attributes, and in some cases have opposing ones, so commutation will not work. Secondly, Lévi-Strauss takes the meaning to be the ritual contexts and myths in which the masks are implicated: he fails to note (although all the time he makes use of the fact) that the masks first of all are faces, with a certain amount of deviation from the face *prototype* (Cf. I.3.1.). Nor does he realize that, instead of accomplishing the structural operation, he is really following the common Lifeworld procedure which Peirce has called *abduction,* going from a particular case over a regularity taken for granted to another particular case (Cf. I.2.). The chance is, that is exactly what the Salish and the Kwakiutl did!

The face may be thought to constitute a very particular case: even the infant seems to be programmed to recognize it, however deformed (Cf. Schaffer 1971; Argyle & Cook 1976). Töppfer long ago demonstrated the difficulty of avoiding producing a semblance of a human countenance (Cf. Gombrich 1960; Gardner 1980). But what about the dandelion that Lévi-Strauss mentioned to Pingaud (1966) or the famous pansy (Lévi-Strauss 1962)?

There is certainly a structuralist flavour to the Linnean system of classification, based as it is on a few simple, though quantified, dimensions. Degérando (1800, III:109 ff), who thinks that a good classification should be based on a property which is constant throughout the domain, is of importance in the objects classified, and results in a relatively simple system, has a favourable opinion about the Linnean classification, although he prefers that of Jussieu. But another ideologue, Daube (1805:327 ff), while acknowledging the importance of the organs of reproduction, and thus the naturalness of using them for the classification, argues that the number and shape of those organs constitute arbitrary criteria. Like Lévi-Strauss, Daube would obviously like the classification to explain the "beaucoup plus" of sensuous experience. If we were able to formulate the Occidental equivalent of the ethnobotanical classifications found in "primitive" communities (Cf. Ellen & Reason, eds. 1979; Lévi-Strauss 1962), we might find the dandelion to be that plant which grows abundantly everywhere, whose faded blossoms the children like to blow in the wind, whose leaves the French use for a salad, and which is an important ingredient of a kind of liquor. However, "natural" systems of classification tend to be redundant and probabilistic, and to admit different degrees of membership, rather than be organized on a structural basis (Cf. I.3.). Even so, wo do not seem to capture the real sensuous experience of the dandelion: this may have more to do with the configurational properties of the *Gestaltpsychologie,* the "Ganzheitsqualitäten" of the Leipzig school, the topological characters of expression according to Arnheim, and Gardner's "modes and vectors" which relate everything in the world to the intimate topology of the body (Cf. I.4.). Meaning is certainly much more than structure.[20]

The numerous consequences of this "unmasking" will be spelled out in later chapters; for the moment, only those pertaining to methodology matter. At this point, it may be necessary to restate the somewhat tortuous argument of this section. First, we saw that recognized semioticians have been using philosophical and psychological methods alongside, or instead of, structural text analysis. Then the commutation test of the structuralists was shown to be one in a large family of variation methods also used in other approaches. And something similar to text analysis was discovered in psychology and sociology, though these sciences usually abstain from defining their categories by means of a system of differences. This distinguishing postulate of structuralism would therefore be the only specificity there is left to semiotics, and no non-structuralist semiotics would be conceivable. But we then learnt that a leading representative of structuralism, faced with a certain kind of material, would fail to produce a really structural analysis. The science of meaning cannot be content to be just structural. But if no specific method can constitute the specificity of semiotics, then maybe a particular constellation of methods, or a methodological consciousness, may prove to be specific. That is actually our present proposal.

In one variant of the *hermeneutic circle,* which many have tried to rename the hermeneutic spiral, the text presupposes the system and the system the text (Cf. Dilthey 1957:330, 334.): the only way of being able to read the text is, in a sense, to have read it already! Dilthey himself suggests as a solution to this conundrum that every understanding must be partial.[20a] Hjelmslev, however, argued that we have to begin from above. According to the Hjelmslevian creed (1943:11 ff), still upheld by the Greimas school, the theory must be non-contradictory, exhaustive, and the simplest possible, i. e. arbitrary but adequate.

The interest of giving a systematic formulation to the system certainly consists in being able to account for a series of texts in an exhaustive and non-contradictory manner – or to discover that this is impossible, in which

case our formulation of the system has to be changed. However, Hjelmslev's theory is not as arbitrary as he thinks: as to the lower-order units of his analysis, they are guaranteed by the intuition of the language user as displayed in the commutation test. Probably Hjelmslev is really thinking about the higher-order units of his theory, e.g. the notion of sign function, of connotation, and so on. To this, first of all, a principled objection must be made: it is difficult to imagine how a completely arbitrary theory could ever be adequate. The Martian on his planet (if he is not created in the image of man, like the von Däniken brand) or the computer in its electronic soul (unless it is programmed by a human being) could never discover the structure of human language, and neither could Hjelmslev, if he had not been a member of at least two grand traditions whose intuitive knowledge handed down through the ages was certainly not lost on him: the speakers of his language and the grammarians.

We will have occasion to see later (I.4.2.) that much more common sense notions of signification are presupposed in Hjelmslev's theory than he would like to admit.[20b] Ideation should help us to discover the value which is to be given to these intuitions. It certainly seems worthwhile analyzing a series of texts having as yet only a minimal notion of the system; but there also seems to be some use in starting from a variation of the possibilities inherent in the system, and then look for examples in reality which fit these possibilities. The *text analytical approach* of the structuralists and the *system analytical approach* of the Peircean tradition are really only two of the possible resting places in the hermeneutic circle between the text and the system and back again.

Our subject matter being meaning, we are always concerned with human knowledge, often strangely difficult to bring to consciousness, and more distinctly present in its effects than in itself. Intuition is fallible; however, ideation and commutation are different methods for giving a discursive dimension to intuition, by trying out each and every alternative. Intuitions may also be projected onto texts, and amplified in the process of trying them out on different textual instances. Sometimes this is not enough: an artificial, experimental situation will have to be set up and indirect measures used. To interpret the experimental results for everyday reality will again require the use of ideation. However, somewhere inside this singular round, models derived from experimental studies may be tried out on spontanously produced texts, and vice-versa, and imaginary variation may be used to investigate the value of the model and to extend its possibilities. That is, in part, what we will try to do in this investigation.

So much for semiotics as a constellation of methods. As to methodological consciousness, we may give it the following formulation: the task of semiotics is to make philosophy relevant to the humanities and the social sciences, and to make these sciences relevant to philosophy. For the present, that will only happen an rare occasions, as by accident. And then it should also make the different sciences relevant to each other. When interdisciplinary accidents give way to a systematic conception, the place of semiotics between the sciences, which Saussure saw prepared beforehand, will be secured at last. The other part of what we will try to do in the present investigation is therefore to make some simple and very provisional contributions to this immense task.

But is there a point of view which can make something more than ecleticism out of the present approach? The methods of variation, it will be observed, depend on meaning, and meaning, as we shall see, is connected with *pertinence.*

I.1.4. The point of view is the point of view. The qualitative reduction

> *"En d'autres domaines, on peut parler de choses* 'à tel ou tel point de vue', *certain qu'on est de retrouver un terrain ferme dans l'objet même. /- - -/ Il nous est interdit en linguistique /. . ./ de parler* 'd'une chose' *à differents points de vue, parce que c'est le point de vue qui* fait *la chose."*
>
> *Saussure 1968:26*

> *"C'est le propre de la langue, comme de tout* système *sémiologique, de n'admettre aucune différence entre ce qui distingue une chose et ce qui la constitute."*
>
> *Saussure 1974:47*

Not only because Rickert told them so at the end of the last century, but because this has always been their interest and delight, humanists tend to preoccupy themselves exclusively with *das Einmalige,* the unique, the particular. Even nature, in a sense, is made up of particular stones, a very unique firmament, and the fall of a wholly individual apple on the skull of the sleeping Newton. But even before that famous apple, Galileo and his contemporaries had had the ingenious idea of treating apples and everything else as expressions of deeper mathematical relationships, and so it proved possible to formulate general laws.

As this momentous moment has been described by Edmund Husserl, the Galilean revolution introduced into natural science a principle of reduction, according to which only those properties of the ordinary things in our Lifeworld count which are capable of a mathematical formulation, either directly, as measures and weights, or indirectly, as when the tone is described by the lengths of the strings which covariate with the qualities of the tone. According to Husserl this was all very well, and fostered important advances of human understanding, as long as these formal systems were seen as what they are, a "cloth of ideas" ("Ideenkleid") cast upon the world of our real experience. Soon, however, the mathematical formula of the apple came to have more of a taste of reality than the apple itself.[21]

Impressed by the advances and the prestige of the natural sciences, the social sciences and sometimes even the humanities searched for even more indirect measures, in order to be able to apprehend in a quantitative way the properties of their objects of study. But since these objects are really meanings, i. e. intersubjective contents of consciousness, the quantitative reduction makes them disappear. What is left, in favourable cases, in the "psychology without a soul" and other negative theologies, is the tracks that meaning left behind.[22]

If semiotics could take on the task which Husserl assigned to his "phenomenological psychology", it should do for the human and social sciences what mathematics did for the natural sciences: give them their *principle of reduction*.[23] But in the world of our everyday experience, everything seems to be meaning, so what would then be reduced? Actually, the meaning of meaning in semiotics always seems to refer to something which may be repeated, which comes back identically the same, which is *"iterable"* ("iterierbar"), to use a term Husserl employs in another context. The Lifeworld is made up of regularities, of recurring units, but it is not just that. Semiotics will have to seize upon the categories, the types, leaving the fluctuations, the exceptions, and the peculiarities to others.[24]

A more extreme formulation of the same fact would be to say that, whereas the natural sciences reduce qualities to quantities, e. g. the tone to the length of the strings and later to sound frequencies, semiotics tends to *reduce quantities to qualities*. Typical instances of the procedure may be gathered from the work of the Greimas school as well as that of Lévi-Strauss. Suppose we have to analyze a conversation pertaining to that modern mythology, the weather: all indiciations of temperature will have to be reduced, in the Greimas style interpretation system, to the four terms *warm, non-warm, cold, non-cold* (and maybe also the "complex term" *warm and cold* and the "neutral term" *neither warm nor cold*). In this case, the quantitative indications of the common thermometer certainly seem to furnish a more subtle approach to the reality of temperature.

This extreme form of qualitative reductionism is debatable: linguistic evidence points to the existence of a much richer categorical scheme (Coseriu 1973:64, 74: in Italian, e. g. "gelato/ghiacciato – freddo – fresco – tiepido – caldo – bollente/scottante/rovente/candente"), and evidence from cognitive psychology (Glass et al. 1979:376) even indicates that different distances are felt to exist between the terms ("cool" is much nearer to "cold" than to "warm", for instance). A much more complex system also seems to be needed in order to explain the workings of the important qualities "warm" and "cold" in the world view of the Maya Indians (Sonesson 1982). However, every semiotic approach will need to establish some discontinuities in the world of our experience, or at least to assemble its objects of study around a few prominent types. In this respect, structural linguistics is typical: it substituted the categorical, i. e. *qualitative* character of phonemes for the sound frequences, i. e. the *quantities* of sounds. Structuralism may rightly be criticized for a number of reasons, but certainly not for offering a quantitative approach to the humanities![25]

Depending on the intricacies of the mediation, a work of art, e. g. a painting, to which a *quantitative* reduction has been applied may come out as the amount of colour patches it contains, or as the number of visitors to its exhibition. It should be noted that the quantitative reduction does not result in quantities but in qualities, which may be counted to yield other qualities. If the *qualitative* reduction is permitted to operate on the same work of art, it will emerge as an object, as a perceptual thing, as an artifact, a picture, a work of art of course, and then on further levels of specificity, as referring to a particular genre, a particular subject matter, maybe an iconography, then to a perceptual organization of a certain generality, and so on. Now what would happen if instead of exporting the quantitative reduction which Galileo implanted in the natural sciences to the humanities, we decided to apply the qualitative rreduction to the object of the natural sciences, i. e. Nature? Greimas (1970:49 ff) suggested that there could be a *semiotics of the natural world* – i. e. of the world we take to be the natural one, just as we take our own particular instance of "natural language" to be – and that would be a "cultural science about nature".

Fire would normally be considered the subject matter of physics and chemistry. However, if it is reduced to the meaning it may have for us, then, depending on the particular culture and context it may stand for the ancestral gesture thought to mark the beginnings of civilisation, for one of the four elements, the universal converter of the alchemists, inflammability, the infernal flames, the cosy fire place in the country house, the barbecue party, the cowboy's watch-fire, and so on. When fire has a function to accomplish in a particular culture, in a ritual, a film, or a picture, this function would seem to have much more to do with the aforementioned or similar meanings than with the chemical formula.

Historically, meanings of this kind have constituted "epistemological obstacles", as Bachelard (1949) termed it, for the quantitative reduction, which is a prerequisite of all research in the natural sciences. The result of Bachelard's "psychoanalyse du feu", which is really a social psychology of early attempts at explaining fire, strangely echoes Arnheim's (1966:63) observation, that it takes a very peculiar attitude to see in fire a collection of shapes and colours rather than "the exciting violence of the flames", though of course the chemists have to go beyond the shapes and colours too. There seems to be room for a study of the *meaning of fire,* quite apart from what natural science tells us about it. In this sense, fire is a *category,* like the phoneme, which introduces *discontinuities* in the perceived world, and

which subsumes many, somewhat differing instances. Quite independently of the presumed identity of the chemical formula, the fire of Hell and of the cosy fireplace may or may not have a semantic feature in common.

Categories, it would seem, are to be found in experience, not only in theory. However, availing themselves of the Saussurean phrase "c'est le point de vue qui crée l'objet", structural linguists have argued that their own concepts have been arbitrarily imposed on a chaotic or at least much richer reality (this would appear to be the respective standpoints of Hjelmslev and Martinet). Ironically, when it is replaced in its original context, the phrase, as Prieto (1975 a:144; 1975 b:225 f) has convincingly shown, comes to mean just the opposite: the linguistic object (as well as the object of any semiotic system, according to Saussure 1974:47) only exists as a point of view adopted on another, "material" object, which is why this point of view cannot be altered without the result being the disappearance of the linguistic object as such. *The object of semiotics would therefore be the points of view adopted on other objects.* However, much more important than the right interpretation of Saussure's phrase is the correct understanding of the practive of the semiotic sciences.

To Martinet, amplifying the words of Saussure as he interprets them, the natural sciences are objective, because their point of view is intrinsic to their subject matter: everything visible is relevant to optics, and so on. The objects of linguistics, however, have an infinite number of properties and may never be exhaustibly described, so it is necessary to choose an arbitrary point of view to adopt about them before their description can be accomplished. Martinet is obviously guilty of serious confusion in this argument, as Prieto (1975 a:140 ff; 1975 b:215 ff) has pointed out: the sound, as a material object, may have innumerable properties, but the phoneme, which is defined by its functional relations to the other plane of the sign, has a limited number of clearly defined features.[25a] Prieto then goes on to invert the terms of Martinetian epistemology: natural science is subjective, since it has to take a stand on physical reality, which as such is indifferent, whereas semiotics is capable of objectivity, in sofar as it *describes* the subjective point of view of individuals and communities. According to another formulation, the object of linguistics is the *knowledge* common to the speaker and hearer (1975 a:110), i. e. it produces knowledge about knowledge, not, as the natural sciences, about the material world (1975 a:140 f). Prieto seems to think there is simple coincidence between the object and the discourse of semiotics.

Germain (1981:31 ff) understandingly feels uneasy about such an outright identification of the knowledge of the language user, and that of the linguist, seemingly making superfluous the activities of the latter. According to Charron, cited by Germain (p. 35), it is not the phoneme, but the features defining it, that are relevant to linguistics, and these are not identified by the speaker. But Prieto (1975 b:102) himself points out that the listener never seems to go beyond the level of the phoneme in his segmentation of the linguistic signifier. In spite of this, he makes abundant use of features, so perhaps we may conclude that in actual fact he allows the linguist, and the semiotician generally, to descend at least *one level of analysis below the ultimate level of which the user is aware.*

Put in the traditional terms of hermeneutics, we may say that after coinciding with the user in his *understanding* of the phoneme, the semiotician goes on to *explain* the conditions of possibility of this understanding on the level of distinctive features. In this case, semiotics contains the knowledge of the user and *something more,* and, quite apart from the problem of obtaining the correct understanding, this explicative part introduces an element of subjectivity. However, this formulation ignores the fact that features, as well as configurations, are meanings, not physical measures. More properly, we shall say that what is of primary importance to semiotics is *operative knowledge,* i.e. knowledge that must exist at some, probably low, level of awareness, in order to render behaviour *understandable* (and thus explainable), not *discursive knowledge,* the spontaneous theories of the user. Ideation, commutation, and experimentation are all techniques for getting at these layers.[26]

When Martinet observed that everything visible is relevant to optics, he failed to note that so are a lot of phenomena which are invisible, at least to man. Once the principle that "explains" visibility has been obtained, it is generalized quite independently of visibility. An instructive case is the history of the conic sections as discussed by Ivins (1938; 1946) and Arnheim (1969:184 f). Ivins argues that the ancient Greeks must have been tactile-minded rather than visual, since they failed to discover that the circle, the ellipse and the parabola were only phases in a continuous series of conic sections, which may be obtained with one and the same principle of construction. This is also why they were unable to discover the "unified pictorial space" of Renaissance perspective. Armed with the results of *Gestaltpsychologie,* Arnheim rightly objects that the circle, the ellipse, the parabola, and the other geometrical shapes are given in visual perception, ours as well as that of the Greeks, as qualitatively different entities, not as a continuous series of shapes. However, it is also in perception, through a "perceptual restructuring" that, according to Arnheim, the continuity of the series is discovered. To Arnheim, all thinking is perceptual in nature (Cf. Gardner 1973 b:16).

This seems to confuse different issues. Thinking could be applicable to perception without having its origin there. And it may originate there, but then be freely extended. In the world of our lived experience, *types* are recognized, as a kind of approximate, fluctuating enti-

ties. Geometry, in its original sense of the art of land-surveying, Husserl (1962 b:19 ff) tells us, *practically* discovers the possibility of isolating and stabilizing certain configurations of the perceived world, then uses the interrelations between these configurations to fix univocally and intersubjectively the nature of these entities. Once the particular field to be measured is lost from view there is nothing to constrain the generation of new possibilities and of their combinations. *Ideal praxis* takes the place of the real one, and the tilled field, once the origin of it all, reemerges as a particular case among the possibilities of the mathematical system. Thanks to this *idealization,* Galilean science becomes possible.[27]

Suppose, however, that what we want to explain is the very peculiarity of the tilled field, the circle, or the ellipse. There is a danger, then, of giving up idealization entirely, as is often the case in the traditional humanities, which tend to reproduce discursive user knowledge, however historically extended. But there is also a danger of explaining the phenomena away by means of idealization; thus, Goodman (1968) who starts out with a task of "descriptive metaphysics", to use Strawson's (1959) term, in this case to characterize the folk notion of "picture", ends up with a quite different, merely overlapping, concept which he prefers because of its greater coherence and systematicity. But semiotics cannot take idealization beyond the phenomena which are to be analyzed: it has to find the *peculiar systematicity* of the folk notions themselves. Only linguistics, and to some extent narratology, have managed to do that so far. But even a theory which singles out as relevant those phenomena which are relevant to experience, may still be "arbitrary and adequate" hocus pocus. We would like semiotics to give us also a fair bet about which meanings govern the distinctions and indistinctions of the system – to give us, not God's truth, but that of mankind.[28]

In a sense, then, semiotics may be said to go beyond the user's knowledge, though it may be more proper to say that it possesses the same knowledge in a different mode, making *discursive* what was *operative* beforehand. On the other hand, the term *reduction* suggests that something less than the user's knowledge is contained in semiotics. First, we will permit our qualitative reduction, just like Husserl's (1962 a) phenomenological-psychological reduction, to efface the whole physical substratum, including the biological one.[29] However, physicality will remain as a meaning among others: for instance, while Husserlian phenomenology and Saussurean linguistics agree on the non-physical character of both relata of the sign, part of the meaning of the sign function is that the expression is felt to be "physical" and the content "mental". On yet another level, some contents are thought to concern physical facts, and others mental ones (e. g. "chair" and "idea", respectively; cf. I.2.5. and I.4.2.). In the second place, there is always a user's knowledge, which is not of sufficient generality to be semiotically expressed. Part of this may be modifications, modulations, or transgressions of general principles, themselves based on further principles. But the plenitude of the lived world is never fully exhausted. Chaos, always waiting somewhere in the background, is needed for us to see Cosmos.

I.1.5. Summary and conclusions

We have been searching for the specificity of semiotics, but no simple answer has emerged so far. First, we observed that there is a continuous preoccupation with meaning throughout history, in particular since Locke, but only retrospectively can it be appropriated to semiotics. Supplying History with a principle of pertinence, however, we came to look on semiotics as a third-generation attempt to give a common basis and a justification to the human and social sciences (I.1.1.). The linguistic model was seen to be just an episode in the development of semiotics, although it was argued that properly pondered, it should leave some important insights behind. The principles of *pertinence* and of *alterfunctionality* were particularly singled out for consideration, and it was suggested that a second (or third) model, the "medical" model, should now be explored (I.1.2.). Next, method was discussed, and we found that only a constellation of methods, and/or a particular methodological consciousness, could be said to characterize semiotics. The structural method proved to be just one among many others, and we found it to be quite insufficient for the study of meaning, even when Lévi-Strauss himself was permitted to try (I.1.3.). Then we inquired into the possibility of semiotics having its peculiar point of view, and we agreed with Prieto that the point of view of semiotics must be to take the point of view of the participants in the interchange of meanings. But we saw that in a sense, semiotics must go beyond the knowledge of the user, by bringing operative knowledge to consciousness and idealizing it. On the other hand, it can never be congruent with a particular user's knowledge at a particular moment: it tends to reduce quantities to qualities, continuities to discontinuities, posing more definite borders than the real Lifeworld will admit (I.1.6.).

If all this still seems insufficient to establish the rights of a "new" discipline, it should be noted that most other disciplines would not come off much better, but since they are well-established, they no longer have to justify themselves. However, in the following chapters, we will try another approach: we will study the concepts and procedures that by now form part of *the semiotic heritage,* all traditions confounded. In the remaining chapters of this first part, we will look at some very general semiotic notions, trying to relate them to each other and to insights gained from other traditions, such as philosophy and psychology, while at the same time we test their relevance for the task of explaining the meanings

derived from the visual world. In the other parts of this book, we will undertake a similar study of semiotic concepts and procedures peculiar to the study of pictures.

Chapter I.2.
Unwinding Ariadne's string – Problems of the Lifeworld

"Diese allgemeine Struktur / der Lebenswelt / an die alles relativ Seiende gebunden ist, ist nicht selbst relativ."
Husserl 1962b:142

Our plan for this chapter involves, first, a presentation of the idea of a *Lifeworld,* as conceived by Husserl and developed by Schütz, Gurwitsch, and Luckmann (I.2.1.). Then different sections will elaborate on a few of the peculiarities of the Lifeworld: we will relate Husserl's notion of perception to those of different representatives of contemporary psychology of perception, and we will go on to suggest that they can all be seen to generate meaning according to the Symptom model (Cf. I.1.2.). That will also give us occasion to discuss the interrelationship of different "codes", which will be our first approach to the Peircean theme of *indexicality* (I.2.2.). Husserl's idea of the Lifeworld being shot through with regularities or, as he says, "the typical way that things behave", will permit us to take up indexicality again, this time in order to relate it to a second Peircean theme, the notion of *abduction,* which will prove to be very useful in the following: tracks of every kind, those of animals and thieves, but also those which light may make on a photographic plate, will guide us on the way (I.2.3.). Basing ourselves on two well-known anecdotes, we will point to two different ways in which signs may be formed out of contexts given in perception (I.2.4.). That only serves to prepare our *Grand Critique* of indexicality, where it is demonstrated that a number of very different notions have been confused under this term: our examples stem principally from earlier contributions to pictorial semiotics, but even linguistic examples are given and the differences are discussed (I.2.5.). To end the chapter, we also take up a few ways in which pictures (and not only photographs) are intrinsically indexical (I.2.6.). Although Ariadne's ball of strings has been elevated to the title of this chapter, the text itself really consists of at least three interlocking strings, which may be followed through its entirety: the Lifeworld, perception, and indexicality.

I.2.1. Why there are no camels in the Koran. The world taken for granted.

"Yo creo qui si hubiera alguna duda sobre la autenticidad del Alcorán, *bastaría esta ausencia de camellos para probar que es árabe. Fue escrito por Mahoma, y Mahoma, como árabe, no tenía por qué saber que los camellos eran especialmente árabes; en cambio, un falsario, un turista, un nacionalista árabe, lo primero que hubiera hecho es prodigar camellos, caravanas de camellos en cada página."*
Borges 1974:270

The total *absence* of camels in the Koran shows, according to Borges, the authenticity of the text: although from the horizon of Occidental culture, the camel seems characteristic of the Arabic world, the Arab simply takes it for granted, and so does not bother to mention it. The same thing applies, not only to other isolated cultural elements, but to entire world-views and attitudes. In order to operate his instruments, which permit him to discover the worlds of cells, atoms, and the like, the natural scientist must suppose his instruments, his laboratory, and himself, to exist according to quite another world-description, that of ordinary perceptual experience (cf. Merleau-Ponty 1945; 1964). Even Goodman was able to write his article about the innumerable "ways which the world is" (1950), only because he unwittingly took it for granted that the version of the world according to which it is made up of writers, pens, paper, printing presses, and a reading public, was somehow privileged.

This privileged version of the world, starting out from which the others may be invented or observed, is what Husserl called the *Lifeworld,* and which Schütz characterized as "the world taken for granted".[1] In a sense, there are as many Lifeworlds, as there are cultures and times. But Husserl was interested in the general principles which must obtain in any possible Lifeworld. For semiotics, as for all the human and social sciences, the Lifeworld is important in two respects: first, because like the natural scientists, semioticians live, work, formulate their theories, and make their analyses, in the Lifeworld. And secondly, because the Lifeworld is the very theme of semiotics, its general principles of organization forming the background against which all the objects of particular semiotic interest detach themselves. Many of the results obtained by Husserl, Gurwitsch, and other phenomenologists must, in the present context, be accepted without further discussion. We shall, however, address many more particular issues, which have to do with the way in which semiotic theories and concepts mirror, or fail to mirror, the organization of everyday experience in the Lifeworld. First, we must familiarize ourselves with the general principles obtaining in the Lifeworld, according to Husserl and his followers.

To begin with, Husserl does away with everything which is peculiar to individual Lifeworlds. In an illustration, he presents us with a hypothetical Bantu, who is unable to see our parks, houses, and churches for what

they are: they may be buildings, or just unidentified, stationary objects to him (1962 a:497 f); it could be added that, more commonly, it was the Missionary or the Colonial Officer, who failed to discover the cultural layers in the Bantu Lifeworld. Gurwitsch (1974 b:20 ff) is, I think, quite right in observering, that in each Lifeworld, which is the Lifeworld of a particular sociocultural group, cultural meanings redefine perceptual experience to the point of making the second inseparable from the first. But the Bantu example suggest that Husserl is really making a *structural* comparison between cultures: the church-ness of a building becomes separable from its mere building-ness, because there are cultures which do not recognize the former.

The principal property of the Lifeworld, however, seems to be that everything there is given in a *subjective-relative* manner. This means, for example, that a thing of any kind will always be perceived *from a certain point of view,* in a perspective that lets a *part* of the object form the centre of attention. What is perceived is the object, though it is always given through one or more of its perspectives or *noemata,* which themselves are unattended. Looking at a dice, or any cube, we can perhaps see one of its sides rather directly and two others in perspectival distortion, while the remaining sides are actually out of view. For Lifeworld consciousness, however, this constitutes the seeing *of the entire dice.* The same point was made much later by the psychologist James Gibson. To Husserl, this seeing of the whole in one of its parts is related to our knowledge of being able, at any one point, to turn the dice over, or go round it, to look at the other sides. This awareness of always being able to go on ("Ich kann immer weiter") has also been called *"the etc principle".*

Everything in the Lifeworld is given in "open horizons": that is, reality is not framed off like a picture, but goes on infinitely, however vaguely indicated. Beginning with the *theme* or centre of attention, the experienced world gradually fades away, without there being any definite limits, and it is sufficient to change the centre of attention to extend the field of distinct experience. Every object has an *outer horizon,* i. e. the background field of other, nearby objects, and an *inner horizon,* the parts and attributes that are presently out of view or just unattended. To both the horizons, the etc principle applies.

The *temporal* organization of the Lifeworld is similar to the *spatial* one. In the consciousness of each moment lies embedded the consciousness of the immediately following moment and the consciousness of the immediately preceding moment, called the *protention* and the *retention.* Each protention will contain *its* protentions and retentions, and so will each retention. They may be general and vague, like the expectancy that life will go on, or that something will change, or more definite, like the expectancy that the dice will have a certain number of eyes on the hidden sides. Protention and retention should not be confused with real anticipation and memory, which are acts at another level of awareness, which are actively initiated. Husserl's model of time consciousness has been compare to the Bruner-Postman theory of perceptual hypothesis (Sonesson 1978 a, b). At least two members of the Prague school, Mukařovský (1974) and Veltruský (1942), have been known to employ the model, in literary and theatrical semiotics respectively. It was independently used by Sonesson (1978 a, b) in the analysis of speech acts and other, mainly gestural acts.

Every particular thing encountered in the Lifeworld is referred to a general *type. Typification* applies to all kinds of objects, even to human beings: according to Schütz, apart from family members and close friends, other people are almost exclusively defined by the type to which they are ascribed, and we expect them to behave accordingly. However, types are not really like scientific concepts, though the former may initiate the latter. Husserl's description of geometry as *idealization* supposes geometrical shapes do not exist as such in the Lifeworld. "In perceptual experience, the spatial shapes of things are determined only as to type – a margin of latitude is left for variations, deviations, and fluctuations" (Gurwitsch 1974 b:26). For instance, there are no circles in the Lifeworld, only things with "roundish" shapes, "circular physiognomy". In fact, when psychologists of the Gestalt school tell us about "good forms", Gurwitsch (1974:49) argues, they must be thinking about Lifeworld types, not geometrical shapes, since geometrically this is sheer nonsense. Though starting from a quite different tradition, the cognitive psychologist Eleanor Rosch has recently shed some light on this distinction between concepts and types, which will be discussed later (I.3.1.).

Also time, velocity, causality, and so on are experienced in this manner. Much can be learnt on the *qualitative* differences in the experience of an identical *quantity* of time from the researches of the Time Study society, the Unesco volumes on the differing time conceptions in various cultures, and E. T. Hall's *chronemics,* but this lies outside the scope of the present inquiry. However, besides the physiognomic qualities of the Gestalt school, there are perhaps also *physiognomic quantities.* Children have been shown to perceive number rather like a quality, and even to be able to operate to a degree with these strangely qualitative quantities (Cf. Sander & Volkelt 1962:175 f, 261 ff). But even adults seem to be sensitive to these hybrid quantities: the temperature scale that we have already met (I.1.4.) appears to consist of such quantities. Another example is the typical recipe for baking Grandma's cake: we are told to use "a little" of a certain ingredient, "just what is necessary" of another one and so on. French recipes still tell us to use quantities of butter corresponding to an egg or a walnut ("noix de beurre", etc.).

Closely related to the typifications are the *regularities* which obtain in the Lifeworld, or, as Husserl calls them, "the typical ways the things have of behaving". Some-

times he also speaks of the particular *causalities* of the Lifeworld. "It is not from science, either Aristotelian or Galilean, that we learn that stones, when lifted and released, fall down. It is a matter of everyday experience in the Lifeworld, that water can be boiled and that, when further heated, it evaporates." (Gurwitsch 1974 b:49). In fact, once an object has been assigned to a particular type, we know more or less vaguely what may be expected, or rather *"protained"*, from it in the future, and we can then learn to manipulate desirable changes ourselves. Elsewhere, Husserl suggests that there are "prepredicative experiences", which perfigure the predications of formal logic. Other phenomenologists have called this *proto-logic*. One is reminded of the "natural logic" of certain contemporary linguists, and of the everyday logic, so different from the Piagetian ideal, recently rediscovered by cognitive psychology (Cf Hunt 1982:132 ff; Glass et al. 1979:362 ff; Gardner 1984: 160 f, etc.). An even closer kin would seem to be Peirce's notion of *abduction* (Cf. I.2.3.). Again, recipes are a case in point: the baking of bread, for instance, supposes the reproduction of certain regularities, which are known to be effective, although science is just beginning to investigate why this is so.

In his text on the origin of geometry, Husserl (1962 b:365–386) maintains that for the idealization to be complete, its products have to be embodied in writing, since only then can they gain a stable, public existence in a domain completely separated from their instantiation in the practical situations of the Lifeworld. According to the anthropologist Jack Goody (1977), writing is even the prime cause of Western science, which starts out from the linear row and the hierarchical column, combined in the table, where a single position is allocated to each item, so that the interrelations are unambiguously defined. Even the recipe is said to be an effect of the linearity stemming from the "graphic mode", and the Lévi-Straussian dichotomies of the "pensée sauvage" are claimed to be typical outgrowths of the same "graphic mode". This assault on Western rationality is familiar from McLuhan's work, and from that of Derrida, but to the latter the villain and the champion of linearity is the "oral mode". Verbal language in general is accused by Arnheim (1969:234 f) of reducing to "linear succession" the world of our experience, so perfectly rendered by "visual thinking". These theories, however, and ironically also that of Goody, would seem to be subject to the distortions following upon too simplistic applications of dichotomous thinking.

First of all, in one very particular case in Africa, where, for historical reasons, it was possible to separate literacy from school attendance, the latter factor, not the former, was found to determine certain differences in aptitude for problem solving, classification, and analysis (Gardner 1984:260). Further, it appears impossible that writing, which supposes phonemic analysis or equivalent analyses in terms of words, syllables, etc., could ever be invented if some amount of idealization had not been present beforehand. The recipe would usually represent some medium level of idealization, maybe not so different from that found in the art of land-surveying before the invention of geometry. Typically, the recipe refers to categories derived from the semantic field of foodstuff, as well as from other fields, like that of kitchen utensils, and to physiognomic properties; and it contains a fairly rigorous succession of operations to be executed, based on Lifeworld regularities. Calibrations must be carried out at the points of contact with the material and the executing subject, so as to fix the physiognomic quantities, and to modulate the phases of the process.[2]

Ivins (1938:13; cf 1953) defends another version of the determination of thought from the medium: before the invention of reproducible pictures, he tells us, there could be no scientific classification, in biology for example. "Visual thinking" is now made responsible for the table, supposedly linear in the conceptions of Arnheim and Goody. In fact, many cultures whose pictures, if they have any, are neither "naturalist" in Ivins's sense nor reproducible, are known to master complicated, ethnobotanical classifications (Cf. Ellen & Reason 1979).

More instructive is Ivins's (1938; 1946) description of Alberti's contributions to "the rationalization of sight", as he aptly calls the discovery of pictorial perspective. Strangely, after telling us a lot about the development of the geometry of conic sections from the Greeks to Kepler and Desargues, Ivins (1946:70 f) insists that Alberti "attacked his perspective problem from a strictly practical point of view", without taking account of this geometrical idealization. As he goes on to imagine how, like an "ingenuous carpenter" (1946:73), Alberti fashions a box with a checkerboard and a peephole (not so different from Gibson's well-known experiment), and stretches strings from the eyehole to the corners of the squares on the checkerboard, at least this fictitious Alberti, like the carpenter, emerges as the dexterous author of medium level idealizations.

Not only did the strings permit Alberti to "get out from behind his lines of vision and study them from various positions" (Ivins 1946:71 f), but they also made it possible to transform the already somewhat "conish" configuration presented to the stationary eye through the peephole into a regular geometrical shape which could be reproduced on the canvas. Like Ariadne's ball of strings, like Arnheim's yardstick, Alberti's construction (or Ivins's) serves to restructure reality. Like the sentence and the Latin period, the pattern of ballroom dancing and the art of estimating volumes and weights, which served as other *proto-schemes* as we shall henceforth call them, to the painters of the Renaissance (Baxandall 1971; 1972; 1980), the perspective scheme needed some calibration before it could be applied to the Lifeworld from which it was derived.

After mentioning a few of the general principles on

which every Lifeworld must be based – there are others, for example the social nature of all Lifeworlds, on which Schütz insists – we have started relating these principles to our problem, suggesting the existence of medium level idealizations or proto-schemes, as exemplified by the cooking recipe and the painter's techniques. Now, it is important to note that to Husserl, who uses the same description for his science of the Lifeworld which Greimas was later and probably independently to apply to his semiotics of the natural world, viz. a cultural science of nature ("eine Geisteswissenschaft der Natur"), this science is not just one province of the general study of meaning, as Greimas probably would argue, for it is concerned with the basic organization of all meanings. At the same time, however, the Lifeworld is to Husserl only the penultimate layer of reality, and it is necessary to probe even deeper, to the meaning-bestowing acts of the subject who constitutes the Lifeworld in his field of consciousness, in order to understand how meaning comes into being. This itself means different things, according to whether we interpret it at the level of phenomenological psychology or transcendental phenomenology, but the latter analyses, Husserl tells us, immediately translate to the level of penomenological psychology (he does not say if the reverse also holds).

Rather than entering into competition with empirical psychology, as existentialist phenomenology does, Husserl's phenomenological psychology prepares the way for the empirical one, investigating, with the aid of ideation (cf. I.1.3.), the psychologically possible before the psychologically real. Transcendental phenomenology, on the other hand, transfers us to the epistemological-ontological level, investigating the meaning of the world as a world-for-us. In order to constitute the field of consciousness in which, in turn, the world is constituted, an extra-mundane subject is needed, and this creates a number of strange problems, which cannot be properly treated here. Suffice it to say that certain phenomenologists, among them Merleau-Ponty, have argued that even the ultimate, constituting subject must be mundane and, beyond that, embodied. If this is assumed to be the case, the difference between the two disciplines (and between their respective reductions) will, I believe, only concern the use to which knowledge is put: to the understanding of mental life and of meanings, or to lay the foundations of scientific disciplines and study their function in the history of mankind. In this sense, both phenomenological psychology and transcendental phenomenology are addressed in the present work.

On the preceding pages, the science of the Lifeworld has been discussed in relation to some conceptions of psychologists, anthropologists, and art historians, and other similar rapprochements have been announced. It might be asked on what level these confrontations may legitimately take place. Drüe (1963:127) points out, against Koffka, that as little as mathematics may be contradicted by physics, it is possible to confirm or disconfirm phenomenological results experimentally. The same thing goes, I suppose, for all other kinds of reality-controlled investigations, like text analysis (cf. I.1.3.), and whatever may be the source of Goody's, Arnheim's, and Ivins's conceptions. While it is reasonable to think that the real cannot exceed the possible, our knowledge of reality may well go beyond the knowledge we can obtain about the merely possible. The fallibility of ideation is shown by the repeated changes of Husserl's own conceptions through the years, as may be seen in the case of his theory of pictorial consciousness (cf. III.3.5.).

Considering that one obviousness may hide another from view, Strasser (1967) propounds a "dialectical phenomenology" in which the solitary Cartesian meditations are to be supplemented with a more public confrontation of conceptions. That seems to bring us into the realm of hermeneutics, certainly not that of the Gadamar brand with its overly pious attitude to tradition, but another kind which recognizes that most of the time tradition consists in calling tradition into question (Cf. Sonesson 1985). However, one may also take a "metalinguistic" attitude to these confrontations (which is still a confrontation), using the different proposals to sort out the relevant parameters which have to be varied. This "structural" approach to ideation will be tried in much of the present work.

Still, this only justifies a confrontation with other philosophical doctrines. First, however, Drüe's parallel with mathematics does not seem to show what he maintains: according to Husserl himself, the art of land-surveying was the occasion for the invention of geometry, so why should not reality intervene again in the discovery of new possibilities? But another consideration is more important for us in this context: a scientific theory is a whole which is only very partially determined by the experimental findings, and the more indirect the measures used, the more partial is the determination. For instance, though they are aware of exactly the same experimental facts, Gibson, Hochberg, Gregory, and Arnheim have come up with very different theories about perception. Partly, this may reflect a different thematic ordering given to the findings, and even the outright rejection of certain experiments (as Gibson did in his discussion with Pickford in *Leonardo* 9:4, 1976). Both the supplementary parts to the whole and the thematic ordering given to the findings must have a source, which is not experimental. They stem, we are told, from hypotheses, which are thought to be arbitrary. But, as Coseriu (1958:108 f) judiciously remarks, hypotheses in this sense are impossible in the humanities, since their place will immediately be taken by the "ancestral knowledge" which man possesses about his own activities and the objects created by them.

I would add, however, that unaided intuition may well confuse spontaneous folk theories current in the Lifeworld with the real operative knowledge responsible for the "passive constitution" of objects having meaning.

That is why phenomenological psychology is needed. However, as we will see, psychologists or perception are often very good phenomenologists, too, without knowing it. So maybe phenomenological investigation, though by rights a separate enterprise, can best be conducted in connection with the relevant science itself. Therefore, we will be pursuing semiotics, and at the same time the phenomenology of semiotics.

I.2.2. Problems of perception. A theory of teacups and dice

"A teapot is a teapot, from whatever side it is viewed."
Arnheim 1971:197

"There are delicate, subtle and profound things to be noted about teacups, let alone wives, and painters have noted them."
Gibson 1971:198

Though they may well ignore the preceding exchange between Arnheim and Gibson, Glass, Holoyak, and Santa (1979:3 f) have also expressed their opinion about tea cups. Knowledge may be represented in the mind with the aid of a plurality of "codes", they observe, each better adapted for a particular purpose. They state that the following picture (our fig. 2.) can be represented in the code of English as "picture of a cup without a handle on a flat saucer"; or it may be represented by mathematical equations, one for the saucer, viz. that of the circle, and one for the cup, viz. the equation of a paraboloid. While most people would consider the English language code as more "intuitive", the mathematical version is more useful if one wants to find the volume of the "cup", they add before passing on to more important matters. To us, however, this particular vision of the teacup is sufficiently interesting to delay us for some pages.

First of all, if English and mathematics are "codes", what then is the picture (in fig. 2.)? Probably a code too, and more exactly an "analog code" (Glass et al. 1979:7 ff), elsewhere termed an "iconic" or "pictorial code" (Cf. Kolers 1977; Kolers & Smuythe 1979; Janlert 1985). In the present case, we would therefore have two alternative codes describing a third one. But there is a strange contradiction in Glass's example: while the English language description is said to refer to a picture, the equations concern a circle and a paraboloid, which are certainly not, as such, present in the picture. Of course, we have seen (in I.2.1.) that the geometrical shapes do not appear directly in the Lifeworld either, but from the "roundish" shapes of the real teacup they may actually be "idealized out". In the picture, however, another "roundish" shape, the oval, takes the place of the circle. As is often the case in cognitive psychology, it never becomes clear if the "iconic codes" used in memory or cognition are meant to be similar to ordinary pictures or – and that makes a lot of difference, as we shall see – to full perceptual experience. It can be suspected

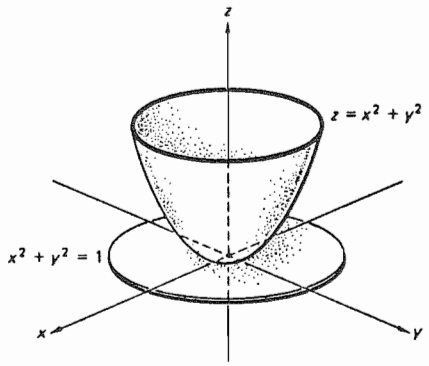


Fig. 2. The Glass et al. vision of the teacup

that what is really considered to be susceptible of "recoding" by alternative codes is not so much the picture as pure teacup reality itself.

In the second place, it is strange to treat these different codes as being on a par. One is reminded of the parallel case in semiotics, where Eco (1968:99 ff, 233 ff) presents long lists of "codes" which really seem to correspond to factors of a very different nature (Cf. II.1.2. and III. 2-6-7). As an agnostic stand in the debate between those who believe all thinking to be "propositional" and those who consider the mind to be full of "mental images", the Glass and al. conception certainly commands respect. But there can be no doubt that to man the ordinary perception in the Lifeworld constitutes the privileged level of all experience. Interestingly, Arnheim (1969:72 ff) shows that what is to man the level of direct experience can only be indirectly and arbitrarily deduced by the computer, and he seems not far from thinking that the essential difference resides in this difference of priority levels.

Not only is the Lifeworld not just one among the possible codes, but the word, the equations, and the picture are differently related to Lifeworld experience. Suppose that we could make the equations, and the relationship between the equations, so precise that they would uniquely specify a teacup – not, as a picture might do, an individual teacup, but the category of teacups, like the word does. Our description of the teacup would then be very similar to the kind of *indirect quantitative operations,* which Galilean physics, according to Husserl, applied to tones by measuring the concomitant variations of vibrating cords, and which present-day acoustics apply to these same tones, now to the physical properties of sound. Since there are teacups of many different sizes and internal proportions, our unique series of equations would have to take the form of a function spanning over a wide range of values. The limits of these values are of course mathematically quite arbitrary, and at some points they may well overlap the values of quite different functions. Just as in the case of the phoneme, these quantitative facts can only be explained through a reference to the corresponding mean-

ing, which sets the limits for the category. The intricate relationship between *type* and *token* cannot be captured quantitatively, which may explain the problems encountered in teaching the computer to read common handwriting or respond to different people's voices (Cf. Boden 1977; Guibert 1979). Both type and token seem to disappear in the mathematical function. In the lexical entry, the word "teacup" simply refers to the type, but in context the general and the particular will merge. The picture, however, is not able to refer directly to so broad a type as "teacup", but it is not limited to the individual case: it may choose a suitable subtype.

Just as a *contiguity* might be thought to obtain between the tone and the string which is measured (in some multi-sensorial space) and as a relation of part to whole (henceforth, we shall say a *factorality*) could be seen between the quantitative properties of the tone and the tone itself, so it would be possible to look upon the teacup equations as specifying *part of* the properties of that particular configuration we call a teacup. In each case, these parts and neighbourhoods are chosen according to a principle of relevance that requires them to be capable of a quantitative expression. Similarly, a picture may be said to represent an object through a factorality (and sometimes also a contiguity), but the principle of relevance is of course quite different, and its nature is the subject of most of this book. For the moment, we will continue to consider interesting properties of the teacup equations. First, it should be noted that in the case of the teacup as in the other above-mentioned cases, the measurements really are parts of the whole in a rather Pickwickian sense: they will only emerge if the system of mathematical idealizations is at hand, and if a yardstick or other instrument may be applied to the object, so that the measurement scale is projected onto the latter causing a new similarity structure to form (Cf. I.3.3.). They are part of the whole only to the extent that the whole is considered as a part of another whole, the system of relations, the *structure.*

For the moment, however, other considerations are more important. We want to know if these mathematical measures are parts "essential" to the whole, either in a *causal* sense, or in a *significative* one.[3] Could we postulate a relation of *causality* between the teacup equations and the teacup, like the ones which are supposed to obtain between cords, sound frequencies, and tone? As such, of course, the mathematical formula cannot cause anything, but suitably translated into some physical or physiological substance, it could be imagined to produce the retinal image of the teacup. But since the teacup is always seen from one or another point of view, the circle and the paraboloid are probably among the few shapes that the saucer and the cup will never project onto the retina. In any event there is thus a second sense, apart from that of the perspectives, in which a whole family of equations, or otherwise Gibson's "formless mathematical invariants" (cf. III.3.2.), would be needed to account for the teacup. It follows that, causally, the Glass et al. equations are not essential, but they may still be so at the level of signification, i. e. since the relation is factorial on the level of indexicality.

According to one of Peirce's (1931, I:196) many definitions, an index is a sign whose expression ("representamen") stands in "physical connection" to its content ("object"). As his examples show (cf. Peirce 1932, II:160 ff), this would include our contiguity and factorality. Teacups have never been sufficiently important, it seems, for anybody to be interested in referring to them with numbers. Human beings have, however, in particular the criminal subpart.

The history of the means for identifying criminals, as told by Ginzburg (1983:105 ff), is instructive. Photographs being difficult to classify, Bertillon suggested in 1883 that anthropometric measurements should be used. Large numbers of people soon turned out to have the same values and so anthropometry could only be used to exclude those suspects who were too big or too small in some respect. To prove the guilt of a particular person, the values had to be supplemented with a "word-portrait", which specified the type of nose, ear, etc. Plates of ear type drawings were included in Bertillon's book for this purpose. But as early as 1823 Purkyné had noted that finger-tips have a constellation of lines unique to the individual, and Galton in 1892 developed a practical method for taking fingerprints which was first used by the Colonial officers in India, to control the Bengali. That is Ginzburg's story. It is the history of different ways of *indexing,* also in a Peircean sense, the individual.

First of all we should note what is lacking in this story, since this will be of some importance later: the appended index, the criminal's brand. Then it is also interesting to see that Bertillon suggested the same "alternative codes" as Glass et al., language and mathematics, though he showed himself to be aware of the arbitrary nature of the categories defined by the latter. There is an important difference, however: the function ranging over the measures of possible teacups is arbitrary, since its extension and limits cannot be mathematically justified, but the function ranging over the measures of possible criminals is arbitrary in yet another sense, since the group of persons having the same or similar measures is quite extrinsically related to the sought-for criminal. What Bertillon's suggestion amounts to is really the use of two complementary nets for catching the individual, both generic but one qualitative and the other quantitative. The last purpose was of course served by the measurements, and linguistic categories were used for the first, though only as an intermediary to the pictorial categories of the plates, if I understand Ginzburg correctly. Unlike the photographs the plates illustrating ears, eyes, and other corporal parts clearly have a categorical character (Cf. Ivins 1953). In Bertillon's conception, it would seem, quantities will only serve to signify

an object, or at least an individual human being, when supplemented with qualities.

The photographs are signs, whose content is a *part* of the signified object, viz. the *visible* part, which is here made to stand for something more elusive: the identity, the individual person (cf. II.2.2. and III.6.). Bertillon's plates reproduce parts in a more straightforward sense: parts of the body, which are then taken as parts of the individual in a more secret acceptation. The photographs, just as the drawings, are of course primarily likenesses or *iconical* signs,[4] and the contents of these signs then refer indexically to the wholes of which these are parts. One may imagine rather canibalistically using parts of the body themselves to indicate the body: the bull's head in the butcher's shop does just that.

But there is a third option, here represented by the fingerprint, the use of an imprint taken from the body. Now, the fingerprint is *iconic,* because it has some resemblance to the network of lines on the finger-tip; it depends on a (precedent) *contiguity* between the finger represented and the expression of the sign; and through one bodily part, the finger-tip, it represents a whole, which is not so much the nearest whole, the finger, nor the body itself, but something beyond it, the individuality. The fingerprint, therefore, supposes *iconicity, contiguity,* and *factorality,* and these have to be recognized as such for the fingerprint to exist (though the iconic reproduction may be somewhat faded).

But why should the fingerprint, among all body imprints, be unique in fixing the identify of the individual? In a sense, I suppose, all body parts are unique, and so could their imprints be. In fact, Peirce suggested that the photograph, besides being an *icon,* was also an indexical sign, because light has to pass from the represented object to a nearby camera. Photographic imprints of a face are useful for signifying a person, but footprints, if in sand or on a photographic plate, would normally only serve to distinguish between men and women, small men and big ones, missionaries and savages, and between those who use particular shoe types. What is so peculiar about the fingerprint, it seems, is that while its iconic nature is guaranteed by the procedure used to obtain it, it may also be read like an arbitrary constellation of lines, somewhat like a "digital" sign: not directly as points and their position, but as lines and their directions.[5] The fingerprint seems to succeed in identifying the individual, again through its categorical and this time quasi-geometrical character. However, while the fingerprint is an iconic sign, it remains true, as in the cases of the teacup equations and the anthropometric measures, that what is normally considered an acquaintance with the object referred to will not be sufficient to recognize the content of the sign. To identify Mr. Pickwick from his fingerprints I have to know him in an extremely Pickwickian sense, having thought of applying a microscope to his fingertips.

Since we have mentioned so many ways in which parts may stand for wholes, it may be necessary to point out that even arbitrary signs may serve identification: for example the personal identity number, the usual library classification (Cf. Ellen 1979) and the only "notation" that Goodman (1968) can imagine for paintings, simply assigning to each one its number.

But let us get back to "the things themselves". And rather than the teacup we will choose as our example Husserl's favorite: the cube, or the dice – "Würfel" may mean the one or the other. But we will begin with the cube. Like any other object, the cube is necessarily given in perception *from a particular point of view.* Husserl calls what is seen the object ("Gegenstand"), and the aspect through which it is seen is termed *"noema".* In our normal life in the Lifeworld, we do not attend to the particular acts and the corresponding aspects through which the object is given. While the particular noema through which I presently see the cube only contains three of its sides in different perspectival deformation, I immediately see it as a cube, complete with its six sides, not as some strange object I hypothesize to be a cube. Through an act which Husserl calls *reflexion,* the phenomenologist, the psychologist, and the aesthetical contemplator may choose to attend to the acts of consciousness and their corresponding *noemata* instead, thereby transforming them into new objects with their own noemata.[6] In normal consciousness however, the act will only give a particular modification to the perception of the object, a tinge of meaning: some parts of the object appear specified, others more roughly outlined. What is just sketched out in one noema may be filled in in a number of others, and the knowledge that we can always go further in the exploration of the object is part and parcel of our perception of the object. Whereas retentions of already seen sides are the basis for further exploration, protentions may be specified or rejected when the earlier unseen sides come into view. Like Ame's famous chair seen from a peephole, one possible noema of the cube may be simulated, without there being an object which gives rise to further, coherent noemata of the same object (Cf. Husserl 1939; 1962 a, b).

Gurwitsch (1957; 1974 b), who compared this Husserlian conception to the "spontaneous phenomenologies" of the Gestalt school, has pointed to the "Gestalt-coherence" with which the mutually confirming noemata form the object of perception. Criticizing Husserl because he seems to consider the object itself as a separate instance, an "X" which is the bearer of the noemata, Gurwitsch (1974 b:254) tells us that the perceived thing is *"nothing else than the internoematic system itself, i. e. the system of multiple adumbrational presentations and of the properties and qualities exhibited in those presentations".* Similarly, the predication ("X is red", and so on) which Husserl conceived to be a "synthesis", an adjunction of new properties, is really an "analysis", an explicitation of what is already contained in the horizons of the perceptual thing.[7]

While phenomenology does not have any historical connection to contemporary psychologies of perception, as it has to Gestalt psychology, Husserl does seem to anticipate a lot of what is presently at stake in the discussion about perception. Gibson (1971; 1978) tells us, just like Husserl, that the object is directly seen, complete with its hidden sides, without any inferences being necessary: even the child will see "the invariant cat". It is possible to train oneself to attend to the aspects through which the object is seen, but even so, Gibson argues, criticizing his own earlier idea of a two-dimensional "perceptual field", depth will be seen directly, not any "sensations" or flat retinal projections: we will simply look at *"the surfaces of the world that can be seen now from here"* (Gibson 1978:233). What assures the identity of the object through all the differing views we may take on it, is, according to Gibson, "the formless and timeless invariants", reminiscent of the "common core" in Gurwitsch's "noematic matrix", which defines perceptual coherence. To Gibson, however, these invariants are mathematical, though not expressible in present-day mathematical language – an appeal to further idealization, it would seem! Still closer to the noematic matrix suggested by Gurwitsch comes Gibson's disciple Hagen (1979; 1980), who maintains that the existence of pictorial perspective requires the mind to take account of "the entire family of possible perspective views of an object" (1980 a:29), quite apart from the Gibsonian invariants.

Husserl may well have reacted to the theory of his contemporary Helmholtz according to which the retinal image had to be supplemented with "unconsious inferences" (Küng 1973), and Gibson's most direct opponent, Gregory (1973; 1979) argues for a return to Helmholtz, which will get us out of the "dark ages" of Gestaltpsychology. While to Gibson there never seems to be any problem with picking up information from the environment, the world of Gregory is full of visual illusion, showing the insufficiency of perceptual data and how the interpretation may go wrong. The hypothesis-testing theory applied to perceptual data was propounded earlier by Bruner & Postman (Cf. Bruner 1973; Allport 1955) and Neisser (1967; 1977), and seems to me to be very similar to Husserl's model of time consciousness (Cf. Sonesson 1978 a, b): on the basis of insufficient data, a hypothesis or a protention is formed, which is then confirmed or disconfirmed by further exploration of the object. How then can phenomenology (retrospectively) agree with Gregory as well as Gibson? On the one hand, it should be noted that to phenomenology, the "insufficient data" at the beginning of the process is not the retinal image but an object already seen through a noema, however vaguely sketched. On the other hand, there is no contradiction in including a system of hypothetical interpretation in the best of all perceptual worlds, as seen by Gibson – it only seems unnecessary. Interestingly, Hochberg (1972; 1979; 1980) takes an intermediary stand, suggesting that while complete information may well be available in the environmental light, we do not normally make use of it, since seeing consists of a series of glances on parts of the object judged particularly interesting, with hypotheses being needed in order to bridge the distances between the central parts of the field covered by each glance. There seems to be a further argument, however: since the cube and a surrogate having only the three visible sides will present exactly the same invariants from a certain point of view, and since both of them are immediately seen as cubes, as Gibson himself emphasizes, it seems clear that ordinary perception really goes "beyond the information given".

There is another issue, which should be a problem for Gibson as well as for Husserl: suppose that what I am looking at is not just a cube but more particularly a dice. Then the argument adduced by Husserl and Gibson continues to be valid: I will see the object as directly to be a dice as a cube. But this information is certainly not there simply to be picked up: Husserl's Bantu negro would be at a loss to see the dice. And yet, to a grown up member of Western culture, the dice is more directly seen than the cube.[8]

We will not draw conclusions on these issues here: they are basic to our further treatment of pictorial perception (notably in III.2–4, etc). Only two points will detain us in the rest of this section. We will consider the nature of the perceptual process. And we will ponder the way in which the noema may be said to be a *part* of the object and the implications of this for pictures.

The process of perception, as it emerges from our review of psychological and phenomenological theories, exactly conforms to the model of the medical *symptom* (Cf. I.1.2.): the sides already seen are not heterogeneous to the whole object but rather a part of it; what is seen is probabilistically coupled to what it is seen to be, the object itself; the more sides and aspects are seen, the more firmly established is the identity of the object; when the complete series of possible views of the object has been given, i. e. the internoematic system, then this series is nothing more than the object itself (at least as an object of experience); so the distinction between the noema and the object only has a provisional value (unlike the one between "sensation" and object). The medical model of meaning could therefore more properly be called the *perceptual model.* However, since we may rightly feel that the medical symptom, the geological sediment, and the archeological vestige, are not just cases of ordinary perception, further elaboration of these notions are needed. Some elements for this elaboration will be given in the following sections.[9]

In fact, if the noema is a part of the object, some comparison with the notion of indexicality also seems called for. Most of this discussion will have to await our further elucidation of indexicality in the sections to come. In what sense, we may well ask, is the noema a part of the

object? It is certainly not a "proper part", like the leg of the human body, one side of the cube, and so on. Neither is it a part, in the way the (global) properties of a thing are parts of it, like the quadrangularity of the cube, its redness, etc. When it was stated at the beginning of this section that only the visible parts of the teacup or the criminal were rendered in a picture, we could have added that if the picture followed Occidental perspective (or Japanese isometric perspective)[10] only one perceptual part, i. e. one noema, would really be reproduced.

We must at once recognize that this formulation could be misleading: the noema referred to may be one out of the noematic matrix, chosen because it particularly well conveys the invariant features of the object (Cf. Gibson 1978; Hagen 1980 b). Equally, it may be entirely newly constructed as an imaginary variation on the noemata of the real object, in particular if the object is in movement, as in the case of Géricault's horse gallop (Cf. Scharf 1968; Friedman & Stevenson 1980; Ward 1979), in order to embody features which are normally only apparent in a continuous series of movement noemata (Cf. Sonesson 1978 a, b). Though it is seldom realized, even an outline drawing or a silhouette supposes a point of view from which the object is seen, even though the details of the noema are not rendered in the drawing. Is there then no escape from the noematic modification in pictures? It is notorious that children tend to mix the points of view and confuse sides that could never be seen together (Cf. Lowenfeld 1947; Osterreith 1976; etc.), and so does cubism, and so do Egyptian frescoes as well. This could also indicate an abundance of points of view, however. But we do have some evidence tending to prove that children normally look through the noemata to the object without even noticing what they are doing, or at least without caring about the difference: Volkelt had children of about $4^2/_3$ years drawing some three-dimensional objects, among which there was a cube ("Würfel" again), and they produced something like this (Sander & Volkelt 1962:197 ff).

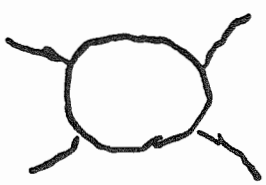


Fig. 3. The essential cube.

Volkelt later asked the children about the meaning of their drawings and concluded, that the roundish shape is not meant to represent one of the sides of the cube, but rather one of its global properties, its closure as a body ("seine geschlossene Vollkörperlichkeit"), and that the lines going out from the roundish shape stand for the angularity of the corners. Neither proper parts, nor noemata are noted here, only global properties, "Ganzheitsqualitäten", to use Volkelt's term. Attributes seem to be an easier kind of factorality to grasp than perceptual parts.[11]

There is still another sense in which pictures are different from noemata. According to Gurwitsch's (1957:152) profound analysis of the notion of perceptual noema, each point of view is really *"l'appréhension d'un système d'apparences dans la perspective et du point de vue de l'un de ses membres"*. That means that each noema contains the whole object, only in such a way that some parts will be at the centre of attention, given in all their details, while other parts are perceived marginally and vaguely, only in their general outlines. There are references ("renvois"; Gurwitsch 1957:191) from each noema to all the others, in which what is here merely sketched in may be fully known. Thus we meet indexicality in another sense, as indication. But whereas one noema will imperceptibly fade into another, the pictorial surface has clearly fixed limits: the frame, however, may interrupt lines which are easily continued in imagination. This suggest that indexicality, in still another sense, as contiguity, is relevant to pictorial meaning. In the end, indexicality may turn out to be more important to pictorial meaning than iconicity. But the problem remains: Is there a common denominator, a common core of meaning for all these indexicalities? This is the question that will be addressed in the following sections.

I.2.3. On Holmesian tracks. Indexicality and abduction

"As long as the criminal remains upon two legs, so long must there be some identification, some abrasion, some trifling displacement which can be detected by the scientific researcher"
Sherlock Holmes (Conan Doyle),
as cited by Truzzi in Eco & Sebeok 1983:64 f

We have suggested that Peirce may have arrived at his famous sign classification by an imaginary variation taking its departure from real examples (see I.1.3.). If this is so, it is embarrassing to discover the difficulties of reconciling the examples with the definitions. Greenlee (1973:84 ff) first cites a number of Peirce's definitions, according to which an index "denotes by virtue of being really affected by that object" (Peirce 1931 ff, II:248), "could not continue being a sign if its object were removed" (II:304), "is in dynamical (including spatial) connection" with the object but also with the interpreting mind (II:305), or, more simply, in a connection that may be "natural, or artificial, or merely mental" (VIII:368) and serves to fix the attention on a individual object by "blind compulsion" (II:306). He then reports some of Peirce's examples: a barometer, a weathercock, a plumb bob, a symptom of disease, a knock on the door, a pointing finger, demonstrative pronouns, and adverbs

such as "here" and "there". More examples can easily be found in Peirce's work: the rolling gait of a sailor, the footprints left by Friday on the seashore, the cracklings of the Geiger counter, possessive, personal and relative pronouns, proper names, interjections, photographs and so on (Cf. Peirce 1931 ff, II:160 ff, etc.).

The definitions are interpreted by Greenlee to mean that a relation of *causality* must obtain between the "representamen" and the "object" of the sign, i. e. between the expression and the referent[12] (cf. "really affected", "dynamical connection", and "blind compulsion" in the definitions) and he then goes on to find faults with the examples. In particular, he thinks that not all indicators can be indices, e. g. the knock on the door, the pointing finger, adverbs, and pronouns, if the expression must somehow be caused by the object (or the reverse?). Clearly, the direction indicated or the object designated does not *cause* the finger to point, though the desire to call attention to the object or the direction may cause, or rather *motivate* (Cf. Schütz 1932:115 ff about "motives") the gesture; and neither does the expression *cause* the direction or the object,[13] but it does *motivate* the onlooker to observe the object or the direction. This may of course be what Peirce means when he tells us that the connection may be merely mental (VIII:368), though elsewhere the index is required to have both a mental connection with the interpreting mind and a physical one with an object (II.305). If we suppose some kind of mental "causality" to be sufficient, the problem is not only, as Greenlee (1973:86) points out, that this causality obtains between the expression and the interpreting mind ("the interpretant") rather than the object, but that in this sense all signs are indices. It is true that Peirce (V:554; II:306) later thought all interpretants were related to their signs with "physiological compulsion", and so had something indexical about them; but even if that were acceptable, the peculiarity of indexicality would be entirely lost.

Consider the case of the knock on the door. What would be its object? We are told it is a "sign of a visitor". Suppose I perceive a sound where the door is, and that I am able to distinguish it from such sounds as could be made by the wind, a dog, and so on, it would be something like a "sound imprint" (comparable to the "through-the-wall-profile" of parties according to Mehrabian 1976:35), which somehow stands for the hand, or for the hand-to-door-movement. The hand is a part of a particular person, and the woodpiece that was touched is a part of the door of the room where I am sitting. Of all the innumerable causes that had to concur in order for the knock on my door to occur at this moment, the door and the particular person certainly seem the most important, at least from a human perspective. If I am not expecting anybody in particular, the knock will just mean to me "there is somebody outside this door who wants to open it". Is that the object of the sign (an imaginary one, in that case), or is it just an interpretant? The cause of the knock on the door can only be a particular person, but that particular person is not included in what the sign means to me (but the particular door is!): just an anybody, a general "visitor", who may not even want to come in, perhaps just deliver a parcel. The cause is not what the sign means. On the other hand, this meaning may be the interpretant. There is then an obvious risk of circularity in the determination of object and interpretant. And one may even ask what the object, in that case, has to do with the sign.[13a]

However, there is only feeble justification for taking the index to be defined by *causality:* at least there are other possible ways of construing the definitions. Burks (1949:649) even criticizes Peirce for having included causal relations among his indexical signs: the weathercock, for instance, simply follows the wind. The confusion is on the part of Burks, for while the wind can go on blindly causing the weathercock to move, the human mind needs to know how to interpret this (and the same goes for the famous "natural meaning" of Grice's clouds; cf. Sonesson 1979 b). Instead Burks (1949:678) suggests that an "existential connection" is required. Apparently Burks (p. 683) takes this to be the same thing as "spatiotemporal location", since the rest of his article is dedicated to the discussion of "indexical symbols", i. e. words that change their meanings thoroughly in the context. These are the "indices" of logicians like Bar-Hillel and Montague, the "egocentric particulars" of Russell, and Jakobson's (1963:178 f) "shifters" (i. e. "I", "here", etc.). This seems a plausible interpretation of Peirce's "physical connection".

Savan (1976:25 ff) gives a more radically *existential* interpretation: "Strictly speaking, an index *indicates* only the bare existence of its object", leaving the description of the object's characteristics, but also of time and place to "icons" and "symbols" (signs depending on similarity and convention, respectively). It is difficult to conceive of existence without *spatiotemporality.* The idea also seems to be contradicted by Peirce's mention of "spatial connection", even "physical connection", or "connection" itself, but it is true that Peirce, as Savan (p. 27) tells us, "is more often loose than strict". According to Savan, the rolling gait of the sailor is seen to be due to something, and that is the index, but we have to know about the rolling motion of sailing vessels in order to give the gait an iconical interpretation. So much for the characteristics. But what about time and space? Savan does not give us any example. However, if we hark back to the first introduction of this idea (p. 25), we will find that "any description of the place and time of the object of the index, *through some system of coordinates*", requires icons and symbols besides the index (my italics). The trouble is that, in any normal case, this "system of coordinates" is the taken-for-granted, spatiotemporal organization of the Lifeworld (Cf. I.2.1.) or some metaphorical extension of this. In the world of our experience, it would seem, existence is always spatio-

temporal.

Contrary to Savan, some Peirceans interpret very literally what might have been only loosely said by Peirce. To the Stuttgart school, according to which the terms are causally or "nexually" related, the object must be "ein bestimmtes, singuläres, individuelles, orts- und zeitabhängiges Objekt oder Ereignis" (Walther 1974:63); and Deledalle (1979:75) tells us both the sign-vehicle and the object must be unique, singular occurrences. Peirce (II:160) in fact considers signs which are not singular individuals but types, to be "subindices" rather than indices. However, this is hardly coherent, since the nature of the sign-vehicle and the object here seems clearly distinct from the relation between them, thought to define the index. Another serious confusion obtains between indices and indicators, in spite of the etymology of the terms. It is often thought that the pointing finger (Peirce's example) and the arrow are typical indices, but that fails to explain why not all indices will serve to localize a point in space. Indeed the arrow may be contiguous, and closer to, objects to which it does not point. It is not even obvious that all indicators must be indices, if the latter are defined by spatio-temporal coexistence, e.g. a linguistic indication or a map which is not placed on the ground it represents, as the one imagined by Peirce (II, 136), or is identical with it, as the one conceived by Borges.

In another definition, Peirce (II:306) tells us that "psychologically, the action of indices depens upon association by contiguity". Nobody has contributed more to the diffusion of this version of the index theory than Roman Jakobson, most clearly in a late text (1979:16), where we are told the motivation for the index comes from "real contiguity" ("contiguité effective"), as opposed to the imputed one of conventional signs. Before that, Jakobson had distinguished the two axes of language, and in fact of all semiotical phenomena, based on *contiguity* and *similarity,* represented in linguistics by the syntagm and the paradigm, in rhetorics by the metonymy and the metaphor (Cf. Jakobson 1963; 1974). To Jakobson, metonymy always came to cover not only the relation of contiguity of traditional rhetorics, but also the relation of part to whole, known as synecdoche. Others have since then tried to reestablish that difference (Cf. Groupe μ 1970:95 ff), even within the notion of index (Cf. Nöth 1975:20 f). Sebeok (1976:43, 133) seems to follow Jakobson, not only in transferring the relationship from expression and referent to expression and content, but also in taking his inspiration from rhetoric, when he tells us "a sign is an index insofar as its signifier is contiguous with its signified, or is a sample of it", although it is of course arguable that the sample-relationship is something different from the relation of part to whole (Cf. Goodman's "exemplification" discussed in I.2.4. and 2.2.2. For Jakobson's model, see III.1.4.).

But is this something different from spatiotemporal existence? It can be given a wider interpretation, as suggested by some of the examples, placed alongside the traditional types, by many recent indexicalists. Norrick (1981; 1983) has compiled lists of different types of indexical relationships, which are reminiscent of the catalogues showing types of semantic change prepared by traditional etymology (e.g. Darmesteter): cause/effect, part/whole, container/content, etc. Thus, according to Norrick (1983:230 f), "the prenzel used as a sign for a bakery" is an index – but is this because the sign is *close* to the bakery, and so indicates its spatio-temporal location, or is it because the prenzel is *a part* of the products sold in the bakery? (cf. I.2.5.) Peirce probably did not consider the latter interpretation, but some of his examples lend themselves to an analysis along these lines: the rolling gait is *part* of the behaviour associated with a sailor, but to discover this, as Savan (1976:27) rightly points out, we need to be aware of certain laws and regularities, which in themselves are not indexical in Peirce's sense.

But Peirce may have said something about this "indexicality", using a quite different term: *abduction.* Traditionally, that kind of reasoning which from a number of instances forms a general principle, *induction,* is distinguished from *deduction,* which derives instances from general laws. According to Peirce, however, it is *abduction,* which reasons from one instance to another, which renders innovative thinking possible, miraculously going right most of the time, although the procedure is invalid logically.[14] But abduction is not a kind of reasoning taking place merely on the level of individual facts (as Ginzburg 1983 believes) because, the facts, Peirce tells us, are mediated by certain "regularities". Given a fact, a principle is tentatively proposed and then used to derive another fact, which may explain the first, possibly as its cause. Proposing that we deduce the object seen from the sensations, Peirce even turns out to be a pioneer of the theory of hypothesis-testing (cf. I.2.2. and III.3.3.).

We owe to Eco, Sebeok, Truzzi, Ginzburg, and Hintikka (Eco & Sebeok 1983) the discovery that Sherlock Holmes's method is really Peircean abduction, and that Doyle, in describing Holmes's reasoning, borrowed the procedure of investigation employed by his own teacher, a famous medical doctor. It was noted above (in I.1.2. and I.2.2.), that symptoms are, in some as yet unelucidated sense, parts of the disease, i.e. *factoralities.* On the other hand, we are told that Holmes attended to sleeves, knees and other "useful material for showing traces" produced by "abrasion" with the environment "that will always result as long as man goes on two legs" (quoted in Eco & Sebeok 1983:21, 64 f) – suggesting that, unlike the physician's diagnostic, Holmesian abduction was very much based on *contiguity.*

To our authors, abduction always seems to be concerned with *causality,* maybe because to Holmes what is important in the end is to find the cause of the murder. Peirce (II, 632) tells the story about an anonymous writ-

ing on a torn piece of paper, of which a certain person is suspected guilty, the result being that his desk, to which only he has access, is searched. Another piece of paper, the torn edge of which fits in with the irregularities of the first one, is found inside the desk. Thus, it may be conjectured that the owner of the desk is also the one responsible for the anonymous letter. There is really a whole series of abductions here, which can be described in the following way (fig. 4.):

Only the last of the abductions seems to be causal. In the first one, we must conceive of the whole in order to have the idea to search for the missing part, the second piece of torn paper. To perceive the first piece of paper as being torn, we must take for granted the regularity prevailing in our Lifeworld, according to which pieces of paper are regularly shaped. We also need the part/whole relationship to fit the two pieces of paper together. Both factorality and contiguity are relevant here, for the two pieces of paper do not only form a complete whole, but must also be joined together in a prescribed manner. This will become clearer if we now consider a more complex case, the jig-sax puzzle or, to make matters even more difficult, the reconstruction of a Minoan fresco. Unlike the torn paper, each piece of the jig-saw is subjected to a double constraint: on the one hand, as in the case of the torn paper, irregular, parallel lines must overlap, and on the other hand, lines interrupted at borders must be continued. The regulating abduction may, in the second case, be sheer desire for continuity and closure (as in the Gestalt principles), but later particular perceptual hypotheses are tried out, giving rise to iconic signs. As we have two constraints, there are also two rules for deciding when the completion procedure has come to its end, each depending on a particular conception of the whole. When interrupted lines form a closed figure, which can be recognized as a thing of the Lifeworld, there is a whole, but the same piece of jig-saw also contains new discontinued lines which demand completion. The second principle of termination must therefore be superordinated to the first: when a quadrangular shape is obtained, the jig-saw is complete. As trivial as these remarks may seem, they will be the basis for our later analysis of Matisse's cut-out "Nu bleu IV" (in III.5.2.).

What makes the reconstruction of Minoan frescos so much more difficult than a jig-saw puzzle, is not only the fact that so many pieces are lacking in the former, but also that the abductions derived from the regularities of our Lifeworld do not necessarily fit. In a way, this also holds true about a jig-saw made out of a cubist painting, in which real world objects are not reproduced in the accustomed order. In the case of the frescoes, the problem seems to begin at a more elementary level.

One of the most beautiful frescoes of the Knossos palace shows "three court ladies" with eleborate coiffures, exquisitely snub-nosed head profiles with one large eye in frontal view, and torsos directly facing with breasts bared between the delicately undulating lines of cloth. The two ladies on the right are looking to the right while the lady on the left directs her gaze to the left (Pl. III). It comes as a shock to learn that the pieces with which this jig-saw is laid only contain some fragments of the dress, the breasts, and the arms, together with parts of a necklace and the outmost ends of tresses falling on the shoulders. No trace of the heads seems to be preserved. One wonders what, if anything, in these fragments (perhaps the ends of the tresses) may furnish indices for the different ways in which the ladies' head profiles are directed – if it is not just an abduction based on our sense of style, which could be foreign to the Minoans?

The frescoes "have been imaginatively, but not always accurately, restored" (Higgins 1967:95) but, although some reconstructions have been changed since the time of Evans (as can be seen in the Heraklion Museum) the present items are not completely arbitrary. The constraints of the interrupted lines do not go very far

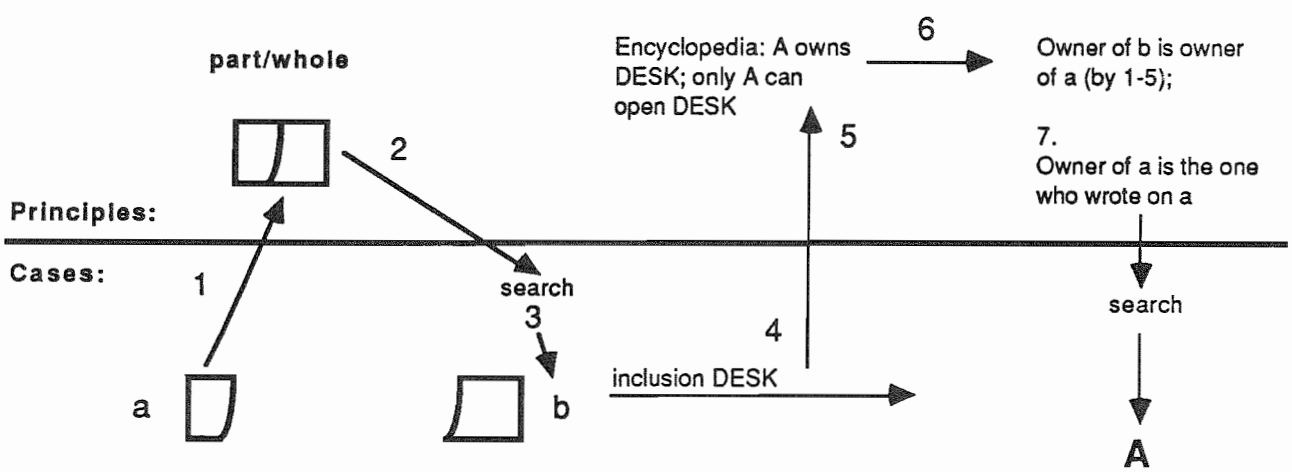


Fig. 4. How to look for torn paper.

to specify the shapes of the heads – but they do demand, according to some taken for granted body scheme, a head above the torso (even this abduction could be wrong, since some fantastic animal may be meant). However, there is certainly something "proto-structural" in the way the abduction is derived, first from the fresco itself, then from other Minoan frescoes. The three torsos are manifestly three of a kind, with small "contextual" modifications, so it seems safe to suppose the same principle to hold for the heads. It should be noted, however, that this similarity really becomes manifest only after the three series of pieces for the three torsos, with partly overlapping motives, have been assembled and compared to each other, like laying three similar jig-saw puzzles at the same time. The contiguity expectations and the general rule (Jakobson would say the syntagm and the paradigm) are used concurrently.

But what about the head? Putting together the evidence from the three ladies, the only contiguity constraints come from the tresses ending on the shoulders or maybe on the bossom and, more vaguely it seems, from the neck contour. However, at least two women's heads are preserved in other frescoes, the so-called Parisienne (fig. 5 a) and a dancing girl (fig. 5 b), and there are also some heads on the Hagia Triada Sarcophagus, and some fragments of head profiles from other frescoes. The undulation of the profile line in the reconstruction seems somewhat intermediary between the one of the Parisienne and the dancing girl, and so is the relative size of the eye. Both extremes of the profile appear to be represented in the rest of the material, but the eye in most cases possesses the disproportionate size found in the Parisienne. There is ample evidence for the third tress and for the curl hanging down in the front, but not for their exact positions and shape. I am unable to find any hairdressing of an equivalent degree of elaboration in the other frescoes. On the whole, the roundish shapes and undulating lines as well as a quasi-parallelism of contours are seen to predominate in the reconstruction, in a way which goes far beyond what is sug-



Pl. III. Ladies in blue, a fresco from the Knossos palace, 15th century B.C.

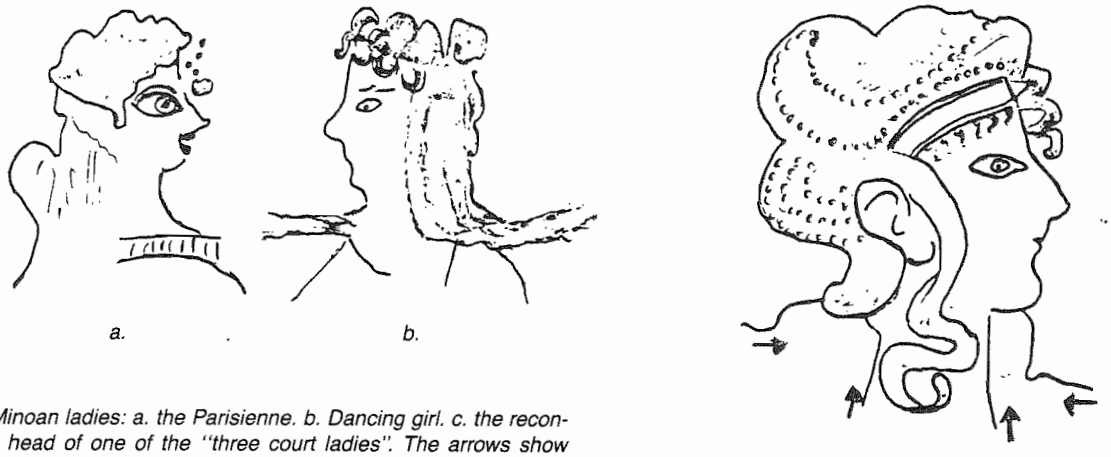


Fig. 5. Minoan ladies: a. the Parisienne. b. Dancing girl. c. the reconstructed head of one of the "three court ladies". The arrows show where there is a contiguity indication from one or more of the three trunks.

gested by the fresco fragments preserved.

Our task is not to criticize the result of the reconstruction, but to understand the process as such: contiguity itself does little more than to call for a head, any head, and that only because we suppose the body scheme to apply (a woman's head, in fact, because of the breasts) but any pictured head must be a (relatively) particular head, so further abductions, derived from other frescoes, other knowledge of Minoan culture, and imagination, must be applied to specify the appearance of the head. This is due to the "exhibitive import" of pictures (cf. III.5.1/3.). Indexicality, as contiguity of potential expression planes, here works together with abductions from principles taken for granted in the particular Lifeworld.

There are, nevertheless, as we shall see later (in I.2.5.), other kinds of indices which are not based on abduction. One very general conclusion already seems to impose itself: if any common meaning can be given to the diverse phenomena brought together under the title of indexicality, then it must be the open horizons, the contextuality of the Lifeworld. In that case, however, the really important task is to distinguish the different indexicalities involved; and that is exactly what we are going to undertake in the following sections, starting with indexical relations (in I.2.4.), and proceeding to signs (in I.2.5.).

I.2.4. Parts and neighbourhoods. From the Indian Elephant predicament to the Original Serendipity case

To begin this section, we will relate two anecdotes. The first is a folktale, printed in the 16th century, which narrates the Serendippus brothers' meeting with a man looking for his camel gone astray. Was it white, blind in one eye, and did it carry two skins, one of them full of oil, the other of wine? the brothers inquire. The camel-owner enthusiastically assents to the description. Then we have not seen it, the brothers say. Naturally, the camel-owner finds it very strange that the brothers should know so much about an animal they have not seen, and thus he accuses them of theft. But, in the end, the brothers manage to convince everybody that they have just seen the traces left by the camel, and reconstructed the rest (cf. Ginzburg 1983). A variant of this story was incorporated by Voltaire into his novel "Zadig" (cf. Eco 1983 a). The theme of this tale is *contiguity.*

The second and, I believe, complementary story concerns the blind men and the elephant. The blind man who touches the trunk of this animal thinks it is like a snake; a second blind man, who is close to the legs, believes it to be like a tree; and other blind men, posted near the tail, one of the tusks, one of the ears, or the belly, come up with still different theories. This is a tale about *factorality.* Unlike the first story, which tells of brillance and success, later renamed serendipity, this is a story about failure.

However, when commenting on this story as a metaphor for literary criticism, Hirsch (1976:44) observes that an intelligent and energetic blind man would be free to move round the elephant, to find out what it was really like. Indeed, that is precisely what Kennedy (1980) had his blind men and women do, only that what they moved round was a raised-line picture, and they moved only their hands round it. Identification was quite easy from the parts, Kennedy reports, when the latter were named. Other elephant pictures were employed in experiments by Hudson and Deregowski, but their subjects were blind to Western perspective only: untutored Africans preferred a picture showing an elephant from above with its legs spread out to the sides, judging that, in another variant, where the legs were hidden below the body, the elephant looked dead (Deregowski 1973); they also found a side view (fig. 6 b) or a combined side and front view (fig. 6 c) more convincing than a mere front view

(also cf. III.3.1. and Kennedy 1974 a; Jones & Hagen 1980). Unlike the blind men, the Africans were asked to judge perceptual parts, not proper parts, as we shall see below.



a. b. c.

Fig. 6. Visions of elephants.

In spite of Jakobson, there seems to be no reason for giving up the distinction between factorality and contiguity, though they both depend on the contextuality of the world and are assimilable to Husserl's inner and outer horizons, respectively. At least for the adult, the thing is clearly defined inside the perceptual world by the coherence of the internoematic system, the "common fate" of its parts in a movement, its perdurant identity, and so on. In literary theory there have been problems separating synecdoche and metonymy in some instances: for example, "the crown" will be a metonymy for "the king", if the latter is taken to be a person, a synecdoche for the same if the king is considered to be primarily an office. This example really shows that the principles are clearly distint: it is the object which is ambiguously defined.

Let us begin with the elephant, which appears to be the easiest animal to catch. Different kinds of parts have been mentioned before (I.2.2.) but we now have to consider more in detail the differences between them. *Proper parts* are easiest to understand: they have less *extension* than the whole (i. e. in each individual referent, not necessarily as a class). Things are intersubjectively separated into parts in this sense; even blind people usually find it quite natural to handle pictures of animal parts whose limits are formed by lines not appearing in the complete body (Cf. Kennedy 1980). As opposed to this, a *perceptual part* or *noema* will contain the whole in its entirety but with different degrees of explicitness, organized around a central emphasis. Neither outline drawings (like those in fig. 6 a–b), nor perspective pictures really reproduce the noema as such, since the noemata continuously fade into each other, whereas the picture has to posit the "horizon", in Hochberg's (1980:51; 1972:70) sense, at a particular point: the lines which indicate where the curved surface of an object disappears to the single glance.[16] Of course, a "split-representation-drawing" like fig. 6 c is no more true to the noematic matrix, for the views coexisting in the picture never merge; but it certainly renders better the continuity of perceptual experience.[17]

There is yet another way of partitioning our elephant. As a preparation for their discussion of the metaphor, the synecdoche, and the metonymy, Groupe μ (1970:97 ff) suggests that every object may be decomposed in two ways, following the material or Π-mode or the conceptual or Σ-mode. The tree, for instance, can be analysed in its stem, branches, leaves, roots, and so on, but it can also be divided into poplars, oaks, birches, and so on. While these are the examples given, the subsequent use made of the second model shows it is really the hierachical dimension which is privileged, so that one given object can be seen as a thing, a living thing, a plant, a tree, en oak, a cork-oak, an old cork-oak, etc. This explains why the distinction is identified with the one logicians make between extension and comprehension or, as we will say, between extension and intension (Groupe μ 1970; 99; cf. II.1.2.).[18] In the case of our elephant, the analysis in (intensional) properties or attributes may follow the zoological scheme, but one could also imagine other, more Lifeworld-adapted partitions.

In a later work, Groupe μ (1977:90 f) suggests that the Π-mode and the Σ-mode, already assimilated to perception and cognition, should be identified respectively with what is, to Gestalt psychology, the segregated unity and the quality. This shows, sad to say, an inadequate information about Gestalt psychology, which precisely opposes the idea, that attributes must be inherently conceptual (cf. Arnheim 1966; 1969; 1974; Sander & Volkelt 1962). Conceptual or not, the attributes are *intensional,* i. e. they redescribe the same object, without modification of its extension. Nevertheless, it seems to be true, following Groupe μ:s (1970:100) observation, that the "nauticity" of the boat resides more in the helm than in the cabin, and this could be taken to indicate, as in Gurwitsch's (1957; 1974 b) reinterpretation of Husserl's conceptual noema, that even in this case, the whole is contained in each attribute, only being reorganized each time from the point of view of a particular emphasis.

While there may be some truth in this, it is necessary to clarify the difference in the way the perceptual noema and the conceptual noema refer to the whole. Although the same terminology appears in the phenomenological tradition, conceptuality will not do, as was seen, and neither will structure, as will be shown below (Cf. I.3–4.). In fact, it is not only in "conceptual abstraction", as conceived by Husserl and Piaget (Cf. I.4.4.), that the attributes appear to be detached from the particular object, but this also seems to be the case in the "perceptual abstraction" of the child, who reduces the cube to a combination of closure and angularity at least in his drawing. For the present, we will have to leave this important problem unresolved (cf. fig. 3, I.2.2.).

A part may also be a class of attributes brought together because they possess some common higher-order property, e. g. visibility. For convenience, an attribute common to a class of attributes will be called an *attribute-of-attributes.* The properties being defined as visible by the camera are not exactly the same as those

thus defined by the human eye, as testified by the discussion about photography in its early days (Cf. Scharf 1968); an extreme case is of course the X-ray camera. According to Gibson, pictures capture "invariants" of a complete series of views of the object, i. e. *attributes-of-noemata.* Putting these observations together, we find that pictures depend on *attributes-of-attributes-of-noemata.* This would be true of any picture, however, even of the child's cube. But how is this to be reconciled with our earlier observation (I.2.2.) that the perspective drawing, the photograph, and even most outline drawings, while not exactly reproducing one or a few noemata, depend on them for their principle of reproduction?

To Sebeok (1976:43, 133), it will be remembered, the signifier of an index could be a *sample* of its signified. Commenting on the subdivision of the signs according to Peirce, Todorov (in Ducrot & Todorov 1972:115) had affirmed that the icon was rather like a synecdoche than a metaphor, giving as an example the black spot which could not properly be said to resemble the colour black. While he does not accept the general statement, Sebeok (1976:129) thinks the black spot is a sample of the colour black and therefore a synecdoche, which he identifies with an index. According to Umberto Eco (1976:350 f), the red spot in the picture is not similar to the red colour, it is identical to it, its "double". As anybody who has ever taken a colour photograph knows, the red spot in the picture (not to mention the black spot of a black-and-white photograph) is identical to the corresponding spot in reality, only given a principle of tolerance or relevance, which is embodied in the very term "red" (The colour correspondance is even worse in hand-made pictures, cf. Hochberg 1979). The factorality suggested by Todorov and Sebeok better fits in with this observation than the identity which Eco affirms.

As used by Sebeok, however, a sample could presumably be *any* part of a whole. Introducing his theory of "exemplification", which he takes to be important to art, Goodman (1968; 1977; 1984) discusses some typical samples, as the tailor's swatch and the cupcake on display in the bakery. In an amusing story, Goodman (1977) shows us that no sample can exemplify all the properties it has: for instance, the tailor's swatch does not exemplify its size nor its shape, whereas the cake does exemplify these properties but not the property of having been baked the day of the commission. Exemplification, being the reverse of denotation, i. e. of the reference of the word or label to an object, is a reference back from the object to the labels for some of the properties it possesses. If we try to retranslate this from Goodman's nominalist metaphysics back to the Lifeworld intuition which seems to lurk behind it, we will find exemplification to be a sign function from a particular object to some of the attributes which characterize this object, i. e. from a token to a type.

This reference from the token to the type is not to be confused with simple instantiation. Against Eco, we could say that while the red-painted wall instantiates redness, the red colour in the picture refers to it. However, though Goodman's analysis seems adequate for some purposes (Cf. II.2.2. & III.1.4.), it does not do justice to the very samples from which he started. A sample does not signify any attributes; it signifies a class of objects of which it forms a part and which have been brought together by virtue of having such and such attributes in common. Our elephant, for instance, can exemplify a herd of elephants. In a derived sense, as shown by Goodman's own stories, the sample also signifies another part from the same whole: I may be shown Dumbo, for example, in order to decide if I want to buy Jumbo.

In the present context, however, we are rather less interested in what it means to exemplify composite objects, like the herd of elephants or the bakery's stock of cakes of a certain type. From the point of view of the attributes retained, each elephant or cake will be as good a sample as the others. Although the tailor's swatch is a part of a primary level object, i. e. a piece of cloth, the latter is completely homogeneous in its properties over the whole of its extension, apart from the non-relevant attributes of size and shape. But what would it mean to have, say, a sample of an elephant? Now remember that the elephant, according to our anterior observations, may be decomposed in three ways, in its proper parts, its perceptual parts, and its attributes. We will have three series then: of proper parts, of perceptual parts, and of attributes, and in each one of these we may pick out one or more items, according to the particular attributes by virtue of which we want the elephant to be exemplified: as the biggest land mammal, as a living, dangerous creature, and so on.

Usually, items of this kind only *pseudo-exemplify* the object, in this case the elephant, which we will take to mean that the sample does not possess all the properties it signifies but that these are implied, because they are abductively known to cooccur in the real world with the properties possessed by the sample. If we have a *noema-chosen-according-to-an-attribute,* we may well end up with the side view of the elephant (fig. 6 b), as is normally the case for animals and vehicles (Cf. Rosch, Mervis, Gray, Johnson & Boyes-Braem 1976). If we have to decide on a *proper-part-chosen-according-to-an-attribute,* it seems obvious that we will use the tusk or the trunks.

Interesting examples of this way of signifying the whole with a part, outside of elephant lore, may be found in the caricature representing Hjalmar Schacht as a high starched collar (Gombrich 1982:113)[19] or in Hochberg's (1972; 1980) discussion of "canonical notation". Most interesting about the latter text is that it emphasizes that the attribute according to which the noema or the proper part is chosen may itself be chosen not only to identify the object but to distinguish it from other particular objects – what we would regard as a *structural*

criterion. For instance, of two equally good projections of a teacup, the one which lets us see the handle and thus clearly does not exemplify a saki cup or a soup tureen will be preferred. If Chaplin is to be distinguished from other celebrated movie stars, a toothbrush moustache will do, but if we want to avoid confusing him with other wearers of toothbrush moustaches, such as Hitler, hairdressing might be another proper part worthy of attention (Hochberg 1980:76 ff).

Lastly, if instead we want an *attribute-chosen-according-to-an-attribute,* it is rather difficult to imagine what would happen without having a childlike mind, that kind of mind, that is, which makes you see a cube as closure and angularity (fig. 3). This method is certainly used also by some abstract painters, but then the abduction leading from the part to the whole is often very difficult to reconstruct.

One naturally wonders if there are other possible operations. If we ignore new combinations of the parts (noemata reorganized according to new principles of closure and symmetry in "split-representation"; noemata and proper parts reorganized according to a principle of disorganization in cubism, etc.), the only real possibility, apart from the redundant one of choosing a part according to a part, seems to be the choice of a *noema-according-to-a-proper-part.* For instance, in Hochberg's example, the teacup is pictured from a certain perspective, because then the handle becomes visible; however, the handle serves to identify the teacup as such, so this is only a variant of the *noema-chosen-according-to-an-attribute.* That leaves us with the following possibilities:

	DECOMPOSITIONS		
OPERATIONS:	*proper parts*	*noemata*	*attributes*
– none	+	+	+
– attributes extracted from the series:	–	+	+
– one or a few of the series chosen according to an attribute:			
a) non-structural	+	+	+
b) structural:	+	+	+
– one or a few of the series chosen according to a proper part:	+(trivial)	+	–
– one or a few of the series chosen according to a noema:	–	+(trivial)	–

Table II. The choise of parts.

Let us now follow the trail of the camel. The imprints left by the animal certainly represent the kind of contiguity that we know from Holmesian *abrasion,* i. e. such indexicality as results from the way separate things interact in the world. This is not entirely a tale of contiguity, however: as Eco (1983 a:210) tells us, there is also a "synecdochial aspect" to the interpretation, taking us in Voltaire's version from the hooves to the horse. What is really left for Zadig to interpret is, I would say, not a contiguity effect of a proper part or an attribute of the horse or, to be exact, of the horse's feet: it is a tactile noema. However, we could probably say that this particular noema of the feet is "chosen" because, like the finger-tips, it contains pseudo-exemplifying attributes.

This is not the sole "synecdochial" aspect, as a matter of fact. Eco (1983 a:212) rightly points out that at the end of a number of abductions Zadig actually only knows a series of disconnected facts: that a horse passed at a certain place, that an unidentified something has broken the branches, that an unidentitied something has swept dust on the trees, etc. But Eco fails to note another, more elementary abduction from isolated facts; from the different imprints, each one standing for a hoof and a foot, to the entire horse. Zadig supposes there are such things as horses, that they can be present in this environment, and that in fact one of them was present. To see that this is not entirely trivial, consider what we should think if we found traces similiar to those of a horse but with a clear imprint of a horn before them. A less fantastic example may be taken from the ethologists Ennion & Tinbergen (1967:8) who note that the tracks of a hedgehog and a squirrel are similiar "but the arrangement of the prints is different, for the hedgehog walks where the squirrel jumps". Only knowledge about the corporeal shapes of hedgehogs and squirrels and how they move will permit us to make this kind of abduction. In the case of the imprints observed by Zadig, it is of course not enough to know about the way the horse's feet are related to its body: the prints must also be found nearby, in a possible combination. The same thing goes for the dust and the broken branches: it is important to know that horses do break branches and sweep up dust on the trees (Eco 1983 a:213), but the dust and the branches must also be found in *contiguity* with the prints, and of course not in *any* spatial relationship to them. Now this begins to resemble the jig-saw puzzle and even more the Minoan fresco: we have a few pieces of the puzzle, in *contiguous positions,* and we have to relate them by further *contiguities,* in such a way that a possible *whole* of these *parts* may result. The difference is that here the imprints and the dust are indices of an earlier presence which they circumscribe tentatively, at least from above and below.

It is, I think, quite understandable that the camel-owner was suspicious of the Serendippus brothers, and that the king threw Zadig into jail. Tracks have a further, much more elementary indexical property, that Zadig and the Serendippus brothers completely disregarded: they lead somewhere. Nothing could have been easier

for Zadig and the brothers than to track the animals, or at least to tell the owners how to find them rightaway. Now, is this an indexical property? At least, when Jakobson (1963) tells us the syntagm is based on *contiguity,* he must be thinking of this kind of contiguity, which puts together words following each other in time or on the same line of the printed page. Other examples would be the string of Ariadne which helped Theseus out of the Knossos Labyrinth, but also the alley, the road markings on the side, and the road itself. In all these cases we seem to have different tokens of the same type in spatiotemporally different but contiguous positions or, what from this point of view amounts to the same thing, the same attributes repeated continuously through a certain amount of space or time.

These indices should not be confused with indicators, however, as for example the arrow. The publicity of a Swedish banking company shows a picture of an alley of willows. The text reads "Följ pilarna" which, because of the double meaning of the word "pil", may be interpreted as "Follow the willows" or "Follow the arrows".[20] But there is a difference, according to the reading: the alley marks an itinerary; it does not give a specific direction. To Janet (1935) the road represented what his disciple Piaget conceived of more abstractly as an operation and its inversion, the possibility of undoing something the same way it was done (Cf. Sonesson 1981 a).

The arrow must have some further property, besides indexicality. According to Thom (1973:94), the directionality of the arrow is doubly motivated, firstly because if we try to grasp it, our hands will slip off in the sense of the arrow head; and second, because in a liquid the arrow will move in this direction with less resistance. If these dynamic properties of the arrow and of our possible handling of it are *seen,* we would have an example of what Gibson calls an "affordance": in this case a meaning derived from other sense modalities. But why does the pointing finger, and in some cases even the hand, indicate a direction? It seems we experience our body as being inscribed in a "body coordinate system" anchored in an "egocentre" (Howard & Templeton 1966; cf. Merleau-Ponty 1945; Bühler 1934 for other aspects). So one may speculate that there is a kind of directionality going from this "egocentre" over the smaller, more dependant parts of the body to the outside.[21]

This will not explain why the pointing finger or the arrow is ever felt to extend, in one direction or the other, further than it materially does. There seems to be some kind of anticipation, or rather a *protention* (cf. I.2.1.), that the type-identical tokens already repeated spatiotemporally should go on repeating themselves. In a rather different context, we were able to show that, according to the intuitions of persons of varying nationalities, an arm extended straight from the shoulder is felt to indicate a direction if the hand is held more or less straight with the palm facing forward; it creates an emerging space behind the body if the palm is turned backward, an extension between the hand and the ground, if the palm is directed downward, and, more vaguely, a space pressing from above, if the palm is directed upward (Cf. Sonesson et al. 1981 b, c). Further investigations of this kind might contribute to an elucidation of the nature of protained indexicality: if it is not just a convention, why should only one of the positions of the hand give rise to a perceived extension beyond that which is materially given?

The tracks, unlike the alley, the road, and the string of Ariadne possess their own direction. It could be derived from iconicity, together with a knowledge of the conformation of the animals' feet. The direction is then superimposed on the tracks, like Theseus did on Ariadne's string, in order to get out of the Labyrinth. When Brög (1968:78) tells us the animals running along the perspective lines of a painting by Uccello are not icons but indices *pointing* to the centre of the picture, he is clearly thinking about an indicator, but it is not easy to know if the directionality results from the animals making more palpable the converging lines of the construction, which would point inside the picture for the same reason as the arrow, or because the picture is seen as a real-world scene (which would contradict Brög's contention that the animals are not icons) with the animals running away from our position at the station point. Both reasons may actually contribute.

Apart from indication, then, we have encountered two kinds of indexicality: abrasion from the interaction of separate things, and the repetition of (partially) type-identical tokens in different spatiotemporal points. While abrasion only signifies as a *retention* of a foregoing contiguity, continuity, if we may use this term for the second kind of contiguity, may be actual or depend on a *protention.* (Cf. I.2.5.). We have also seen that contiguity may operate inside factorality, as is the case in the jig-saw puzzle and the horse abduction. There are certainly other kinds of contiguity. In one interesting case, contiguity functions in conjuction with similarity: two more or less parallel lines will be seen to form a figure, or they will be anticipated to overlap, as in the jig-saw puzzle. This principle, together with protained continuity, will be seen later to be fundamental in the analysis of at least some kinds of art-work, notably that of Matisse (cf. III.5.2.).

Besides real, spatial contiguity, there are number of metaphorical extensions. The elementary spatiality of the Lifeworld has always, it seems, served as a framework for thinking about other kinds of relationships, maybe because spatial organization permits us to grasp more elusive connections. In the "art of memory" of the Ancients, and all through the Middle Ages, things were commited to memory by being "placed" imaginatively in differents rooms of a house, or between different columns (Cf. Yates 1966; Gómez de Liano 1982; Baxandall 1972). The distribution of ritual and other important

sites may have inspired the organization of thinking in primitive society (Halbwachs 1925; 1950); the formal relations of language, like the cases and the prepositions, all seem to have a spatial origin (Hjelmslev 1937 and many recent linguists). Besides being one of the most elementary relations of lived space, contiguity is, under the name of neighbourhood, one of the fundamental concepts of mathematical topology. It would seem to be difficult to do away with contiguity.

But that is exactly what Groupe μ (1970:117f) proposes to do. Let us summarize rapidly the essential points of their argument. It has to do with rhetorical figures, but the issue seems to be more general. First, a synecdoche may be particularizing or generalizing, substituting a part for a whole or a whole for a part. In both cases, the decomposition may be "material" or "conceptual" (cf. above). The metaphor, we are told (p 108), is a combination of two synecdoches, one particularizing and the other generalizing. But if the decomposition is material, the combination of a generalizing synecdoche and a following particularizing synecdoche, is said to be impossible. If the decomposition is conceptual, however, it is the combination of a particularizing synecdoche with a generalizing synecdoche following it that turns out to be impossible. In these two cases there is coexistence of the features in one object but no intersection. That is why these cases will give rise to metonymies, which do not depend on contiguity, however, but on the inclusion of both the terms in the same totality which may be spatiotemporal or conceptual (p 117f). Now let us bring together the examples of metaphors (p 109) and those of metonymies (p 118) and at the same time translate all this into our own terminology (pF and gF will stand for particularizing and generalizing factorality respectively; also cf. Groupe μ 1977: 48ff, 70ff, 90f, etc.):

If this is true, why can we not make "hand" signify "head", just by deciding it is a metonymy instead of a metaphor, and so included in the same totality as the head? It should be noted, that while body parts do not normally signify each other, a film strip following the contours of a body evokes the head merely by showing the neck – contiguity in space and time (the time sequence of the camera) would seem to be required. Also in the domain of erotical semiotics, the shoulder signifies the bossom, the legs the sexual organ, and so on. Here, as before (see I.2.3.), mere contiguity is not enough. But inclusion into a common totality is no better: in the totality "Caesar's life", there are uncountable elements, and even the totality of what is known about it is great, but no one detail in these totalities can stand for any other. What we do need is an ordering of the details inside the totality. However, it is particularly important to reject the interpretation of metonymy as inclusion in a common totality, since there are contiguities which are, at the same time, included in wholes, as in the Minoan fresco, and in Zadig's horse abduction (cf. I.2.3–4.)

So far, we have discussed indexicality as a very general property of any Lifeworld, connecting its parts and contexts together. After a review of different interpretations of Peirce's notion of indexicality, we found *contiguity* to be the most generally valid criterion capable of explaining the examples adduced. However, in order to justify the abduction which interprets the indexicality, certain "regularities" of the Lifeworld taken for granted are needed (I.2.3.). We then distinguished contiguity in the proper sense, and *factorality* obtaining inside wholes, and we went on to differentiate the different kinds of parts and neighbourhoods found in the Lifeworld: proper parts, noemata, and attributes, together with different kinds of parts of parts on one hand, abrasion, continuity, protained continuity, and parallelism, on the other (I.2.4.). An indexicality in this sense is not always an index, we will argue in the next section, where we really come to consider all the bewilderingly different phenomena which have been called indices in pictorial semiotics. To be an index, to begin with, something must be a sign: that is, the relation of indexicality must be taken to be the same relation as the sign function.

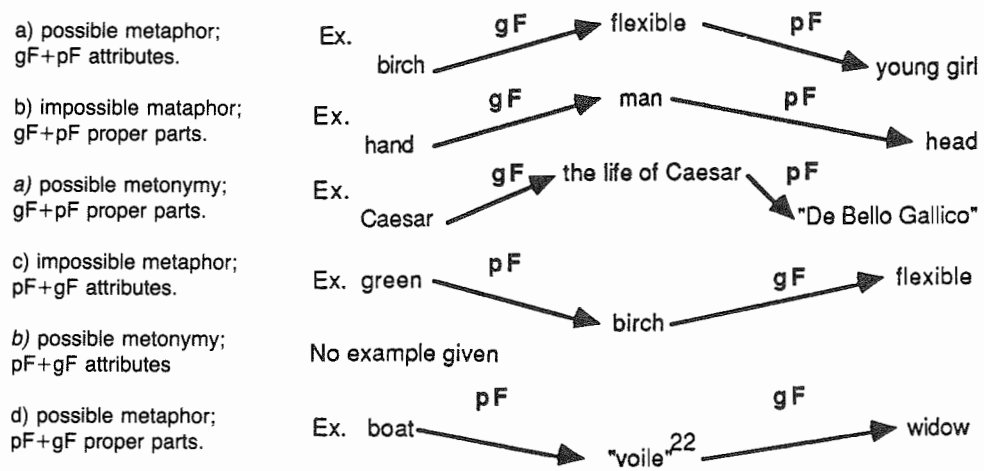


Table III. Compound factoralities.

I.2.5. A critique of indexicality. The backwoodsman meets the wood-feller.

If Peirce was, as he said, "the backwoodsman of semiotics", it is understandable that he neglected to differentiate his concepts, putting very different phenomena into the same conceptual bag. Being civilized entrepreneurs, present-day semioticians could be expected to have clarified these notions, but instead they seem to have augmented the confusion. Matters are difficult however, so we can only be expected to advance a little on the way to such an analysis of indexicality as is required; in return, we will be advancing on a number of fronts. First, we will distinguish indices from indexicalities which are not signs. Then a fundamental distinction between *abductive indices* and *performative indices* will be introduced. Next, we will consider a number of cases in which the indexical relations do not obtain between the relata of a sign but between the content of the sign and another content, between two signs, between the expressions of two signs, and between the expression of a sign and an element which is abductively supplied. Still other kinds of indexicalities, which pertain to the picturehood of all pictures, will be reviewed in the next section (I.2.6.). In the following tables a simple notation is employed: the square □ stands for the expression plane of the sign; the circle ○ stands for the content plane of the sign and, in the first table, for any item entering into a relation; the arrow ⟷ is used to mark the indexical relation.

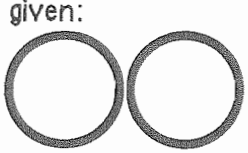
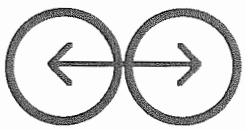
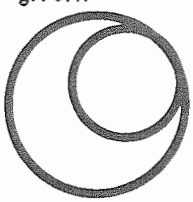
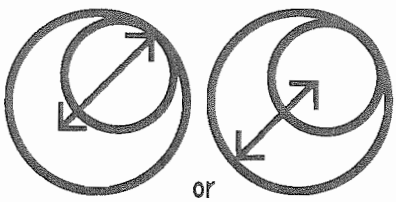
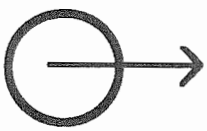
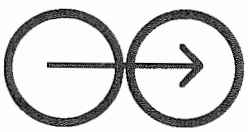
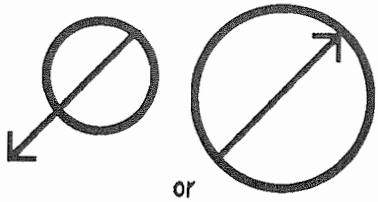
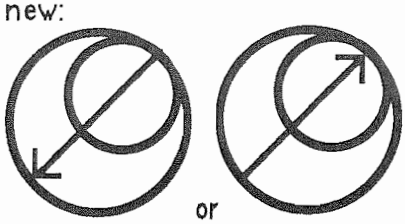
CONTIGUITY	FACTORALITY
I. Contexts (vs signs)	
a) (actual) perceptual context:	
given:  new: 	given:  new:  or
b) abductive context (protention, retention)	
given:  new: 	given:  or new:  or
Examples: *the linguistic syntagm; the Weberian wood-cutter; Holmesian "abrasion"; fingerprints and footprints; the movement of the hand and the resulting picture; the foaming bear and the feeling of refreshment (Eco 1968; 1976); the accident and the plaster (Fresnault-Deruelle 1983)*	Examples: *the gait of the sailor (Peirce); the symptom of a disease; part and whole of a picture;* With contiguity: *the Minoan fresco; the jig-saw; the piece of torn paper (Peirce)*

Table IV–1. Contexts or simple indexicalities

According to Peirce and the Peirceans, the whole world is "profused with signs" (Cf. Sebeok 1976; Walther 1974, Deledalle 1979). But if everything is a sign, the term becomes meaningless. At the other extreme, Eco (1976:359 ff) and the Greimas school (cf. Greimas & Courtés 1979) reject the sign concept altogether. In fact, Saussure himself declared the unity of expression and content to be a relatively superficial effect of the sheer interplay of differences. What Eco and Greimas reject, in fact, is not the two planes of expression and content, but their static unity in the sign; as we will use the term "sign", however, no such simplistic relationship is implied, but only the existence of at least two levels of analysis.

Hjelmslev (1943:96 ff) found it convenient to distinguish *sign systems,* like verbal language, and *symbol systems,* as formal logic, chess, and Thorvaldsen's Christ, because the latter lack "double articulation", which means that the ultimate constituents of two hypothetical planes can be correlated one by one, making the distinction of planes unnecessary (cf. II.4. and III.4.2–3.). Our own classification will cut across the one suggested by Hjelmslev, and is not made just for convenience's sake, but is thought to mirror the operative knowledge of the Lifeworld. Of more use to us than Hjelmslev's conception of the semiotic function is the one propounded by Piaget, who regards it as a capacity acquired by the child at about 18 months to 2 years of age, permitting it to make imitations in the absence of the models, to use language, make drawings, play symbolically, and to have mental imagery and a memory.

What Piaget takes to be specific to the semiotic function (which he originally called the "symbolic function"; cf. Piaget 1945) is that it permits the representation of reality through a "signifier" which is distinct from the "signified" (Cf. Piaget 1976 b:134 ff; 1970:342 fff). Each time he introduces his notion of semiotic function, Piaget points out that "indices" and "signals" obviously are possible long before the age of 18 months, but then they do not really suppose any differentiation between expression and content. The signifier of the index is "un aspect objectif du signifié", as the visible butt of an almost entirely hidden object is the signifier of the object for the baby; and the tracks in the snow stand for the prey to the hunter, as any effect for its cause (Piaget 1967 b:134). But when the child uses a pebble to signify candy, he is well aware of the difference, which implies "une différenciation, du point de vue du sujet lui-même, entre le signifiant et le signifié" (ibid.).

Piaget is, I believe, quite right in distinguishing the manifestation of the semiotic function from other ways of connecting significations, as he says (ibid.). Nevertheless, it is important to note that, while the signifier of the index is said to be an *objective* aspect of the signifier, we are told that in the sign and the symbol (i. e. in Piaget's terminology, the conventional and the motivated semiotic function respectively) expression and content are differentiated *from the point of the of the subject.* Now, we could imagine this same child that in Piaget's example uses a pebble to represent a candy use instead a feather to stand for a bird, without confusing the feather and the bird; then the child would be using the feather, which is "objectively" a part of the bird while differentiating the former from the latter "from his point of view". That is just what the hunter does, I submit. Both the child in this example and the hunter are using indices. On the other hand, the child *and the adult* will fail to differentiate the perceptual noema and the object; and indeed they will identify them (Cf. I.2.4.); and at least the adult will consider a branch jutting out behind a wall as undifferentiated from the tree, to use Piaget's (1970:343) example, in the rather different sense of being a proper part of it. However, this leaves us with the question what it really means for a signifier to be undifferentiated from a signified.

In the case of an actual perceptual context, two items are present together in consciousness, whereas in a sign, one item is actually present while the other only appears indirectly through the first. This much seems obvious, but what then about the abductive contexts, the retention and the protention of time consciousness, the hidden side of the dice or the teacup?[23] According to phenomenology (Husserl 1939:174 ff; Schütz 1967:294 ff; Luckmann 1980:99 ff), two or more items may enter into different kinds of "pairings", from the "paired association" of two co-present items, over the "appresentative pairing" with one item present and the other indirectly presented through the first, to the real sign relation, where again one item is directly present and the other only indirectly, but where the indirectly presented member of the pair is the theme, i. e. the centre of attention for consciousness. This will be enough to distinguish the abductive context from the sign, if we suppose the former to be always thematized in its directly presented part or as a whole. But is seems to me that there is yet another difference between a context and a typical sign, in this case between a mere indexicality and an index. Whereas the items forming the sign are conceived to be clearly differentiated entities and indeed as pertaining to different "realms" of reality, the "mental" and the "physical" respectively in terms of naive consciousness, the items of the context continuously flow into each other, and are not felt to be different in nature. We will soon see why these additional features may be necessary. For the moment, we will be content to summarize what has been said so far:

The Weberian woodfeller, also invoked by Schütz (1932:152 ff) to explain how we give meaning to the actions of the everyday world, perfectly illustrates the flow of indexicalities which do not stop to become signs; it is sufficient to catch the woodfeller in one phase of his action to know what has gone before and what is to come. The fact that not just any noema represents the entire action series as well as the others raises anew the ques-

	Directly present	Thematized	Continuity	Of same nature
paired association (actual context)	*both items*	*both items*	*yes*	*yes*
appresented pairing (abductive context)	*one item*	*directly presented item or both*	*yes*	*yes*
sign (index)	*one item*	*indirectly presented item*	*no*	*no*

Table V-I. Pairings and signs

tions treated by Shaftesbury and in Lessing's "Laokoon" (Cf. also Arnheim 1966:76 ff; Gombrich 1982: 40 ff; Friedman & Stevenson 1980; Ward 1979); but, in the present context, only a preliminary issue can be addressed: in what manner is a mere indexicality transformed into an index?

If we take a snap-shot of one of the phases of the woodfeller's work, we could use it, like the well-known traffic sign meaning "roadworks ahead", as a part for the whole or, more oddly perhaps, as a phase signifying contiguous phases. If we ignore for the moment the iconic sign and only consider the indexical sign which is contained in it, it seems wrong to maintain that it is the whole action or the non-pictured phases of the action that are thematized rather than the phase seen in the picture. And yet there has been a radical change from the flow of indexicalities taking place in reality, for not only is there now a separation of expression and content "from the point of view of the subject", but this separation has been objectified in the picture. Not even a series of pictures will reconstitute the noematic continuum, as a film of course will. In the cinema, as in the theatre, indexicalities will become signs for quite another reason, because they are only pretended significations, but then at a much higher level of structuration. However, when we ask the woodfeller to stand still for a moment (like in a "tableau vivant"), his position as such, before it is transformed into the motive of a picture, is already a sign for the whole of the action, although the directly presented position does not seem to be non-thematized, the continuity is only provisionally interrupted, and expression and content are felt to be of the same nature. So where does this leave us?

In an advertisement for ladies' shoes, essentially built up of indices, according to Fresnault-Deruelle (1983:-37 f), a girl is seen sitting on a hospital bed, with a plaster on one leg while she is trying a shoe on the other foot (pl. IV). Here, our author claims, the plaster is an index for an accident; and together with the flowers behind her, the chocolate box and the wrapping-paper on the bed, the shoes, which must be new since the is trying them on, suggest the recent visit of a friend – or perhaps, I would venture to add, in view of the abundance of presents, a lover (or many friends). The girl does not look happy; and one can, with Fresnault-Deruelle, take



Pl. IV. Girl with indices (from Fresnault-Deruelle 1983).

this mien as an index of her deception at receiving a present of such little use to her in her present state There are clearly other indices in the picture, not mentioned by Fresnault-Deruelle, for instance the hollows left in the bed, in particular on the pillow, by the girl's body, a classical case of Holmesian abrasion, it would seem.

All these indices can easily be seen as effects of certain causes, using a familiar definition of indexicality we have rejected as too specific. This referring back from the effects to the causes is of course possible precisely because we are able to consult a number of interpretational schemes for everyday life in the hospital, the giving of gifts, the use of shoes, and so on. It seems wrong to conclude however, that the above-mentioned effects simply stand for their causes, or even that they are parts of a whole formed by the respective interpretational schemes for which they stand. Rather, each effect stands for *the-cause-come-to-this-effect* – that is, instead of being just a transparent expression through which the thematized content, the cause, is given, the effect stands out as a particularly important part of the whole. This is quite different from the way the feather signifies the bird to our hypothetical child in the begin-

ning of this argument. So it is not just by taking a snapshot of an indexicality that one will obtain an index. But since the result is certainly different from the indexicality itself, because of the rupture of continuity and the different nature of expression and content, we will use the term *proto-index* to designate this possibility. Of course, the "tableau vivant" will be an even mere degenerate case of an index. One might say that in these cases there is a differentiation of expression and content but only a provisional and precarious one.

Now that we have seen that there are intermediate cases between indexicalities and indices, contexts and signs, we may return to consider the medical symptom and the archeological vestige. The medical symptom is, when it is discovered, an index in the full sense, but once the disease has been fully identified, the expression of the symptom will be just one part of the disease's content. On the other hand, the archeological vestige is an indexical sign for the building, fresco, or other object it signifies, but it is part of the meaning it has as a sign that it was once only a part of the content of the sign, the whole from which it has been accidentally separated. In these respects, the symptom and the archeological vestige differ fundamentally from the perceptual process (Cf. I.2.4.). However, they are not of particular concern to ut in the present text.

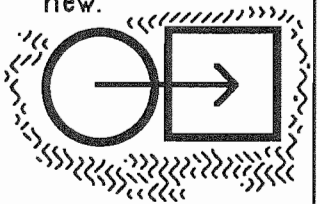
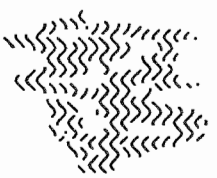
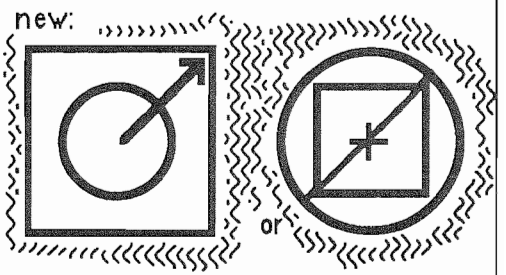
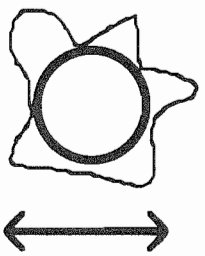
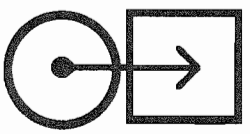
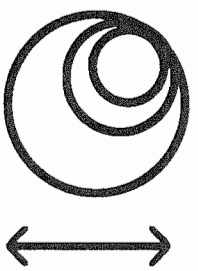
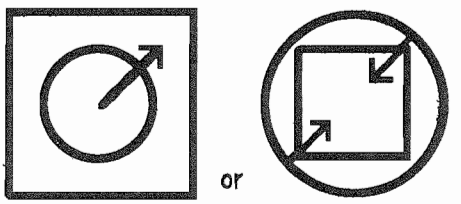
CONTIGUITY		FACTORALITY	
II. Signs. **a) performative index:**			
given: 	new: 	given: 	new: 
Examples: *pronouns like "you", adverbs like "that"; the finger pointing to an object; the weathercock, the clock of the watchmaker's, etc.*		Examples: *"I", "here", "now"; an arrow; the finger pointing out a direction; etc.*	
b) abductive index:			
given: 	new: 	given: 	new: 
Examples: *footprints, fingerprints; the cross for the crucified; the weathercock (apart from the performative aspect).*		Examples: *anchor for navigation, the clock of the watchmaker's (apart from the performative aspect); painting to indicate painter's workshop.*	

Table IV–II. Signs.



Pl. V. Ballantine publicity (from Nöth 1977).

There is, I think, a fundamental distinction to be made between *performative* and *abductive indices;* indeed, had we started from the idea of the contextuality of the Lifeworld, we should probably never have thought of putting these two sign types together in a common category. According to Peirce, contiguity, causality, or other connections (Cf. I.2.3.), is what *motivates* the sign function connecting the expression and the content (or perhaps more strictly, the referent, cf. note 12). But in the case of words like "I", "you", "here", "now" and other "shifters", "egocentric particulars", or whatever they are called, as in the case of the arrow and the pointing finger, the contiguity or factorality does *not preexist* to the sign, neither does, in a sense, the content of the sign. It is at the exact moment in which the speaker says "I" or points his finger that one among the innumerable objects and parts of objects present in the situation is selected for reference, *and* the indexicality between this object and the expression of the sign is created. If contiguity motivates these indices, then, it must be a motivation *post factum.* However, it is not just an "imputed contiguity", like the one Jakobson (1979) discovers in the conventional signs (Cf. III.1.4.), for the contiguity really takes place, in actual space, between the token of the sign expression and an instantiation of the content. Since it is the enunciation of the sign expression which *creates* the content or referent of the sign (there are no "pointed-out objects" or collections of "I's" and "here's" in an absolute sense) as well as the contiguity between expression and content, these indices will be *performative* in the specific sense given to that term in the first part of Austin's (1962 a) influential book, i. e. instead of describing states of affairs they create them.[24] An important qualification to this description will be given as soon as the abductive indices have been presented.

In order to understand that the clock on the wall stands for the watchmaker's shop, it is necessary to make an abduction from the clock to that of which it is a part, the place where many clocks and watches are to be found and, as it were, may be bought or repaired. And in order to see a crucifix as a sign for Christ, an abduction has to be made from the cross itself to one notable person who was once in contiguity with a cross. The regularity, which is the basis of the abduction, as well as the expression, pre-exist to the sign: all that has to be done is to choose one of the possible parts or contiguities and to apply to it the abductive relation. It should be noted, however, that many signs are at the same time abductive and performative: for instance, the clock over the clockmaker's shop is abductive because it depends for its interpretation on the prior knowledge about a relation between a clock and the kind of services to be expected of the watchmaker. On the other hand, the emplacement of the clock creates a contiguity with a particular part of a building that it thus designates as the place where the watchmaker's shop is to be found. The crucifix will normally lack this performative function. To dissociate the two functions, it is also useful to imagine the clock as the sole construction still standing in a ruined city, or in a surrealist picture. If the same regularities continue to be valid in the Lifeworld of the interpreter, the clock will still be abductively related to the watchmaker's shop, and its emplacement continues to create a contiguity – and yet the performative index will fail as such, because there is no referent left to which the clock may relate itself by contiguity.

This brings us to the qualification of our prior description of performative indices that we promised. If the contiguity and the content of the performative index were simply created from nothing, it is not to be understood how it can fail to comply with its function. Some regularities are *presupposed* in the very functioning of the sign, and if these do not obtain, the sign will not work. In the case of the clock over the watchmaker's shop, the generality presupposed by the performative sign is the abduction of the abductive sign. In other cases, it is part of the meaning of the sign itself to presuppose an abstract form of regularity which conditions the contiguity created; for instance, if the speaker is the only person present, "you" will fail to refer (or refer to the speaker



Pl. VI. Beefeater publicity (from Nöth 1977).

himself in an oblique way); and if no object is to be seen in the required direction, the pointing finger will not create any contiguity. Interestingly, some performative indices, like "I", "here", "now", the arrow, and the finger pointing out a direction, can never fail to refer, because they only presuppose generalities so general that they must obtain in any possible communicative situation, viz. there is somebody speaking, the speaker is somewhere, the speaking takes place at a certain moment, there are directions, etc. There is of course nothing comparable to this in abductive indices.

In a late text, Peirce (VIII, 368) establishes a distinction between two kinds of indices, designators and reagens, which would seem to correspond roughly to our performative and abductive indices. The terms chosen and the examples adduced explain that Greenlee (1973:86 f) takes Peirce to be separating the causally motivated indices from the others, but there is at least a hint at something more important: to understand the designator, Peirce tells us, we must be acquainted with the object beforehand, while we must be familiar with the connection between the phenomena if we are to understand the reagens. Peirce's examples of designators are proper names, personal, demonstrative, and relative pronouns, and the letters used in algebra. We will have a reagens when "water placed in a vessel with a shaving of camphor thrown upon it will show whether the vessel is clean or not" (ibid.).

Causality, I submit, is not the important difference: we have to know beforehand about the connection between water, camphor, and uncleanliness, just as we have to be acquainted with the relation between the clock and the watchmaker's shop. It should be noted that there is also a performative aspect to this "reagens", since the camphor tells us that *this* vessel is unclean. On the other hand, I cannot agree with Peirce when he says we must be acquainted beforehand with the object of a "designator": this may be true in the case of the proper name, but we certainly do not have to know about the "youness" of the person referred to by "you" or the "outpointedness" of the object pointed out, or about any other less elusive properties they may have, in order to understand the meaning of these signs; it is sufficient to observe the contiguity created by the signs. The only



Pl. VII. Good Year publicity (from Williamson 1978).

thing we have to know beforehand is that the minimal conditions obtain.[25]

We now have to ask if there can be performative indices in pictures. To begin with, a picture, like any object, may certainly be used performatively, as in the case of the painting over the painter's workshop, and photographs exhitibed in front of the cinema, which are not only parts of the production of the painter or the film on show, but also indicate by means of a real contiguity "where the pictures are". Also the referent of a picture may function as an abductive-performative index: thus a signboard of a merchant, or an advertisement posted in front of the shop, indicates the location of the totality of which the referent is a (simulated) part (cf. II.2.2.). The picture itself can also contain arrows and other real indicators, defined by properties other than mere indexicality, but will function as such only if geared to this aim inside the picture. But this is a very special case. To consider the question in general, we must realize that the entire picture is created, which means that its contiguities are also created (even, albeit in bigger blocks, in a photograph) – which, in turn, would seem to imply that the picture is a network of performative indices. This similarity is probably illusive: the performative index creates by segmenting and connecting anew the preconstituted elements of a given situation, and no such creation is found in the picture as such. Before we take this issue further, however, we will now list those indexical signs, which are based on primary signs, and which are the kind of indices most commonly cited in the literature.

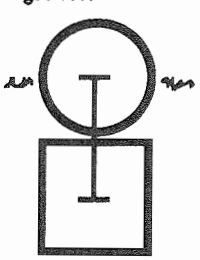
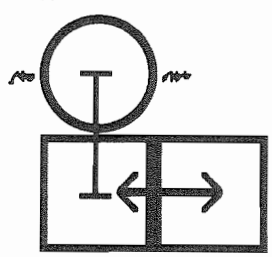
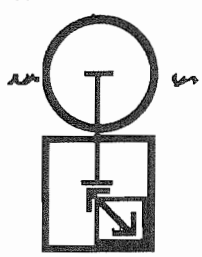
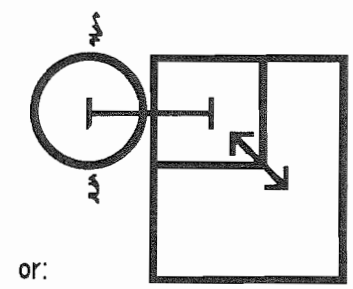
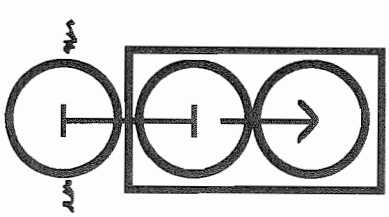
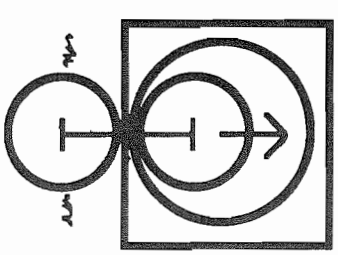
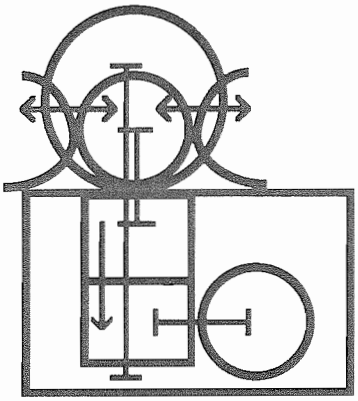
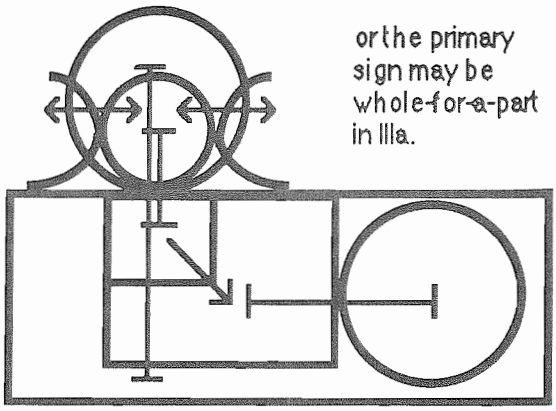
C O N T I G U I T Y	F A C T O R A L I T Y
III. Secondary signs. = the sign relation **a) relation sign/secondary content** (implication, "connotation" according to Eco 1968; 1976; metonymy and synecdoche in some usages of these terms)	
given:  new: 	given: as before  new:  or:
Examples: *dead rhetorical figures as the sword for the army; a picture of a cross for the crucified; iconography.*	Examples: *dead rhetorical figures as the sail for the ship; picture of a clock for the watchmaker's; iconography generally.*
b) relation sign/indexicality (proto-index):	
	
Examples *see text above!*	Examples *cf. I.2.6.!*

Table IV–III. Secondary indexical signs.

CONTIGUITY	FACTORALITY

c) relation sign/sign via the respective contents (metonymy and synecdoche in the proper sense of these terms).

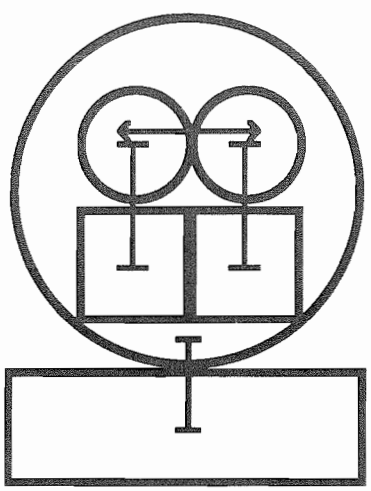


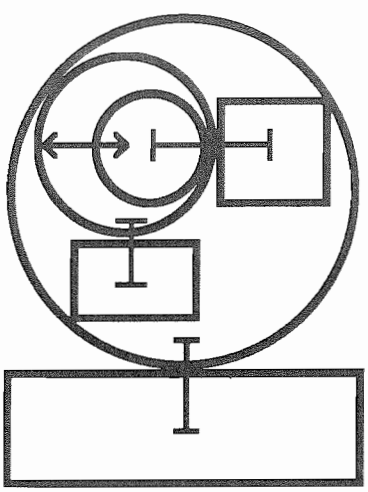


or the primary sign may be whole-for-a-part in IIIa.

Comments: the theory according to which rhetorical figures evoke particular, more expected, signs is taken for granted. The source of the reinterpretation is here taken to be the relationships to contiguous signs in the text – though there may be other possible sources. The figure which resolves the contradiction will be a connotative sign, for which cf. part II–III! Given the lack of a fixed vocabulary in most pictures, only marginal cases will pertain to this case: for instance, if in a stereotyped picture, like the one indicating the emplacement of the ladies' toilets, or in a "paraphrase" of a much-too-famous picture like Mona Lisa, there appears in the place of the head a hat (contiguity), a nose, or an entire human figure (factoralities). Cf. IIIe.!

d) relation expression/expression (context between signs)

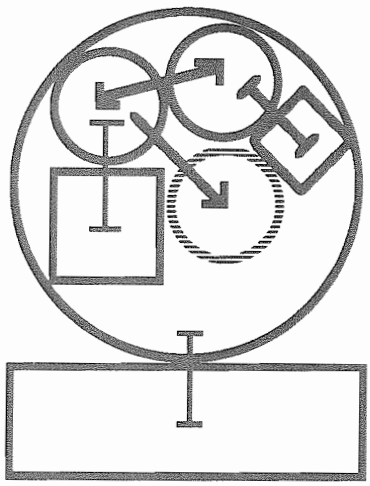
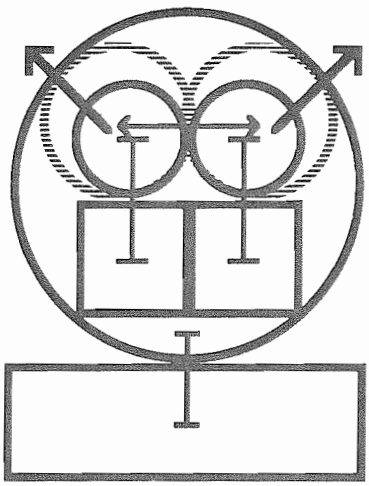




no alternative, since there is mutual determination from part to whole and from whole to part

Examples: *in language, contiguity is not enough but may constitute signs in connection with alliteration; in pictures maybe figures against a common ground: cf. bottle of whisky/glass; bottle of gin/crown (pl. V–VI; both Nöth 1975; 1977); jetty/tire (with similarity; pl. VII; from Williamson 1978); also in the "troisième signifiant" obtained by putting two pictures side by side, found in an experiment by Tardy 1964b; in "montages", "collages", etc.*

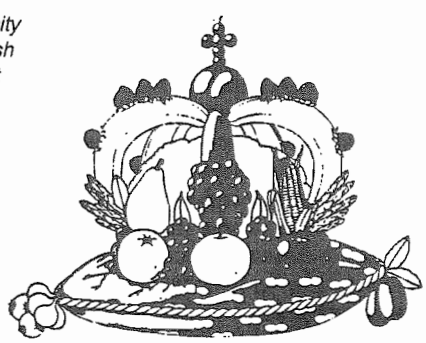
Examples: *in language probably only possible (if we except the Saussurean "paragrams", cf. Kerbrat-Orecchioni 1977b) if the signs are repeated in different degrees of embeddedness contiguously in the text. In pictures, because of the Gestalt laws and exhibitive import (cf. III.5.1.) the operation seems easier to obtain: cf. fruits forming a crown (fig. 7; B&W publicity); the female trunk as a face, as in Magritte's painting (pl. VIII); slices of orange forming a jam bottle (pl. IX; from Williamson 1978); the publicity for the cigarette brand "News" (Pl. XIX; cf. Floch 1981a and part II); Arcimboldo's portraits.*

CONTIGUITY	FACTORALITY
e) relation sign/abduced element (signs in abductive context):	
	
Examples: *a bottle of liquor and ice in the Colosseum when an ice-pail is anticipated (pl. X; from Lindemann 1976a).*	Examples: *in language, terms like "shark" (Lewis Carroll) and "chafetière"; the orange with a bottle opener (pl. XI; from Williamson 1978); hens with the heads of court ladies (in a portrait by Pasch, cf. Hermerén 1983) Roosevelt figured as a bull (cf. Gombrich 1963); the cat as a coffee-pot (Groupe μ 1976; cf. pl. XXIV).*

Most phenomena claimed to be indices in the literature are either indicators (cf. I.2.4.), or secondary indexical signs, often of the types III a or III d above. As can be seen, in none of these cases does the indexical relation coincide with the primary sign function. Thus, these signs will be indices only to the extent that it can be shown that a secondary sign function obtains between two items which are also indexically related (although both relata are directly present and equally thematized). This is trivial, if there is a conventionally instituted relation between these relata. This will often be the case in type III a, when for instance a picture of a lion stands for one of the presumed properties of the animal, courage or strength (Cf. Wallis 1975:21); or, in type III d, when determined objects, placed in contiguity with a human figure, have the function of identifying it as a saint or other iconographically important person. Proto-indices (type III b) depend for their explication on the interpretational schemes of the common Lifeworld, as we have seen, and rhetorical figures (type III c) can only be understood in relation to the norms defined by the sign systems in which they take place.

More interesting are the last two cases, types III d and III e. In the factorality variant, when the expression of the sign is included in the expression of another sign with a quite different content, for instance fruits included in a crown (fig. 7.), the result is perhaps so surprising that a meaningful relation is at once taken for granted. However, not just any sign expression can be included as part of the expression of another sign: though it is true that the real cat and the real coffee-pot have very few properties in common, as observed by Groupe μ (1976), the respective iconical expressions for the cat and the coffee-pot must be modified in such a way that they seem partially *similar,* without ceasing to be iconical signs for the cat and the coffee-pot. Factorality of the expression plane thus presupposes similarity!

Fig. 7. Publicity of the Swedish super market B & W.





Pl. VIII. Magritte: Le viol (1934).

On the other hand, it is not clear why a contiguity of sign expression should ever come to be seen as a sign relation and not just a perceptual context, which may be of "syntactical" relevance, or of no relevance whatsoever. If two objects detach themselves on a common ground, as the bottle of whisky and the glass (pl. V.), or like the bottle of gin and the crown (pl. VI), they are probably more likely to be seen as connected meaningfully, and even more so perhaps, if the objects themselves partly overlap, as the tyre does with the jetty, and at two different levels at that: firstly, in the principal picture, there is a tyre hanging from the jetty; and secondly, there is a separate tyre picture which is placed in such a way as to interrupt the border lines of the principal picture (pl. VII). That is to say, the *uniqueness* of the contiguity relationship may be a factor, and *overlapping* could be seen as a stronger case of contiguity. Also the *repetition* of contiguities between the same kinds of objects can be of importance.

Then there is of course the contribution of the verbal text, the "ancrage", to use Barthes' term (Cf. II.1.). But beyond that, similarity – and dissimilarity – may have its importance. To begin with *dissimilarity,* the incongruity of the crown beside the gin bottle could be the first reason we suspect a meaningful relationship to exist between them, as we would do in a collage by Heartfield or Ernst, or in a montage by Eisenstein. As to *similarity,* a rather abstract case is the whisky bottle and the glass, which are members of the same semantic domain, drinking utensils. Perceptual similarity is found in the Good Year publicity (pl. VII) where, according to Williamson (1978:18) the outside of the jetty resembles the outside of a tyre while also being suggestive of its shape. In relation to our earlier remarks about the cat and the coffee-pot, it seems important to observe that the jetty, which as such is not a "roundish" object, only achieves this appearance in the picture because of the choice of camera position, at the outer end of the jetty and high above it, with as a result a strong effect of foreshortening.

Another interesting and complex case is the Colosseum-picture (pl. X.). Lindemann (1976:386 f) points out the "syntactic and semantic" contradictions in the picture, because of the bottle being too large in relation to the building, and the combination of the two objects being itself incongruous (In fact, it seems that only these two facts together will engender a contradiction, for bottles of normal size could very well be found in the Colosseum; indeed, they probably are, since tourists are known to leave empty bottles behind). But the picture clearly also depends on a double, expected contiguity,



Pl. IX. Jam publicity (from Williamson 1978).

between the bottle and the ice-pail, and between the ice and the same ice-pail (fig. 8.); and it depends on a perceptual similarity between an ice-pail and the Colosseum, when the latter is seen in a particular perspective.

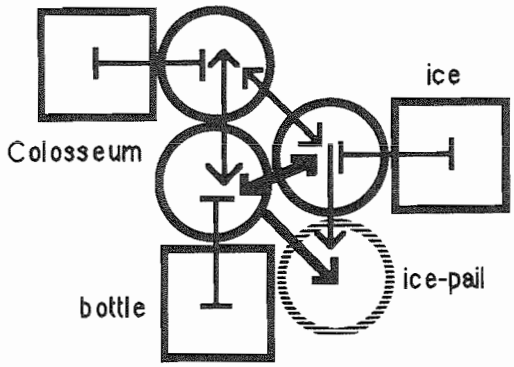


Fig. 8. The Colosseum (conventions as in the chart in I.2.5.)

Strange to say, similarity is not only part of the motivating force of these contiguities, but it is also a common meaning of the secondary sign function. *Contiguity* of *expressions* is often used in publicity to suggest a *similarity* of *contents* or *referents* (Cf. Sonesson 1979 c; Nöth 1975; 1977; Kloepfer 1977; Robelo Campos 1983 for more examples). This "transference of features" ("Merkmalübertragung") occasioned by contiguity seems to be identified with indexicality by Nöth (1975:-19 f). But not only are there other indexicalities, as we have seen, but there are also further ways of transferring features. Besides contiguity there is of course factorality: the fruits get their value from the crown (fig. 7.), and the orange jam derives its worth from the real slices of orange included in the jam bottle (pl. IX). Another important principle of pictorial rhetoric, employed in publicity and caricature alike, is that *partial similarity of expressions* equals *complete similarity* (or identity) of *contents* or *referents*. According to Williamson (1978:18) it is because of the visual resemblance between the jetty and the tyre (which, as we observed, depends more on the picture than on the objects), that we tend to think that the tyre will be as tough and strong as the jetty, and that it will protect the car, as the jetty visibly encloses it on the picture. We will come back later to these principles of pictorial rhetoric (in II.3. and III.6.).

What is interesting to us for the moment about the transference of features is that it supposes an asymmetry between the two items which are related by contiguity or factorality. The crown is intrinsically an object of value and so may transfer this value to the gin bottle (Cf. Nöth 1975:29); and because of the "ideology of the natural" (Williamsson 1978:103 ff) current at the present time, the inclusion of the raw material in a picture of the industrial product developed from it will enhance the intimate value of the product, as is the case with the orange jam and the orange juice (pl. IX and XI).



Pl. X. Colosseum as an ice-pail (from Lindemann 1976a).

But the value can also be created by the pictorial configuration itself, and then transferred to another object: this seems to be true of the jetty, to the extent that the inclusion of the car inside the railing on the jetty is seen as a protection and this quality is then ascribed to the tyre (pl. VII). The feature transferred is not necessarily a value-judgment: whatever it is that Magritte wants us to transfer from the female body to the face or vice-versa, it could hardly be a valoration. It seems that such transference of features could be used to build up new units of meaning, and maybe even new meaning types. Kloepfer (1977:129 ff) suggest in his study of "Peanuts", that indexicalities contribute to the building of a conventional code out of the rudimentary iconic signs of the drawings. Lévi-Strauss (1979:44 ff; cf. 1983) compares myth and music, and shows, notably with a Wagner opera as an example, how the contiguities of musical themes and events create a cross-reference system of complex meanings. I take it that a similar idea must lie behind Bucher's (1977; 1979) reading in a cumulative sense of the Le Bry engravings from the New World. On a more general level, Lotman's conception of an "internal recoding" of the system in the text, taken up by Fischer-Lichte (1983, III:10 ff) in her theatre semiotics, also seems to suppose the generation of meaning from the context, and Bakhtin's notion of intertextuality (Cf.

Bakhtin 1929; Todorov 1981; Genette 1982) i. e. the meeting of anterior texts in the new one, again depends on the capacity of contiguity for engendering new meaning.

If we except the ambiguous case of Magritte's painting (pl. VIII), there always seems to be one item *handing its meaning on* to the other. This makes for an asymmetry between the two items entering into the indexicality. Though as iconic signs, both items are equally present and thematized, on a secondary level one of the items, for instance the gin bottle, is the theme of the operation, while the other item, for instance the crown (pl. VI), is that directly perceived element through which the other item, the bottle, is conceived. In this sense, there really are secondary indexical signs, where the indexical relation coincides with a secondary sign function. If these indexicalities may be taken to be signs, are they abductive or performative indices? As is evident from earlier considerations, the first three types, i. e. III a, b, c, are clearly abductive. Even in the types III d, e, there can be an abductive aspect, but it is not essential: there is a contiguity abduction from the jam to the slices of orange (pl. IX), and from the bottle and the ice to the ice-pail (fig. 8. and pl. X). But it is through the contiguity in the picture that the effect is obtained: we have, it would seem, performative indices. It is true that the "content" of the sign is somehow created by the expression: as the pointing finger transforms an object into an object-pointed-out, so the crown makes the gin bottle a crown-like gin-bottle. The trouble is that it seems completely arbitrary to say that the contiguity itself is created by the expression of the sign, by the crown in this case. Rather, while all contiguities and factoralities in a picture are created contiguities and factoralities, they are created by all elements alike. In that respect, they appear to be more similar to simple perceptual contexts. But by situating the secondary indices of the picture, more exactly the types III d and III e, close to performativity, something has already been said about the peculiarity of these signs.



Pl. XI. Juice publicity (from Williamson 1978).

I.2.6. The intrinsic indexicalities of picturehood

"Le peintre, tout en considérant les choses, fait passer dans son dessin son contact *avec la chose plutôt que la chose elle-même. /- - -/ Le tableau ne fait qu'indiquer un mouvement. Il faut dépasser le tableau vers un sens qui n'y est pas contenu objectivement."*

Merleau-Ponty 1964:132

So far, we have been concerned with indexicalities which may appear in pictures, but there are also others which, if they are not criterial to picturehood, are at least characteristic of "typical pictures" (Cf. I.3.). These indexicalities – which may or may not be indices, i. e. signs – seem to be of at least three kinds: IV a) A *factorality* between the *content* and the *referent,* i. e. between what is seen in the picture and what is thought to be "there" in the world (between the picture object and the picture subject, in the terminology of part III.). The referent can probably never be rendered in its entirety in a picture: we will have to make a choice among the possible noemata, the possible attributes, or both, and maybe also among the proper parts, and obviously (if we exclude X-ray pictures, and so on), we are limited to attributes and noemata having the attribute visibility (cf. I.2.4.). IV b) *Protained continuities* (cf. I.2.4.) from the *expression plane* of the picture to the expression plane (and thus the content) of other pictures, real or only possible ones. This indexicality type is often complementary to the first one.[27] IV c) A *contiguity,* more precisely an *abrasion,* between the *expression* and the second element, which may sometimes be the *referent* (as in photography, according to Peirce). We will consider these possibilities in turn.

According to Fresnault-Deruelle (1977 a:169 ff) pictures or at least the comics have a "hors-cadre", a space outside the picture frame, equivalent to the

"hors-champ" of the cinema, where objects "attendent le moment venu pour entrer en scène": we are permitted to see only the part of space where "the action is", and only the decisive moments of this action. However, Gauthier (1982:12) establishes a distinction between the "hors-champ", which is on the side of the referent, and the "hors-cadre", which is on the side of the expression: while in a photograph "cadre" and "champ" will coincide, outside the field there is the rest of reality, but outside the frame, there is a printed page, or something of the sort. These concepts are applied by Gauthier to all kinds of pictures, but Vilches (1983:114) thinks there can be no "fuera-de-campo" in a photograph, but only in film and television, where fragments of a common space are successively discovered.

Later, Vilches (1983:130 ff) makes an interesting analysis of the alternating points of views on the same objects in a television interview and in a sequence from Ford's "Stagecoach", distinguishing different types of "campo" and "contra-campo". As we will see below, this kind of analysis is perfectly applicable to the comics, which have their own "campo diferido", though spatially rather than temporally distributed. But what about the single, static picture? Porcher (1976:165 ff), polemizing against Metz's affirmation that only the cinema engenders an illusion of reality, tells us a picture of two hands will be perceived as an "absence *de quelque chose",* as a metonymy for a person, and metonymies are of course, according to Jakobson, typical of realism. Even Vilches (1983:115), attenuating his earlier proposition, admits a news photograph has a *virtual* "fuera-de-campo", which has to be filled in by means of the viewer's personal conpetence, and often, Vilches suggests, by the verbal text. However, in many cases, as in Porcher's example, simple Lifeworld abductions will be sufficient. From all this, it may be concluded that as soon as the content of the picture can be identified, there will be an "hors champ", and if there is a series of pictures, as in a comic strip or in a film, these protentions can be confirmed or disconfirmed, in an attenuated version of what happens in the perceptual process. Now, does this mean that these indexicalities are indices, or "metonymies", as Porcher tells us?

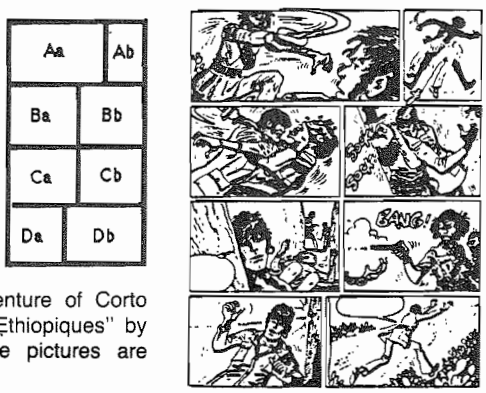


Fig. 9. An adventure of Corto Maltese, from "Ethiopiques" by Hugo Pratt. The pictures are cited as above.

Here, clearly, the indexical coincides with the sign relation, or at least with the part of this relation which extends from the content to the referent. But we have stated (I.2.4.) that in order for an indexicality to be an index, the indexicality must *be taken* to be the same relation as the sign relation, and it seems that the most normal, immediate way of considering a picture is to regard it as a sign for a real-world object as such. Of course, if the part chosen has some peculiarity, for instance when we do not expect to find it isolated and independent (as could be the case with the hands in the publicity considered by Porcher, but not, to take a very different example, the heads and torsos appearing independently in Pratt's comic strip; fig. 9), then we would ge a pictured proto-index, something like *a-whole-having-in-particular-this-part* (Cf. III b in I.2.5.). But if the point of view is very unexpected, the perspective deformed, the proper part isolated from its surroundings, or the attributes extracted very peculiar, indexicality will become more obvious and expression and content may result sufficiently differentated for us to call this a metonymy (in the loose sense of III a): the sign-post of the glove-maker, not the hands in Porcher's publicity.

If these same tendencies are taken even further, indexicality will be lost again, this time at the other extreme, because the part will now appear more or less as an object in its own right. A case in point could be the abstract configurations of volumes and shadows to which the female body is transformed in a rather common type of photographic nude. However, when a series of pictures that are in some respects similar while they differ in others, are printed side by side, then, by structuralist postulates, similarities and dissimilarities should become obvious. Perhaps this explains why Crépax's comic strips, whose systematic "pratique métonymique" gives rise, according to Fresnault-Deruelle (1977 a:131) to a "morcellement du corps", do not destroy narrativity and leave intact the personages: what actually comes out disjointed is the gaze, whose story it is which is really being told.[27a]

Our second type of indexicality pertains to continuity of the expression plane beyond the picture frame: at this level, Gauthier's "hors-cadre" will be opposed to the "cadre". But what is of interest to Gauthier is essentially the rectangular form of the frame: he points out (1982:14 ff) that in prehistoric cave painting, motives will often overlap freely, and even as late as in the illustrated novels of the last century, the borders of the pictures could very well be rounded or blurred. According to the experiments of Pettersson (1981:81 ff), children are less distracted from the motive by the frame if the latter is oval with blurred limits. This shape is supposed to be more similar to the perceptual field itself. But whatever its shape and however blurred its limits, a picture must have some points where its lines are interrupted and its forms cease, whereas the Lifeworld is extended in potential infinity. The eyes participate in so many cycles of

movement, and so does the body, and what still may be lacking is filled in by implicit protentions, that no arrested image could ever be seen. But pictures do leave loose ends that have to be actively bound together. Often these loose ends must be made to fit with the hypotheses derived from content factorality (IV a). In some cases, the limits of the picture are made to coincide with the outer contours of the single, pictured object, for instance a swallow (in Pettersson 1981), and then referent factorality will be our only clue to the contexts of the object, the "hors-champ".

What is interesting to us about the Corto Maltese strip (fig. 9) is that it contains many different types of indexicalities. According to Gauthier (1982:48 ff), small children, who are easily able to put together the pictures in a "Peanuts" strip, even when the verbal part is effaced, will fail completely in the case of the Corto Maltese strip, whereas adolescents and adults succeed in 50 to 80 % of the trials, according to how familiar they are with the comics as a genre.[28] So there certainly are clues to the "linea de indicatividad" (Gubern 1972:119 ff) or "la lecture linéaire" (Fresnault-Deruelle 1977 b:39 ff) which follows the story through the pictures, and these clues have to be learned, at least in part. All the pictures in the strip are noemata of a particular ravine, where Maltese is hiding; pictures Aa to Ca at the same time contain the action noemata of Maltese wrestling with an enemy, where each change of phase also implies a different visual perspective. Similarly, pictures Ca to Dd contain the action noemata for Maltese's being attacked and trying to escape, also with each phase in a new perspective.

Unlike real noemata, the pictures lack continuity, so the coherence of the perspectives is not something immediately given but must be cued by a number of constant features: the general appearance of Maltese and his enemies, the arms and uniforms of the enemies, a rocky wall, and a few cacti. Maltese's face, for instance, is shown twice in a frontal view (though in Ca we see him from above, in Da from below), twice in profile (from his left in Aa, from his right in Ba), once bent forward in a 3/4 profile (Bb), and twice only the back of his head may be observed (Ab and Db). With the exception of the latter case, where recognition requires us to take account of the body as a whole, the three or rather five different shapes seen as being the same head must have some features in common, probably higher-level invariants, and not just straight elementary features, as in "Peanuts" (Cf. III.5.3.).

Moreover, in Aa the head is cut by the frame below and to the right, so that the interrupted lines must be imaginarily continued before the head can be compared to the head in Ba, and so on. Here, in Aa, we partake in the perspective of Maltese, though he is himself partially included in the picture: it is like looking over his shoulders, a procedure that corresponds to one of the variants of counterfield mentioned by Vilches (1983:132 ff). Then, in Ca, Maltese faces us directly, looking out of the picture; and if the principles formulated for the television interview apply here (as I believe they do, at least in this case), we will now expect to be shown what is seen by Maltese in the following picture. This expectancy is probably founded in a very elementary Lifeworld indexicality, of the kind Piaget was thinking about (cf. I.2.5.), since even very small children follow another person's gaze in order to discover the interesting thing that must have attracted it. Though here, for once, contiguity is made to represent contiguity (type III d of I.2.5.), it is a contiguity according to the conventional reading order of the comics and between two pictorial signs that takes the place of the simple continuity in the Lifeworld.

As it happens, the next picture does not show what Maltese is seeing from the frame Ca: we know that because we have identified the small figures appearing in the background of Ca with the much bigger figures in Cb, one of which is cut by the frame at the waist, while only part of the head and the chest of the second person are visible. There is little justification for this identification in the pictures: the fact that there are two persons, the somewhat bulging head form of one of them in Ca, due perhaps to the hair seen to stand out in Cb, and a stroke which is almost horizontal at the level of the hand in Ca, which can be identified with the revolver in Cb. Again, the essential basis of this interpretation comes from an elementary indexicality of unaided perception: when a new element enters peripheral vision, the fovea is automatically changed so as to focus on this element. And again, what is a simple continuity in the Lifeworld here appears as a contiguity between two signs distributed according to the conventional reading order of the comic strip. So far, it seems, the indexicalities which account for the coherence of this strip are essentially those of perception, only transposed to relations between pictorial signs. But there are other indexicalities, as we shall see.

Rather than being described, the landscape is *exemplified* with the aid of its characteristic proper parts (Cf. I.2.4.): while the cacti frame the whole story, in Aa and Db, the rocky wall appears once in line B, once in C, and once, or maybe twice, in D. Only in Ca is there a more topographic landscape description, but then it is needed, in order to relate a series of *proto-indices* taken from different schemes of action: the man extended on the ground at the end state of the fight raging in Aa-Bb, Maltese's gaze in our direction protaining possible events of importance occurring there, and the enemies appearing in the background protaining the attack which follows. Then there is the line going out of the frame in picture Cb, which is imaginarily continued, and the line coming into the picture Da, which, with the help of the recognition of the revolver in Cb and the employment of the interpretational scheme for gun shooting, is abductively connected to the line of picture Cb. The contiguity of the two pictures in the reading sequence is a factor

supporting this interpretation.

There is, however, one interesting case, Ab, in which, against the rules of the game, the frame does not cut the lines but these go on at the other side of the border, continuing the representation of the "champ" while already "hors cadre". The frame serves to separate "real" and "metaphoric space" (Rio 1976:95 ff), and since it pertains to "the space of representation" as well as to "represented space", it may very well be "a connoting signifier of the representation" (Marin 1979:779). Other draughtsmen have been known to overstep the picture frame in order to poke fun at the conventions of the comics (examples are discussed by Fresnault-Deruelle 1977 b; Rey 1978; Rio 1976), but in Pratt's action strip this isolated case of frame transgression must have a more circumscribed function. The case is not quite exceptional, to tell the truth, even on this one page: in Aa, the enemy's sabre exceeds the frame by a small fraction. It is undoubtedly hazardous to try to interpret these contiguities between elements pertaining to quite different levels of reality, but in this particular case, as commutation will show, the effect secured is one of larger distance, and maybe movement and activity: in Ab, Maltese is seen as coming from far away and throwing himself inside the frame, and in Aa, the enemy seems to be jumping on Maltese from above swinging his sabre in a wide circle. This may be because space is seen to be continuous instead of being circumscribed by the picture frame, the foot and the sabre *exemplifying* a space that is no longer represented.

What about the protained indexicalities of this comic strip – are they indices, that is, signs? First of all, it should be noted that the interrupted lines in this strip are always parts of drawings which can be identified as representing some part of a known real-world object, so that the continuity of the lines is overdetermined by our conception of this object as a whole – and that might not be the case in the Minoan fresco (I.2.3.), and it is not true for some works of Matisse that we shall meet later (III.5.2.). Under these favourable circumstances, the heads and other body parts cut by the frames are probably seen as being simply heads and bodies, while the revolver of picture Cb is most certainly apprehended as a *proto-index,* the approximate meaning being "a shot by the enemy in the direction of the hero, the moment when the bullet leaves the revolver being thematized" (III b of I.2.5.). Without excluding the possibility that, under other circumstances, protained continuity may, with the concurrence of referent factorality, form real indexical signs, we consider it incapable by itself of motivating a sign relation, since continuity by its very nature excludes the differentiation necessary to the separation of expression and content, and the continuity of the pictorial surface, with which we are concerned here, is not differently conceived "du point de vue du sujet lui-même", as Piaget says, than the continuity from the string to the rattle for the child.

We now come to the third kind of indexicality in the picture, Holmesian abrasion. As was mentioned above, Peirce often refers to photography as an example of an indexical sign, because the very process of producing a photograph supposes the copresence, at some moment, of the picture and of that of which it is a likeness. Polemizing against Eco's conventionalist theory of iconical signs (Cf. IV.2.6–7.), Maldonado (1974:229 ff; 1979) mentions a number of other "hard icons", i. e. iconical signs whose cognitive value is guaranteed by the indexical relation between the expression and the referent: X-ray pictures, hand impressions on cave walls, "acoustic pictures" made with the aid of ultrasound, silhouettes, the configuration left on the ground by a man out walking in Hiroshima at the moment of the explosion of the nuclear bomb, thermograms, pictures made with "invisible light" to discover persons hiding in the woods, and so on.

Like the photograph, all these "hard icons" can be seen as kinds of traces, Maldonado tells us. This brings us back on Holmesian ground. I also brings us to the kind of ground frequented by ethologists and the animals they study. For instance, Ennion & Tinnbergen (1967.16) will tell us that while the adder "'swims' on land like an eel in water" on most kinds of ground, leaving one kind of pattern behind, its way of advancing on flat sand produces a series of ridges at an oblique angle to the direction of the trail, quite different from the earlier pattern. This means that the same object, and the same proper part or noema of the object, will produce different imprints on different grounds – and indeed, the "acoustic picture" and the thermogram of the hand have very little in common with a regular picture of the same hand. That is, the footprint left on the ground is not really a direct result of the foot going by, but of the interaction of the foot with the ground – an observation that, applied to photography, would have sounded less surprising to the contemporaries of its discovery, who where constantly discussing the respective advantages of the methods of Daguerre, Talbot, and Bayard.

The hardness of hard icons certainly come out somewhat diminished from these considerations. In a similar vein, Black (1972:101 ff) argues against the "causal history" approach to pictures, pointing out that a photograph results as much from the camera's focal aperture, its distance from the motive, the exposure time, and so on (he forgets the emulsion) as from the motive itself (Cf. III.1.3.). However, the relation between the pictorial surface and the referent no doubt functions as a sign relation when a spy tries to discover secret military constructions in an aerial photograph (Cf. Gombrich 1969) or when a photograph is used to decide who, among a number of runners, won the competition (Cf. Hård af Segerstad 1974) or even when somebody (against the will of Kjørup 1974) compares George Inness's picture of the Lackawanna Valley with the valley itself in order to show that the painter is lying about the number of rail-

way tracks present at the time. Of course, being a painting, Inness's picture is a very soft icon indeed.

But even a painting or a drawing is a result of a series of "abrasions" with other objects of the world. To the toddler, the marks left on the paper are accidental traces of a motor activity rewarding in itself: only at 18 months approximately will he react when no strokes and dots result from the contact of the marker with the paper, and only at 3 years will he refuse to draw in the air (Cf. Gardner 1973 b:215 ff; 1980:43 ff; Gibson 1978:230). What was at first accidental *substance* now becomes the very *form* of the act, defined by the principle of relevance known as the making of a drawing (Cf. I.1.3. for the Hjelmslevian terminology).

According to Gibson (1978:228), a picture, or a *pictorial image* – to be distinguished from a solid image like a sculpture, a mirror image, a camera image, a photographic camera image, a retinal image, an after image, a mental image, and so on (Gibson 1980:xvi f) – is "a surface so treated that it makes available a limited optic array /- - -/ of persisting invariants of structure" at some point of observation. But he also speculates that to prehistoric man as to the child, the picture is "a progressive record of movement", a layout receptive to traces, long before it is discovered that it may also serve to "*delineate* something" (Gibson 1978:229). If the record is of a stylus, brush, pen, pencil, crayon, marker or another hand-held tool, the result will be a *chirographic* picture; and if the traces are made with a camera with its accessory equipment, we will have a *photographic* picture (Gibson 1978:229 f; 1980:xii ff). Even the latter kind of picture is indeed related by Gibson to "the hand-eye system of the human observer" rather than to the "pencil of nature" or the sun, as in Fox Talbot's famous phrases.

Both the photographic and the chirographic pictures really represent *imprints,* i. e. contiguities, of *parts* of complex total processes. Only the "photograms" and "rayograms" made by avant-garde photographers such as Moholy-Nagy, Man Ray, and Schad and preceding the invention of the common photograph in the experimental work of Niepce and Talbot, are really comparable to the footprints left on the ground, light being the operating agent instead of mechanical pressure. When placed directly upon the photographic paper, without a *camera obscura* as an intermediary, two-dimensional objects will give rise to silhouettes, more similar to tactile noemata than to visual ones, which can be easily identified; but when three-dimensional objects are used and the source of light is moved, the configurations which result are due to complex interactions, not only between the contiguous part of the object and the emulsion, but between the position of the light source and the non-directly contiguous parts of the object (Cf. in particular Scharf 1968:298 ff; Tausk 1977:90 ff; Moholy-Nagy 1927). Paradoxically, the *camera obscura,* which diminishes the contiguity between the object and the expression plane of the pictorial sign, is needed in order to obtain a configuration unambiguously traceable back to its real-world source. Of course, there is no simple reverse relation between contiguity and similarity: Coburn, by adding still more intermediary causes, i. e. prisms and mirrors, could obtain even less identifiable configurations in his "vortographs".

Photography now turns out to derive from the composite indexicality of the referent, the light, the emulsion, the optical system, the photographer, and so on. The critique of the causal theory of pictorial meaning, suggested by Black and amplified here, is really only a particular case of the Weberian predicament of choosing the unique cause of a historical event (Cf. I.1.1.). Motivational relevancies must somehow select one of these causes as the most important one in the human Lifeworld, and in the case of photography the referent is usually chosen because, contrary to the other causes, it is seen to be similar to the configurations in the picture. Purporting to explain the impression of similarity from causal history, this theory simply enters a vicious circle.

Although some of the properties Black (1972:102) considers to be irrelevant to the resulting picture, for instance the number of visitors to Westminster Abbey on the day the photograph is taken, may in fact leave traces on the picture (for instance, if Marey's photographic gun designed for movement photography is used during the day and the movement cycles of different individuals can he entirely separated from each other), there are other properties which will never become visible, neither in reality nor in an ordinary photograph. Therefore, not all of Maldonado's examples of hard icons really correspond to the definition: the picture of temperature irradiation around a heated body does not show anything that can be seen in the normal perceptual world (fig. 161 in 1974), but the X-ray, and the invisible light picture permit us to observe things that under other circumstances could be seen be the naked eye. The thermogram, like the acoustic picture, shows shapes very similar to those that meet the eye, in reality or in an ordinary picture, but their causes, temperature and sound, would never give rise to this kind of configuration in direct perception.

Suprisingly, there will therefore be intermediary cases between *photography* and *chirography,* if the former is defined by the double relation of contiguity and similarity between the expression and the referent. From this point of view, tracings made on photographic paper must be considered purely chirographic. However, among Maldonado's "hard icons" there is also the silhouette reproduced in his book (fig. 142–143) together with the device used in the 18th century to produce it: a chair having a source of light on one side and a screen on which the shadow of a person sitting in the chair will be cast on the other, so that only the contours of the shadow on the screen remain to be filled in by a pen. Likewise, in the camera obscura as used by the artists from the Renaissance onwards, there is a series of con-

tiguities between the contours of the object and the pattern of light on the paper, and between the light pattern and the tracings filling in the contours created by the light. Again, in the curious device known as the "physionotrace" (cf. Freund 1974), the view-finder is moved along the contours of the object, so that a contiguity results between these contours and the gaze, and the view-finder is connected to a stylus tracing the corresponding shape on a paper, which amounts to a second contiguity, between the view-finder and the tracing device, and a third, between the stylus and the paper.

In all these cases, there is similarity and contiguity between the expression and the referent, and although the contiguity is mediated, the same is true, as we have seen, about photography. However, in the camera obscura and in the silhouette-making device, the step from the light pattern to the tracing is not mechanically determined but the decision to have the second correspond to the first is a free act of will. Similarly, in the physionotrace, the decision to follow the contours of the object with the view-finder is a free act, even if all the rest follows mechanically. In the camera, on the other hand, the whole decision system is supposedly mechanically implemented, and that is what constitutes the decisive guarantee of authenticity. Of course, there is more ideology than truth in this conception, even if Barthes (cf. part II) happens to believe in it.

I.2.7. Summary and conclusions

In the first section of this chapter, we came to know the Lifeworld, as conceived by Husserl and his followers, as the universal ground taken for granted in all everyday dealings in life, and we acquainted ourselves with the general organizing principles of every conceivable Lifeworld: the subjective-relative nature of all experience, the temporal and spatial horizons, typification, and the regularities. We also discussed the cooking recipe and pictorial perspective as examples of intermediary idealizations, or *proto-schemes.* (I.2.1.). We then confronted different theories of perception to show that different *indexicalities,* meaning relations relating different things in contiguity with each other, and parts and wholes, were present at each stage of the perceptual process, and we saw how they are translated into pictures (I.2.2.).

Next, we considered the motivating forces behind indexical signs, as discussed by Peirce and his interpreters, e. g. Greenlee, Burke, Savan, Sebeok, and Jakobson, and we proposed to relate the notion of indexicality to another Peircean notion, *abduction,* which was in its turn related to Husserl's notion of Lifeworld regularities. Discussing one of Peirce's celebrated examples, the torn paper, we showed it to depend on a series of abductive steps utilizing Lifeworld regularities, and we compared the simple detective problem proposed by Peirce with the much harder one posed by Minoan frescoes (I.2.3.).

Taking seriously two well-known anecdotes, we proceeded to distinguish the different kinds of connectedness they implied: parts and neighbourhoods, or *factorality* and *contiguity.* This enabled us to put Goodman's theory of exemplification, and Groupe μ's conception of metonymy into perspective, and to denounce the confusion of indexicality with indication (I.2.4.). But neither are all genuine indexicalities signs, in the sense we gave the latter term, as it evolved from our discussion of Piaget and Husserl. Also, we argued, some signs create an indexicality, and others depend on indexicalities which are already known to obtain; and there are at least five types of signs which are only secondarily indexical (I.2.5.). Three kinds of indexicality, which only under certain circumstances acquire the status of signs, are found in typical pictures (I.2.6.). In sum, many important issues have been circumscribed in this chapter; however, the solutions proposed can only be considered as tentative.

Much of what has been discussed here will be important in our later considerations on connotation (in II.4.), and in our examination of iconicity (part III). However, in chapter I.2., a very important principle of organization in the Lifeworld was said to by typification (I.2.1.); and in our discussion of the indexicalities of picturehood, we relied on the notion of a "typical" picture (I.2.6.). We must therefore now proceed to examine what kind of category the type, or, as we shall say, the prototype is, and how it differs from other categories. It so happens, that this inquiry will simultaneously permit us to get on with the task (formulated in the introduction and in chapter I.1.) of characterizing the variants of semiotic theory, and to criticize structuralist ideology.

Chapter I.3.
Systema Culturae – Semiotics as the extended theory of categories

> *"En sus remotas paginas /de cierta enciclopedia china que se titula 'Emperio celestial de conocimientos benévoles' / está escrito que los animales se dividen en a) pertenecientes al Emperador, b) embalsamados, c) amaestrados, d) lechones, e) sirenas, f) fabulosos, g) perros sueltos, h) incluidos en esta clasificación, i) que se agitan como locos, j) innumerables, k) dibujados con un pincel finísimo de pelo de camello, l (etcétera, m) que acaban de romper el jarrón), n) que de lejos parecen moscas."*
>
> *Borges 1974:708*

All semiotic theories seem to be concerned with the spontaneous classifications and categorizations invented by mankind. The ideologues studied extant clas-

sification systems without divorcing this study from the search for the best classification. As different present-day semioticians as Lévi-Strauss and Prieto have made the analysis of categorizations central to their theories. In many versions of semiotics, moreover, the relations obtaining between categories are also studied, and sometimes, in structuralism, the categories themselves are derived from the relations. In the latter case, the elementary relations are taken to be oppositions, but relations like similarity, identity, and contiguity, often come to play an important rôle, though a less well-defined one, in many semiotic theories. If instead the relations of superordination and subordination are seen as the most important, the elaboration of taxonomical systems will result, as is particularly the case in ethnolinguistics.

Among the elementary relations, in particular if these are oppositions, some are often thought to precede the others, in a historical or in a systematic sense, or in both senses concurrently, as in Jakobson's phonological theory. Again, the elementary relations may be considered to form more complex systems, perhaps relations between relations, which are the condition of possibility of all possible meaning, as is for instance the case in the theories of Greimas and Lévi-Strauss. Finally, categorization systems are sometimes seen as being derived from our experience with things and to be in need of being reapplied to things whose meaning somehow exceeds them – as is claimed in the very different epistemologies of Husserl, Piaget and, maybe, Lévi-Strauss.

In this chapter, we will first consider the nature of categories, drawing together some evidence from Prague school semiotics, cognitive psychology, Weberian hermeneutics, and art history according to Wölfflin. The discovery of the *prototype* immediately throws some doubt on the viability of structuralism (I.3.1.). Then we will look at the way different taxonomies divide the world up – or the picture, for the problem of segmentation is in fact exactly the same. With the help of another concept taken from cognitive psychology, the *basic level,* we will try to put Hjelmslev's model of the content substance, still dear to Eco, and Panofsky's iconology, into perspective (I.3.2.). Next, we will have a look at the oppositions and some other relations, in order to distinguish their types and functions as they appear in a few particularly interesting pictures (I.3.3.). In an excursus, essential to the rest of this investigation, we then note some differences between two kinds of wholes which are often confused, the *structure,* as conceived in linguistic structuralism, and the *Gestalt* or *configuration,* according to the psychology of perception (I.3.4.). After that we shall at last be ready to understand in detail what was really going on in Lévi-Strauss's interpretation of the Northwest Coast masks (cf. I.1.3.) – as a case of abduction from a prototype (I.3.5.). In our following chapter, we will then go on to consider how simple relations are put together to form complex interpretation systems, and also what is left of the cake when all the categories have cut out their part from it.

I.3.1. Searching the Chinese Dictionary. Four categories of categories

"Pero cómo se demuestra a los demás que se es escritor? Por más tangible que sea un libro, verlo, tocarlo, olerlo, no dirán nada acerca, no digamos ya de sus excelencias de estilo, sino siquiera de su escueta existencia. Se verá un bulto determinado, hecho de papel, letras, goma, hilos."

Fuentes 1958:244

Knowing the category of a thing seems essential to all understanding. From the first, the Prague school was preoccupied with the very general categories of literarity, theatrality, pictorality, and so on, but then concentrated on the specific categories of the traditional genres (See Striedter's essay in Vodička 1976); more recently, Todorov (1978) has remade the same itinerary. Hirsch (1967) and Gombrich (1960; 1963) have insisted that understanding of a work of art is only possible *inside* the given genre. On the other hand, Geertz (1983) has called for the elucidation of the most general categories of humanist experience, now reemerging as metaphors in the social sciences. Categories of different levels of generality are, so it seems, worthy of investigation; and besides the categories of the works of arts and of other signs and meanings, the categories *rendered* by them have to be studied – in particular in pictorial semiotics because, as Arnheim (1969) has recognized in his study of children's drawings, a *pictorial concept* may well join other instances together than a verbal equivalent would.

The study of categories goes at least as far back as the ideologues. When Itard tried to teach language to Victor, the speechless boy found running around in the woods of Aveyron in 1799, he wrote down a word on a paper and placed the corresponding object beside the word on the same paper (as seen in Truffaut's well-known film "Le sauvage" and described by Itard himself in Malson 1964).[1] The contemporary cognitive psychologist Roger Brown (1958:3 ff), who has pondered Itard's experience, points to the difficulties in learning how to distinguish a book from a magazine using this method: while date-of-publication could possibly be the criterial attribute, it is certainly not accessible to immediate perception (p 11). Also the novelist Fuentes (cited above) was alerted at about the same time to the elusive nature of the concept of a book. No doubt it would be even more difficult to bring home the meaning of such complex notions as literature and art to our wild boy from Aveyron.

More light is shed on the importance of categories by the philosopher Arthur Danto (1979:4 ff), who makes the interesting observation that, if an object exactly identical to the Manhattan telephone directory for 1978 is pre-

sented as a work of art, it will be absolutely essential to know if it is supposed to be a work of literature or a sculpture, before we complain of the exiquities of the plot, which will be a remark of some relevance only in the former case. This suggests that what the category may do for a work of art or any other object is to define its principles of relevance (Danto's "rules of the genre"). In fact, there are innumerable ways of writing a novel, like there are an infinite variety of pronunciations of each single phoneme of a language, but in order for something to be a novel, or the same phoneme, its variations must be variations along a limited number of predetermined dimensions. Narratology is presently looking for these dimensions in stories, like phonology sought them out in the sounds of language. A category, therefore, does not only serve to separate an object pertaining to it from the objects of other categories; it also tells us about the dimensions of variation permitted inside the category. This is not to deny that there are also what Brown called "quiet attributes", by which he meant properties which vary independently of the category – but then again, these variations could very well be due to other categories, stemming from a different, overlapping segmentation of reality.

Categories are usually thought to be defined by a set of sufficient and necessary properties. This has indeed been the presupposition underlying most studies of spontaneous categorization, from Itard to Lévi-Strauss and Piaget. Actually, categories of this kind are probably the outcome of the Galilean revolution of the sciences, or maybe of Greek mathematics and philosophy. "Natural categories" anyhow seem to be built up in a rather different way. There are semiotical as well as psychological and phenomenological evidence for this contention. Apart from these "logical" categories, we will now successively introduce three other kinds of categories: the *dominance category,* the *prototype,* and the *ideal-type.*[2] We make no claim, for the time being, that all Lifeworld categories manifest the characteristics of these three category types.

The concept of *dominant,* fundamental to the Prague school (cf. Jakobson 1963; Mukařovský 1974; Matejka & Titunik 1976) can be reinterpreted as a kind of category. Jakobson (p 209 ff) tells us the communicative situation can be analyzed into six factors: context or referent, sender, receiver, message, contact, and code, and as each one of these factors comes to the fore, a particular function of the message will be emphasized. The poetical function, which consists in emphasizing the message itself, or more exactly, the palpable aspects of the sign, is widely present outside of poetry, for instance in publicity and political propaganda, and will define poetry only to the extent that all other functions are found to be subordinated to it and hierachically organized around it. Now, this means that the poetic function is a necessary but not a sufficient criterion of poetry; what is sufficient is the *saliency* of the necessary property, i. e. an attribute-of-the-attribute. Saliency should not be confused with simple relevance: all or most of the functions must be present in any message, if I understand Jakobson correctly: but they must not predominate over the poetic function, if poetry is to result. To Jakobson and Mukařovský, poetic language, standard language, and so on, will be *dominance concepts;* but if I am not mistaken, language itself, as a reunion of the six or four factors, respectively, will be an ordinary logical concept.

In the Chinese encyclopaedia described by Borges (cited above), animals are classified according to various categories among which are: those belonging to the emperor; embalmed animals; fabulous animals; wild dogs; animals painted with a very fine brush of camel hairs; and those which seem to be flies when observed from a distance. The psychologist Eleanor Rosch (1978) tells us a classification like this could never be conceived and used by any real human group, but the ethnolinguist Roy Ellen (1979:6), who again refers to Borges's encyclopaedia but not to Rosch's appreciation, notes that the arrrangement of the categories "has a familiar ring for an anthropologist".

At least one of the traits that makes Borges's classification seem so peculiar at first can be discovered in the ethnography of any kitchen, for instance in the way the kitchen utensils are stored in order to be ready to hand. In one drawer are found the forks, knives, and spoons, maybe together with other small-size instruments like the cork-screw and the tin-opener; in a second drawer will be found all instruments made of wood, i. e. ladles and similar utensils; in a third one, we may put bigger-sized metal instruments, such as bread and carving knives, scissors, and whisks, the fact that many of these instruments have wooden handles being of no avail to the classification; and lastly, in a fourth drawer, all the instruments needed to bake a cake, whether of wood, metal, or plastic, will be placed together. Each category is here defined by a property situated on a new dimension (with the exception of the wood vs metal distinction) each one of which is a "quiet" attribute of other categories, and salient for one category only.[3] Although abstractly considered it seems confused, this arrangement is really very handy. So we cannot judge the Chinese Encyclopaedia either before knowing its purpose.

But Lifeworld concepts may still be more unlike what logicians like us to believe, as suggested not only by Husserl's, Gurwitsch's and Schütz's theories of *typification,* but also by Eleanor Rosch's experiments on "natural categories". These categories, according to Rosch (1975 d:178), are not logical conjunctions of discrete criterial attributes but have an internal organization consisting in a "core meaning", identified with the *prototype,* the clearest cases, and the best examples, which are then surrounded by other members of decreasing degrees of membership in the category. The prototypes of a given category are said to be maximally similar to each other and maximally different from the prototypes

of other categories, but the limits between the categories are thought to be fuzzy, running continuously into each other (We will express some doubts on the latter idea in III.6.3.). It is not quite clear if the prototypical core of the category consists of a collection of concrete cases, "the best examples" mentioned above, or if it should rather be considered as "the abstract representation of a category" (Rosch & Mervis 1975:575). A typical bird, e.g. a robin, will lay eggs, have wings and feathers, but not all birds possess all these properties, and some animals having one or other of these properties are not birds (e.g. a bat) – but thanks to the "high correlational structure" of the world, the property of having wings, for instance, tends to co-occur with the property of having feathers rather than furs (Rosch et al. 1976:429).

There is ample evidence for Rosch's theory, most of it from her experiments and those of her collaborators. Persons asked to choose the typical examples of a category will find the question meaningful and tend to select the same items (Rosch 1973). Labov asked people to classify a series of cuplike objects: they found more or less typical ones, besides bowls, glasses, and vases (cited in Glass et al. 1979; 331 f). In fact, the same type of experiment was made much earlier, in the case of chairs and armchairs, by Gipper (1959). Another linguist, Lakoff (1972) has noted that languages are full of "hedges", i.e. "words whose job it is to make things fuzzier or less fuzzy" (p 195), or to indicate the degree of membership of an object in a category: e.g. sort of, kind of, loosely speaking, essentially, par excellence, in a real sense, in a manner of speaking, technically, virtually, nominally, etc. (cf. the "adjuster-words" of Austin 1962 b:73). Rosch (1975 b) asked experimental subjects to place words in hedged frames and found the resulting propositions could not be inverted: only prototypes can be cognitive reference points (Cf. Tversky 1977). When asked to place objects on a table in relation to a centrally fixed object, subjects could also comply meaningfully with the task. In other experiments, it was found that propositions relating a category name and a prototypical example could be judged to be true or false more rapidly than a proposition containing an untypical instance, and that priming with the category name speeded responses of "same" to the good example members but delayed the responses for the untypical members (Cf. Rosch 1975 a, b, c, d; 1978; Glass et al. 1979; 333 ff). One may of course still doubt that all categories are of this form, but it certainly seems a natural way of building categories.

The illusion as to the existence of criterial attributes for categories derives, according to Rosch & Mervis (1975:582), from the tendency to consider only the most prototypical members of a category, which in fact can be shown to have many attributes in common. It should be noted that what is here described as a delusion is the same procedure which Husserl and Gurwitsch have termed *idealization,* exemplified by the invention of geometry out of the spirit of land-surveying (Cf. I.2.1. and I.4.4.). In fact, logical categories would seem to be necessary for rational thinking, and it is the paradox of semiotics as well as of the humanities and the social sciences in general that, being knowledge about knowledge, as Prieto puts it (Cf. I.1.4.), the knowledge that it *is* must be *logical,* whereas the knowledge which it *is about* will inevitably most of the time be *prototypical.* The difficulty of maintaining this distinction will be illustrated below in our discussion of Bucher's (1977) study of Le Bry's New world engravings.

These engravings, Bucher rightly observes, inform us less about the customs of cannibals and other savages than about the ideology of Le Bry himself and his compatriots. Possibly, Bucher's study tells us more about her ideology than about that of Le Bry, thus cannibalizing Le Bry's mental cannibalization of the cannibals. Anyhow, at the beginning of her book, Bucher (1977:46, 58 ff) using one of the engravings which shows a group of cannibals roasting human body parts and distributing them to eat, forms an interesting "pictorial concept", named already in the title: "la sauvage aux seins pendants", which then later turns out to be of the prototypical kind.

Most of the natives have been given bodies of perfectly classical proportions, but the motive which is of interest to Bucher constitutes an exception. Among the four women present at the cannibalistic orgy, only one is, according to Bucher's description, a young person with classical body form, firm bosom, long hair combed flatly over the head and joined in a braid at the back, and wearing necklaces and bracelets, whereas the other three are old hags deprived of all physical charms, their breasts hanging down vertically, while their foreheads



Pl. XIIa. One of the plates of Le Bry's *Grand Voyages* (1590–1634), in which Bucher 1977 first discovers "la sauvage aux seins pendants".

are full of wrinkles, the disorderly tufts of their hair fall down on their shoulders, and they lack all adornments. In the engraving considered (pl. XII), this difference in appearance is said to be correlated with another one: the young woman devours a human body part, whereas the three old hags are just licking their fingers voraciously. And then Bucher goes on to invent a complex system of classification incorporating Levi-Strauss's culinary triangle, which distributes different body parts and body fluids to the men, the young women, the old hags, and the children.[4]

Bucher (1977:52) tells us she only wants to retain two traits of the linguistic model: the oppositions and the notion of pertinence. As to the latter, it is clear that she must be applying some principle of pertinence but less clear which it is: why, one may ask, are not the men also separated into those which have a classicial body form and those who are hairy all over their bodies. Bucher's answer, I think, would be that, contrary to the two types of men, the two types of women can be correlated with different cannibalistic foodstuff, which is a separate "code", and with the presence and absence of adornment, which is also supposed to be a separate "code". What is arbitrary, in the end, is the delimitation of "codes", which is never justified (Cf. Bucher 1977:37 ff).

Interestingly, Bucher's "correlations" are really *contiguities* between elements in the picture, more exactly between the expressions of the signs (type III d in I.2.5.), perhaps most similar in that respect to the "attributes" placed in contiguity to saints and other iconographically prominent figures. But the contents of the signs are here also of the kind which might probably easily be found in contiguity in ordinary life, if we admit the cannibalistic "vraisemblable" – so the contiguity in question could simply be an iconical sign of a real world contiguity. Admittedly, to the extent that other combinations are possible, the contiguity could perhaps be *connotatively* overdetermined (Cf. III.4.). As was noted earlier (I.2.5.), Bucher apparently supposes these indexicalities to be incorporated into the sign type, so that their meanings are carried over into pictures where there is no longer any correlation with foodstuff, adornments, and so on – similar to Lévi-Strauss's Wagner interpretation. In fact, all the distinctive features isolated by Bucher will turn out to be of this provisional kind. Before we go on to consider this strange dialectic, we shall however have a look of our own at the Le Bry engraving which is central to Bucher's argument.

The basis of Bucher's generalizations seems to be rather feeble: true enough, only three of the women are seen to lick their fingers, but one of the finger-licking ladies also holds a leg in one arm, which she cannot be eating, *at least for the moment,* because she is holding it at arm's length. What, then, are the two other hags doing with their free arms? In one case, the second arm disappears behind something which is probably the smoke from the fire; in the other case, the whole figure is cut by the picture frame, and there is no contiguity cue for the position of the non-visible arm. Looked at without Bucherian preconceptions, the four women of the engraving, like the ladies of the Minoan fresco (I.2.3.), seem to be different variations on a common type, which is perhaps Le Bry's pictorial concept for "woman". These variations are partly due to *contextual* constraints, caused by the way the women are placed in relation to each other and to other objects present in the picture: only one woman, the young one according to Bucher, is almost entirely visible, while the others hide each other from view, or are hidden by the fire and the grill or cut by the picture frame. There is also a *stylistic* variation, Le Bry choosing to present his dames from varying perspectives and in different corporeal positions. Bucher would have to show that there is variability not explainable by contextual or stilistic variation or demonstrate that what we have taken to be free, stilistic variation can be reduced to one which is constrained by subcategories to the pictorial concept "woman".

Only the supposedly young woman is seen in full, and what can be apprehended of the second woman's legs seems as classical as the body of the woman in the foreground. It is impossible to establish if the latter woman has wrinkles in her forehead, because she is seen from the side, and there is nothing to indicate if the facial features are those of a young person or an old one. Because of the relative positions of the women, only two of the bosoms can be observed in the picture, one of which is clearly hanging down slackly. As to the difference in hairdo, it seems to be purely imaginary: what difference there is can be entirely explained from the varying perspectives, and the long hair of the woman in the front is clearly seen to fall freely on her back, instead of being joined in a braid, as Bucher tells us it should, and as it is seen to do in another engraving (fig. 3, in Bucher's book). As to the bony chest, said to be particularly visible on the woman to the left, it can at least not be seen on the version of the engraving reproduced in Bucher's book. Lest it should be concluded that Bucher's theory is now completely disproven, it should be noted that details not visible on the reproduction in Bucher's book may have been so in the original engraving she studied, and that the varying perspectives and positions may themselves have been chosen in order to suggest a subcategorization of the pictorial concept "woman".[5]

Suppose, however, Bucher is right in thinking that "young woman" and "old hag" are subcategories to the pictorial concept "woman" in Le Bry's engravings. Being found in contiguity to different cannibalistic foodstuff in just one engraving – or, in the case of the old hag, three times on one engraving – the pictorial subconcepts are thought to acquire further meanings which follow them through the rest of the engravings – a number of occurrences which would be of no value to a linguistic distributionalist like Harris (cf. I.1.3.). What is more disturbing is that even the features thought to characterize



Pl. XIIb. Detail of pl. XIIa (from Bucher 1977).

the pictorial concept "old hag" start to vary uncontrollably in the following engravings: the woman presenting fruits to the conquerers (Bucher's fig. 8) is richly adorned, and the woman outside the house in the background, who, according to Bucher (p 33) is the same woman in an earlier phase of her labour, has a bosom as firm as the woman in the foreground of the first engraving – and like her, she is pictured in a frontal view. In the engravings showing some pagan idols, the only feature retained is the sagging bosom (Bucher's fig. 6–7.), but if this sole feature defines the pictorial concept in question, it is not a distinctive feature, as Bucher repeatedly tells us, but a sign of its own, and the other features mentioned would be simply redundant. Even at the beginning of the book, a more correct term for the kind of entity envisaged by Bucher would be "complex sign": the hanging bosom, sometimes together with the wrinkles on the forehead (p 62; 98 f) stands for old age and decrepitude, which then together with lack of adornment, etc., comes to designate the complex meaning sought by Bucher. However, the sagging breasts suddenly acquire a signification independent of age, when they appear on young, rather classical bodies with no sign of boniness (Bucher's fig. 10–13 and 15–16).

It also seems relevant to ask to what degree the breasts must be directed to the ground in order to be considered as sagging. In fig. 10, the bosom hardly points downwards and its direction can be fully explained by the forward lean of the woman; the same goes for the upper woman in fig. 11–12. The second woman in fig. 11–12 and the women in fig. 15 and 16 have breasts which are literally vertical, and even more so the women in fig. 21 and 22. The breasts of the girl in fig. 13 hardly seem to sag, whereas the breasts of the woman in fig. 14 are hidden by her arms but would hang down on any woman given her position. Bucher's affirmation (p 122) that the woman in fig. 14 is similar in other respects to the cannibal women of the first engraving has no foundation whatsoever: the hair is more disorderly, the body more muscular, and so on. Since the breasts are hidden, the only trait uniting this woman with the cannibals of the first engraving is her rather monstrous appearance. The breasts of the women in fig. 18 and 21, far from being bony, appear to be pulled down by their own weight (in one case, the position may also be a contributory factor); but in fig. 11–12, 15, 16 and 22, the rather flat bosom possibly only serves to indicate the presence of breasts, using the perspective from which their shape is most easily identified. In fig. 18, the woman's perfect body is, according to Bucher (p 177) disfigured by a sagging bosom (one suspects the readers of pornographic magazines would judge otherwise) – so that the terms of the original opposition in the cannibalistic orgy, the statuelike body and the hanging breasts, are now joined in one figure.

While a bosom in one or another shape is present in most of these cases, it does not always hang down, and rarely to an appreciable degree, and it is almost never bony. Most of the women are not old; yet decrepitude may well be the only common factor in some of the cases. Very rarely do the women lack all adornment and have disorderly tufts of hair falling over their shoulders. Bucher talks about a system of transformations and acknowledges some of the differences we have noted, but she hardly realizes the consequences: if "la femme sauvage aux seins pendants" is a visual sign, equivalent to Eco's "iconical sema" (p 198 f), it is certainly not easy to identify, as Bucher maintains, because its features may change in an arbitrary manner. As in the "chain-concepts" of children studied by Vygotsky and the "family concepts" of Wittgenstein, each instance of the concept will have at least one trait in common with each other instance, but no trait will be common to all instances. However, Bucher's insistence on the old hag as she first appears in the cannibalistic orgy, indicates that this family concept, like many other family concepts studied by Rosch & Mervis (1975), have a central *prototype,* to which all the other instances may be referred for the determination of degree of membership. The prototype concept which Bucher derives from the series of engravings by Le Bry could of course coincide with the prototype concept once used by Le Bry and his contemporaries – but that would be a mere coincidence, and there is really no way of knowing if the concept was like this or quite different.

We can again take Rosch as our guide, when we proceed to investigate what the elementary forms of real pictorial concepts would be like. Simple configurations in the sense of the Gestalt school were used by Rosch (1973) in some of her prototype experiments, e. g. the square, the circle, and the triangle; and verticals, horizontals, and diagonals, were found by Rosch (1975 b) to function like cognitive reference points. Some squares will be more square than others, i. e. better examples, prototypes, and can thus be used in the comparison of other squares and square-like shapes. This, as Rosch (1975 b:192) notes, is what Wertheimer called "Prägnanz", and the Leipzig school termed the same phenomenon "Ausgeprägtheitsgrad der Gestalt" (Sander & Volkelt 1962:78). What von Ehrenfels (cf. Weinhandl 1960:44 ff), who first discovered the *Gestaltqualitäten,* described as the relative *purity of the configuration* ("Gestaltreinheit") is perhaps the same thing. We will return to this issue in later sections, but first we have to consider yet another category of categories.[6]

Rosch (1975 b; 1978) seems to identify her *prototype concept* with what Weber has called an *idealtype.* According to von Schelting's study (1922; 1934) of Weber's concept, the term is used by Weber for many different phenomena, so that it will be necessary for us to obtain an *idealtypical* (or maybe rather a prototypical) *concept of the idealtype* if we shall be able to make the necessary comparison with the prototype (also cf. Aron 1938 a; Nyman 1951; Weber 1964). First of all, Weber

insists that the idealtype is the result of a very *artificial* type of scientific reasoning, whereas Rosch pretends to have found the internal organization of "natural categories."

But there are other differences, more directly pertaining to the nature of the category itself. To begin with, the idealtype is said to be unreal, i. e. not found as such in empirical reality, but the prototype is at least sometimes identified with concrete cases, i. e. the best examples, and is thought to be similar to an "image". As described by von Schelting and Nyman alike, the first step in the production of an idealtype consists in extracting a salient property from an empirical phenomenon and then exaggerating it beyond what is empirically possible: so the rationality of economic man is exaggerated by Weber. Against this, the prototype, it will be remembered, uses the extreme cases furnished by reality itself. In further steps, hypothetical consequences are then derived from the exaggerated feature, these are confronted with the events actually taking place, it is concluded that other factors must also have been at work, and these factors are searched for. If we generalize this description beyond the causal links it suggests, it is reminiscent of the expected co-occurrence of features mentioned by Rosch, as for instance wings and feathers going together. Again, the last steps, rather than characterizing the idealtype, pertain to its possible use as a cognitive reference point.

However, in Weber's view, it seems, an idealtype is unreal, not just because it exaggerates a feature beyond the empiricially feasible, but also because it may be contradictory. Von Schelting (1922:729 ff) criticizes Weber because he takes notions like "the Middle Ages" or "primitive Christianity" ("Urchristentum") to be idealtypes, while von Schelting considers them to be real historical entities. However he fails to note that even so, they may be conceived idealtypically, and Weber actually tells us how: by joining together salient features of, for instance, the Middle Ages, which in actual fact could never be found together, for instance one trait from the beginning of the Middle Ages, and one from the end. Thus, the idealtype is different from the prototype, at least because it exaggerates a feature beyond what can be found in reality, and because it can join features together that were never so found in actual fact.

In the opinion of Nyman (1951:179), Wölfflin's five conceptual pairs are idealtypes in this sense. However, the psychologist Sander (in Sander & Volkelt 1962:383 ff) identifies Wölfflin's distinction between classical and baroque with prototype coincidence, and small deviations from the prototype, respectively. On the first interpretation, the concept is constructed by the scholar. On the second interpretation, on the other hand, it is also present in the experience of the *connoisseur.* For the time being, we shall only note that perhaps idealtypes should not be thought of as unreal in an absolute sense: we know, for instance, that a drawing expressing in an exaggerated way the features typical of "babyness" causes more clear-cut reactions of parental tenderness than does the shape of real babies' heads (Hückstedt 1965), and many animals have been shown by ethologists to react in the same way. Now, since the drawing is a real object of the Lifeworld, viz. of the world of psychological experiments, the once unreal shape has become real; and even the contradictory idealtype of the Middle Ages may come into being, if Hollywood gets its way.

In this section, we have seen that, besides the rather artificial kind of categories of logic and science, there are also the dominance category and the prototype category; and that the idealtype category, conceived by Weber to be highly artificial and scientific, could possibly be another kind of "natural category", sometimes difficult to tell apart from the prototype. In the next sextion, we will investigate how categories are used to segment reality and, as it will turn out, also pictures.

I.3.2. The cannibal's body image. Intensional and extensional hierarchies

"L'idée la plus générale s'offrira la première à lui, et le reconduira par la route la plus directe. Chaque classification particulière sera pour lui comme un point élevé, du haut duquel son œil se promènera en liberté sur les espaces qui l'environnent."
Degérando 1800, II:27

According to structuralist dogma, the world before language, like the experience of the newborn as described by William James, is a buzzing confusion with no particular organization. Saussure tells us the sign is created by a simultaneous cut through *two* amorphous masses, the one of sounds and the one of meanings. Humboldt, Sapir, and Whorf exemplified the differing ways in which the "same" experience may be organized by distinct languages, and Hjelmslev (1943:50; 1959:113), in a now famous chart, compared the way the ideas of a tree, of the configuration resulting from a combination of many trees, and of the materials obtained from trees, were treated in Danish, German, and French, whilst Eco (1968:77; 1976:141), employing the same chart, added Italian examples.

This case may serve to illustrate the problem of *categorization,* i. e. of determining the dimensions on which two instances are permitted to differ while still pertaining to the same category. But there is also the problem of *segmentation* (which could perhaps be illustrated by another classical example, the colour spectrum), i. e. the problem of establishing the limits between the instances of two categories in a continous medium. Both these problems are well-known from the analysis of the linguistic expression plane, but they are equally relevant in the case of a picture. When Goodman tells us pictorial sign systems are "dense", he seems to be rejecting the possibility of both our operations at once (cf. III.2.4–5.);

and when Barthes (1964 b) argues the picture has to be "anchored" by a linguistic message, he directly translates the structuralist dogma from the perceptual world to the picture, at least if we admit that the profusion of meanings suggested by Barthes (p 31) in the end comes to the same thing as the lack of meaning closer to the linguist's conception. In both cases, there is no organization, no definite structure in the visible world (Cf. II.1.1.).

If structuralist methods are applied to the comparison between languages, three dimensions of variations seem to emerge from Hjelmslev's chart, one of them taking three values. Adding a few more languages, we get the following (Table V):

There is certainly no suggestion of "buzzing confusion" here; rather, inside a common continuum, variations along different dimensions are given varying weight. Arguments for linguistic relativism tend to oppose physical reality and the content form of language, but that is to forget that between them, there is the Lifeworld, the world of lived experience, which may derive its meanings from many sources apart from language. As Prieto (1975 b:195 ff) rightly observes, in the Panzani publicity studied by Barthes it is really the text, not the picture, which will be deprived of meaning if isolated; and it should be added that the kind of meanings Barthes finds in the picture, are, contrary to what his theory pretends, neither described by lexical items in the French language nor designated in any other way by the text accompanying the picture – rather, they are, as we will see (in II.1.), units of Lifeworld experience.

Even if the Lifeworld is itself organized, language, or any other semiotical system, may be "arbitrary" in a less radical sense: in the levels of organization it considers relevant. For instance, all the languages on our chart find it worth while separating the isolated tree from a conjunction of trees, but they differ in their interest for recognizing new physiognomic quantities inside the category of more than one tree. According to Arthur Koestler (1978:27 ff), reality is a "multi-levelled, stratified hierarchy of sub-wholes", where each sub-whole or *holon* is, in relation to higher levels, a dependant part and, in relation to its own parts, a whole of remarkable self-sufficiency. Benveniste's (1966) observation, transferred from linguistics to narratology by Barthes (1966:5), that each elements gets its meaning in part from its *distributional* relations to other elements on the same level, and in part from its *integration* in elements of a higher level, also presupposes a hierarchy, where the wholes of one level are the parts of a higher one. If there is indeed a *holarchy* like this, to choose Koestler's term, then different semiotical systems can establish their categories on different "holarchical" levels. However, there is some psychological evidence to suggest that one level of the hierarchy is privileged, is in fact the *basic level,* made up of "intrinsically separate things" (Rosch et al 1976:383). All parts may still be wholes, but some wholes are more wholes than others.

Categories, according to Rosch at al. (1976:383 ff), serve to reduce the infinite va real-world experience to a manageable degree, recognizing distinctions only where these seem important. Features tend to come in pairs, triplets, and n-tuples, the appearance of one of them serving to predict the others, as for instance an animal with wings will be expected to have feathers (cf. I.3.1.) – that is, in our terms, categorization is based on indexicality, in particular abductive contexts (I.2.5.). At the basic level cue validity is maximal, giving rise to

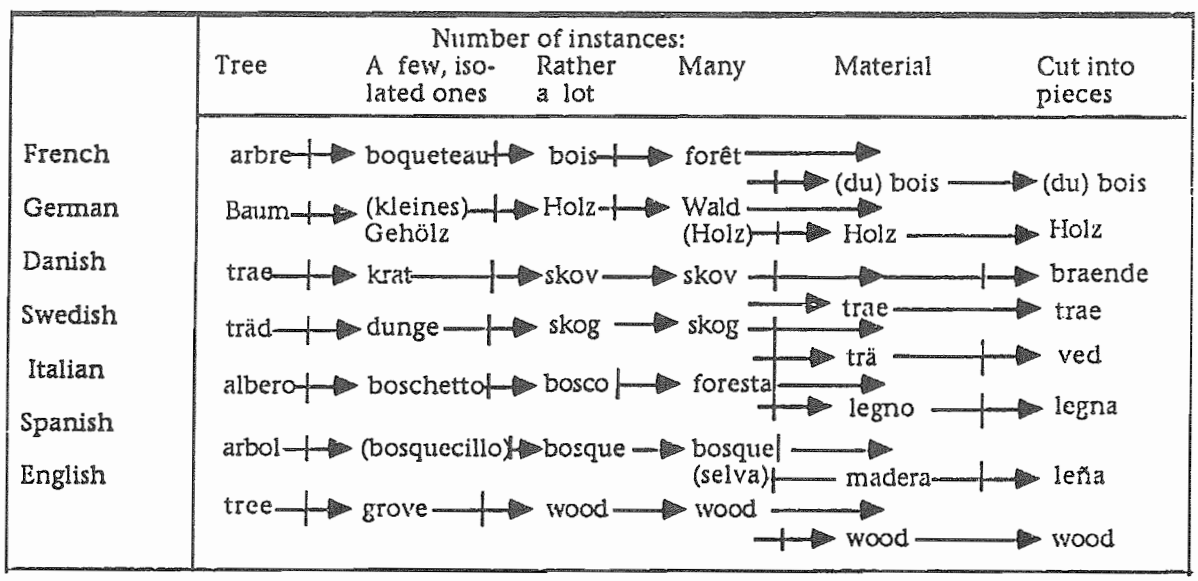


Table VI. The semantic field of the tree

information-rich bundles of perceptual and functional attributes. A *basic object* like a chair is at the most inclusive level at which there are attributes common to all or most members of the category. A category at a superordinate level, like "furniture", contains objects having fewer attributes in common, and a category at a subordinate level, e. g. "kitchen chair", shares most of its attributes with contrasting subordinate levels.

Many experiments support Rosch's theory: subjects list more attributes for terms on the basic level; this level is the highest on which motor movements are recognized as defining a category; "averaged shapes" combined from pictures of objects at the basic level are identified as readily as those of objects at a subordinated level and much better than those at superordinate levels; basic level categories help in detecting a picture in "visual noise", and priming with basic level categories facilitates "same"-response as applied to physically identical stimuli; objects are recognized more rapidly in pictures at the basic level than either at the subordinate or the superordinate levels; classification of pictures on the basic level is practically the same for three year olds as for adults, but when it comes to superordinate categories, the results differ widely; small children are found to be using almost exclusively basic level terms (For more details, see Rosch et al. 1976).

It should be noted that the existence of a basic level, in some of Rosch's experiments demonstrated for pictures, justifies the much-criticized notion of a *pre-iconographical level* on which, according to Panofsky (1955:28, 33), lines and colours are directly seen as human beings, and the equivalent level of immediate perception in Barthes's (1964 b) pictorial semiotics. Both Floch (1978 b) and Larsen (1976) take exception to these models, which they erroneously identify (cf. II.1.3.), because such a level is incompatible with a conventionalist theory of iconical signs (although Eco 1968:230, 234 f, 259 fails to note the contradiction).[7]

In order to explain her result that objects on pictures are identified more rapidly at the basic level, Rosch (p 414) speculates that superordinate categories are derived by inference from the class membership of the basic object, whereas subordinate categories must be determined from additional attributes present in the picture. As applied to one of Panofsky's (1955:28 f) examples, a shape on the canvas is immediately seen to be a male figure, thus perhaps inferred to be a human being, and with the aid of another shape contiguous to the first and immediately seen to be a knife, at last identified as being St. Bartholomew. In the kind of cases considered by Panofsky, subcategorization is normally obtained through objects found in contiguity with the object, usually a human being, which has to be further determined, and the meaning of these contiguous objects is conventionally and/or indexically fixed (i. e. an abductive as well a performative index, cf. I.2.5.). In other cases, for instance when a shape seen as a human being is subcategorized as a well-known person or a friend, we will have to attend to cues internal to the original shape, and even to higher-order features, not, for instance, the shape identified as a nose, but the peculiar curvature designating it as being a nose of a particular kind. Bucher's cannibals are somewhat intermediary cases: because of their *real* contiguity to human body parts, shapes seen as human beings are identified as cannibals and if Bucher is right, a sagging bosom, adornments, etc., help to categorize them further.

However, there are really two kinds of hierarchies, or holarchies: *analytic* ones, of the "man-arm-hand"-type, and *synthetic* ones, of the "man-mammal-vertebrate"-type (cf. Ellen 1977:344 ff). These terms, unfortunately, are misleading, since at least the second kind of hierarchy has its basic level somewhere in the middle, and thus will proceed by aggregation from this level upwards but through analysis from the same level downwards. Nevertheless, it is true that all levels and elements in the first type of hierarchy, unlike those in the second, "have a concrete existence" (p 345) – in fact, as we go further down in the hierarchy, the space or the *extension* occupied by the elements will be smaller in the first hierarchy, but there is no change in the second type. For instance, the old hag, the female cannibal, the cannibal, and the human being are equally space-filling, but whether we apply our ordinary body scheme, or the one Europeans projected onto South American cannibals if we are to believe Bucher, each step down the hierarchy gives us a smaller portion of space. Adopting a traditional logical distinction, we will therefore distinguish *extensional hierarchies,* where subcategories are less space-consuming, and *intensional hierarchies,* where extension is held constant. We have seen that the levels introduced by Panofsky are positions in the *intensional hierarchy;* but the problem of segmentation of either a body, text or picture, is a question pertaining to the *extensional hierarchy.*[8]

Is there, one may wonder, a basic level also in the *extensional hierarchy?* Unfortunately, Rosch et al. (1976) do not make any distinction between these two types of hierarchies, but it is recorded in a footnote (p 388), that all categories bearing a part-whole relationship to the superordinate have been eliminated from the experiments along with a few other types of hierarchies. Intuitively, it seems much more obvious that there is a privileged level in an extensional hierarchy: the body appears to have precedence over the arm as well as the couple and the group. However, the characteristics of the privileged level are perhaps different in the case of the extensional hierarchy: while superordinate categories may still have fewer attributes in common (e. g. "group") than basic level categories (e. g. "body"), subordinate categories (e. g. "arm") appear to possess many further attributes not present at the basic level. It would be interesting to repeat some of Rosch's experiments for extensional hierarchies. It seems probable

that averaged shapes as well as figures hidden in visual noise would continue to be more easily identified at the basic level than at superordinate levels; and that basic level objects will even in this case be more rapidly categorized than objects at any other level. But maybe quite different criteria can be used to determine the basic level of an extensional hierarchy: the *Gestalt* factors of common fate in movement, perfect closure, etc. Here we will suppose that a basic extensional level can be found.[9]

In order to go beyond the above-mentioned, rather negative characterization of *intensional levels,* it would help to consider some examples. D'arcy (1963:3), in his analysis of human acts, points out that exactly the same happening may be described as tensing one's forefinger, pressing a piece of metal, releasing a spring, pulling the trigger of a gun, firing a gun, firing a bullet, shooting at a man, shooting towards a man, shooting a man, killing a man, committing judicial murder, and saving four lives. While to D'arcy, this example shows the difficulty of separating an act from its consequences, to us it suggests that the very same event (or, in other cases, object), while continuing to be *thematized,* can be redescribed at a different intensional level, as it is embedded in a wider context of which it is seen to form a part.

That is to say, as we step down the intensional ladder, we will take account of a wider extension, as we do when we climb the extensional hierarchy, but the theme of the category, that which is to be characterized is all the time the same. When a young girl is seen in the wider context of a sword, a charger with the head of a beheaded man, and a maid, she may be redescribed on another intensional level as Judith; but if the same girl is presented in the context of a charger with a head of a beheaded man and, for instance, her parents, then she should properly be redescribed as Salome (Cf. Panofsky 1955:36 f).

Again, contrary to the contention of Goodman (1968:27 ff), in a picture of the first Duke of Wellington as a soldier, the Duke of Wellington will be as present in the picture itself as the-Duke-as-soldier, and in a quite parallel fashion, both the unicorn and the unicorn-as-putting-his-horn-in-the-virgin's-lap are found *in* the picture – only on distinct intensional levels. This is not to deny that the Duke, *and* the Duke-as-soldier though maybe neither the unicorn nor the unicorn-signifying-virginity (apart from the film "Black Moon" by Louis Malle, and the tapistry in Musée de Cluny), can be present in reality as well, as the "referents" of real or possible pictures and acts of speech. To localize the Duke in reality and the Duke-as-solider in the pictorial sign is quite arbitrary: both meanings can be connected with their peculiar features of expression in the picture, though those of the second intensional level may well be mere modifications in the facture of the features of the first level, as noted above (Also cf. III.4.1./5.1.).

In fact, Panofsky's *pre-iconographical level* does not seem to correspond perfectly to our basic intensional level. The source of pre-iconographical interpretation, Panofsky (1955:40 f) tells us, is *practical experience* (familiarity with *objects* and *events*), while knowledge about specific literary themes and concepts is necessary for iconographical analysis (also cf. Kaemmerling, ed. 1979). However, since the distinction is introduced by the discussion of how a real act accomplished in the world of our experience, a greeting, is interpreted, it is seen to oppose more generally "naturally" motivated meanings to conventional ones (though present-day scholars are not so sure about the conventional character of greetings, cf. the work of Eibl-Eibesfeldt in particular). Interestingly, perceptual psychologists like Hochberg, Gibson, and Kennedy have noted that experience with the world, rather than experience with pictures, is what is needed in order to interpret at least some simple types of pictures (Cf. III.3.1.). However, it should be clear that experience with the world will be sufficient also to interpret some cases of intensional subcategorization: the Duke-soldier as well as the Duke, our friend as well as a man – but not St. Bartholomew as well as the man with a knife. Panofsky's distinction is thus seen to cut across ours.

Sometimes, Panofsky (1955:33 ff) tells us, even the apprehension of figures at the pre-iconographical level will be problematical. In Roger van der Weyden's painting "Three Magi", the apparition of a small child in the sky, iconographically identified with the Infant Jesus, is not recognized as such because of the golden halo, which a real Infant Jesus may have, nor because of any non-existent cues to the child hovering in the air, but because the child is suspended in mid-air whereas the rest of the representation, contrary to what happens in Ottonian miniatures, respects the laws of gravity. Not only is the pre-iconographical level here no more coextensive with our basic intensional level, that which is most directly apprehended, but it is based on knowledge going beyond "practical experience", being as "conventional" as the level of iconography, so that the only difference seems to be whether the source of the convention is found inside painting itself or in "literary sources". Quite consistently, Panofsky also locates the history of styles on the pre-iconographical level.

However, from our point of view, Panofsky's exception to the straightforward mode of pre-iconographical analysis is interesting: we can conjecture, though it is certainly particularly difficult to prove, that an apparition in the real world would have a basic level of its own, forming with human beings, angels, and devils (as Swedenborg might have argued) a superordinate category, while in the picture, it appears as a kind of man, so that the pictorial space must be searched for further details in order to identify some basic level men as apparitions. That is, the *basic sign* of the picture is not necessarity the one which has a *basic object* as its content. As we

will see in more detail later (III.5.1.) it is through the manipulation of basic intensional – and extensional – levels that pictures, like language and all other semiotic systems, can reorganize the world of our experience, segmenting it in their own peculiar manner.

We have rejected the idea that language, pictures, and other semiotic systems arbitrarily impose an organization on the "buzzing confusion" of the Lifeworld; rather, it is suggested, semiotical systems modify the basic level of the intensional and the extensional hierarchies present in Lifeworld experience. Later, in analyzing metaphors (in III.6.) we will see that other ways of *re*organizing Lifeworld taxonomies exist. For the moment, however, we will go on to investigate the presumed existence of particular types of relations between the categories themselves, most commonly thought to be oppositions.

I.3.3. Marilyn and other meanings. On relations in general and oppositions in particular

"How can I simultaneously anchor - - in / and / in - -? If I ever did, how could I then translate my insights into communicable expressions without destroying them?"

Olsson 1982:231

Apart from the relations of super- and subordination treated in the preceding section, categories are often thought to relate to each other in other ways and even, in structuralism, considered to result from these relations. Saussure tells us all these relations are differences. According to Jakobson, they are all *binary and privative,* i. e. they obtain between two terms only, one being simply defined by the absence of the trait characterizing the other. Trubetzkoy (1939) as well as Barthes (1961; 1964 a) admit the existence of equipollent oppositions, in which each of the terms have a positive feature absent in the other one, and gradual oppositions, where one property is possessed in varying degrees by any number of terms. Also these can be reduced to binary, privative oppositions, as Jakobson has shown, but this reduction does not always seem true to experience. Oppositions adduced as examples in pictorial semiotics are usually binary but rarely privative, but may of course be reduced to a bundle of privative oppositions.

It is misleading to think of an *opposition* as just a difference; rather, it is a difference perceived against the background of a fundamental similarity. The opposition between the wounded Vietnamese woman and the Western lady painting her lips in Fremez's drawing (pl. XV), is like the opposition between Lévi-Strauss's masks, based on both being identifiable as faces. And on a more elementary level, the opposition between the blood and the painted lips in the same pair of drawings has as its precondition not only the identical red colour, as noted by Gauthier (1979:118), but the near-identity of the relative positions occupied by the red spots on the two pages and of the extension of the principal directional axes of the spots (Cf. I.3.4.).

Now consider the publicity for a brand of socks called "Kindy", which is modelled on the well-known scene from Wilder's "The Seven Year Itch", where Marilyn Monroe's skirt is lifted by the air streaming out from the air-valve (Pl. XIII). Fresnault-Deruelle (1983:54 ff) points out the permutation of the man's and the woman's roles in this publicity picture: the man, instead of the woman, stands on the air-valve, showing his legs, and the woman, instead of the man, remains a passive on-looker. However, it is only when we probe deeper into the similarities and dissimilarities between the publicity and the still from the Marilyn Monroe film (also on the poster announcing the film) that the peculiar character of this and many other oppositions becomes clear. First, there is the global similarity of the pictorial motive: a man and a woman on an air-valve (with the "abstract illumination" typical of film studies, according to Fresnault-Deruelle 1983:57). Then there is a series of more local similarities: the girl's dress, her hairdo, the placement of her



Pl. XIIIa. The Kindy publicity (from Fresnault-Deruelle 1983).



Pl. XIIIb. Publicity poster of the film "The Seven Year Itch" (from Fresnault-Deruelle 1983).

hands, the general position of her body, her shoes, facial features which are reminiscent of Marilyn's, the fact that she is laughing, and her location to the left in the picture. As compared to the still, but not the poster, there is also the glimmering light of her hair.

These are, I believe, basic level similarities, but as we attend to further details we note some subtle differences: the girl's dress lacks the décolletage and the tightness particularly visible on the poster and, contrary to Marilyn's dress, it covers her shoulders. Of course, it is not lifted by the stream of air, neither in the classical form of a circle, as in the still, nor in the more baroque shape seen on the poster. Marilyn carries her shoulders lifted and her head bent downwards and somewhat to the side, whereas the Kindy girl relaxes her sloping shoulders and raises her head, but the sideward turn is more marked, hiding her left cheek from view. In fact, while Marilyn in both the poster and the still is shown with the face directly frontal and the body in a 3/4-view, exactly the opposite is true of the Kindy girl. In the poster,Marilyn's legs are placed in the form of a provocative inverted V, but in the still, they are pressed together and bent at the knees, suggesting the more ambiguous, half-embarrassed seductiveness of the little girl; in the publicity, however, the girl's legs appear in a rather neutral standing position. Again, the Kindy girl holds her arms in the same position as Marilyn, but the *functional* properties have changed, since they are no longer held there to press down the skirt, and no strain is visible. Also the way the girl is laughing is different: for instance, the mouth is wide open, suggesting a good laugh instead of an ambarrased giggle. And she is placed somewhat in the background, whereas in the still, Marilyn appears some steps in front of the man, and in the poster, this distance is mythically enlarged through the perspectivally deformed shape of the abstracted air-valve and the pigmy-size of the man.

The man's hat, the placement of his arms and hands, the general position of the body, his shoes and suit, and his localization at the right in the picture seem nearly identical. In all pictures, the body of the man is seen in a 3/4-view, though the poster and the still show the back from the left side, and the Kindy version presents the right side and the front; again, the Kindy version is closer to a frontal view, and the still and the poster come close to a profile presentation. The head is shown in all pictures in the same 3/4-view from the right cheek, though more of the other side of the face is included in the Kindy version. In the film pictures, however, the man's head is bent downwards like Marilyn's, but in the publicity, the head is again raised. The Kindy man also appears clearly in the foreground, contrary to his model in the film pictures. Again, while the man's hands and arms are in the same position, they now acquire a *functional* value they did not have in the film pictures, because they are obviously lifting his trousers, to show his socks. As a *proto-index* (cf. I.2.5.) for the stream of air, which was visualized by the lifted skirt in the poster and still, the tie blown over the man's shoulder has been included. The man's smile also seems different, though we shall refrain from analyzing it here.

Most of these differences are probably perceived as small modifications on the basic level similarity of man and woman in the publicity and the film pictures. Here, it should be noted, we take "man" and "woman", rather than "human being" to be the basic level of man's autotaxonomy: in Rosch's identification experiment, we speculate, man and woman will be at least as rapidly recognized as human beings. As Lurie (1981) observes, in much of the history of clothes, man and woman have been made to appear alien species. Even today, if *prototypical* examples are chosen, and if they are *ideal-typically* exaggerated by means of dress, cosmetics, and so on, the difference of sex will be more conspicuous than the humanity they have in common. Prototypes are usually found at the basic level, Rosch et al. (1975; 1976) tell us. The basic level, they say, is found much lower in the hiearchy of animals and plants for botanists and for members of primitive cultures than for



Pl. XIIIc. Still from the film "The Seven Year Itch" (from Fresnault-Deruelle 1983).

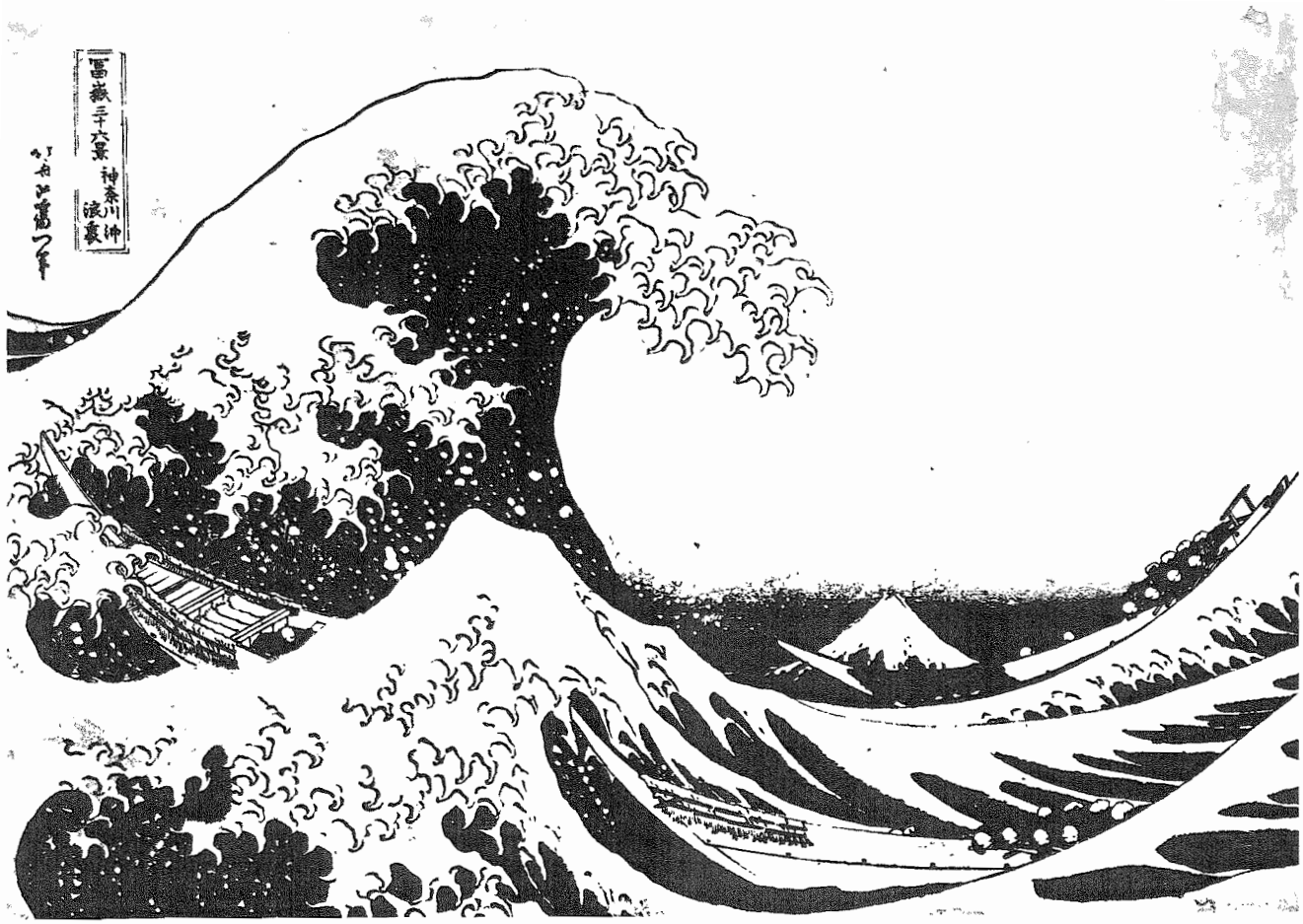
most people in Western civilization; and the placement of the basic level is not always coherent, as for instance dogowners will have a much lower basic level for dogs than for other animal species. Since people are generally more interesting than anything else to people, and since we are all more or less members of Film culture, is seems probable that to most people, the girl will immediately be recognized as a Marilyn-type girl, while the man is, somewhat more abstractly, identified as a male person of the 40's variant of the Hollywood species.

However, maybe at the same time as the identification of man and woman, and long before most of the details noted above, an inversion is perceived in the respective actions of the man and the woman. To understand what is going on, we need to develop a semiotics of clothes, particularly from an erotic point of view which, apart from the syntagm of body-parts recognized by Barthes (1964 a), takes account of another syntagm, the layers of clothing found on the same body part, which strip-tease and much of pornographic photography are at great pains to manipulate meaningfully. These layers of clothing, like the spaces of proxemics (cf. Hall 1966; Watson 1970), are used to mark (besides degree of sensitivity to coldness) a scale from more intimate to more public relationships. When Marilyn shows publicly what is under her skirt, she is committing a *transgression,* which is however legitimized by the proto-indices for the airstream coming up through the air-valve. Nevertheless the ambiguity subsists, and still and poster epitomize different degrees of deliberateness of the erotic show-off, due perhaps to the difference in leg position and in the qualities of the smile. On the other hand, the transgression is doubly *attenuated,* first because of present-day clothing semiotics, which makes us expect underwear instead of a naked body under the skirt, and secondly, because the picture actually only lets us see a part of the body directly *contiguous* to the parts covered by underwear. In eroticism, however, an attenuation at the level of expression may well turn out to be a reinforcement at the level of content (cf. Orfali 1983).

In the Kindy publicity, this act of transgression is seen to be two times *displaced:* first, from the body of the woman to the male body; and then from the region contiguous to the sexual organs to the feet and the ankles. In our culture, at least from a heterosexual point of view, the trait "lifting a more public layer of clothing to show a more intimate layer" only has erotic meaning if accomplished by a woman – maybe we should say on a woman's body. But even on a woman, the feet are not heavily eroticized in our culture. Thus, the erotic charge of the Marilyn-picture is twice annihilated in the framework of Western erosemiotics.

The Kindy publicity breaks out of the frame it sets for itself through the imitation of the Marilyn scene, an effect reminiscent of the mechanism of jokes as described by Koestler (1966; 1978). Again, the prototypical concepts of man and woman present in our culture makes us expect the woman, rather than the man, to be the one revealing intimate layers of cloth. Many "female" behaviours are still considered ridiculous in a man, but in the present case there is nothing ludicrous about the man, because he is seen to be acting out a deliberate parody. In spite of the tie slung over the shoulder, there is really no ambiguity in the picture: the man is raising his trousers quite intentionally to show his socks, as is obvious from his hands, now functionalized to execute the movement. In an inversion of this particular process the girl's hands, which are no longer needed to hold down the skirt, stay atavistically in the same position as in the Marilyn-picture. The parodical nature of the man's act is also marked by his smile and the way the girl laughs. However, what really makes possible the parody is, I think, the fact that the *transgression* is doubly *transgressed,* leaving any possible erotic charge far behind.

All this is seen only by looking at the picture and interpreting it in opposition to the Marilyn-picture present in our cultural stock of images. Once the verbal text of the publicity is read, the picture is "anchored" so as to have a somewhat different meaning: the man is braggingly showing his new socks. Nevertheless, if this were



Pl. XIV. Hokusai: The wave (from "Thirty-six views of Fuji", 1823–29).

the only meaning of the picture, its effect would be entirely trivial. Its charge is completely on the pre-verbal level.

We now must return to the more general problem of the nature of oppositions. It is not generally observed, that oppositions may have very different functions in the build-up of meaning. For instance, they may be

1) *constitutive* of the identity of the signs and/or its parts, as in phonology; or just *regulative* of an already constituted identity (cf. the constitutive and regulative rules of Searle 1969). In the second case, they either *overdetermine* this identity without being able to change its fundamental nature, as is the case in the Kindy publicity; or they *redetermine* the original identity, structurally breaking up the unity of pre-given configurations, as seems to be the case in Hokusai's "The wave" (pl. XIV), where details of Mount Fuji and the waves are similar, according to Groupe μ (1980); and also in the coupled drawings of a Western lady and a Vietnamese by Fremez (p. XV).[10] Apart from cases where they are structurally conspicuous, relations thought to be constitutive are considered by Floch, Thürlemann, Lindekens, and Vilches, and will be discussed in the next section (I.3.4.)

2) *in absentia* or *in praesentia.* The latter are termed *contrasts* by Floch and said to be typical of pictures (Cf. Floch 1978 a; 1986:54), probably because there is no obvious equivalent to the *system* of (constitutive) oppositions present in the phonological and semantic organizations of language. However, besides the *systemic* oppositions there are also the *intertextual* ones, which are also relations *in absentia,* if the effect is due to the memory of another "text" or, in our case, another picture, which is of course what happens in the Kindy publicity. On the other hand pictures also use non-pictorial semiotic systems, which have their own systemic relations: if we were not acquainted with the Marilyn picture, the publicity for Kindy socks might well have produced more or less the same effect, because of the above-mentioned transgressions of the semiotics of clothing and of its erotic derivations.

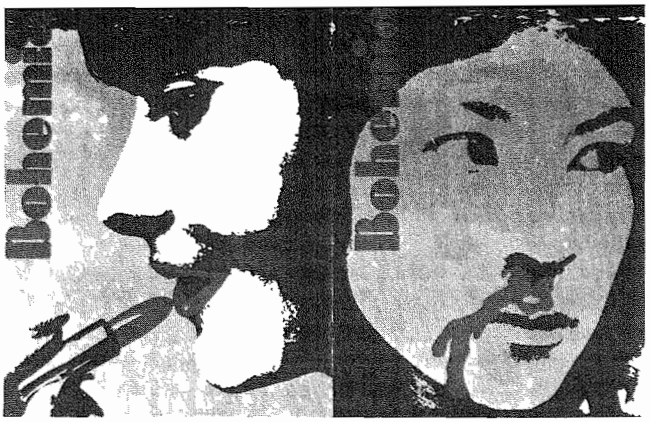
3) *structural* or *abductive.* In the first case, the terms interdefine each other or rather, the meaning of the terms follows from a whole system of relations which is known to exist. In the second case, meaning derives

from our acquaintance with certain Lifeworld regularities. Differently put, in a *structure,* meaning results from the relations alone; in an *abduction,* however, no meaning will emerge without the presence of a relation *and* a given element (cf. our discussion of Peirce's notion of abduction in I.2.3–5.). A clear case of abduction is Lévi-Strauss's analysis of the Northwest Coast masks (Cf. I.1.3.). More complex is the case of the Kindy publicity: unlike what happens in Lévi-Strauss's mask analysis, we know beforehand that the Marilyn picture is the other unity with which our picture, the Kindy publicity, has to be compared. Nevertheless, no structure ensues, because the two items of our comparison differ on many dimensions, some of which were mentioned above. They do not form any "minimal pair" where just one difference is seen to prevail, and they do not form part of a series of pictures, from which a system of oppositions which relay each other may be formed, as is the case in phonology. Instead, the picture becomes readable only to the extent that we make abductions from known regularities, thus isolating the relevant dimensions pertaining to sexual identity, clothing, and body zones. This is the only reason the showing and non-showing of intimate layers of clothing are at once seen to be pertinent.

The question is, are there any constitutive, structural oppositions *in absentia,* specific to pictures or at least to visual displays generally, like there are in phonology? This is the issue addressed in the following section. First, however, we will also raise some more general doubts on the restrictions imposed by the structuralist model:

a) Why should only *differences* be considered to be important in the production of meaning? If oppositions are really differences seen against a background of similarities, why should not also similarities seen against a background of differences accomplish a function? Both in the picture of the Vietnamese and the Western woman (pl. XV) and in "The Wave" (pl. XIV), what really stands out is the similarity, of the colour spots and the shapes, respectively, where the over-all configuration makes us expect a difference. Discussing the possibilities of pictorial rhetoric, which supposes a norm from which to deviate, Groupe μ (1980) tells us the *isotopy,* i.e. the expected recurrence of the same categories, can be due to a general rule or be locally formed, in the picture: Vazarely, for instance, creates with a series of repeated geometrical elements an expectancy that this will go on forever and then takes care to deceive us. Here, the interplay of identities and oppositions emerges clearly, though Groupe μ locates it on another level. Now, a minimal isotopy, consisting of two items which are identical only on a particular categorical level, is comparable to an opposition, the difference being only that in one case the identical parts are thematized, in the other case the differing parts.

b) Even if binary, oppositions do not have to be exclusive. Though this has been largely ignored by other



Pl. XV. Cover of the review "Bohemia" by Fremez (from Gauthier 1979).

semioticians, the oppositions formulated by Jakobson (1942) were *inclusive,* and so were those of Hjelmslev (1937; 1973). Jakobson, and the Prague school generally, distinguished the *marked* and the *unmarked* term of an opposition, and Hjelmslev, using Lévi-Bruhl's term for primitive logic, talks about "participation". In German, for instance, voiced and unvoiced consonants alike become voiceless at the end of a word, so the unvoiced consonants are the unmarked members of the opposition. There are many semantic examples also: both long and short objects have length, and if one asks "How near is it?" there is a suggestion that the place in question is near, but the question "How far is it?" does not necessarily imply the place is far away. Again, in many languages, e.g. English, French, Spanish and Italian, but not Swedish and German, the same word is used to mean "human being" and "male member of the human species": thus, "man" is unmarked, but "woman" is marked. Those languages having different gender forms of pronouns and adjectives in the singular, such as, in different respects, French, Spanish, and Russian, use one form for many male persons (and "male things") and for a male and a female together, and another one for females only. Hjelmslev illustrates the relationship between a marked and an unmarked term with the following figure (fig. 10).

That is, the marked term is somehow included in the unmarked one. However, this leaves us wondering why in most cases, the supposedly unmarked form will simply refer to male beings. If linguistic categories are *pro-*

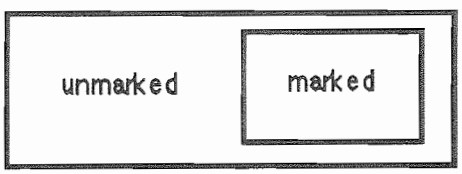


Fig. 10.

totypical, as shown by Rosch, then the prototypical man is obviously a male being, woman being assimilated to the same category as a deviant member. This is of course what feminists have always said. But the observation seems valid also in ideologically less infected cases: long things have a length in a more conspicuous way, etc. However, since there will also be a prototype for the marked category, we will have an opposition which is at the same time a relation of subordination, one prototype being at the same time a deviant member of another category. There is no reason to think that this organization is restricted to language: maybe the basic level immediately seen in the Kindy publicity is of a man, i.e. a human being, and a woman. However, not all oppositions can be inclusive: only if the man in the Kindy publicity is seen as a male person in a *marked* way, will his act of showing his intimate layers of clothing be perceived to be in contradiction with the behaviour expected of such persons on our culture.

c) Another possibility, already suggested by our mention of prototypes above, is that the terms of the opposition may be extremes on a continuous or gradual scale, rather than two domains dividing the whole of the universe of discourse between them. There is a scientific tendency, Nyman (1951:199) observes, to develop idealtypes, like those of Wölfflin, two by two and in extremely opposed directions, so that empirical phenomena may be placed somewhere between them.[11] In our sense, even prototypes may be used in this manner: for instance, in the Kindy publicity, the girl is seen to be somewhere in the neighbourhood of the Marilyn-prototype, without coinciding with her completely. More will be said about these possibilities, as we come to discuss the different ways of quadrating the hermeneutic circle in the next chapter (I.4.1.).

We have seen that the way oppositions and other relations intervene in the production of meaning may differ on a number of dimensions. Oppositions discovered in pictures have tended to be regulative, in praesentia, and abductive, but those of phonology, the linguistic model favoured by structuralists, are constitutive, in absentia, and structural. Therefore, we will have to go on to investigate the possibility of relations of the latter kind in pictorial semiotics (I.3.4.).

I.3.4. The meanings of meaning 1: structure vs configuration

> *"J'aperçois un tableau composé de plusieurs figures; /- - -/ mais avant d'appercevoir ce différence des couleurs et ces rapports de situation, et pour les appercevoir, il faut que j'appercevoive l'étendue: car on ne peut voir les couleurs sans les voir étendues; et les rapports de situation sont des rapports entre différentes parties de l'étendue: l'étendue ne peut donc être qu'une sensation avant la perception de ces rapports; les parties que suppose l'étendue, établissent donc toujours des* relations, *mais ne constituent pas toujours des* rapports. *Il en est de même de la figure."*
>
> *Daube 1805:45 f*

Much has been said so far about parts, particularly in our second chapter, but much less about wholes. Different notions of wholeness, viz. *structure* and *configuration,* as conceived by structural linguistics and Gestaltpsychology respectively, are often confused, so for instance by Merleau-Ponty (1960; 1969; and in Bastide 1962). As early as 1947, Mukařovský (1974:7 ff) insisted on the importance of distinguishing the "structure" from the kind of wholes conceived by "holism", observing that while a structural whole results from the mutual relations between its components, including negative ones, a holistic whole is primarily a delimitation made in the field, a setting up borders, from which an inner differentiation may later ensue. In another context, Mukařovský (1974:20 ff) suggests a more complex, but, it seems to me, less coherent distinction between the configuration as described by Gestaltpsychology, the structure, the context, and the composition.

Our own distinction seems to go in the same direction as the one between the interplay of relations typical of the structure and the demarcational virtues of the configuration. In both cases, the whole is really something *more* than its parts, as the Gestaltist saying goes, but in the structure the network of relations is central, and the elements connected by the relations will thus appear to be *more distinct* (though sometimes identical) to each other; in the configuration, however, the general idea of wholeness and of all the elements' belonging together predominates, and the elements themselves are only secondarily apprehended as separate parts. Arnheim (1969:60 ff) who, like many followers of the Gestalt school, sometimes uses "structure" in the sense given here to "configuration", tells us the square in fig. 11 a will seem somewhat less straight because of the influence from the reclining V in which it has been inscribed; this, I submit, is a typical configurational effect. But when a second square is added, as in fig. 11 b, the relationship between the two squares will stand out, creating a structural effect. Another way of obtaining a structure which more decisively destroys the configuration, would be to apply a ruler to the borders of the square, thus introducing a continuous series of relations between points on the ruler and points on the contours of the square.

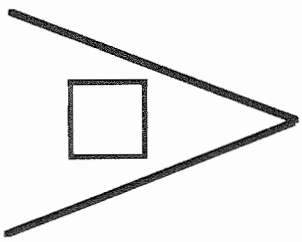


Fig. 11 a.

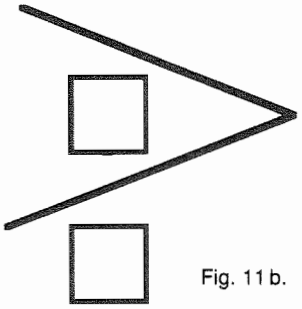


Fig. 11 b.

In fig. 11 b, the structure is only possible because of a similarity of position and overall configuration of the two squares; secondary differences as in the oppositions (I.3.3.) could be introduced. This is exactly the mechanism of the paired drawings of the Western lady and the Vietnamese (pl. XV): here, the red areas are lost in their respective configurations and modified by them (*resemanticized,* we will say later, cf. III.4.3.) to stand in one case for painted lips and a lipstick, in the other for blood stains. When the two faces are presented side by side, a structure results thanks to the similarity in the colour, the localization, and the directional axes of the two areas. From the interaction of the configuration and the structure, complex meanings may be derived. Similarly, Groupe μ (1980:267 f) tells us, the waves and Mount Fuji in Hokusai's "The Wave" are seen as different when they are interpreted as such, but on another "isotopy" they are identified because of the similarity of their triangular shape, both with the point turned upwards, and of their colour, which is blue stained with white spots. It is of course possible to perceive this structure, but, contrary to the one present in the two women's faces, it is deeply embedded into configurations.

So far, we have been looking at structures *overdetermining* configurations which precede them; they are also structures *in praesentia.* Before something can be said about structures which are *constitutive* and *in absentia,* we have to understand better the nature of configurations.

"Gestaltqualitäten" were supposedly discovered by Christian von Ehrenfels in 1890 (reprinted in Weinhandl 1960:11 ff) and investigated by him in the particular exemple of melodies. A melody may be transposed without any of its elements, the notes, being constant. To von Ehrenfels and his immediate followers in the Graz school (Meinong, Bernussi, Witasek), the configurational qualities are simply *added* to the elementary sensations, which are considered to be their foundational layer (Cf. Weinhandl 1960; Gurwitsch 1957:54 ff). As can be seen from our epitaph, Daube in 1805 already recognized that one kind of whole must be apprehended prior to the perception of its parts – that is, it is rather the parts which are *founded* on the whole. According to Köhler, Wertheimer, Koffka, and others members of the Berlin school, as well as Arnheim, Gurwitsch, and Merleau-Ponty, the configuration is what is immediately given, whereas the presumed elementary sensations have to be constructed out of this whole on a posterior level of abstraction. To the Berlin school, including Arnheim, the biological predetermination of perception thought to derive from electromagnetical brain fields, is considered proven by the priority of configurational qualities. This issue is irrelevant to Gurwitsch, who however takes configurational priority to demonstrate the presence of intrinsic principles of organization in the field of perception. Besides such criteria of a configuration as demarcation and closure, Köhler introduced over-summativity (discussed by Rausch and Wellek in Weinhandl 1960:334 ff, 384 ff). If neither the part taken away nor the part remaining changes because of the separation, we will have a sum, not a configuration. But it is rare to hear of any sums in the world of Gestalt psychology.

It has usually been overlooked that von Ehrenfels (in Weinhandl 1960:29 ff) establishes a distinction between what he takes to be two kinds of configurational qualities: those which, like the melody and the square, can be directly perceived; and relations, like the similarities and differences discovered between two notes, which depend on our own initiative for their existence. Not only does this suggest that von Ehrenfels favoured a Berlin school interpretation of melodies and squares, as early as 1890, but it opposes these configurations to examples of what we have called structures. Generalizing the other term, Piaget (1972 a:137 f; 1972 b:47) tells us there are two types of structures, or rather two extreme cases with many intermediary variants: the perceptual *Gestalts,* which are non-additive and non-reversible, and the operative structures of intelligence, elsewhere termed *schemes,* which are additive and based on two kinds of reversibility, i. e. negation and reciprocity. Though all psychological structures define laws for the whole not present in the parts, all are not non-additive, Piaget assures us, contradicting the presumption of Wertheimer and Köhler. If three elements are presented in a row, the middle element will be perceived to be larger than the first but smaller than the third, and this clearly excludes additivity and the conservation of quantities. On the other hand, classification, seriation, and natural numbers are additive, as the child comes to learn as he goes through the different stages discovered in Piaget's experimental tasks.

Unfortunately, there are problems with these observations. First, if non-additivity is taken to be the same as non-summativity, as suggested by the tradition, it is not true that natural numbers and classifications are non-additive, since their parts would not only change but completely cease to exist if the other elements where taken away. Secondly, if conservation in general is supposed to be impossible in configurations, then how is the melody, usually given as a typical case of a configuration, susceptible to being transposed?

The first problem may be easily resolved. It is not in

the structure itself, the whole which interdefines the elements, that these elements are non-summative, but in the combinations of elements which can be derived from the structure; not in the repertory of potentialities, the *paradigm* in Hjelmslev's terminology, but in the realizations of this system, in the *syntagm.*

To choose a straight-forward example, the numbers owe all of their identity to their relations to other numbers in the potentially infinite series of numbers, as has long since been recognized in the philosophy of mathematics. However, in an arithmetical example, which may be perceived or only conceived, at least ideally, the numbers do not influence each other, but "1" is separately conceived, and so is "2", before being added to "3". In the case of a configuration, however, there is no clear-cut distinction between the potential whole and its realizations: if the perceived figure fails to coincide with the "good form", it will be unconsciously completed or else considered defective or at least less perfect. This, I submit, is because the general idea of wholeness predominates over the network of relationships.

We are thus brought back to the problem of transposability, which supposes some "conservation" in Piaget's sense, also necessary to a *form* taking on varying *substances,* in the sense of Hjelmslev. Bartlett (1958:38 ff), though not directly concerned with our problem, gives a perfect example, again using numbers, but not in their mathematical function. Given the series "1234; 2134; 2143, . . .", the task is to complete it, using the rules implied by the permutations. The most simple solution confines changes of position to first and last pairs only, thus terminating the series in the following way: ". . .; 1243; 1234". Many people found this or another more complex solution involving additional interchanges of the middle pair of numbers. But when the figure below (fig. 12) was presented to the same persons, not even those who had found the rules in the numerical example discovered that the rules were the same. Not only is there no transfer from the first example, as Bartlett (1958:39 f) notes, but there is no transfer, transposition, or conservation of the structural relations of the design either – probably because, as Bartlett (p 40) remarks, the design in seen as a *whole!*

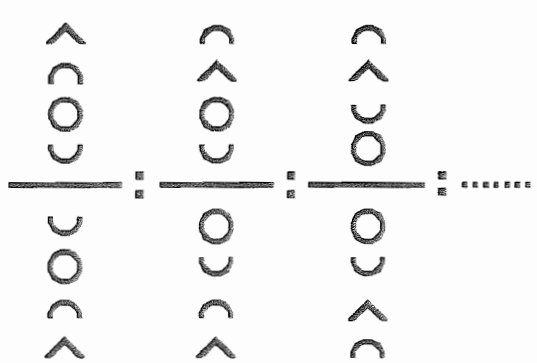


Fig. 12.

The whole to which Bartlett refers here is of course a configuration. The transpositions with which we have been concerned so far concern the relations separately – but maybe Bartlett's configuration (fig. 12) could be transposed, like a melody, *as a whole.* Now, it seems we tend to remember well-known melodies in terms of precise intervals, as for instance +5+4-3+2-4, while new tunes are stored in the form of a general pattern, i. e. as ++-+- (Winner 1982:206 f). We should be able to get something more out of this example, if we take account of the more subtle distinctions introduced by the third current of holistic psychology, the Leipzig school.

As early as 1906, Krueger (as cited by Wellek in Weinhandl, ed. 1960:385) criticizes the all too general use of the term "Gestalt" to designates all kinds of wholes and proposes a distinction between wholes distinctly moulded to a particular shape and wholes in a more general sense ("Ganzheit"). Emotions, as well as the experiences of small children, are non-configurational wholes. All wholes are over-summative, Wellek suggests, but only configurations are transposable. Again, we may wonder if the wholeness itself, i. e. the atmosphere, could not be transposed. Other criteria are proposed by Volkelt (in Sander & Volkelt 1962:43 ff): a typical configuration *stands out* from a background and is *internally articulated* ("gegliedert"), but other holistic properties may well be *externally and internally diffuse* ("aussen- und binnendiffus"; p 41 f). In his studies of children's drawings, Volkelt came upon holistic properties, more obviously so than emotions, which are not configurational, for instance the closure and angularity of the cube (fig. 3.). In this and similar drawings (cf. II.3.6.), contrary to Wellek's suggestion, non-configurational, holistic properties like angularity and closure have been transposed; the more specific, inner and outer organization is of course not transposed. The newly-learned melody is, in that respect, a less extreme example. As we shall see, Volkelt and Sander recognize many degrees of demarcation ("Absetzlichkeit") and articulation ("Gegliedertheit").

The typical configuration occupies a middle position between diffuseness ("Diffusität") and dismemberment ("Zerstücktheit"), Volkelt (p 45) observes. Later, however, he says these are two scales, and Chaos is both diffuse and dismembered. If so, becoming more diffuse, a percept does not have to result less dismembered, and vice-versa. Extreme diffuseness, Sander says (p 77), produces a non-configurational whole, the extreme case of dismemberment being the breaking up of a whole into many separate objects. But the multiplication of parts in a configuration will never lead to its dismemberment, because the multiplicity and the unity will grow simultaneously (p 45). If so, there clearly must be two scales, and a configuration requires a relatively low degree of dismemberment as well as diffuseness. The idea that unity augment with multiplicity and that "Zerstücktheit" will result from effacing order, suggests the

second dimension is really concerned with *holarchy,* in Koestler's sense (Cf. I.3.2.).

So a configuration should be highly holarchic and highly demarcated. Corresponding to inner and outer diffuseness, there is inner and outer demarcation: the latter, of which the most important form is the contour (p 44), precedes the former, at least in children's drawings (p 70; p 240; p 289). Thus, there will be two scales of demarcation. Outer demarcation is the most important, at least in the sense that only a relatively high degree of outer demarcation will permit the development of inner demarcation. Again, the contour is said to have different degrees of distinctiveness ("Grad der Abgehobenheit"; possibly the same as the varying clearness of borders, "Grenzklarheit"; p 44) and different degrees of closure ("Geschlossenheit oder Offenheit des 'Konturs'"; p 75 f).

Putting all this together, a configuration must have a high degree of holarchy and demarcation, the latter resulting from different degrees of inner and outer demarcation, at least the latter of which follows from relatively high degrees of distinctiveness and closure of the contour. If so, not only are typical configurations like "good forms" prototype categories (Cf. I.3.1.), but the concept of configuration is itself a prototype concept: a given shape may be more or less configurational. But the configuration is not really the extreme opposite pole to the structure, because it supposes inner differentiation and holarchy. It is in the non-configurational whole that the feeling of wholeness will completely gain the upperhand.

More recently, Garner and his collaborators have investigated experimentally the nature of configurations, using a technique that Gurwitsch would have found very Graz school style: using different constellations of parentheses, they try to find out when these are seen as a whole (Cf. Garner 1976; Pomerantz & Garner 1973; Pomerantz, Sager & Stoever 1977). According to Garner (1976), there are four different types of interaction between the dimensions on which the features characterizing a unit of perception are located: *integral,* if redundant dimensions facilitate discrimination, i. e. the reaction time is shorter, and if selective attention to the dimensions is impossible; *configural,* when neither is there any facilitation with redundant dimensions, nor any possibility of selective attention; *separable,* if selective attention is possible, but there is no advantage to redundant dimensions; and *separable asymmetric,* if redundant dimensions facilitate discrimination, and selective attention is possible only to one of the dimensions.

Garner speculates there may also be an *asymmetric configural* interaction, where no facilitation results from redundant dimensions, but one of the dimensions is susceptible of selective attention. Pomerantz et al. (1977) demonstrate that, at least in some cases, the discrimination of parts is facilitated *inside* configurations. Although promising, these investigations can still not be directly used in semiotic analysis. But they serve to suggest that features may be relevant to analysis, even if what appears to consciousness are configurations, not only, as the Graz school would have it, because the configurations can be *explained* from the interaction of the features, but because sometimes selective attention is possible to one or more of the dimensions, and sometimes the effect of redundancy shows that on some level of consciousness the features are attended to. Thus, there may really be constitutive, structural oppositions *in absentia* in pictures.

If there is a series of constitutive oppositions, maybe we can organize them in a system following temporal and/or some other kind of precendence relations, like Jakobson (1942) did with the phonological distinctions of all the world's languages (Cf. note 9 in ch. I.1.). As we remember, Jakobson's theory is really three different theories: about the child's language learning, the aphasic's language loss, and the common traits of all languages. We noted, however, that none of these systems of precedence relations necessarily coincides with the one implied by the grown-up person's perception of the unities of his own language, in particular if this is a system "où tout se tient", as the structuralists like to cite Meillet.

The same thing is true about the temporal precedence relations in the development of the child's drawing ability, hinted at by Lurçat (1968; 1970; 1974), Gardner (1980), and Volkelt (in Sander & Volkelt 1962:197 ff), and, in a particularly systematic fashion, by Olivier (1974). However, it is possible that in the case of drawing there is less difference between the child's system and the one used by adults in a particular culture, at least if they interpret rather than create works of art. While this idea must remain speculative here, there is some evidence for a parallelism between the child's drawing ability and the adult's perceptual process, when the latter is slowed down by the method termed "Aktualgenese" by Sander. Extremely diminished outline figures are shown to the experimental subject in a dark room and are then gradually enlarged. The subjects draw what they see at each phase, and the experiment is terminated when the shape of the configuration has come to rest. From a diffuse whole emerges a contour in the shape of a circle, which is later articulated, usually in some regular shape. The field inside the contour will continue to be diffuse for a long time, and is at first filled in with holistic, non-configurational properties like "outspreadness" ("Sperrigkeit"), which are then located in particular parts of the figure and configurationally developed (Sander & Volkelt 1962:101 ff; cf. Arnheim 1974:63 ff where reproductions from memory are made to yield similar, if less systematic results). It should be noted that these are a series of *inclusive* oppositions, like the ones in Jakobson's phonological system (Cf. I.3.3.): the circle at first signifies all kinds of closure, but is then differentiated. Exactly in the same way, the child

chooses to represent the closure of the cube as a circle (fig. 3.), because as yet he only has undifferentiated closure-signs in his repertory (Cf. Sander & Volkelt 1962:198 f; cf. p 331 ff).[12]

Among the semioticians, Floch, Thürlemann, Lindekens, and Vilches have been interested in the constitutive oppositions of pictures. In the case of Floch and Thürlemann, however, it is never quite clear if they only mean to explain the oppositions *in praesentia* they find in certain pictures, or if they take these to derive from and carry information about some remote pictorial semiotic system valid for all possible pictures. Thürlemann (1982:19 ff; cf. 1986) suggests there are three kinds of "plastic categories", the "chromatic", which concern the oppositions of colours, in the widest sense; the "eidetic", which have to do with oppositions of shapes; and the "topological", which concern the relative emplacement of the result of the other categories.

The "chromatic" categories are said to be "constitutive", because at least one of them is necessary in order for the "element" to distinguish itself from the background and thus be apprehended *as* an element. The "eidetic" categories, for instance straight vs curved, angular vs rounded, etc., are called "constituted", because they presuppose the constitutive categories. However, together with the "chromatic" categories, the "eidetic" ones are "constitutional", because they precede the non-constitutional, "topological" categories, whose business it is to put the result of the first two types of categories in a particular arrangement, for instance up vs down, etc. Unfortunately, all this is completely arbitrary. It is not clear how any order of these category types "à l'intérieur du procés de génération des textes plastiques" (1986:168) could be shown to be "inadequate", in Hjelmslev's sense, by the text analytical approach to pictures. However, segmentation must take place in perception, and in perception the disposition of the elements often emerges before the elements themselves, at least if the elements are configurationally related, as noted by Daube in our quotation above.

Some of the "eidetic" categories will certainly precede the "topological" ones, because they are wholistic and non-configurational, and so will non-configurational colours (Cf. Sanders & Volkelt 1962:204 ff). And the elementary opposition between something standing out from a background and the nothingness of the background itself (Cf. Holenstein 1976:32), or rather, between something that counts as something, such as the stroke of a brush, and something which is irrelevant, such as the paper itself, is no more "chromatic" than "eidetic" but seems to precede the differentiation of the two. It is easy to see what is wrong with Thürlemann's system but more difficult to propose an alternative. To the extent that this is an empirical question, further "actualgenetical" experiments seem to be needed.

Ignoring the question of precedence relations, we should now take a look at the nature of these relations. Lindekens (1971 b; 1973) argues "nuanced vs contrasted" functions in the photograph analogously to the distinctive features of linguistics. Like Jakobson's features, these are though to have a definition on the levels of perception, motor activity and physics. In fact, it is because of the nature of the photographic substance that the contrasted and the nuanced are opposites: Lindekens (1971:93) shows that it is impossible to get a correct rendition of the details and the contour of the real-world objects, without obtaining at the same time an incorrect contrast, and vice-versa. It should be obvious, however, that this opposition is quite different from the oppositions of linguistics: a phoneme is either voiced or unvoiced, but a picture, and in fact any single point of a picture, must be nuanced to some degree *and* contrasted to some degree. Only the extremes would seem to exclude each other.

Vilches (1983:45 ff), who takes up Lindekens's idea, thinks "nuanced vs contrasted" is really a complex opposition, made up of simpler ones. The contrasted, we are told, is really an "utopical radicalisation" of black and white (p 48 f). Inspiring himself in a certain Payant, Vilches places the categories "black" and "white" on the Greimasian semiotic square (Cf. I.4.1.), taking "grey" to be the subcontrary of both of them. This is a double confusion, because according to the rules of the semiotic square, the subcontraries of the two opposite terms must be different, and grey is anyhow either a complex term or a neutral one and should accordingly be placed either between black and white or between their subcontraries (Cf. Greimas 1970:135 ff). Vilches, however, proposes another square for the opposition between the near and the far, with medium distance as the double subcontrary (p 52), and a third one for the opposition between horizontality and verticality, inclination being now the double subcontrary (p 57).

Interestingly, Vilches's text is much more subtle than his models: for instance he will tell us that in their extreme relationsations black and white become respectively invisible and dazzling (p 49), and the object is said to disappear if too near or too far off (p 53). In both cases, the medium term is said to be either in contradiction to both terms or in equilibrium between them – and there is certainly nothing comparable in phonology. Furthermore, inclination may be either a contradiction or an equilibrium, but contrary to what happens in the other two oppositions, it is possible for something to be entirely horizontal or entirely vertical (p 58).

At first, the latter observation seems strange, since any point must have a localization on the vertical and horizontal axes alike – but of course Vilches must be referring to the *dominant* axis of orientation presented by an object. We know from Rosch (1975 b) and Tversky (1977) that the horizontal and vertical axes, as well as the diagonal, function as "cognitive reference points", i. e. as *prototypes.* Thürlemann (1982:21 ff) also em-

ploys these implicit axes in his analysis of some of Klee's paintings, assigning them the double function of connecting elements placed on them and dividing the pictorial space. On the other hand, Vilches is quite right to maintain that light and darkness, as well as near and far as *perceptual* terms, disappear when they reach their extreme *physical* realizations. From the point of view of the Lifeworld, these extremes are therefore *idealtypes* (Cf. I.3.1.). In all these cases, there is a gradual scale between the poles. These scales may safely be considered to follow the pattern of "good forms" as described by Sander (in Sander & Volkelt 1962:95 f) and Arnheim (1969:183). Close to the pole, i. e. the "good form", there are defective or somewhat deviant versions of the "good form"; further off, there is a neutral zone of indecision or equilibrium, before another pole, i. e. another "good form", begins to assimilate the percept, and a deviation to a new standard is set up.

The case of the opposition between the contrasted and the nuanced is again appreciably different. As it is presented by Lindekens, this opposition seems to be peculiar to photography; again, the incompatibility seems to obtain *relatively* to the nuances and contrasts of the real-world object. We probably have *two* scales which, because of the character of photography, are connected in some part of their extensions: between the extremes of contrast and nuance, each point in the picture will have *some* degree of contrast and *some* degree of nuance, which is quite different from the dimensions of black vs white, near vs far, and horizontal vs vertical, where deviant variants of the first pole will eventually, over a small neutral zone, pass over into deviant variants of the second pole (cf. I.4.1.).

In this section, we have distinguished three kinds of wholes: structures, configurations, and simple wholes, which are themselves prototypes, linked by many intermediary variants. Some distinctive features of configurations were discussed and will be important for our later pictorial analyses. We also admitted that configurations may be built up of oppositions, being the end point of structures, but very little is so far known about the precedence relations of these oppositions, nor about the nature of the oppositions. A little more will be said about the latter issue in the next chapter (I.4.1.). First, however, we are now ready to reconsider the notorious case of Lévi-Strauss's mask analysis (I.3.5.).

I.3.5. Back to the Lévi-Straussian masquerade. Structure and abduction.

In a structure, the categories are derived from the relation obtaining between them. According to Greimas (1966:19) a structure can be defined as two terms and the relation between them. As we have seen (I.3.3.), both terms may be present in perception, as in the case of a *contrast,* or one is perceptually present, both being "present" together in a system of potential meaning element as in the case of *oppositions.* Normally, however, we would use the term structure in the case of a whole network of oppositions and/or contrasts (Cf. Hjelmslev 1959:28: "une *entité autonome de dépendances internes*"). A contrast is not necessarily created *ad hoc* by the text, but may be used by a person outside the community using the system to discover its principles – which is what ethnolinguists are doing, and what Floch and Thürlemann mean to do (Cf. I.3.4.). Thus, at any given moment of interpretation, the structure will probably consist of one contrast between the elements present and a number of oppositions to other elements known to form part of the system. At first, the elements may be interpreted according to common world-knowledge; but once they are placed together, their common and opposed features are extracted; and these features serve to redefine the elements according to a new principle of relevance. This is how one gets from sounds to phonemes in linguistics.

Lévi-Strauss's analysis of the Northwest Coast masks does not follow these procedures. Instead, Lévi-Strauss really applies the rule Peirce calls *abduction:* from one case, the swaihwé mask, he makes conclusions about another case, the Dzonokwa mask, based on a regularity taken for granted. Structure, in Peircean terminology, is rather a principle from which both terms are deduced as cases. More strictly, and rather idealtypically, it could be said that the terms are deduced from the full list of properties more or less implicitly present in the elements *and* their co-presence in some system. Not so in Lévi-Strauss's analysis: the first element is used to predict the second in virtue of regularities which are not justified, and which have no source in the relations between the masks.[13] The same regularities serve to segment the "text" of the Swaihwé mask in elements like hair, eyes, etc., which could hardly be structurally derived, and also to determine the opposite values of the dimensions of which the swahwé mask segments are taken to be the first poles. Before we go to unveil the Lifeworld regularities behind Lévi-Strauss's analysis, it will be useful to have a look at a rather typical blend of structure and iconicity: the "faces" which the travel agency "Tjæreborg" provides their customers with, so that they can indicate their degree of satisfaction with the journey (fig. 13).

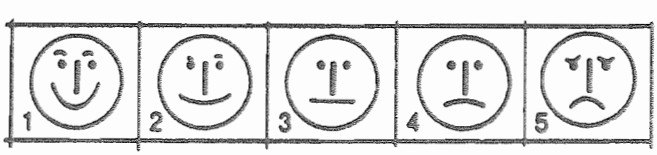


Fig. 13.

To a certain extent, this is a paradigm, where each sign takes its value in opposition to the other ones. But this paradigm is superimposed on constellations meant to be recognizable as faces. This is one of the reasons because of which the "norm" is very reduced in relation to the "system" of possible combinations of strokes and dots (Cf. II.1.3.). Another reason for this reduction is that the two extreme faces have been chosen so as to be identifiable as expressing high degrees of pleasure and displeasure, respectively. It will be noted that all the strokes standing for the mouth are different – so, in a completely structural account, they will be sufficient as signs for the different sentiments, and all the other features can be considered redundant. Inside this single trait, however, there may be a certain amount of iconicity: the mouth of the face to the far left could be taken to picture a prototypical, or even idealtypical version of extreme pleasure, while the mouth of the face to the far right might be considered to show a prototypical or idealtypical version of extreme displeasure. The straight line mouth is easily comprehensible as an intermediary position between these extremes, and could even have something iconic to it. But it does not seem possible to vary the upward and downward bending of the mouth of a real face to any appreciable degree, and even if this could be done it would not in any obvious way express the amount of pleasure and displeasure. Further degrees of upward and downward bending therefore seem to have been intrapolated in a way that can be termed structural.

It is of course misleading to consider all the strokes but those for the mouth to be irrelevant. First of all, the whole constellation of strokes and dots is necessary in order for the mouth stroke to be identified as such, and thus seen as susceptible of different degrees of aperture. Identical nose and eyes are presupposed by all the variants of the paradigm. For the presence and absence of brows (which as such have no iconic justification), their position relative to the eyes, and the direction they are bent in, a series of redundance rules may be written: if the mouth is –, brows are zero; if and only if the mouth is ◠, the brows are ◡ ◡; if the mouth is ∼ or ◡, the brows are ◠ ◠; if and only if the brows are zero, the mouth will be — or ⌒; if the mouth is ∼ or ◠, the brows will be in a position immediately touching the eyes; if the mouth is ◡, the brows will be above the eyes, separated from them. If these redundant traits have some iconic justification in real-world face displays, they are additional symptoms, which function to confirm the interpretation suggested by the mouth stroke. There may be a mutual indexicality between mouth shape and brow shape, suggested by real-world experience; and if the traits are expected to co-occur in actual faces, the configurations will be prototypical. In fact, it turns out to be rather difficult to correlate the Tjæreborg faces with the seven "action units" of brows distinguished by Ekman (1979): there is for instance nothing corresponding to the upward arched brows of the face on the far right. However, one action unit with the brows lifted high above the eyes (with much forehead wrinkles), is said to be associated with positive emotions, including interest and surprise; and whereas relatively low brow positions are thought to indicate fear and sadness, the lowest position is considered to stand for anger, disgust, or perplexity. In real life, we would thus have two different brow heights for negative emotions and only one for positive emotions, while the reverse is true of the Tjæreborg faces. Only the face on the far left would seem to have brows in a shape and position iconical for the real-world face display; the next face has brows whose shape is still iconical for the real-world shape but whose position is iconical for the more abstract property of degree of emotion; in the face on the far right the position and shape of the brows are simply the extreme opposite of those on the far left; and in the remaining faces, brows apparently fail to be salient. As in the case of the mouth, iconical elements are resegmented and reelaborated structurally (cf. III.5.3.).

What is common to these simple drawings and the masks considered by Lévi-Strauss is that they are first of all seen iconically, as faces. However, the masks are also directly seen as *deviant* faces. It is useful to compare them in this respect with some drawings by Magritte: in one of them a female trunk appears where, because of the indexical cues, viz. the hair and the neck, we should expect the face (pl. VIII); elsewhere, a balloon takes the place of an eye, or a leaf or a crescent is seen instead of a nose (Cf. Landen 1979). Although in one variant of the swaihwé mask, the nose has the form of a bird's head (Lévi-Strauss 1975,I:30) in general the parts themselves, and not only the positional scheme in the masks, correspond to real facial parts, i. e. they are seen as eyes, hair, nose, mouth, and so on, albeit of a somewhat deviant kind. Even in the case of the bird's head/nose, there are not really two independent readings, as in Magritte's face/trunk, but rather a nose in the shape of a bird's head in a context of facial parts. Similarly to the ways of rendering the sea suggested by Mouloud (1964:122), in the metaphor of an undulating line, or of interlocking shells, the nose is here pictured metaphorically as a bird's head.

In the remaining cases, not only the face but its different parts can easily be recognized. The mask is seen as a face but a face which is located far away from the prototypical case: in fact, it is seen to exaggerate some of the traits of faces idealtypically. This implicit relationship to the facial prototype explains the units into which Lévi-Strauss segments the masks: they are simply the units of real faces. Between the facial prototype and the idealtype encountered by Lévi-Strauss, the swaihwé mask, there is really a structural opposition: however, because of the well-known prototypicality of the first, the second is seen to be deviant on a number of dimensions. All that Lévi-Strauss now has to do is to extract the features

which are different from a real face in the mask, to place them on a dimensional scale, on which the values of the facial prototype constitute the middle term and those of the mask one of the extremes, and then derive the other mask by exaggerating all the values in the opposite direction from the facial prototype. The only remaining task is then to find the mask somewhere in the real world. This reasoning, however, is really an abduction from two cases to a third. Thus, it must be based on Lifeworld regularities.

Not all ot these depend on the facial prototype. Since white is the colour which predominates in the swaihwé mask, Lévi-Strauss tells us the other mask must be black. There is a real regularity of human perception underlying this, though Lévi-Strauss does not pause to tell us so: languages having only two colour terms will distinguish black and white, which is thus the primary opposition, not only of language but of human colour experience, as shown by Berlin & Kay (Cf. Miller & Johnson-Laird 1976:346 ff; Bousfield 1979; Rosch 1975 c; Sahlins 1977). But there are at least two problems with this analysis, both having to do with the characterization of the first term of the comparison, the swaihwé mask. To talk about the whiteness of the mask is to use a *dominance concept* (Cf. I.3.1.): but how do we know that the white parts of the mask dominate the black ones, if it is not a question of relative space occupation? Again, a number of more complex oppositions could be derived from the swaihwé mask, if more features of its colour had been taken into account: for instance, we could predict that the other mask would be black where this one is white, and vice-versa. The only justification for Lévi-Strauss's choice is that the black/white opposition is the simplest one, both because of its primacy in the colour system and because it depends on minimal features of the masks. On the other hand, the elaborate configurations of colour spots in the swaihwé mask would really make us expect a more interesting opposition.

Next we are told that the opposite term of feathers must be hair, *if* it is something originating in the animal realm (p 103). Strangely, we are never told why this one property of stemming from the animal realm among the innumerable ones possessed by feathers is taken to be relevant for the opposition. Again, it should be evident that the presupposed common basis of the opposition between feathers and hair must incluce many more features than that of animality, for many objects besides hair have an animal origin and are different from feathers. If the relevant additional feature is just the property of covering the surface of the body, scale and lack of hair would be other possibilities. Perhaps another essential property is that of standing out from the core of the body; but feathers, in their natural state, do not stand out from the body. In fact, the feathers of the swaihwé mask seem to occupy the position where hair is found in the prototypical face (cf, p 32); this time, therefore, we would simply have a reduction to normality. This is possibly not the whole truth: besides the "symbolic" feathers of the mask as reproduced in Lévi-Strauss's book, real feathers were mounted on the mask on all sides, according to Lévi-Strauss's description. But this is not true about the hair of the Dzonokwa mask. There may be other bases for abductions, but they are certainly not specified by Lévi-Strauss.

Since the eyes of the swaihwé mask are protuberant, those of the Dzonokwa mask should have the opposite property. Eyes of real faces may appear to stand out, or to be deeply embedded, but no real eyes will ever be as protuberant as those of the swaihwé mask. What Lévi-Strauss (p 105 f; 119) actually predicts is that the elementary geometrical properties of concavity and convexity will oppose each other in the eyes of the two masks. But if we look at the Dzonokwa mask we will find that gaps, rather than concavities, serve as eyes. This equivalence of holes and concavities would seem to necessitate an elaborate explanation in that "logic of qualities" which is simply presupposed by Lévi-Strauss (cf. I.4.).

Again, since the swaihwé mask supposedly has a wide-open mouth with the lower jaw drooping in a manner which exposes an enormous tongue, the other mask will present a mouth so shaped that no tongue could be extended through it. Apparently the extended tongue is here taken to be the relevant feature, while the wide-open mouth and the hanging jaw are interpreted as redundant traits, mechanically following from the position of the tongue. Even if we accept this conception, a number of questions remain. There are many other possible opposite terms to an extended tongue, for instance a tongue which is wound up, which could then very well be seen inside the mouth. But if we now look at the two masks it seems too much of an overstatement to suggest that the swaihwé mask has its mouth wide-open; on the other hand, we will find that the Dzonokwa mask, though pouting its lips, really has a wide-open mouth – and it is not clear why no tongue could be extended through it. In fact, at the level of a logic of qualities it would probably be more correct to say that the mouth in the Dzonokwa mask approaches the shape of a perfect circle, while that of the swaihwé mask more closely resembles a horizontal line, cut through by the double verticality of the tongue, which ends in a semi-circle. And this difference could possibly be invested with some meaning (Cf. I.4.5.).

In all these cases, it will be noted, structure is not enough to explain the relationships postulated by Lévi-Strauss, and further justifications are necessary. Only in the case of the opposition black vs white did it turn out to be relatively easy to find the Lifeworld regularity justifying the abduction.

There are a number of interesting differences between the masks which are simply ignored by Lévi-Strauss, for no obvious reason: those of ears and nose, for example. Thus, the swaihwé mask, in all the variants

reproduced in Lévi-Strauss's book, lacks ears, while in the Dzonokwa they are very prominent. Of particular interest are the differences in those traits which are not *iconic* but *plastic,* in Floch's sense (cf. part II), i. e. those which do not relate directly to the object pictured. The degrees of "realism" of the two masks is very different, although the cues are contradictory. The first impression of the Dzonokwa mask is of something rather more similar to a real face, but on further inspection we discover that the standard of representation changes once we get below the surface of the mask: the eyes and mouth are just gaps in the surface, without the tongue or the configuration of the eyes showing. In contrast, the swaihwé mask follows just one standard of representation, albeit a somewhat fantastic one: not only is the dominant axis of all protruding elements exaggerated, but the whole surface is executed in a symmetric, geometrizing style.

The meanings deriving from these traits are what we will later (in II.4.) call *formal connotations.* But there is also a difference of *substantial connotations:* the hair and brows of the swaihwé mask are painted, while those of the Dzonokwa have been imitated with real hair. The differences in the inclusion of realistic detail do not necessarily stand for differences in the way the corresponding faces are imagined: like the brows in some of the Tjæreborg faces the details may have been included for reasons other than an interest in correct rendering, i. e. in order to make a distinction salient. If the Northwest coast tribes, and not just Lévi-Strauss, consider these two masks to form a pair, global features of the abovementioned kind could really produce a structural meaning. A rather obvious interpretation would be to see the swaihwé mask as representing order while the Dzonokwa is taken to stand for disorder or just the normal state – or, in terms dear to Lévi-Strauss, as signifying culture and nature respectively.

A structural distinction requires *minimal pairs,* i. e. instances which differ in only one feature at a time. Even if the masks were given together they could be opposed by the series of features mentioned by Lévi-Strauss only if there were a set of other masks, such that each item of the set differed from each of the others in just one feature. Of course, there are no such masks. One possibility for having a structural opposition is that, as in the case of the Tjæreborg faces, units already predefined by the facial prototype, are seen to enter in a secondary structural opposition. However, each one of the units defined by the facial prototypes such as mouth, nose, eyes, etc., itself differs on many dimensions in the masks analysed by Lévi-Strauss. The only remaining possibility is then that the structural opposition is to be found on the global level, i. e. among the non-configurational holistic properties (Cf. I.3.4.). In fact, Lévi-Strauss (p 105 ff; 119) suggests that the masks are opposed as concavity to convexity. It should be noted that these categories, if valid, can only be *dominance concepts* (cf. I.3.1.): the nose, for instance, is convex in both masks, as well as in real faces, and the mouth of the Dzonokwa is as convex on the outside as it is "concave" inside. Another opposition at the global level is the one between order and disorder mentioned above. However, it is probable that this opposition would fail to be acceptable as such to Lévi-Strauss, because he tells us (p 102) that the properties of the masks have no signification in themselves, which must mean that he takes them to be analogous to phonemes rather than to signs, as he (1983:198 f) has claimed for the myths and as his disciple Bucher (1977:87, 199) has claimed for Le Bry's engravings. Again, we are told that the Kwakiutl have the same pair of masks, but with their ritual functions reversed (1975, II). It is not clear how this conception is thought to be compatible with a logic of qualities (Cf. I.4.3–5:).

As an argument for the concavity of the Dzonokwa mask, Lévi-Strauss (1975, I:105 ff) tells us there are also statues of Dzonokwa which have further concave parts. Of course this will be of relevance to the analysis of the masks only to the extent that the mask and the statue of Dzonokwa can be shown to embody the same meaning category, and Lévi-Strauss does nothing to demonstrate this. But another aspect of this category extension is of concern to us here: we are also told that "à defaut de langue pendante, toutes les statues qui représentent Dzonokwa lui prêtent des seins fortement pendants, jusqu à terre, dit-on parfois, tant ils son gros" (p 110 f). While the concavities of the Dzonokwa body are redundant affirmations of the one holistic property thought to characterize also the Dzonokwa mask as against the swaihwé mask, the hanging bosom, if considered to compensate for the lack of the hanging tongue, would manifest convexity, the dominant concept of the swaihwé mask, in the Dzonokwa mask, whose dominant concept is just the opposite.

One may wonder why only this one lack of convexity in the Dzonokwa mask has to be compensated for, and why there is no need to compensate for any of the missing concavities in the swaihwé mask. Anyhow, it is interesting to note that this organization of opposites is the same as the one found in the yin-yang-symbol: though Arnheim (1966:226 ff) ignores it in his otherwise excellent analysis, there is normally a small manifestation of the yin inside the yang, and vice-versa, as convexity here appears inside the predominantly concave. In a sense, the bosom is also a miniature variant of the opposed concept: only one salient element in the Dzonokwa is convex according to Lévi-Strauss. On the other hand, the extension of its prominent axis is, it would seem, more exaggerated than that of the tongue. However interesting all this is, it would seem to be a myth which chose to think itself out more in the head of Lévi-Strauss than in those of the Salish and the Kwakiutl.

So far, we have tried to spell out the regularities which would justify the Lévi-Straussian abductions, and we

have found them to be presupposed rather than proved to exist. This does not mean that some of them could not be justified, either by further studies in the relevant culture, or in the "logic of qualities" characteristic of the workings of the "human mind" (Cf. I.4.). But they are certainly not derivable from the "structures" presented by Lévi-Strauss.

The difference between structure and abduction should not be exaggerated: a regularity once derived from a structural relationship may later be extended abductively to other contexts, which is probably what we do when we use language. On the other hand, no real structural opposition will ever be perceivable without presupposing some abduction: we have to see the second element to be also a language sound, forming part of the same linguistic system, before we can discover the opposition. These are two aspects of the hermeneutic circle which we hinted at in the beginning (I.1.3.). However, Lévi-Strauss's mask analysis is a clear case of mere common sense abductions.

I.3.6. Summary and conclusions

In this chapter we have been looking at different aspects of classification and categorization, in particular as they are relevant to pictures. As suggested in our first chapter (I.1.3.) we have applied concepts derived from experimental studies to text analysis, awaiting the occasion to follow the reverse method. Ordinary logical concepts or categories were distinguished from *dominance concepts,* as propounded by the Prague school, *prototypes,* as favoured by cognitive psychology, and *ideal-types,* prominent in the Weberian tradition (I.3.1.). To illustrate the difficulties in thinking with logical concepts about the prototypes of others, we considered Bucher's semiotical analysis of Le Bry's engravings. Then we went on to investigate the nature of the taxonomies formed by sub- and superordination of categories, finding them to be of two kinds: *extensional* and *intensional.* The notion of a *basic level* in the intensional hierarchy proved to be of some use to us, as we countered the usual semiotical criticism of the level of immediate perception admitted by Panofsky and Barthes alike (I.3.2.).

Oppositions and other *relations* between categories on the same hierarchical level were next considered: we found them to be of various kinds, some of which we illustrated in our reanalysis of some pictures borrowed from other semioticians (I.3.3.). The question whether there exists any constitutive, structural oppositions *in absentia,* which are specific to pictures or at least to visual displays generally, was taken up again in the next section, when we worked out the distinctions between *structures, configurations,* and other *wholes.* Here, the tradition of *Gestaltpsychologie,* from von Ehrenfels to Garner, proved of much help to our discussion (I.3.4.). Finally, we were ready to take up more thoroughly the details of Lévi-Strauss's mask analysis, and demonstrate it to be based on common sense abductions rather than structural relationships (I.3.5.). The problem of the sense, common or not, of Lévi-Strauss's abductions will be taken up in the next chapter. Part of our concern there will be with the possible existence of some kinds of regularities which are the condition of all possible meanings.

The tools of semiotic analysis, enriched with those of cognitive and perceptual psychology, thus seem to be relevant for the interpretation of pictures; but it is a mistake to identify the concepts of these different traditions; and even the concepts of the semiotic tradition actually split into many variants, as we consider their function in the analysis. We have hardly touched on an immense and fashinating field of study.

Chapter I.4.
Quadratures of the hermeneutic circle – The problem of a logic of qualities

> *"Mais l'objection /to the notion of structure as the interdefining of purely negative terms/ est du même genre que les paradoxes de Zénon: comme eux par l'exercice du mouvement, elle est surmonté par l'usage de la parole. Et cette sorte de cercle qui fait que la langue se précède auprès de ceux qui l'âprennent, s'enseigne elle-même et suggère son propre decryptement, est peut-être le prodige qui définit le langage."*
> *Merleau-Ponty 1960:49*

When Merleau-Ponty (1960:51) compares the structural whole according to Saussure to "celle des éléments d'une voûte qui s'epaulent l'un l'autre", the comparison is really very fitting; as we saw in the last section of the preceding chapter (I.3.5.), would-be structuralists sometimes prefer to put up an armature on which to hinge the vault before even beginning to lay the stones. In other words, instead of looking for the best way to enter the circle, they search for its quadrature.

We will take a look at some of the solutions propounded, notably those of Greimas and Lévi-Strauss, and also Osgood's, which only supposes a minimal epistemological commitment (I.4.1.). At a different level the sign also constitutes a precondition of all possible meanings according to some semiotical conceptions, so it will be necessary to return to the problem of distinguishing signs and categories, on which we touched in our second chapter (I.4.2.). Even if the circle cannot be quadrated, it is possible that it may be inscribed by a series of figures somewhere in between the circle and the square, i.e. the experience may take the form of interpretational schemes as suggested by Piaget and Husserl. There will always be some distance left be-

tween the last of the polygons and the circle, and Howard Gardner suggests that, while Piaget busies himself with the polygons, Lévi-Strauss will take care of the remaining distances, i. e. he will explain the meanings of the qualities themselves (I.4.3.). Gurwitsch on the other hand has pointed to parallels in the distinction made by Husserl and Piaget between two kinds of "abstraction"; linguistic structuralism, however, and maybe in the end also the Piagetian variant, reduces them to one. There is also the problem of a possible process of "concretion", suggested by different schools of psychology (I.4.4.).

Getting back to the Lévi-Straussian qualities, we will see that Gardner's contention, that they count as such, is both corroborated and contradicted by the study of Lévi-Strauss's own texts. Suppose, however, that the logic of qualities exists, and that it derives from bodily experience as Gardner supposes; then it may have something to do with the non-configurational holistic properties of the Leipzig school, and it may be based on topology. And then maybe, the proper way to enter the circle would be from the overall circularity itself, pending later specifications (I.4.5.). At the end of this chapter and this part, it will be necessary to save the notion of pertinence from an approach which has so far been largely anti-structuralist, if not anti-structural (I.4.6.). This will also be our manner of bringing it all back home to phenomenology.

So how will that leave the vault? Presumably partly stones and partly relations.

I.4.1. Complex oppositions. How to quadrate the circle

As Jakobson and Lévi-Strauss conceive it, the binary, often privative, opposition is the form in which either all phenomena of the world or our experience of them is couched. The same authors are also known to speculate rather freely about the biological mechanisms, in particular the brain organization responsible for these structures. If such "formal universals" of semiotic phenomena, to borrow Chomsky's term, are given to everybodey prior to all experience because of biology or otherwise, the hermeneutic circle turn out to be somewhat angular already to begin with, i. e. understanding is pre-determined by the forms of all possible experience. It is possible to go further in this sense, at least in two ways: the oppositions may be thought to obtain between particular qualities, at least when reduced to the highest taxonomical level (Cf. I.4.3–5.); or the oppositions themselves can be considered to form peculiar constellations, which give rise to higher-order relations, as suggested by the theories of Greimas and Lévi-Strauss. Significantly, Ricœur (1969; 1980; nd) applied to both the latter conceptions the same label: a Kantianism deprived of its subject, where the restriction accounts for the lack, in these theories, of a real experiencer experiencing the experience as well as its preconditions. For the moment, however, it is the pseudo-Kantian aspect which interests us.

What we shall term the Lévi-Straussian *proportionality* is a relation, more exactly a similarity, between two other relations, which themselves seem to be oppositions, normally contradictions. The Oedipus myth, for instance, is said to be based on such a proportionality (Lévi-Strauss 1958:237 ff): overvalued kinship relates to undervalued kinship as the negation of the terrestrial origin of man relates to the persistance of this terrestrial origin. Much later Lévi-Strauss (interview with Bellour, in Bellour & Clément 1979:158 f) says that while, in *Le cru et le cuit,* he wanted to show how mythical thinking makes use of elementary sense qualities as kinds of "symbolic tokens" which permit the formulation of certain logical propositions, he then in the later volumes of *Mythologiques,* when more myths were integrated into the system, came to take an interest not so much in the relations between the terms as in those between the relations. This is actually true even of the Oedipus analysis. Even in these cases Lévi-Strauss seems to think that some proposition is expressed by the formula in the Oedipus myth, for instance the incomprehensibility of the fact that we have our origin in man and woman, and not in the Earth, and that we come from two elements, not just one (1958:237 ff).

Later when the Oedipus myth and the Grail myth are declared to be the two principal types of myths, both types are considered to *pose the problem* of communication and fail to resolve it, the first because of excessive communication, whose extreme case is incest, and the second because of a lack of communication, as exemplified by the question never being asked (Lévi-Strauss 1983:301 ff; 1979). Thus, the myth is less a proposition than a whole reasoning; in Peircean terms, an "argument" rather than a "dicent", and, as Gardner (1973 b) says about works of art, an act of problem-solving. But in both types of myths, we are told the problem remains unresolved, because no *mediation* can be obtained between the terms.

Though a disciple of Greimas, Floch finds proportionality in the pictures he analyses, as we shall see later (part II); however, these proportionalities, unlike those of Lévi-Strauss's own mask analyses, or Bucher's similar work, are located on the most directly perceivable level of the pictures, at least in part, and thus do not exclude the existence of a semiotic square (see below) on a deeper level of analysis. Also, unlike at least some of Lévi-Strauss's proportionalities, those of Floch are read more as propositions than as arguments. Even to Lévi-Strauss himself, the proportionality is apparently only one alternative form of possible meanings: for triads and analogical models are also cited in the Bellour interview (Bellour & Clément 1979:181), of which the former was used by Lévi-Strauss (1966) himself for his "culinary triangle", which has thus nothing to do with Jakobson's

phonological one, which is no precondition for the perception of meaning but a record of precedence relations (Cf. I.3.4. and note 9, ch. I.1.).

On the other hand Greimas really seems to think that all meaning is somehow reducible to the *semiotic square* ("Le carré sémiotique"): two terms in a contrary opposition, to which are added their contradictory terms organized in such a manner that each of the first two terms will imply (or be implied by) the contradictory term of its contrary term (Cf. Greimas 1970:136 ff). Thus, the terms "life" and "death" will be implied by non-life and non-death respectively. Between the two contrary terms there is a *complex term* which unites them, and between their contradictory terms there is a *neutral term* which, since it units the subcontraries, goes beyond both contraries. Two operations can also be defined on the square: the "conjunction", which brings two terms together, and the "disjunction", which serves to separate terms.

There is an extensive literature about the semiotic square, which will not be discussed in the present context. The square, like the proportionality, undoubtedly has some heuristic value: for instance, in our study of the import of warmth and cold in the conception of the Maya Indians (Soneson 1982), the square permitted us to discover the lacunae in the ethnographic material. However, it is not clear why we should suppose all meanings to take these forms. Pending further investigation we will consider the square and the proportionality to be two possible forms of higher-order semiotical organization among many others. Floch's proportionalities will be considered in the next part; those of Lévi-Strauss and Bucher, not being on the level of direct perception, seem too arbitrary to be met with anything other than another arbitrary opinion. Semiotical squares certainly appear to be less popular in pictorial semiotics.

A third model, the *semantic differential,* designed by Osgood, has also been used in semiotics, mainly in linguistics, but also in some experimental investigations in architectural semiotics by Krampen (1979 a), and in the pictorial semiotics of Espe (1983 a, b) and Lindekens (1971 b). Between two opposite terms, which are often contraries, a scale of numbered units is indicated; since the qualities at the poles are not of the kind which can be measured and weighted, the numbers can only stand for "physiognomic quantities". Often three scales will be put together to form a three-dimensional space, in which words or concepts are located on different dimensions at once. The literature about the semantic differential is even more extensive than the one about the semiotic square, so we prefer to be very brief. Suffice it to say that in one way, this model is less reductionist than the other two: as in the Lifeworld, properties may be possessed to different degrees (Cf. I.1.4.); but its employment of numbers is metaphorical, since real quantities are made to stand for physiognomic ones (Cf. I.4.5.). Any one of these scales, also when the numbers are even, must have a middle, a point of rest between the two opposite terms. Thus, the middle is not a result of the numbers as such. This brings us back to the problem of mediation.

We have seen that Greimas's model includes both neutral and complex terms. As far as I have been able to determine, the mediations according to Lévi-Strauss are rather like the complex terms, but they are not outright contradictions like the paradoxes of Taoism, the Freudean *Urworte,* or some cases of surrealist poetry. The two simplest ways in which *mediation* may obtain without there resulting any logical contradiction between the terms are exemplified by Lévi-Strauss's (1983:181 ff) analysis of "la bonne conseillère" in the Kwakiutl myths, who is said to mediate between the earth and the underworld, being either a human figure half buried in the earth, or a mouse running up and down between the worlds. Here, properties which are contradictory as such are possessed in one case by different *parts* of the same object, in the other case by different "temporal slices" of the object. There is no contradiction, since the *attributes* taken from different poles of the same *dimension* pertain to separate *proper parts* and *temporal noemata* of the object, respectively (Cf. I.2.4.).

But other cases are more complex. Thürlemann (1982:54 ff), in his analysis of Klee's "Pflanzen-Analytisches", distinguishes two kinds of "schéma de transition", without however referring to Lévi-Strauss: one of them, graduation, exemplified by a saturated and a non-saturated colour being mediated by a half-saturated one, brings to mind the middle term of the semantic differential and the equilibriums of Vilches's scales (Cf. I.3.4.); if anything, this will be a neutral term. In the other transitional scheme, the mediating term shares a property in one dimension with one of the opposite terms and in another dimension with the second term. For instance, the geometrically cut trees of the Versailles garden share their regular shape with the building and their material with the freely growing woods. Again, in Klee's painting the mediational term between the circle and the rectangle would be the square, which is dimensionally symmetrical like the circle but not the rectangle, while being straight like the rectangle rather than round like the circle. In these cases there are really two scales which turn out to vary independently.

If this is so, why would the third term ever be thought to mediate between the other two? This meaning can only result if the scales are *expected* to vary concomitantly. For example, it is clear that the wood, which is made up of living material having irregular shape, is a typical instance of Nature, while the building, with its regular shapes and inanimate material (if made of stone), instantiates Culture. Similarly Zurlo (1976:436 ff), in his excellent analysis of the Western using Lévi-Straussian mediation, suggest there is a primary opposition between the Indian and the Immigrant, which dominates a series of secondary axes, concerned

with behaviour, clothing, arms, ways of using arms, etc. A person having the role of a mediator in the Western could thus take on the value associated with an Indian in his clothing, but behave in other ways like an Immigrant. Hence, there is no contradiction between the *attributes* of the scales concerned, but only between the associated values of the dominating scale. The precondition for the emergence of the mediational term is clearly the existence of two multi-dimensionally characterized opposite terms: the typical Indian, as well as the typical Immigrant, will be different on a number of scales. The similarity between these opposite terms and the *prototypes* of Rosch, recognized by their "high correlational structure", should be obvious (Cf. I.3.1.): like the wings and feathers of the birds, the typical behaviour, clothing, and arms of the Immigrant tend to co-occur, and to contrast maximally with those of the Indian. What the mediational term, which we may now call the *antitype,* contradicts, is the expectancies stemming from these "correlational structures".

Interestingly, Lévi-Strauss (1984:91) points out that certain "deviant" animals are particularly apt to serve as mediational terms. Bulmer (1979:58) observes that animals which are typical representatives of their groups, as well as the anomalous ones, are ritually marked, both being equally "good to think". Thus, prototypes and antitypes are treated alike – which should not be surprising, since antitypes may well become prototypes of new categories, once less perfect versions crystallize around them. But as long as the antitype persists as such, it will be hierarchically subordinated to the corresponding prototype, or to the two prototypes between which it has been developed. Given three elements, not just any distribution of the roles of prototype, opposing prototype, and antitype, is feasible, partly because some prototypes, or rather the tendencies behind them, are innate (Cf. Rosch 1973; 1975 c; etc.) and partly because any culture will form its own prototype hierarchy. For instance, the square mediating between the circle and the rectangle, as suggested by Thürlemann, seems highly improbable, since the square and the circle appear to constitute the "best forms", thus being highly prototypical, while the rectangle may be less so. It is arguable that the context of Klee's painting changes this hierarchy.

Perhaps the antitype may become independent, forming an autonomous prototype, or at least an opposing prototype. According to Bucher (1977:193 ff), "la femme sauvage aux seins pendants", once created to signify an anomalous type of Indian woman, is then used to stand for any female Indian. If we accept Bucher's premise (some doubts were voiced in I.3.1.), the standard pictorial concept of a woman in Le Bry's engravings is the classical anatomy study, some exotic details of costume, arms, ornaments, and so on being added to express the subcategory of Indian woman (p 42 ff). But from the class of Indian women,a group is separated out through being designated by the pictorial concept formed by an non-classical body shape with hanging bosom.

There is some indication (p 150 ff; 170 f) that "la sauvage aux seins pendants" should be considered to combine human and animal traits, thus being "monstrous". To the Catholics, Nature and Culture are acceptable; only their hybrid form is not. But to the Protestants, all of Nature is degraded because of the Fall. When the Protestants set out to colonize the New World, they assimilated all Indians to the monstrous type (p 154 f; 196 f). All these facts are of doubtful truth and of doubtful relevance, but let us accept them here at their face value; we are interested in the resulting conceptual organization. First of all, we assist at a conceptual reshuffling: what is biologically two human races is in the first phase reinterpreted as three separate categories, two of which are subsumed under the notion of Humankind; and then, when in the second phase the segmentation regains its motivation, the visuallynoticeable differences have been exchanged for new, arbitrary traits (Cf. I.3.2.). In fact, if we also take account of the opposing category, animality, even the second phase amounts to a different segmentation. Employing the kind of chart that Hjelmslev and Eco used to analyze the wood notion of different languages (cf. I.3.2.), and adding a hierarchical structure, we will end up with fig. 14:

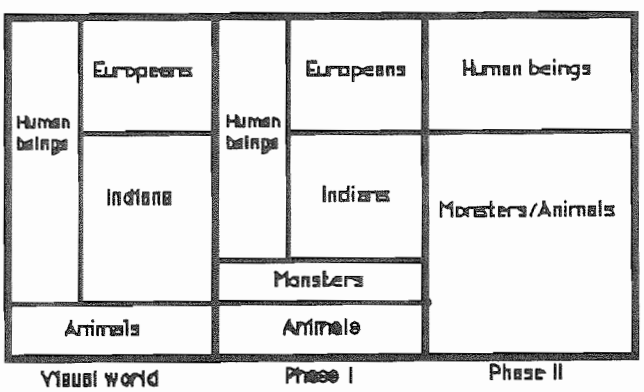


Fig. 14. Resegmentation

The monsters, among which is found the savage with a hanging bosom, will be an antitype in Phase I if, on some of the scales dominated by Nature vs Culture, they occupy the position expected of animals, while on other scales occupying the position considered normal for human beings. In Phase II, however, when Nature is itself considered to be degraded, monsters become prototypical, as they best express the monstrosity of Nature in her state of decadence. Not only would this explain the presence of the savage with her sagging bosom as a representative of all Indian women (and men!), but also the abundance of hybrid animals (Cf. Bucher

1977:170 f). The problem is that monstrosity is itself defined as the illicit combination of traits from human beings and animals, Culture and Nature. But perhaps it is against a background of a pre-Fall animal prototype that the present one appears to be monstrous. If this is the case, the antitype of Phase I has now become the opposing prototype to prototypical Humankind, as exemplified in Europeans!

We began this section suggesting that neither the proportionality of Lévi-Strauss nor the semiotic square of Greimas are serious candidates to being the form moulding all possible meanings. On the other hand, our study of *mediation* has opened up a fascinating field for further investigation. For the time being, we will simply admit that there are different ways of mediating between two opposing terms. The simplest manner would seem to be the occupation of the intermediary position in a quantified scale, like that of the semantic differential, but Thürlemann's graduation is possibly even simpler, since any degree between the two extremes will do. Greimas's neutral term, which negates both the opposites, could be any of the foregoing, but it could also be something lying beyond the scale that connects the terms – that is, in ordinary logico-linguistic terminology, a negation of the common presupposition of the terms.

As for the complex term, it could be a direct, logical contradiction, but it can also be an antitype. Like prototypicality, antitypicality depends on the presence of a number of features, located on different dimensions or scales. But while prototypes correspond to the highest expected correlations of the values on the different scales, antitypicality disconfirms all the expected correlations. Thus, antitypes must not be confounded with antithetical prototypes, which are just other prototypes. At least if we can believe Lévi-Strauss, Douglas, and Turner, antitypes (termed "deviant animals" or "tabous") are important to mythical thinking. And maybe Bucher (1977:235 f) is right in thinking that "savage thinking" which has been "rationalized" away from language by our "supercivilization", is now reserved for our pictures.

There may be no way of quadrating the circle. But mediation, in particular antitypes, could be of some help in beginning to inscribe it.

I.4.2. The meanings of meaning 2: signs vs categories

> *"It is, I think, absolutely impossible to conceive of meaning without order."*
>
> *Lévi-Strauss 1979:12*

Many semiotical schools conceive of all meaning as having the form of the *sign*. This is true of the Peirceans, of Barthes (1964 a), and of many others, but they differ in the way the sign function is made up of parts, and also on how far the model can be extended to different phenomena. Inspiring themselves in Buyssens's (1943; 1967; 1969) considerations, Mounin (1970:11 ff) and Prieto (1975 a; 1975 b:181 ff) establish a distinction between the semiotics of communication and the semiotics of signification, but perhaps in the former, and certainly in the latter this does not imply a recognition of meanings which are not signs.[1] The case of Greimas and Eco is less clear: although they both reject the sign as a unity, they nevertheless seem to attribute expression and content to all meanings (Cf. I.2.5.).

The "symbol systems" of Hjelmslev (1943:100) lack the separation into expression and content, but the "semi-symbolic" systems of Greimas and the Greimasians (Cf. Greimas 1984; Floch 1981 a, b; 1986; Thürlemann 1983; 1986) are like signs at least in this respect. When Lévi-Strauss claims he has adopted the linguistic model in anthropology, he can be taken to think that his proportionality is similar to a sign. Indeed, he suggests (1983:185) that relations of commutation obtain between the parts of a proportionally. Sperber (1974:59 ff) objects to Lévi-Strauss's interpretation of his own work because among another things, the categories which Lévi-Strauss relate, are in no way the stuff of which expression and content are made. Instead, what Lévi-Strauss and Sperber analyse, the latter tells us, are "symbols", and to Sperber (1974; 1979), as well as to his friend Todorov (1972 a; 1974), "symbols" turn out to be similar to logical implications, defined relative to some ideological system of "meaning postulates". The import of the term "symbol" in the work of Hjelmslev on the one hand, and that of Sperber and Todorov on the other, is very different, and both of them differ from the way we shall use the term later (in III.6.). In both cases, however, meanings which are not signs are accounted for (Also cf. II.1.2. and II.3.5.).

So, what is a sign? Leaving aside the issues opposing the Peirceans and Saussureans, the minimal characterization of the sign supposes a distinction between expression and content. So much is common, I think, to the *semiotical function,* as defined by Piaget and Hjelmslev (Cf. I.2.5.). Jakobson is Lévi-Strauss's principal souce of information in linguistics, but since the former has rather little to say about the sign function, we shall have to rely on Hjelmslev. In the sign function, the latter claims, expression and content are joined by a solidarity, i. e. they mutually presuppose each other (Cf. Hjelmslev 1943:33 ff; 44 ff). To be more precise, Hjelmslev thinks that solidarity obtains between the *form* of the expression and the *form* of the content, i. e. those parts of the expression and the content which cannot be changed without the sign being transformed into another; however, the corresponding substances may vary freely. Both expression and content may be conceived of as bundles of features, i. e. as the union of a number of poles of binary oppositions. The sign would thus be a constellation of features on the plane of content which is implied by and implies a constellation of features on the

plane of expression (Cf. also Prieto 1975 a, b).

But what is the status of "expression" and "content" in this characterization? According to Hjelmslev (p 44;52 f), these terms are used only for convenience, and should not be understood to mean more than their mutual relatedness. If this is true, Lévi-Strauss is perhaps right in thinking that (at least some of) his proportionalities are signs: that is, if they are read to mean that the presence of A and non-A in a myth implies and is implied by the presence of B and non-B (of course, there may be an additional claim about the similarity of the two relations). But there is something very strange about Hjelmslev's definition: the employment of two different terms, "expression" and "content", seems to indicate a dinstinction, but the relation which Hjelmslev take to define them is symmetrical, thus making the terms interchangeable. If all that defines the terms is their mutual presupposition, they should be identical. So much for external relations; if we also take account of the internal relations, we shall find once again that, in Hjelmslev's theory, expression and content will receive the same characterization, since both can be further analysed in the same manner. To be sure, while the further segmentation of expression and content uses the same principle, the resulting segments are not in a one-to-one-correspondence, and this is the fact used by Hjelmslev (p 99 f) to distinguish signs from symbol systems.

However, this only means that in a given sign, the inner holarchy of the expression will not be the same as that of the content; it does not tell us why the sign function may not be said to join two expressions or two contents, instead of one expression and one content. But there is a further argument, which has the advantage of showing that a fuller notion of the sign than the one conceptually acknowledged is presupposed by Hjelmslev's theory.

The fundamental distinction between two kinds of secondary sign systems, metalanguage, whose plane of content is another language, and connotational language, whose plane of expression is another language (p 105), will collapse if expression and content cannot be properly held apart. While "expression" and "content" are distinguished by so many words in the text, the formal definitions do not take any account of the distinction, and yet it is presupposed in the later definitions of metalanguage and connotational language. If we make the formal reading of Hjelmslev that he wants us to make, metalanguage and connotational language will be one and the same!

It will be remembered that earlier, following Husserl, Schütz, and Luckmann, we suggested that of the two relata of a sign, the expression is the one directly presented to consciousness, and content is the one which is thematized, and that this particular combination of presence and thematization is what defines the sign. Again, elaborating on Piaget's notion of a differentiation of the relata in the sign function, we claimed that a typical sign should be differentiated in a double sense: firstly, that the relata should be seen as discontinuous, and secondly, that they should be apprehended as being of distinct nature (Cf. I.2.5.). In a terminology we have acquired since then, these four traits together make for a *prototypical sing.* But there are less typical cases: one of them, the *proto-index,* only results in a provisional discontinuity, and rather seems to thematize the directly given relatum (Cf. I.2.5–6). On the other hand, the poetic function, according to Jakobson and Mukařovský, and perhaps connotational language, thematize the expression of the sign, without entirely exchanging it for the content.

Again, in the case of ostensive definitions, or the interdefining of signs, both relata seem to be present, there being a certain continuity between them, and any one of them may be thematized, but not both, depending on which is considered to explain the other: for example, if on a cage containing parrots, there is a label with a picture and a name, then as Braun (1983:42 ff) points out, the label may be taken to present the parrots, or the parrots to indicate their name. For the present, we will not enter any discussion of the intricate details characterizing these cases, but only extend our earlier list of sign-like meanings (cf. I.2.5 and chart V–II below). To some of these cases, we will return in a later chapter; for the moment, it is sufficient to note that there are many intermediary cases between typical signs and other meanings.

What, then, is the general meaning of meaning? Maybe, as Lévi-Strauss said, *order,* organization, relatedness. When we ask for the meaning of life, what friendship means to somebody, what meaning there can be in running in Central Park every morning, or even what the meaning of meaning is, we are certainly not asking for a sign. As different as these meanings of meaning are, they do seem to have something to do with the *connecting* of things *together,* and the *selection* of elements to connect from a wider field of possibilities. It is interesting to observe that it is not the sign function but the paradigm, the features, and the phoneme, as metaphors for selection, and the syntagm and the index, as metaphors for connection, which have had an important role in the adoption of the linguistic model in semiotics, notably in the work of Barthes, Greimas, Lévi-Strauss, and the half-hearted Peirceans.

It could even be argued that what the more orthodox usage of Peirce's model really boils down to is again connectedness, with the particularity that what is connected must always be three elements. In much of this book we have been concerned with meaning in this sense, as we discussed indexicality (as factorality and contiguity), categories, segmentation, holarchy, oppositions, structure, and configuration. In the following sections we will attempt to relate this more general meaning of meaning to the conceptions of cognitive psychology,

notably that of Piaget (I.4.3.), and to Husserlian phenomenology (I.4.4.). At the same time, we will once again encounter the non-configurational holistic properties, now as the Lévi-Straussian "qualities" (I.4.3. and I.4.5.), and it will be necessary to inquire into their particular character, to see if it has something to do with connectedness, and thus with the meanings of meaning discovered so far.

In this section, we saw that the sign function, as used in linguistics, carries with it a number of presuppositions which are not made explicit in linguistic theory. But it also became obvious that only the "best examples" of signs will manifest all the traits we were able to explicate from the intuitive concept of a sign. But if signs are bordering on other meanings, it will be necessary to know what meaning in general is. In the structural credo, meaning in order. We must now probe deeper into this hypothesis, as well as go on asking for still further meanings of meaning.

I.4.3. On the logic of qualities. Gardner reads Piaget and Lévi-Strauss

> *"Cette science du concret devait être, par essence, limitée à d'autres résultats que ceux promis aux sciences exactes et naturelles, mais elle ne fut pas moins scientifique, et ses résultats ne furent pas moins réels. Assurés dix mille ans avant les autres, ils sont toujours le substrat de notre civilisation."*
>
> *Lévi-Strauss 1962:30*

Such as we have come to know structuralism, there is at least an apparent contradiction in hearing the structuralist Lévi-Strauss announce that his object of study is "la logique des qualités sensibles" or "la science du concret" (Cf. Lévi-Strauss 1962; interview with Bellour, in Bellour & Clement 1979:157–210). In a book of which the aim is to present and compare the two "great structuralists" Piaget and Lévi-Strauss, the cognitive psychologist Howard Gardner (1973 a: 194 f; cf. 1970 b) sets out to resolve this paradox. Because of his scientific conviction as a "formalist", Lévi-Strauss would like to reduce everything to structural relationships, but his interest in the chosen domain of study, i. e. cultural phenomena, social organization, and works of art, compels him to account for the qualitative configurations which are specific to this domain. To Piaget, no similar problem exists: he is content to reduce all the reasonings of his experimental subjects to a group of four operations and 16 binary propositions or some approximation to these, and it is therefore of no avail to know whether this mathematical form was manifested in a particular case in a reasoning about chemical substances, billiard-balls, or a pendulum.

Only apparently, the results of Lévi-Strauss's investigations take the form of a similar logical algebra: to him, the qualities are not substitutable for each other, as already shown by the fact that his charts will most often include the particular qualities of the myth under analysis. In the conception of Lévi-Strauss, it is as important that the mind tends to focus on specific qualities such as heat and cookedness as it is that it will conceive them in binary opposition to each other. The negation as such is not important, but what is negating what. Whereas Piaget is concerned with purely formal structures, Lévi-Strauss actually studies "the logical aspects of the qualitative realm". Thus, Gardner concludes, Piaget will be of more help to us if we want to understand scientific thinking, but Lévi-Strauss has more to tell us about artistic cognition. Later (I.4.5.), it will be necessary to express some reservations about this interpretation, but for the time being we shall take a look at the consequences of the distinction as it stands.

What, then, would be the particular *logic* of these "qualities"? Lévi-Strauss (1962:20 ff) tells us "primitive thinking" will classify and systematize and impose order in as scientific a way as our sciences, and he observes (1984:254) that qualitative logic is just as necessary and universal as any other, from which it may not even be distinct.

	Directly present	Thematized	Differentiated	
			Continuity	Same nature
paired association:	*both items*	*both items*	*yes*	*yes*
appresented pairing	*one item*	*directly presented item or both*	*yes*	*yes*
prototypical sign:	*one item*	*indirectly presented item*	*no*	*no*
proto-index:	*one item*	*mostly directly presented item*	*provisionally discontinuous*	*yes*
pictured proto-index:	*one item*	*mostly directly presented item (of index, not picture)*	*in referent, yes; in sign no*	*yes (relata of index)*
poetical function/ connotation:	*one item*	*mostly directly presented item (? of 1 sign)*	*no*	*no*
ostensive definition:	*both, one also indirectly*	*one of the relata*	*yes, as context*	*yes or no*

Table V-II. More signs and pairings

Nevertheless, I think we can say a little more about the particularities of this "logic". It is customary to distinguish between *contradictory* oppositions, e. g. red vs non-red, where both terms cannot be false about the same (spot of an) object at the same time; and *contrary* oppositions, e. g. red vs green, where both terms cannot be true about the same (spot of an) object at the same time. Semioticians often treat what is linguistically (and/or perceptually) a contrarity as a contradiction- thus *adding* something qualitatively new to the terms. In a constitutive opposition the terms would be redundant, given the relation, as in a vs non-a (Cf. I.3.3.). In the Saussurean utopia the meaning of "red" has to be derived from the bundle of relations which the term maintains to other, similar terms, in this case to other colours. But when a secondary signification system selects two out of the many terms which are contrary to each other in the primary system, and erects a new, contradictory opposition between them, as traffic lights do between red and green, then the meanings of the first system are not lost, but an additional meaning results from the contradiction, and is emphasized by the secondary system. Not only contraries, but terms which have less clear relations with each other originally, are made into contradictions in semiotic analysis. When in Floch's (1981 a) analysis of the "News"-publicity, pure colours are opposed, once to "un jeu de valeurs", and then a second time to "des couleurs rompues", the meaning of the relation, and thus of the first term, is not the same (Cf. II.3.3.). This means that the oppositions themselves have a qualitative, not just a "formal", function in the logic of qualities.

Another particularity of this logic may be the way in which the fitting of *variants* to an *invariant* is read as an affirmation of similarity or contiguity between the respective categories. The relation of variants to invariants does not seem to be important in formal logic, but it is fundamental to linguistics. However, the fact that such and such a word is pronounced with particular acoustic variations in different dialects does not carry any information about qualitative correspondence, but if Lévi-Strauss is right, the equivalent relationship would do so in the logic of qualities. In the last volume of *Mythologiques,* Lévi-Strauss discusses the different meanings conveyed by the cooking terms used by the South American tribes, as well as the clothing terms employed by the North American tribes, to express an identical mythological structure, and in his article "Structuralisme et ecologie" (1979), another invariant myth is claimed to have different variants for the inland tribes and the coastal tribes, thus secretely pointing to similarities between the objects and practices of the different cultures. On the background of the invariant category, the variant categories get connected. This aspect, not particularly emphasized by Lévi-Strauss, is important to Gardner's interpretation (Cf. I.4.5.). So conceived, the mythical systems of Lévi-Strauss certainly have something in common with the Hjelmslevian connotational language (Cf. II.4.).

Moreover while a logical contradiction is destroyed once both terms are shown to appear together, the different ways of mediating between the opposite terms of qualitative logic serve to develop the interpretation. The phonological oppositions, though claimed as a model, are even incapable of any mediation: if neutralization there is, it is in favour of one of the poles of the opposition (Cf. I.3.3. on unmarked terms). The case of semantics may be different: but if that is the case, semiotics will this time have to serve as a model for linguistics!

Gardner argued that while Piaget is a pure structuralist, Lévi-Strauss is interested in the qualities which are related by the structure as well. Lévi-Strauss (1962:24 ff) himself actually seems to think that the kinds of "structure" encountered in the sciences on one hand, and in mythology and magic on the other, are identical or similar, while the kinds of qualities accounted for are different, science being limited to the "primary qualities" and mythology including also the "secondary" ones, which are directly perceivable. Here we recognize the quantitatively conceivable qualities which may be the basis of Husserl's indirect operations – though, strangely enough, Lévi-Strauss (p 25) suggests that science, or at least chemistry, may be catching up with magic and mythology, as it discovers the common factors responsible for a similar taste in botanically very dissimilar species. On this interpretation, when science is complete, it will simply be mythology.

Against this, we have already noted that the systematization of "qualitative logic" is different from that of the sciences. But at the same time, the qualities may well be irreducibly different: while science, i. e. natural science in Lévi-Strauss's parlance, may easily climb down the extensional ladder, including ever more details in its analysis, it is not obvious that it will ever be able to move, upwards or downwards, from its position on the intensional ladder. Maybe we can get an inkling of the reason why (I.4.4–5.).

I.4.4. On the qualities of logic. Gurwitsch reads Hussel and Piaget

> *"Un schème est, en effet, ce qui est généralisable en une action donnée."*
>
> *Piaget 1972 a:86*

While Gardner pointed out the differences between the "logics" of Piaget and Lévi-Strauss, Aron Gurwitsch (1974 a; 1972) has called attention to the parallelism between the two kinds of "abstraction", from the object and from action, distinguished by Piaget, and the two operations termed *formalization* and *generalization* by Husserl. There is an obvious difference between Piaget and Husserl, in that the former constructs his theory in order to explain the way children progress in their ability

to resolve certain types of problems, whereas the latter positions his concepts for the purpose of elucidating the manner in which the sciences are built up on the Lifeworld. We shall also find that Piaget's abstraction from the object is different, in some important respects, from Husserl's generalization. But, to the extent that Piaget's and Husserl's distinctions have something in common, we should like to discover whether Gardner's distinction also concerns the same phenomena.

As an example of *formalization,* Gurwitsch (1974 a: 46 f) refers to what may happen when someone is going through a series of items e. g. books, making sure that no item is omitted and none accounted for more than once. When we organize our library in the Lifeworld, we attend to the books, and not to our own activity, but the procedure itself may also be *thematized,* so that we now attend to the articulated activity of going through the books instead. Thus, the specific nature of the items on which the activity is exerted becomes a matter of indifference, and the books are reduced to mere holders of places within the articulated activity. When terms having a content are replaced by "empty" holders of places, that is, terms which are defined exclusively by their function for a certain operation, a *formalization* takes place. Once it is thematized, formalized, and emancipated from reliance on specific contents, even the practical activity of organizing one's library can be conceived as susceptible of going on forever, thus undergoing what Husserl calles an *idealization.* The paradox of Borges's Babylonian Library is, I suppose, that though the practice of allocating books is thematized and idealized, in the sense of going on indefinitely, it is not disengaged from concrete books.

Now, if only the phases which are gone through are attended to, we will arrive at the natural numbers, more exactly the ordinal numbers, which are transformed into cardinal numbers by *nominalization.* If then the numbers are formalized, i. e. replaced by symbols, e. g. letters, denoting any number whatsoever, while the operations retain their specificity, this is an *algebraization.* On the still higher level of group theory, even the operations are divested of their specific import and considered merely as to their formal properties, such as reversibility and associativity. In a parallel fashion, the logical theory of relations is derived from the proto-logic of the Lifeworld, which has been formalized, idealized, and shifted to a higher level. It is easy to recognize, in these Husserlian concepts, the ladder of abstraction, which the children going through the Piagetean tests are expected to show their capacility of climbing, taking their points of departure in chemicals, billard-balls, and pendulums. The way from sensori-motor intelligence to concrete and then formal operational thinking is also the itinerary which the philosopher takes from the Lifeworld. But what about *generalization?*

Very few things, Gurwitsch (1974 a:43 f) tells us, are perceived in their mere individuality: members of the family, one's apartment, and the like. In the Lifeworld, we are most of the time confronted with things of a certain *type:* another child, another policeman, another tree and so on. Whatever is encountered appears in the light of a certain *typicality,* which helps us to fill in the details lacking from direct vision. Cases in point are the dice and teacup (Cf. I.2.2.). If the type is dissociated from its embodiment in a concrete object and thematized, a new ideal object, the concept, comes into being, and may now be used to consider the original object in a new way, as a member of a *class* pertaining to this concept: instead of perceiving a hammar, we now perceive something *as* a hammer. This is the phenomenological origin of class membership, the class being constituted with regard to the concept, itself extracted from the typical features of the article. What Gurwitsch, following Husserl, here describes as the process by which scientific concepts are arrived at beginning from Lifeworld typicalities, is apparently the same phenomenon which to Rosch & Mervis (1975:582) represents the illusion of criterial attributes caused by only considering the most prototypical members of a category (Cf. I.3.1.).

However, what to Rosch is a simple descriptive error, is to Husserl and Gurwitsch a necessary procedure for the construction of the sciences, including the social and human ones, which becomes erroneous only to the extent that its origin in the typicalities of the Lifeworld is forgotten. Gurwitsch, contrary to Husserl, but like Degérando, Sander & Volkelt, and Arnheim, clearly sees that even the object of immediate perception is general, the only task left for the process of *generalization* being to detach the generality from the concrete thing, so that classes may be formed. But we know from Rosch that a kind of class, the collection of items referring to the same prototype, can be formed before this operation (I.3.1.). And we also know from Rosch that perception tends to begin, not on the most abstract, nor on the most concrete level, but between them, on the *basic level* (I.3.2.).

Thus Gurwitsch (1974 b:241 ff) is right in insisting, against Husserl, that predication must be an analysis of a pre-given whole, rather than a synthesis building on an empty X, but only up to a point. The prototype being located at the basic level, there must also be a way upwards to concepts not given as types, for instance, from the circle and the ellipse to the conic sections, in spite of what Ivins and Arnheim maintain (Cf. I.1.4.). For, clearly, there is no way of seeing an object as being an instance of a conic section, before *constructing* the concept, so the concept cannot be detached from a typicality, like the circle and the ellipse. Husserl argues that geometry, being an idealization of the practice of land-surveying must be a kind of *formalization,* like other mathematical disciplines mentioned by Gurwitsch. Once the typicalities of the circle, the ellipse, and the like, are inserted in the *scheme* resulting from geometrical formalization, another potential function manifest itself apart from infin-

ity mentioned by Gurwitsch: the *structural* one, which permits features of given elements to enter into new combinations, giving rise to further possible elements, thus deriving all the conic sections from the circle and its congeners in the example considered. One may also wonder if the concepts detached from typicalities, in contradistinction to the typicalities themselves, e. g. the concept of the circle as against the prototype for roundishness, is not the result of viewing the typicalities through a scheme, so that generalization, but not generality, may be derived from formalization. *Structuralism* (that of Hjelmslev, Barthes, etc.) would seem to hold that not only generalization, but generality itself, is derived from schemes, which are normally not derived by formalization (except by Coseriu) but present beforehand as preconditions for meaning (Cf. I.4.1.). But we already know that phenomenological and psychological evidence alike show this conception to be untenable.

The case of Piagetian structuralism is different. Piaget's "abstraction from action" seems to parallel formalization, as shown by Gurwitsch, but the relation between generalization and "abstraction from the object" is, as far as I have been able to determine, much looser. According to Piaget (1970:41), abstraction from the object permits us to discover the properties of the thing itself, as is the case in the natural sciences, whereas the abstraction from action starts out from coordinations which are not present in the things themselves, but are added by the particular handling of the object in action. Classification, and even perception itself, to the extent that it gives rise to correct judgment, are to Piaget results of the actions effected by the subject on the object in order to change it, or to change its position. Thus abstraction from the object accounts for the contents of the sciences, as distinguished from their conceptual framework, and seems to be of no relevance for the activities in the normal social Lifeworld. However, their is a trace of generality, as distinguished from generalization, in the *figurative* aspects, opposed by the later Piaget to the *operative* ones.

Among the figurative aspects of knowledge are found, according to Piaget (1975:176 f) himself, all the forms of imitation, the multifarious variants of mental images, and perception. Together with language, symbolic play and drawing, the first two aspects are elsewhere cited by Piaget as examples of the *semiotic function.* As we already know (Cf. I.3.4.), perceptions are to Piaget non-additive and irreversible, in contradistinction to structures of the cognitive kind. Now, however, imitations and mental images, together with perceptions, are said to apply to configurations, and to translate into figures or figurative symbols the movements and transformations resulting from the subject's efforts to perceive and to reproduce them. In the cognitive function, figurative aspects are subordinated to the operative ones, because the former will only acquire meaning when related by transformations. Operativity goes beyond figurativity, since there is no way of rendering it entirely by figurative means, but on the other hand, no thinking is possible without some symbolic support. If Piaget's last-mentioned observation is taken seriously, it would seem to imply that figurativity cannot be completely rendered by operative means either. Thus, operativity and figurativity presuppose each other.

To Piaget, figurativity is only a *residue concept,* adumbrated in connection with a discussion of *Gestaltpsychologie* and in a homage to the work of Henri Wallon. In fact, the above-mentioned characterization of figurativity sounds almost like a paraphrase of Wallon's (1942:95) "intelligence des situations, où l'action et les choses fusionnent", which the latter substitutes for "prelogical thinking" as conceived by Lévy-Bruhl, Blondel, and the early Piaget. To a latter-day disciple of Piaget, Howard Gardner (1977), "figurative thinking" has to do with the ability to perceive details within a sensory modality, to retain sensory impressions, to value sound *qua* sound or colur *qua* colour, to be alert to the multiple aspects of the medium – in other words, though Gardner fails to mention them in this context, it has to do with the sense qualities of Lévi-Strauss, i. e. with the substance of Hjelmslev. Tests of typically operative tasks, made by Gardner, as for instance Piaget's billiard game, mirror writing, singing backwards, substituting letters for numbers, etc., show improvement of these abilities with age, but 11 year-olds were as good as 14 year old on most figurative tasks, as for instance recognizing musical fragments, recalling information in a visual display, recognizing finer details in a photograph, remembering a large set of paintings from the week before and indicating which paintings had been slightly modified, remembering a string of digits, imitating gestures made by the hand, learning to recognize and remember from week to week a dozen birds, and learning a new dance step. Contrary to expectations founded on earlier studies of artistic skill, there was no task on which the younger children were strinkingly better, although they did show more incidental learning, i. e. memory for details irrelevant to the stated task.

Interestingly, Gardner (1977:104,109) suggests figurativity is mainly found in the right hemisphere of the brain, while operativity is located to the left. Basing himself on serious brain research, as distinguished from common journalistic romancing on the theme, Gardner (1982:283 ff) reports that the right hemisphere patient will have trouble with the contour of the picture as well as its organization, whereas the left hemisphere patient will fail to include all details and to render them correctly. In the following chart, we have put together all the properties said by Gardner (1977;1982;1984) to characterize figurativity and operativity and/or the different hemispheres, as well as those mentioned by Coffman (1980), and we have particularly noted the contributions of operativity and figurativity to drawing.

	FIGURATIVITY right half	OPERATIVITY left half
Gardner 1977:105	*configuration (Gestalt); relation of part to whole (integration).*	*constituent parts (complete list); specific traits of elements; function.*
Gardner 1977:93 ff.	*details, also irrelvant ones; sense qualities as such; multiple aspects.*	*inversion; substitution (of signs); argumentation, logic;*
Gardner 1982:283 ff.	*finer sensorial distinctions; metaphors; spatial tasks.*	*classification*
PICTURES Gardner 1982:283 ff; 322 ff.	*contours; organization; classification according to style*	*details and inner elements; richness of details; classification according to theme.*
Gardner 1984:173 ff.	*unusual perspectives; location of details; mental rotation of objects (also in blind people).*	*coordination of knowledge from different domains.*
FIRST DRAWINGS Coffman 1980:227 ff.	*drawing ability developed from "global representations" which preserve global properties like closure and angularity:* 	*drawing ability developed from "chain-type drawings":* 
Coffman 1980:245 ff.	*organized wholes; contour information; interpretation of fragmentary pictures; position, distance, direction, and other spatial relations; normal recognition of faces.*	*reproduction of discrete parts and elementary details; correct rendition of the details of lines, angles, etc.; recognition of faces with glasses, scars, etc; giving names to faces and distinguish individual details.*

Table VII. Figurativity vs. operativity

On first reviewing the list, the wealth of heterogeneous properties attributed to both hemispheres stands out. Later, some unity will be discovered, but there also appears to be some curious contradictions: *details* are central to both figurativity and operativity, at different times, and *organization,* mostly found on the side of figurativity, must have something to do with such traits of operativity as function, classification, logic, and coordination. On further reflection we discover that two kinds of wholes must be meant, and that the details enter in different manners into figurativity and operativity. *Structure,* which makes the elements appear to be *more distinct* from each other, and where the network of relations predominates, is located on the side of operativity, but the *configuration* as well as the non-configurational holistic properties, where togetherness and connectedness get the upper hand over the parts, are found on the side of figurativity (Cf. I.3.4.).

"Integration" must require the parts to emerge secondarily to the common properties and, in the case of the configuration, the extension and delimitation of the whole. But in the case of function and classification, the network of relations tends to form a background for the thematized element. In the most degenerate type of operative whole, the list, the only relation connecting the elements is succession: the "chain-type drawing" is almost an example of that (Cf. Goody's tables, cited in I.2.1.). At the other extreme, Coffman's "global representation" only registers properties common to the whole, or some predominant part of the whole, more or less ignoring their spatial distribution (Cf. Volkelt's cube, fig. 3. and I.2.2.). When distinctiveness and internal localization are added, a configuration results (Cf. I.3.4.). Typically, the configuration is perceptual, the structure conceptual. This may explain that the configuration is spatially demarcated, and that its parts are spatially distributed, as well as the possibility of inversions and substitutions (transpositions?) in the case of the structure.[2]

As for the details, it is their *distinctiveness* which is at stake in operativity, but their *qualities* and the *multiple* aspects they offer take on importance to figurativity (as does of course the *location* of details). Structures, we may remember, often contain oppositions, and oppositions define *distinctive features* (Cf. I.3.3.), which are the "details" of operativity. In some classifications, these features may be sufficient and necessary properties, but they can also be "canonical features", as Hochberg calls them (Cf. I.2.4.) like the scar and glasses on the face. However, the "details" of figurativity are not the distinctive features, in any sense, but "ever more details", as shown by the possibility of attending to irrelevant details, to experience the sense quality as such,

and to make ever finer distinctions. In many cases, like the attention to sense qualities, style recognition, and the recognition of faces without canonic details, non-configurational holistic qualities are probably perceived, but perhaps other properties may also be further differentiated and retained even where they are irrelevant. Of particular interest is the presence in the chart of what could be called "details of details": Gardner tells us operativity registers specific traits of elements, and Coffman notes that the correct, rather than deformed, rendition of lines, angles, and so on, depends on operativity. Thus, we are concerned with *attributes-of-parts* (Cf. I.2.4.). The existence of an angle, even a physiognomic angle type, may be apprehended figuratively, but in order to render it correctly, particular distinctive features of the angle must be noted. That is to say, that while individuality, as something ineffable, could possibly be on the side of figurativity, operativity is responsible for the individual concept!

Among other things to be noted is that while unusual perspective pictures require a figurative reading, a thing seen from its most prototypical perspective apparently does not; and that while a classification according to style necessitates figurative ability, classification according to subject matter requires the presence of operativity. Thus, the noema is on the figurative side, but the object of perception is on the operative side; and if the noema is of the customary kind, it will be transparent all through to the object, as Husserl observed (Cf. I.2.2. and I.2.6.).

The result of this entire discussion is that *formalization* and *generalization* could well turn out to have the same source in the schemes of operativity, although *generalization* could perhaps also be directly derived from *generality.* The latter, however, must be the same as *figurativity,* e.g. configurations or non-configurational, holistic properties, and the fundamental distinction is between *operativity* and *figurativity.* Also the Greimas school attributes a meaning to the term "figurativity", which is at least partly similar to the present one (Cf. Greimas & Courtés 1979): a unit on the "content plane" is "figurative" if it corresponds to something on the "expression plane" of the semiotic system of the "natural world" (Cf. I.1.4.), i.e. to an object or event in the world of our direct experience. The word "fire", or a picture of a fire, is "figurative" if it is used to signify the real-world object called fire; but not, for instance, if it is made to mean some abstract signification like warmth, cosiness, danger, destruction, etc. But to the Greimas school, figurativity is a superficial effect, which is in the end reducible to the deep structures of the semiotic square. As we saw in our discussion of Piaget, there is a real possibility of passing over from operativity to figurativity, and vice-versa, but none of the conceptions can be completely reduced to the other. This, I take it, concerns the principle of organization. However, since figurativity is more deeply embedded in the primary sociocultural Lifeworld, even operativity must take its resources from there. The qualities are figurative; it is only their reeleboration into distinctive features which is operative.

We will now take a fresh look at figurativity, as a kind of meaning, and then return to Lévi-Strauss's conception of it.

I.4.5. Figurativity. How to eat your cake and have it too

> *"La transformation des actions de schéma perceptif qui résulte de l'opération de la partition donne naissance aux parts du gâteau qui ici encore deviennent des notion sociales."*
>
> *Janet 1936:30*

> *"La pensée mythique, c'est un peu comme un gâteau feuilleté: des niveaux de pensée mythique se trouvent superposés. Je me suis efforcé de suivre une couche."*
>
> *Lévi-Strauss, in Bellour/Clément 1979:176*

According to Gardner, as we may remember, Piaget is mainly interested in structural relationships, but Lévi-Strauss is also, and – it would seem in the following argument – mainly interested in the qualities related (Cf. I.4.3.). In the end, this is perhaps a question of emphasis: the application of Piaget's operations, we are told (Gardner 1973 a:205), presupposes a sensitivity to the distinguishing characteristics of the objects, and the units of Lévi-Strauss enter relations well-known from Piaget's structures. Here, the "qualities" of Lévi-Strauss emerge as distinctive features, and as such they will be on the side of operativity, just as the structures that could define them. But to the extent that the "qualities" refer to the real world of our experience, and tend to favour certain domains of that world, they have something to do with figurativity.

In this sense, the work of Janet (1935; 1936) stands somewhere in between that of Piaget and that of Lévi-Strauss: the structures of intelligence, which are given formulae by Piaget, are designated as "la route, la place publique, la porte, l'outil, le portrait, le panier, la part du gâteau, les tiroirs de l'armoire", and so on. Here however, it is not clear what Janet means to say: for instance, is the piece of cake the figurative manifestation through which the child would normally come to understand the notion of separating an object into many parts having mostly the same properties as the original object? If so, and if we suppose the formal structures to adapt themselves to the particular kind of object manipulated, Janet's schemes, as compared with Piaget's, would be *proto-schemes* (Cf. I.2.1.), and these may be more real than the Piagetian ones: in efforts to replicate Piaget's experiments, it has often been found that the presence of certain structures is highly dependent on the kind of object reasoning should apply to, contrary to what Piaget has argued (Cf. Hunt 1982:121 ff).

The qualities that count to Lévi-Strauss, or at least to Gardner, are not as "figurative" as a piece of cake, but

some of the properties of a piece of cake, such as being edible and graspable, are among those mentioned by Gardner (1974 a:203 f); in fact, according to Janet (1936:27 ff), edibility is one of the properties the piece of cake has in common with the whole of which it is a part, and graspability is something the part will always have to a higher degree than the whole. Of course, in Greimas's sense, these properties are quite the opposite of figurative (Cf. I.4.4.), but this is so because Greimas thinks all generic properties must necessarily be conceptual. But we know (Cf. I.2.2. and I.3.4.) that there are "higher order terms" (Gardner 1970 a:365) which are directly perceived, even prior to simple properties and individual things. Graspability and edibility being non-configurational, holistic properties, they are undoubtedly on the side of figurativity (Cf. I.4.4.).

Not only are qualities important, but certain particular qualities may be fundamental. In his own investigations, Gardner (1973 a:207 ff) tells us, he has found that children are particularly sensitive to what he calls "modal/vectorial properties", such as the opening or closing of the hand or mouth, direction, balance, rhythm, penetration, and so on. These properties may manifest themselves in different sensory modalities, and even in the motoric realm. Also, the adult must be supposed to perform an analysis of objects and events in the environment in terms of these properties, parallel to the more conscious perception of the things and objects as familiar things and objects of the Lifeworld. Such an analysis is a prerequisite for our understanding of symbols, which itself is fundamental to the arts. Modal/vectorial properties are identified with Werner's "physiognomic properties" (Gardner 1970 a:367), and Werner was very much influenced by the Leipzig school: we are back to the *Ganzheitsqualitäten* of Sander & Volkelt, perhaps to their least organized form, which, according to Krueger, is the emotional atmosphere. For the moment, let us note merely that this double segmentation of the world into objects and events, and into modes and vectors, is reminiscent of, but not to be identified with, that of connotational language (Cf. part II).

Elaborating on an idea of Erik Erikson's, Gardner (1970 a:360 ff) suggests that certain holistic properties are given a particular import from being first experienced in the relationship between one's own body and the field of objects outside the body,[3] sometimes in relation to the keeping of portions of the environment inside the body, and sometimes in relation to the release of what was once part of the body. Since each bodily zone has a characteristic mode, and since each mode has several vectorial properties, the modal/vectorial properties, or part of them, are organized as in Table VIII (from Gardner 1970 a:362 f):

According to Piaget, it will be remembered (I.4.4.), schemes are abstracted from actions through the many stages of intellectual development; clearly the modal/vectorial properties also take their orgin in the actions of one's own body, but rather than abstracted, they are immediately seen as global characteristics, and while they may be transposed to other objects than the body, and other relationships than that of the body to the world, as is the case in "symbols", they somehow remain bound up with the body as the deeper source of their sense in all their further applications. This would seem to amount to a developmental theory of modal/vectorial properties. But later, Gardner and his collaborators (Cf. Winner, Wapner, Cicone, & Gardner 1979:73 ff) have shown experimentally that properties similar to the above-mentioned, e. g. continuity vs discontinuity, can be matched across sense-modalities by babies aged 6–15 months, and they suggest that we have an innate capacity for perceiving nonarbitrary similarities across domains.[4]

Even if this should be true also of the above-mentioned modal/vectorial properties, these categories could easily acquire a particular import from the earliest experiences to which they are applied, as they are encountered through one's own body. However, it seems probable that the little girl will learn inclusion from enclosing a cherry in her hand, well before she feels anything inside her vagina, and that the little boy will stick his hand into the hole in the tree, many years before he has the opportunity of introducing his penis into another body. Maybe Arnheim (1966:215 ff) is right in arguing against Freudian pansexualism, that a piece of pottery and a womb have the common class meaning of being containers, rather than the first signifying the second, and that the predominance of the sexual interpretation is due to cultural factors (to which Foucault probably

ZONES	CHARACTERISTIC MODES:	VECTORIAL PROPERTIES
oral-sensory (mouth/tongue):	*passive incorporation (get, take in)* *active incorporation (bite, grasp, investigate)*	*speed (quick vs slow)* *temporal regularity (regular vs irregular)*
anal-secretory:	*retention (hold on to)*	*spatial configuration (wide vs narrow; curved vs angular)*
(sphincter):	*expulsion (let go, release, push-out)*	*facility (ease vs strain) repletion (hollow vs full)*
genital (penis/vagina):	*intrusion (stick into, get into)* *inception or inclusion (take into, envelop)*	*density (thick vs thin)* *boundedness (open vs closed)* *Also: directionality, force, depth, comfort, texture.*

Table VIII. Modal/vectorial properties (from Gardner)

would agree). Nevertheless, it is possible that bodily experience, including that of enclosing a cherry in one's hand and sticking the hand into the hole of a tree, is the primary basis of modal/vectorial properties. When Arnheim suggests that, going up the tree of Porphyry, both the womb and the piece of pottery will be found to be containers, he is certainly not making the kind of analysis that Porphyry or his followers (as for instance Eco 1984 a:46 ff) would accept, since the womb does not meet the necessary and sufficient conditions for being a container ordinarily conceived; nor is it referable to the container prototype in a stricter sense; but it is a member of the extended class of containers acceptable in symbolism (Cf. III.6.5.). Of course, on this interpretation, the womb would be a deviant piece of pottery, rather than the reverse.

Another collaborator of Piaget, Vurpillot (1967:104 ff) suggests that the geometry of the child's first space is *topological,* i. e. it contains the kind of relations that would be preserved in a figure drawn on a piece of rubber. Properties of this kind are neighbourhoodness or proximity, separation, succession, inclusion or interiority/exteriority, and continuity. Mathematical topology forms the basis of the architectural semiotics of Pierre Boudon (1981; jfr Sonesson 1981 a), and of the general semiotics of René Thom (1973), and relations like "englobé vs englobant" are important also to Greimas (1976:129 ff).[5] If we now merely introduce a distinction between two instances, the *ego* and the world, or the *other,* it will be possible to derive all of Gardner's "modes" from the topological property of inclusion, to which another topological property, that of succession, is applied. The "modes" differ, insofar as the ego or the world may be the including party, and also because interiority may follow exteriority, and vice-versa. The result of this analysis resembles a localist interpretation of linguistic cases, for instance of the "local" cases of Finnish (Cf. Hjelmslev 1937). In the chart below, + indicates the first feature of the alternative, – the second feature, and o that the distinction is irrelevant; +– etc. indicates the succession of the features, and a bracket stands for a potential feature.

Clearly, intrusion and inclusion are opposites, as are incorporation and expulsion, but retention seems to call for some corresponding term: this is resistance, of which we have found two variants, the resistance of the world to us, and of us to the world. Actually, there is nothing so new about resistance: it has been the basis of philosophical epistemology, from the ideologues Destutt de Tracy and Maine de Biran to Sartre (Cf. Kennedy 1978). Our chart, like any list of features, is obviously on the operative side; however, there seems to be a figurative residue, which has to do with our experience of space, better rendered in the schematic pictures.

So far, we have been narrowing down the issue of the logic of qualities. Some qualities are not features, but holistic properties, and some of these are not configurations, but global qualities. Some global qualities are modal/vectorial properties, and among the latter some can be reduced to topological properties. It is not clear

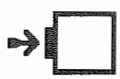
		ego		world/other	
		including/ included	exterior/ interior	including/ included	exterior/ interior
incorporation:		+	o	–	+–
retention:		+	–	–	–(+)
expulsion:		+	o	–	–+
intrusion:		–	+–	+	o
inclusion:		+	+–	–	o
ego-resistance:		(+)	–	o	+(–)
alter-resistance		o	+(–)	(+)	–

Table IX. Topological interpretations of m/v properties

which is the proper level to state a logic of qualities: but maybe the modal/vectorial properties, or the topological ones, are basic, while the remaining, more extended classes are approximations to them. On what level, then, would Lévi-Strauss locate his logic of qualities? And to begin with, is it true that qualities (in any sense) matter, and that particular qualities matter, to Lévi-Strauss?

In fact, according to Lévi-Strauss's own interpretation, it is not the qualities but the logic that is important. Not that this logic is so peculiar: as we remember, it could even be identical to the conventional one (Cf. I.4.3.). Actually, what distinguishes Lévi-Strauss from earlier theorists on mythology and ritual, is the emphasis given to the *systematic* character in "primitive thinking" (in particular in Lévi-Strauss 1962). As for the qualities, they are not in principle different from those studied by the natural sciences, though for the time being, Lévi-Strauss thinks, they are only accessible to the senses, not to the procedures accepted in the natural sciences (Cf. I.4.3.). And yet Lévi-Strauss (1984:69) seems to offer more than is needed in order to corroborate Gardner's contention, when he tells us everything in a myth has a meaning: there are no "détails gratuits". This certainly goes a long way in the sense of figurativity most generally understood (Cf. I.4.4.). But if this is a fact, it is not clear how Lévi-Strauss's kind of analysis could account for it. For instance, in *Mythologiques,* all myths of the two American continents are said to be reducible to the opposition between Nature and Culture, even though it may be significant on another level, that South American myths express this opposition in terms of culinary practices, while North American myths recur to terms having to do with clothing and trade (Cf. interview with Bellour 1979). Even when, on a still lower level, the same myth is said to be transformed because it manifests a "genre de vie", typical of the tribe taking it over, only certain traits are really treated as relevant. When, for instance, in one particular myth, as Lévi-Strauss (1979) tells us, land monsters and riches from the sea are exchanged for land-based riches and sea monsters, all that really counts is the redistribution of the positive and negative value between land and sea. In the part of the negative value, not only the common film villain, but a terrorist, a plague, or even a nuclear bomb, would do as well. Thus, we are still on the side of operativity.

Now the fact that certain particular qualities tend to return in the myths over and over again, certainly seems to mean that *these qualities,* at least, count as such: nature and culture, for instance, the raw and the cooked, and the different problems of communication expressed in the Grail type and the Oedipus type of myths (Cf.I.4.1.). In fact Lévi-Strauss is most explicit in his argument for the arbitrariness in the choice of qualities figuring in the myths: they have only positional or differential value, like the phonemes, he tells us; just as the phonemes in the word "sun" are meaningless separately and may be used in other words with quite different meanings, so, according to Lévi-Strauss, the content "sun" in its turn is meaningless relative to mythology, outside a particular "mytheme" (Cf. Lévi-Strauss 1958:320 f; 1983:174 ff, 198 ff; 1984:104, 249, 257; Bucher 1977:87, 199). Of course, it is possible that Lévi-Strauss would like to exclude certain qualities from this judgment, but he does not say so, as far as I have been able to determine. But Lévi-Strauss (1958:320) even censors Jung for attributing a meaning to the "symbols" themselves, and he (1962:299, 319) takes exception to the theories of Lévy-Bruhl which, at least in a general sense, lend themselves more readily to an interpretation in terms of figurativity.

Nevertheless it would be wrong to conclude that there is no basis whatsoever in Lévi-Strauss's work for Gardner's interpretation. In fact, myth and painting are said to be intermediary between the concrete image and the concept, or to combine, each in its own way, structures, and things and objects of our experience (Lévi-Strauss 1962:32, 40 f); and structuralism is claimed to reconcile intelligibility and sensuous experience (interview with Bellour 1979:186). Again, when Lévi-Strauss (1978:13) defines the logic of the concrete as "the respect for and the use of the data of the senses", the use concords with what we have seen so far, but the respect seems to point to something different. When Lévi-Strauss (in Bellour 1979:186 f) mentions "la prégnance du détail" as something typical of the myth, he certainly goes in the sense of figurativity, but when he then tells us (p 176) he chooses *one* of the layers of the puff-paste from which the mythical cake is made, details are already being reduced to features! As compared to Janet's piece of cake, Lévi-Strauss's layer of puff-paste could however be taken to suggest the operation of another principle of relevance. And, as examples will show, this principle is at least sometimes similar to Gardner's modal/vectorial properties, or more generally to topological and global properties.

Things as different as the sheep's horns, the eagle's claw, and certain parts of different kinds of mullusc, may occupy the same place in a myth, according to Lévi-Strauss (1983:185), because they have in common the property of being "des organes qu'on retranche de l'animal avant de le consommer, ou dont on retranche une partie avant de les consommer". The topological concept of *separation* seems important here, but something more is a stake, since what is separated is a part of a whole, but not just any part, but a part which is in some sense supplementary to the *core,* an *appendage,* which is often a protuberant part. If it is permitted to go on suggesting new "modes", based on early corporal experience, there may be one which is essentially *motoric-kinesthetic,* and which is derived from the child's moving his arms and legs freely in relation to the trunk. Just like Lévi-Strauss's way of cutting up the cake is perpendicular to Janet's division, a classification according to

core/appendage and other *modal/vectorial* properties will cut across common Lifeworld categories, based on *dominant* properties (in the sense of I.3.1.). Thus we would really end up with a secondary, bodily based principle of pertinence.[6]

More obscure, because of its very abstractness, is the opposition between the Oedipus type of myth, characterized by excessive communication, and the Grail type of myth, where there is too little communication (Lévi-Strauss 1984:135 ff). Instances of the former are the resolution of the riddle, the explosion of the natural cycles, as exemplified by the plague, and incest (Cf. Lévi-Strauss 1983:314 f). Instances of the latter, more numerous, are answers offered to questions never asked, which is the opposite of the riddle, reduced capacity to move, self-imposed mutism, an earth without fertility, the virgin who never smiles, the beheaded body, and a broken sword, the latter two objects said to signify failure to communicate with oneself and with others, respectively.

Now, what do these different objects and events have in common? The problem is not, it should be observed, to decide whether Lévi-Strauss is correct: it would be easy to point out numerous instances of what would seem to be lack of communication in the Oedipus myth, for example the failure of Oedipus's own search for the murderer, his refusal to believe in the seer, the failure of Oedipus and his father to recognize each other in the murder scene, and the failure of Oedipus and his mother to identify each other as such, as well as the drought and famine ravaging the town. Of course, there may be good reasons for considering these "non-communicative" objects and events to be *non-dominant* as such in the context of the Oedipus myth but, if so, these are simply taken for granted by Lévi-Strauss. While it is quite possible that this particular rule of *dominance* only exists for Lévi-Strauss, the list of instances is not arbitrarily composed; that it has some intuitive content is presupposed by our very objection above! Only because there is some common factor to the list can we find counter-instances. But to call this common factor communication may be as arbitrary as Arnheim thought Freudian pansexualism was. If we consider the Grail instances, we will find two classes, one in which the nature of things is invoked and a deviation registered, and one in which a well-known part fails to lead on to the expected whole continuously (cf. I.2.4. and table X below). Perhaps we may generalize by stating that there is some *regularity* of the Lifeworld which is expected to obtain, and a deviation from this regularity, which is different, according to whether the regularity concerns ordinary things, such as a sword or a body, or fundamental categories like humanity, femininity, and Nature, i.e. Wallon's "ultra-choses". In both cases, the elementary global property of *continuity* fails to obtain as expected, either spatially, in the simple objects, or temporally, in relation to a single preceding event, as in the case of the answer (Cf. Sonesson 1979 b) or to a string of recurrent behaviours, as in all other cases. It is at least possible that *continuity,* in this sense, is another of the basic properties of figurativity.

NATURAL DISPOSITIONS:	EVENTS:
It is natural for human begings to talk.	X does not talk.
The answer is defined by a preceding question.	X does not ask.
It is natural for human beings to move.	X does not move.
It is the nature of Nature to grow.	Y does not grow.
It is in the nature of young girls to make love.	X does not make love.
THING SCHEMES:	**OBJECT PART:**
A sword has continuous parts.	All, but separated.
Head continuous with trunk in body.	Head and trunk separated.

Table X. Mythical figurativity

But what about *Nature* and *Culture,* the opposition with which many of Lévi-Strauss's reductions end, as well as many of those carried out by Greimas and his school – do they correspond to any bodily experience, or to any global properties? If, as Zurlo suggested (Cf. I.4.1.), Nature and Culture are best considered as an opposition dominating a series of scales, then the dimensions on which the scales vary could well be global and in some cases bodily based, but Nature and Culture themselves are perhaps metaterms, derived by cognitive abstraction from the conjunction of dimensions (Cf. I.4.4.). Nevertheless, Nature and Culture lend themselves to some *modal/vectorial* interpretation. To begin with, order and regularity are on the side of Culture, as in Thürlemann's Versailles garden example. The distinction always being made from the point of view of Culture, this term can be considered to play the part of the ego: in this sense, Culture will be seen to resist Nature, and vice-versa. Again, Culture is included in Nature, but on another level, that of conscious control, it intrudes on it. And Nature, as found inside Culture, is retained inside its orbit, so as not to disrupt the cultural borders. And so on. There are really many possibilities.

Nature and Culture traditionally tend to be related, though in complex ways, to another fundamental Lifeworld distinction, that between *Male* and *Female.* As pointed out by Strathern (1980), the male is found on the side of Culture and the female on the side of Nature, because the first is thought to be more rational, and the latter more intuitive and emotional; but on the other hand, the female is subsumed by Culture and the male by Nature, because the former is considered to be more dependent on social conventions and other people, and the latter is thought to be unable to control his animal urges. Thus, on the Nature/Culture scale, both Male and Female would be *anti-types* (Cf. I.4.1.), but probably the two aspects are not normally considered together.

Of course, there are countless properties distinguish-

ing *Male* and *Female,* and Culture has always employed itself, it would seem, to make the distinction even more redundant. Lurie (1981:215 f) observes that clothes tend to make "rectangular men and rounded women", but clearly, even the prototypical bodies of male and female, considered as divergences from a common body scheme, will be characterized by the global properties of angularity and roundishness respectively. From this *prototype,* culture will make an *idealtype,* exaggerating the roundish traits found in reality, and even combining roundishnesses which are never found together in nature, culminating, according to whether other tendencies counteract the process, in Venus von Willendorf or Marilyn Monroe. And in the same way with the male body. Interestingly, Jessen (1983) found that not only German but also East African children, whose female clothes are different from ours, considered that the circle as well as a triangle pointing upwards signified a woman, and that a square or a triangle pointing downwards stood for a man. This result was obtained with children aged 7–17, but not younger ones. It is not surprising that the global traits of man and woman tend to express themselves as "best forms", i. e. as configurations of maximal prototypicality. As for the different orientations of the triangle, they may reflect the predominance of the hips in the prototypical female body, and of the shoulders in the prototypical male body. The feel of angularity is rough, and that of rounded forms is smooth, and this is redundantly translated in the use of soft materials for woman, rough ones for man. If there are panhuman tendencies to correlate the physical and the mental, as is perhaps suggested by the use of metaphor (Cf. Winner at al. 1979; 1980), soft feelings will also be seen as redundantly characterizing the female. Of course, all this is speculation: it may give an inkling of how figurativity works, but the exact facts can only be ascertained by experiment.

When all (or nearly all) is said and done, do we end up with a clear concept of figurativity, and can we affirm that, in the most general sense, before being configurational, figurativity carries meaning? To some extent, figurativity must perhaps remain a residue concept, at least if we cannot find the way of reducing it entirely to bodily experience, in the manner of the modal/vectorial properties. Clearly, however, we cannot deny meaning to figurativity if it, rather than logic, as Lévi-Strauss would like to think, is responsible for much of the meaning of mythology and art, and maybe of life generally, as is suggested by our reanalysis of Lévi-Strauss's examples. Paradoxically, then, it *is* possible to conceive of meaning without order (Cf. I.4.2.). Or at least, so it seems. In fact, we may not have attained pure figurativity, and perhaps there is no way of doing it. The way to eat the cake and have it too could possibly be to carry out the division Janet's way, and Lévi-Strauss's way, concurrently. But the second division must also follow a principle. That is the concern of our next section.

I.4.6. The skate and other small mythologies. On the principles of relevance

"'Jour' présente un aspect duratif, congruent avec un vocalisme grave, 'nuit' un aspect perfectif, congruent avec un vocalisme aigu; ce qui, à sa manière, fait une petite mythologie."
Lévi-Strauss 1983:200

Directly after arguing that the myth is made up of elements which are meaningless in themselves, just as words are composed of phonemes which are deprived of any meaning, Lévi-Strauss cites his own "little mythology" pertaining to the words "jour" and "nuit", which will be seen to contradict this contention. As is well-known, Mallarmé was very unhappy with these French words, because the sonority of "jour", meaning day, makes it more apt to signify night, and the sonority of "nuit", which means night, actually goes better with the content day (Cf. Jakobson 1963:241 f.). Lévi-Strauss tells us he has never felt any contradiction, because he has interpreted the vowel sound of "jour" to describe the day as an extended series of activities, whereas the vowel sound of "nuit" was taken to characterize it as a sudden event, the fall of darkness. But clearly, this is not at all like the relationship between the pure differential phonemes and the word meaning.

As we now know, sounds do carry meaning (Cf. Todorov 1972 b), though this may be overridden if contradicted by the conventional meaning of the words which the sound contributes to form. Thus, the signifier "jour" contains, among other potential meanings, darkness and durativity, and the signifier "nuit" contains in a similar fashion the potential meanings clarity and suddenness, and since, in each case, the first potential meaning is contradicted by the conventional content of the words, Lévi-Strauss unconsciously settles for the second potentiality. However, the conventional content is primary, and depends for its existence on a purely conventional relationship to differential elements, foreign to the content as such: only afterwards, in poetic context for instance, will meaning potentialities congruent with the word meaning be sought out. Thus, the opposition is not constitutive, but regulatory (I.3.3.).

Also, the terms do not depend for their meaning (in the sense of *alter-functionality,* cf. I.1.2–4) on the French language, but on Lévi-Strauss's personal way of looking at night and day. No doubt it is a rather common conception of the present Occidental Lifeworld, though not necessarily of other Lifeworlds (Cf. Gipper 1972:183 ff), to think of the day as an extended and compartmented configuration while considering the night to be a single event without extension. If, however, in some particular context, it would be necessary to describe the night as the scene of multiple activities, or the day as a temporal point, or if in the future, common conceptions would come to be changed, there is no reason to believe that the French would invert the terms, or even change

them. To see what this means, consider a case where an inversion took place. In Mexico, the names of the seasons are applied to the same parts of the year as in Europe, though the weather conditions are of course quite different; but in other parts of Latin America, for instance in Guatemala, only two seasons are distinguished, summer and winter, and the term "winter" ("invierno") is applied to the part of the year that we (and the Mexicans) call "summer" ("verano"). Now this is the part of year when it rains all the time. It seems that a very global trait, characterizable as "the kind of weather when one would like to lock oneself up in one's house for half a year" has gained the upper hand over all more particular properties, not only of time, but also of the weather. But whereas different properties may be taken to be most important in our conception of winter, it seems hardly possible to conceive of a night without at least relative darkness.

Thus, Lévi-Strauss is right in thinking that a further level of meaning, beyond the purely linguistic one, is needed in order to account for his conceptions of day and night, but he is quite mistaken when he believes this content is related to its expression as the linguistic content relates to phonemes. But he is also entirely justified in thinking that his word example is similar to his mythological interpretations, at least to those which were cited in the foregoing section. Just like "jour" and "nuit", the elements of myths are not meaningless in themselves but only too full of meanings, and a *principle of relevance* is needed, not only on the level of the myth as a whole, to decide which elements should *dominate* the myth, as was already observed in I.4.5., but also on the level of each element, to determine which of its many potential meanings plays a part in the constitution of the total meaning of the myth. And it is possible, as suggested by the phrase "petites mythologies de l'œil", which Floch (1984 a) uses to refer to pictures, that said mythologies function, on some level or other, in the same way. This question will concern us in further chapters (part II). For the moment, our problem is to understand of what relevance relevance may be, when there is no question of conjoining meaningless differential elements with a meaning.

When we discussed *relevance,* or *pertinence,* in earlier chapters (I.1.2–5), we pointed out the similarities and differences between *commutation, ideation,* and psychological *experimentation.* In all cases, the identity of a given phenomenon depends on only parts of its features, and the variation of even these features is possible inside certain limits without destroying the experienced identity (Cf. I.1.2.). Commutation supposes *alterfunctionality,* i. e. that the criteria which pick out the relevant features and determine the limits of their variation are located on another level of reality. Ideation, on the other hand, depends on *endofunctionality,* i. e. that the criteria of pertinence are found on the same, homogeneous plane of reality as the traits that vary, being the whole of which these are a part (Cf. I.1.3.). If adapted to the Lifeworld, ideation will concern more or less typical traits of the whole rather than necessary and sufficient properties (Cf. I.3.1.). As for experimentation, it is possibly applicable to all cases (Cf. I.1.3.). But how is this comparable to the Lévi-Straussian mythologies?

Consider the different animal parts, related, Lévi-Strauss assures us, because they either have to be separated from the animal before eating it, or they have smaller parts that must be so separated (I.4.5.). This, if anything, is a "higher order" property. Nevertheless, it is a property of these animal parts, not of something they stand for, and it is a property which is meaningful in itself, not just a tag helping to separate some other entity from further entities of another realm. It is a property which is directly perceived, and so are the other properties of the animal parts, and all the properties are experienced as continuous with each other, and as being of the same nature (Cf. I.4.2.).[7] But on the other hand, it would be strange to use any of these animal parts as a point of departure for an ideation with the intention of arriving at the concept of part-to-be-separated-before-eating (etc.), since this is hardly even a typical property in an obvious way. Thus there is no clear endofunctionality. In fact, the criteria of pertinence really seem to be alterfunctional, but the entity determining these criteria does not coincide with the content plane of a sign, i. e. with an indirectly present and thematized item. Rather, as we shall see, the criteria emanate from a thematizing instance.

Janet's piece of cake, it will be remembered, is a *social* piece of cake (1936:30, quoted in I.4.5.). This is true even literally, about the common Birthday cake: there are prescribed ways of cutting the cake into pieces, which would not have been obvious to the Husserlian Bantu. For instance, it is certainly not permitted to separate it into layers, as Lévi-Strauss suggests. Not only does this apply to the *proper parts* of the cake, but also to its *attributes,* more exactly to the thematic hierarchies into which these attributes are organized (Cf. I.2.4.). The same *extensional* piece of cake may have different *intensional* properties, and these properties may be organized thematically in different ways, so as to form different *dominance concepts* (Cf. I.3.1–2.). All of consciousness, Schütz (1970:34) notes, following Husserl, is organized into theme and horizon, and if each society, as he goes on to say, has its "systems of relevances", which define the field of the unproblematical, that which is expected, taken for granted, we could hypothesize that these relevances will also determine which properties are to occupy the apex of the thematic hierarchies, thus fixing the classes into which the things of the Lifeworld are sorted. For instance, in the ordinary use of language only a limited number of sound qualities, those used in the phonemic system of the particular language, are thematical, but then only relatively so, the content plane being more heavily thematized. In poetry,

as the Prague school pointed out, this thematic hierarchy is modified, but only in extreme cases will it be simply inverted. Not only pertinent sound qualities, but also the others, may climb the thematic ladder. However, as Mukařovský in particular has insisted, meaning is never completely abolished, and in the end not even down-graded.

Henceforth it will be useful to make a distinction between *pertinence* and *relevance.* We will use "pertinent", as in linguistics, to refer to those traits which are meaningless in themselves (in the system considered),[8] and which define, to the exclusion of all others, a given entity, for instance a phoneme. And we will use "relevant" about traits which are themselves part of what they define, and which do not exclude the presence or even the importance of other traits in the entity in question. In fact, pertinence is present or absent, but relevance would seem to come in degrees. For instance, the "distinctive features" of objects and events, the "invariants" picked up from perceptual experience, according to the Gibsons (Cf. E. Gibson 1969; J. Gibson 1978:1980), are parts or attributes of parts of the objects and events they define, and they contribute their essential meaning. And as things are seen to change, as well as continuing to be the same, and as cats are recognized as individual cats, as well as having "that particular furriness" identifying them as cats, these traits cannot be exclusive, but only on the apex of the thematic hierarchy of things.

In Husserl's sense, relevance supposes a *noematic* organization of *attributes,* but pertinence would seem to exclude it (Cf. I.2.4.). Again, pertinence depends on pure operativity, that is structure, but relevance would probably require not only figurativity but a union of figurativity and operativity. All the numerous details of figurativity will be retained, at least implicitly, but they will now be organized and connected to each other. Thus, we have not attained pure figurativity, and order and organization do play a role in that kind of meaning which depends on relevance (Cf. I.4.4.). Relevance is simply the "logic" of perceptual experience, also present in the constitution of *perceptual parts* (Cf. I.2.4). The invariants of the Lifeworld are given complete with their variants – or, as Husserl would say, the formal structures get their "Erfüllung". Figurativity is contained in the potential horizons of the theme, awaiting new thematizations. In other words, there are no clear limits to the details included, but they are not actually infinite, and there is an order, a hierarchy of thematizations. However, there are intermediary cases between relevance and pertinence: for instance, in Hochberg's example of a "canonical notation", the toothbrush moustache and the hairdo are part of the real configuration they stand for, Chaplin, although they, to the exclusion of all other represented details, carry the meaning "Chaplin", i. e. it is not important how the rest of the face is drawn, as long as it is a face (Cf. I.2.4.). In this case, we will say that there are *outer pertinence* and *inner relevance.*[9]

So far, we have been concerned to show that the proper comparison for the Lévi-Straussian mythologies are not linguistic pertinences but common Lifeworld relevances. Since we found relevances to combine operativity and figurativity, it would seem plausible at a cursory glance to attribute pure figurativity to the Lévi-Straussian mythologies. But it is sufficient to examine some of the above-mentioned examples (I.4.5.) to see that there is a choice of certain features of the objects determining the formation of classes. Thus, if there is no pertinence, there is certainly relevance. The properties of the objects in these mythological classes are all important, though more or less so. Here, as in the ordinary perceptual relevances, we have a case which is lacking from our list of degenerate signs (I.4.2.), where all items are directly present, more or less thematized, continuous, and of the same nature. The difference from perception resides in that the Lévi-Straussian mythologies will classify things according to just those features which are not *dominant* in the definition of these things current in the Lifeworld; or at least those which are low on the thematic hierarchy.

There is thus, at least for the adult, socialized individual, an obvious tension between the mythological classification and that which is felt to be more "normal" in the particular Lifeworld. In fact, we have a *rethematization,* with the *retention* of another thematization in the mode of *normality.* In addition, it seems that these new thematizations rely on more generally distributed properties, probably global properties, which may in the last analysis be topological and/or spatial. Possibly, they all have a common source in a restricted number of fundamental qualities, derivable from child sexuality, as suggested by Freud, Eriksson, and Gardner (Cf. I.4.5.), or more generally from early bodily experience. In that case, we would arrive at a model fairly similar to the Neoplatonic conception of the universe, reconstructed by Gombrich (1972:170 ff), as a series of concentric circles, arranged in such a manner that proportions which are differentiated lower down will coincide higher up. However, the essential fact of mythological organization seems to be that taken-for-granted dominance concepts are transgressed, and the thematic hierarchy inverted.

Let us now consider an extreme example. Lévi-Strauss (1978:21 ff) tells us the skate is a "binary operator" because, in a myth, it vanquishes the South wind and forces it to blow only now and then, and because, in Lévi-Strauss's interpretation, the skate appears in this role, since it manifests the same "binarity" in its bodily organization as the wind in its temporal occurrence. Firstly, like all flat fish, the skate is slippery underneath und rough on the back, and secondly, it is very large when seen from below or from above, but very thin when seen from the side, so that it could even escape

an arrow simply by turning around. The wind, in its turn, is forced to blow only one day out of two.

We note that there is nothing arbitrary in the relationship postulated, only a choice among possible meanings. But contrary to the other cases considered, the quality which is of interest is this time very abstract, in fact a property of properties: all the properties of the skate, as seen by Lévi-Strauss, come in twos. This is true of its proper parts, e. g. the perceptually salient sides, and of its attributes, e. g. the tactile qualities of its surface, its dimensional extensions, and its possible orientations. Thus the skate, it would seem, could be used in a Piagetian test, in order to discover the formal structure of duality. Of course, the duality is really too redundantly marked on the skate's body for it to constitute the test of anything. Elsewhere, however, Lévi-Strauss seems to argue that *all* oppositions are binary, so that just about any object could serve to discover duality, as Gurwitsch (1974 a) tells us about "l'objet quelconque". But maybe Lévi-Strauss means to suggest that there are privileged figurative accesses to operativity, as we thought Janet may have intended to say (Cf. I.4.5.). Perhaps the duality of the skate is considered by Lévi-Strauss to be particularly conspicuous, because of its redundancy or because of the particular qualities expressing the duality. However, it cannot be because of the redundancy for, if all oppositions are binary, the object having most properties will express duality most conspicuously on this interpretation, and on the face of it the skate does not seem to have particularly numerous properties. But if the dualities of the skate are conspicuous because of the qualities expressing them, they are not really divorced from the qualitative whole of the skate.

But we have already admitted too much. There is no *structure* here, in the proper sense of the term, no *formalization,* no manipulation of the skate and the wind, either directly or internalized, which serves to show that, under some operation, they are equivalent. Even if we accept the equivalence between the skate and the wind, postulated by Lévi-Strauss, there are numerous other dimensions on which this equivalence may be explained (Cf. the mask analysis in I.3.5.). Like the opposition between "jour" and "nuit", the identity between the wind and the skate is regulatory, not constitutive (Cf. I.3.3.). The perceptual twosidedness of the skate is perhaps conspicuous in any world in which most animals have roughly six sides, but the other dualities will only emerge under a particular thematization. The essential objection, however, is that the equivalence, if there is one, has a quite different function in the myth and in formalization. In the latter case, equivalence will only lead to equivalence: items which are equivalent may be included in one class, or subjected to reversible operations. But the equivalence between the skate and the wind is manifested in the myth through their juxtaposition, or, more exactly, through the one being the cause of the others current state. Thus, *similarity* breeds *contiguity* (Cf. I.2.5.).

While it is true, as Lévi-Strauss observes, that the skate is unable in actual fact to fight the wind, both the fish and the wind have other properties, besides the dualities, which explain their roles in the drama: being animate, the fish is more susceptible to being chosen as an agent than the wind which, however, because it moves, also qualifies to agenthood to some degree. This formulation is not only reminiscent of the rules of Case Grammar, it also records the fact that animate and moving objects, in that order, primarily retain human attention. The element having the highest degree of agenthood is naturally the vanquisher. Without knowing more details from the myth we cannot complete this interpretation, but it is already evident that the skate and the wind figure in the myth with more of their properties than the redundant manifestations of duality.

We may conclude, then, that mythical consciousness is even more of a *"bricoleur"* than Lévi-Strauss is wont to argue, for even the properties of properties, which are eminently apt to be *formalized,* are employed in myths just like all other properties, as the relatively most *relevant,* or *thematized* properties of a qualitative whole. More generally, we now know that the kind of meaning found in myths, while not differential, is organized, so that perhaps all meaning is order of a kind; and that *relevance,* in contradistinction to *pertinence,* serves to pick out and thematize one among many meanings already prefigured in the whole; and also that, contrary to the kind of *relevance* found in ordinary perceptual experience, mythical thinking of the kind described by Lévi-Strauss gives prominence to properties which are not ordinarily taken to be the most important. And that may be all there is to it.

I.4.7. Summary and conclusions

The central problem of this chapter has been to investigate if there are any *quadratures of the hermeneutic circle,* i. e. any pre-ordained forms which all meanings have to take, so as to offer a partial escape from the mutually sustaining elements of the structural vault and the precarious building-blocks of common sense abduction. We have, of course, not really answered this question, but the proportionality, the semiotic square, the semantic differential, and the sign function did not emerge as particularly promising candidates to the universal form of meaning (I.4.1–2.). However, *mediation,* particularly in the form of what we called the *antitype,* could possibly be a universal cognitive procedure, and thus of some help in completing the circle once we have entered it, through the opposite poles of an opposition (I.4.1.). As for the sign function, it is certainly not enough to explain all the phenomena that are usually considered to be meanings. The prototypical

sign is surrounded by a number of "degenerate" cases, differing from it in one or more of its features. The more general idea of meaning may have something to do with *connection* and *selection,* or *order,* as Lévi-Strauss suggests (I.4.2.). And in fact, we shall see in the end that order of some sort is essential to all meaning: besides *pertinence,* coming out of *structure,* there is *relevance,* the thematic hierarchy already found in perception (I.4.6.).

Formal organization, we suggested, following Husserl and Piaget, is *idealization* of real-world experience. Therefore, experience is the precondition of more meaningful experience (I.4.4.). But something else than formal organization, i.e. particular qualities, could give privileged access to the hermeneutic circle, those kinds of qualities, perhaps, which Lévi-Strauss finds in myths. Between conceptual and mythological thinking, there is more of a difference of "logics" than Lévi-Strauss seems to think, but maybe their qualities are different too (I.4.3.). In fact they are, and the difference may have something to do with operativity and figurativity, as discussed by Piaget and Gardner. But these notions at first seem somewhat contradictory, because the experience of details and of organization is found on both sides – but with different functions, as we were able to show (I.4.4.). But now we had to show, against Lévi-Strauss's interpretation of his own work, that Gardner is right in thinking that the qualities themselves are meaningful in the myths. But we were unable to decide whether the source of all these qualities favoured by mythology and art is the child's sexual experience, or more generally, its bodily experience, or whether there were many heterogeneous sources. Neither could we determine if the qualities in question were derived from experience, like the formal organizations, or if they were innate. These are questions semiotics must leave to psychology. But we did note that many of the qualities lend themselves to a topological or at least spatial interpretation (I.4.5.). However, we did come up with a principle, to which we would like to attribute some universality, just as we did to mediation: *relevance,* and its transgression in mythological qualities. At the same time the kind of meaning found in mythology at last emerged as something organized, too: in thematical hierarchies. Thus pure figurativity would seem to be inaccessible, and meaning is order (I.4.6.). But we now want to know if all this applies to pictorial meaning (Cf. part II and III).

Now mediation, relevance, pertinence, and the sign function, do give us some help in entering the circle. And all the rest is structure and abduction.

Part I.
Summary and preview

In this first part, our starting-point was the problem of characterizing the specificity of semiotics, testing the case first in history, then through the comparison of models, methods, and points of view. Semiotics, we argued, may be seen as a third-generation attempt at giving a common basis and justification for the human and social sciences, which employs a whole series of methods rather than one single one. While it has outgrown the linguistic model, something is left to be learnt from the experience. Again, if the point of view of semiotics is the point of view of the participant, it is not that alone: it must include at least one level below the consciousness of the user. While all this is suggestive, it is certainly not definite enough. So we decided to explore some of the concepts born out of the semiotic tradition, inquiring into their relevance for the analysis of pictures and judging them in the light of psychology and phenomenology. Our second chapter was thus dedicated to *contiguity, abduction,* and *perception.* The third chapter was concerned with different types of *categories* and the *relations* they could have with each other, and it also considered different kinds of *wholes,* most prominently *structure* and *configuration.* Finally, in our fourth chapter, we discussed the possibility of meaning having any universal *form,* rejecting, among other proposals, the *sign function.* But we did come up with one or two general principles which could have a universal character. We were also concerned about the interactions of *operativity* and *figurativity.*

Apart from discussing these particular concepts, and a few others besides, we have, I think, been showing the way semiotics might work: while considering questions of wide scope usually relegated to philosophy, semiotics could avoid the strange doctrine of the double truth taking account of the results of psychology, sociology and the other "positive" sciences. But, on the other hand, there is no reason to accept the results of these sciences uncritically. Like Sherlock Holmes, other "scientific researchers" (Cf. I.2.3.) only have "trifles" to go by, that is, some indirect, or at least partial, facts, when they construct the whole which is of interest to the theory. To get from the experimental manipulations to the theory, at lot of *abductions* and other *Lifeworld* suppositions will also be needed. Thus, an attentive analysis of Lifeworld intuitions, like the one practised by Phenomenology, is useful. And it is worth trying out results from the experimental approach with the help of text analysis or system analysis, and vice-versa (Cf. I.1.3.). Thanks to semiotics, interdisciplinarity may become a disciplinarity of its own.

All through this first part, pictures have been analysed to illustrate the workings of certain concepts. But our point of departure has always been the concepts, which

are concepts of *general semiotics.* In the parts to follow, we will change our procedure, starting out with problems and concepts peculiar to the analysis of pictures, and even, in part, from particular pictorial analyses. Further, the material treated in our fourth chapter was exclusively mythological in character, so we still have to discover how *figurativity* and *operativity, pertinence, relevance,* and the *transgression* of the latter contribute to pictorial meaning. Firstly, we will be concerned with the organization of pictorial meaning into different layers. Then *iconicity,* the motivation by similarity, will be thoroughly discussed. However, the essential question about how pictures can *differ,* among other problems, will be left for another study. As we proceed many problems will be touched on without being resolved. Even when a solution is proposed, it should be taken as a suggestion, congruent with the present state of our investigations, rather than as a definite answer proclaimed for all eternity. However, we will certainly show in a more definite manner where semiotics has gone wrong.

Thus, we are at last ready to enter the study of pictures for pictures' sake.

Part II.

Contrasts in pictorial semiotics: Floch vs Barthes; The problem of secondary languages

"Disons qu'il y a deux langues: le language aprés coup, celui qui est acquis, et qui disparaît devant le sens dont il est devenu porteur – et celui qui se fait dans le moment de l'expression, qui va justement me fair glisser des signes au sens – le langage parlé et le langage parlant."

Merleau-Ponty 1969:17

Among those semioticians who have been concerned with pictures, one group has employed what we have called a *system analytical* approach, trying out their intuitions mentally and illustrating the results with sparing examples; so, for instance, Peirce, Morris, Eco, Zemsz, and Wallis. Others have used the *text analytical* approach, starting out from a given, meaningful occurrence, in the analysis of which they amplify their original intuitions. Floch, Thürlemann, Barthes, Gauthier, Fresnault-Deruelle, Tardy, Lindekens, Vilches, Nöth, Hünig, Williamson, among others, have worked in this way. And there is yet another group, which has been using the *experimental* method well-known to psychologists: Lindekens and Tardy, again, Krampen, Espe, Lampp, Porcher, and so on. The text analytical approach will be discussed in this part, and the system analytical approach will be the subject matter of the following part. Experimental evidence, from semioticians and psychologists alike, will be invoked whenever convenient (Cf. I.1.3.).

As it happens, the problem of *iconicity* has been almost exclusively treated by the system analytical approach, whereas the text analyses have tended to concern in particular the units of pictorial meaning and their organization. In this part, we will begin by reconsidering a few well-known text analyses to discover what is implied by their particular manner of proceeding, and we will then take up the same issues a second time from the point of view of system analysis. In a parallel fashion, we will discuss the problem of iconicity in later parts, first from a system analytical point of view, and then go on to include some instances of a text analytical approach. Thus not only the concepts, as suggested in part I, but also the problems will be approached with different methods.

We will start our study with a close reading of Barthes's famous article about the Panzani publicity from 1964, which is often thought to initiate pictorial semiotics, although Tardy published an article and Mouloud a book the same year and Barthes began his picture analyses at least as early as 1961. Some elements of structuralist metaphysics and an elucidation of the notion of *connotation* will give some background for our interpretation, and we will also show that, contrary to what has often been argued, there is no similarity between Barthes's and Panofsky's models (II.1.). In the light of Barthes's own *Eléments de sémiologie,* we will then go on to consider the question whether meaning is use or use meaning. Also, since it will be evident that there are some serious problems with Barthes's application of the concept of connotation to pictures, we will outline a supplementary analysis (II.2.).

We will then consider the work of Floch, who with Thürlemann is the most interesting exponent of pictorial semiotics in the Greimas school. Two analyses, one of the "News"-publicity, and the other concerned with a painting by Kandinsky, will be discussed. Iconicity, too easily invoked by Barthes, will turn out to be the blind spot of Floch's analysis. Floch's contribution to the investigation of the *specificity* of pictorial meaning is important; nevertheless, the concepts elaborated in our first part will permit us to make a few additions to this study. On the other hand, the concept of *semi-symbolicity,* derived from Hjelmslev's concept of a *symbol system,* will be shown to be highly problematical. However, *plastic language,* claimed by Floch to be an instance of semi-symbolicity, will prove to be an important kind of secondary language, different from connotation.

Different variants of connotation, founded on the expression plane of the primary sign, will then be reviewed from the point of view of system analysis. Starting with a critique of Metz's reading of Hjelmslev, we will then show that *connotational language,* as conceived by Hjelmslev, has at once a wider and a more precise meaning (II.4.). Nevertheless, after this sympathetic interpretation, we will pass on to our own critique of Hjelmslev's conception. In particular, we will throw some doubt on the parallelism between connotation and metalanguage, and the ambiguities of connotational language will be pointed out. Hjelmslev's important insight into the *heterogeneity* of meanings will have to be safeguarded on a more general level. And that will conclude the investigations of our second part.

Chapter II.1. Barthes on the language of connotation

> *"Structuralement, l'existence de deux systèmes réputés différents, la dénotation et la connotation, permet au texte de fonctionner comme un jeu, chaque système renvoyant à l'autre selon les besoins d'une certain* illusion."
>
> *Barthes 1970:15 f*

Barthes's analysis of the *Panzani* publicity is not, I think, a very good example of a semiotical interpretation, but it is unavoidable, having been commented on by most exponents of pictorial semiotics, such as Lindekens, Floch, Vilches, Perez Tornero, and Porcher, and by a few other semioticians and linguists, such as Prieto and Kerbrat-Orecchioni. It is also taken to be a typical manifestation of the application of semiotic analysis to pictures by those not themselves versed in semiotics. And lastly, it is of particular interest tous because it introduces us to the problem of pictorial connotation.

The picture analysed is a publicity for the products of the *Panzani* brand: spaghetti, Italian tomato sauce and grated cheese. Examples of the products are shown with a selection of vegetables in a string bag, held up by an invisible hand outside the picture. The brand name is to be seen on the *Panzani* products, and there is also a short text below the string bag. Barthes first comments on the linguistic message, which he takes to "anchor" the non-coded message of the picture, and notes its *denotative* and *connotative* aspects. He then goes on to consider first the "denoted picture" and then its "connoted" part. Barthes's reading is entirely intuitive: he bases his interpretation on *one* isolated text, not, as a structuralist should, on a series of similar texts, and he does not discover any repeatable units, not even units repeating themselves inside this one text. The meanings are adduced out of Barthes's own intuitive judgment, justified, we may suppose, by his membership in French culture, and there is no serious effort to isolate the *pertinent* features responsible for the transmission of these meanings (Cf. I.1.3.). Thus the "structuralism" of this analysis would seem to be completely illusory, imputable to the presence of a series of terms borrowed from the linguistic theories of Saussure and Hjelmslev. And yet, there is perhaps a rudimentary theoretical skeleton which is really operative in the analysis – the distinction between *denotation* and *connotation.* That is what we must try to investigate in the following pages.

After considering a few of the metaphysical presuppositions of Barthes's analysis (II.1.1.), we will establish a distinction between four very different notions of connotation, known from the history of ideas (II.1.2.), and we will show that Barthes's notion of connotation, to the extent that it has been taken from Hjelmslev, as Barthes himself claims, has nothing to do with Panofsky's levels of interpretation, as has often been suggested (II.1.3.). Barthes's analysis will then be reviewed in the light of Hjelmslev's model, and some problems with this identification will be pointed out (II.1.4.). We will then also take a new look at the *Panzani* picture (II.1.5.). It should be noted that many aspects of the *Panzani* analysis will be left untouched on the following pages: many of them are reviewed in Perez Tornero's (1982) admirable study of the semiotics of publicity born out of Barthes's initiative. For us, however, the central problem is the putative presence of connotations, in one sense or other of the term, in the organization of pictorial meanings.

II.1.1. Structuralist metaphysics – the Panzani version

Our guide to the ideological commitment behind Barthes's approach will be a small article by Floch (1978b), in which the latter points out a number of features of Barthes's conception which conflict with the Greimas school approach. We will then however elaborate on these remarks in a somewhat different sense.

First, there is the problem of the *purposefulness* of the pictorial meaning. As Barthes himself remarks, he chooses an advertisement for his first real essay on pictorial semiotics because a picture in such an instrumental genre may safely be supposed to have been given the form it has, not by accident, but with a clear awareness of the ensuing meaning. Since, according to the Greimas school, the degree of awareness does nothing to change the nature of meaning, Floch accuses Barthes of basing his argument on a simplistic theory of communication, of the kind found in the work of Mounin. There is a strange irony to this. Mounin, like Buyssens and to some extent Prieto, interprets Saussure to mean that semiotics should be exclusively concerned with meanings which are similar to linguistic signs (?) in that they are consciously and knowingly communicated to another person. Both Mounin and Prieto distinguish a

semiotics of *communication,* concerned with meanings transmitted on purpose, from a semiotics of *signification,* which is wider in scope but of more doubtful legitimacy, or at least more difficult to accomplish in a serious way. Mounin (1970:189 ff) criticized Barthes precisely because he neglects to limit semiotics to purposeful meanings, and even Prieto (1975 b:181 f) develops his concept of a semiotics of signification in a reflection on Barthes's work. It is true that at least Mounin is concerned with other writings of Barthes's. It is exceptional that Barthes attaches importance to purpose.

Now Floch fails to see the point of this choice. Every analysis undoubtedly supposes there is a procedure for separating that which is *relevant* or *pertinent* from the rest of the material, a way of finding the "form" in the "substance", as Hjelmslev would have said. *Alterfunctionality,* however, requires a *constant,* relative to which something may be varied, as in *commutation.* Given a language system, which is intersubjectively recognized, content and expression may be varied relative to each other, as is done in linguistics. But if there is no pictorial system, if photography (but not drawing) is a "message sans code", as Barthes maintains, then the constant element of alterfunctionality needs to be chosen elsewhere, maybe in the purpose of the picture's originator. There are those who, like Hirsch (1967; 1977), consider that even the meaning of a verbal text, as against that of the units in the language system, must depend for its determination on our acquaintance with the purpose of its author, no doubt because the combinations of the units and the choice of the signification of an ambiguous term are not given in the language system. The trouble is, of course, how to establish the purposes of other people. Besides, the distinction between a semiotics of communication and a semiotics of signification seems rather pointless, since any degree between full awareness and complete automatism may exist in the employment of all or most semiotic systems (Cf. Sonesson 1978 a; 1979 b). But the present case is different: apart from pornographic pictures, there is probably no pictorial genre which has a more clearly *socially recognized purpose* than publicity pictures. The "deep structure" of any publicity will contain the three elements "Aufforderung zum Konsum", "Produkt", and "positiven Merkmalen des Produktes", as observed by Nöth (1975:44, 63, 83; 1977:49. Cf. Koch 1971:238 ff; Lindemann 1976 a); that is, their purpose is to tell us to buy product X which is the best in the world. The *product* itself will usually be present, since it is necessary to create the conditions for its later identification. Features which are *positively* valued in our society must somehow be *transferred* to the product, in order to create a desire for its comsumption (Cf. I.2.5.). But identification is not enough: the product will also have to be *maximally differentiated* from its competitors (Cf. Koch 1975:55 ff) with the help of a "production industrielle des differences" (Baudrillard 1970:125 ff), to be achieved in publicity, if not already on the object itself. But if this is so, some amount of commutation will be possible, using these purposes.

While all this is undoubtedly true, it is not enough. There may be other purposes, which are not subordinated to the general purpose of selling the product. In the first place, publicity may have other institutionalized but less overt purposes, for instance to fortify the values of Capitalist society, either because this may help in the selling of the particular product in the long run, or because publicity also defends Capitalist ideology as such. In the latter case, not only would "social mythology" be used to promote the products,as Williamson (1978:27) tells us, but the reverse would also be true: that the products sell social mythology. Media sociology would have to establish if this is really a conscious purpose of publicity or a subsidiary effect. But publicity, or a given advertisement, may have other purposes as well, which could either be part of the institutional framework, and yet not clearly evident to the very creators of publicity, or be purely personal aims on any level of awareness of these creators. As to the first point, Williamson (1978:12) claims that besides selling products, publicity has come to take over the functions of religion, at least in the creation of symbolic values, and elsewhere she hints repeatedely at a similarity between advertisements and the Freudian dream work. These aims could hardly be entirely subordinated to the selling of the product and the maintainance of Capitalist ideology. I have suggested earlier (Sonesson 1979 c) that publicity may leave certain scope for the kind of poetic "rêverie" that Bachelard has described in literature and science. Again, it should not be forgotten that publicity may hold a place for the kind of "plastic imagination", which in another century would have been expressed in art, perhaps Academic art, but which is no longer acceptable inside the Canons of Modernism.

To conclude on this issue, we will admit that there is a series of *institutionalized purposes* of publicity, which are to a greater or lesser degree *in the public domain,* and which may thus safely be used as constant elements in a *commutation,* but that alongside these there are also other purposes which contribute to the constraints laid on the expression plane of the publicity picture, so that there is no hope of explaining the picture from the institutionalized purposes alone. Art also has some institutionalized, public purposes, but nobody would think of explaining a painting from these alone. Of course, in our society, publicity is not thought to have other purposes than selling the product. Thus when, like Barthes, we use the selling purpose as the constant of our interpretation, we are making use of the *principle of relevance* intrinsic to our society, that is, we are acting as participant observers (Cf. I.1.4.). Nevertheless, it remains possible that, on a deeper level of participation, we will discover still other purposes.

Floch's second criticism concerns Barthes's attach-

ment to the *"substances"* of the semiotic systems involved. Barthes in fact takes it for granted, in the very strategy of his argument, that the linguistic and the visual-iconical substances correspond to different "forms", i. e. that their expressions and contents are organized differently. According to the Greimas school, on the other hand, content and expression have each its own organization, so that one and the same content may well be combined with various expressions. In Floch's own analyses, linguistic and visual-iconic "substances" are made to express the same content, as we shall see later. This is of course in contrast to the classical Saussurean conception of the sign, as cutting through two amorphous substances – sound and thinking, in the case of language – in one single cut. Floch's formulation is inexact: if, as Hjelmslev (1958) argues, speech and writing differ not only as to their substances, but also in their "forms", that is in their pertinent features, then pictures and writing and/or speech must certainly have different "forms" as well, *at the level of expression.* What Floch really means to criticize is that Barthes thinks that different *expressions,* form and substance together, must have different *contents.* But Floch also separates verbal and pictorial "texts" in the beginning of his analysis, in order to estalish the identity of their contents in a later phase (Cf. II.3.).

And in a way, Barthes will also claim in the end that the picture and the words mean the same – but, in his view, this is so because the picture alone has no (accessible) meaning, but needs to borrow it from the words. Thus, the present analysis follows the program laid down in "Élements de sémiologie", where we are told that "semiology" is a part of linguistics, not the reverse as Saussure claimed, apparently because the only access to meaning is through the language talking about it – in the same way as Barthes, in "Système de la mode", chose to analyse clothes, not as such, but as fashion writers talk about them (Cf.Barthes 1964 a;1967). Now, while the Greimas school would seem to adopt, to some extent, the linguistic model, because all meaning is considered to be similar to the linguistic kind, or to admit of the same treatment, i. e. for *ontological* or *pseudo-ontological* reasons, the justifications Barthes appears to have for the same choice are rather *epistemological,* and basically opposed to those of the Greimas school. Actually, Barthes seems to think that semiotical systems other than verbal language are inaccessible to analysis, and thus can only be attained *indirectly,* through the way language refers to them and describes them. Or perhaps he means to say that it is only verbally that we are able to take *explicit* cognizance of other semiotic systems. It is only by interpreting it this way that we have been able to make sense of Barthes's argument.

In any event, the argument is not clear: Barthes (1964 a:79 f) admits that objects, pictures, and behaviour may signify "abondamment, mais ce n'est jamais d'une façon autonome", because the meaning of pictures is confirmed by words, or is even redundant in relation to them, and food and clothing recur to signifiers and signifieds which are the result of a verbal segmentation of the world. "Il n'y a de sens que nommé, et le monde des signifiés n'est autre que celui du langage" (Ibid.). In the first quotation, Barthes may be taken to mean that the "abundance" itself is caused by the accompanying words, or that this abundance exists prior to the linguistic message, containing the linguistically confirmed meanings *and something more.* The first of these interpretations is the only one compatible with the second quotation above, and it is also the one rightly criticized by Prieto (1975 b:129 f), objecting that all meanings are not linguistic, although contrary to us he thinks they are signs (Cf. I.4.2. and II.2.). But the second interpretation is favoured by "Rhétorique de l'image": here, the picture is said to be "polysemic", and the linguistic message is one of the means of fixing or "anchoring" one of these meanings, at the same time "repressing" the others (1964 b:31 f). Also the rest of the article confirms that the problem with the picture is not its lack of meaning, but its *meaning too much:* there is "une plénitude de virtualités" in the denoted picture (p. 34). And out of this "'chaîne flottante' de signifiés", Barthes informs us (p. 31), "le lecteur peut choisir certains et ignorer les autres". But then a choice, even if only a *subjective* one, is possible without language. There is meaning in the sense of *relevance* (Cf. I.4.6.). This means that, in the absence of a linguistic message, the "reader" of the photograph has to make the choice himself which is otherwise made by the draughtsman, rendering drawing, in contradistinction to photography, a *code* in Barthes's sense: the separation of significant details from the mass of material (p. 34). So what is the point of having this choice made by language? If it is just in order to be able to *talk* about the picture, Barthes's thesis would be a truism. Perhaps, then, language has to make the *principle of relevance* employed an objective one.[1]

Before we continue, we should note that the *panlinguisticism* of Barthes echoes *linguistic determinism,* also known as the *Humboldt/Sapir/Whorf-hypothesis,* which claims that the forms of the language we speak condition the ways of our thinking. Even Hjelmslev and Eco have propounded this idea. But it now seems certain from linguistic studies (Cf. Gipper 1972) and from experiments with deaf-mutes (Cf. Furth 1966) that this theory cannot be true in a general sense. When Barthes tells us food and clothing signify with the help of a segmentation of the world taken over from verbal language, he is simply repeating this theory. This segmentation is probably supposed to have been accomplished by verbal language once and for all. But when he claims that a particular verbal text, present in some publicity, determines the meaning of the picture, the segmentation must apparently be made anew on this occasion. The same thing holds for Marin's (1971 a) analyses of me-

dals and seals making use of the legends inscribed on them. In these cases, it is *discourse,* not language, which must be taken to determine the pictorial meaning.

This is even clearer when the discourse is not included in the picture, but separate from it, as in fashion discourse, which Barthes (1967) thinks is giving meaning to fashion, and the description of a painting which, according to Marin (1971 a; 1977), must be analysed instead of the painting which is, in itself, inaccessible to analysis. In the case of Marin's medals and Barthes's publicity, the verbal text could be taken to express the interpretation of the originator of the picture, thus specifying the *public, intitutionalized purposes* of medals and advertisments respectively. Thus, there is a certain *objectivity* here, because the principle of relevance introduced by the creator is respected (Hirsch would agree). But the interest of the choice made by the fashion writers, or by an anonymous descriptor of a painting, is less obvious.

Marin fortunately seems to forget rather quickly that his subject matter is a description of a painting, rather than the painting itself. Maybe Marin's aim is really, as Schefer (1971:178) critically observes in his review, to *reduce* the painting to its "literary reading". In that case, only the principle of relevance would be taken from the description but, unlike what happened in the case of the principle of relevance embodied in the publicity text, it is not clear what instance would be responsible for the reduction. If the interpretation of a particular critic had been referred to (Cf. Vodička 1976), then, exactly as in the case of the journalistic vision of fashion, we could inquire into the influence of these interpretations on the intersubjective meaning of the facts – but not when, as here, the identity of the facts and the interpretations is postulated beforehand.

Thus, when there is a *contiguity* between the verbal and the visual-iconic text, the suggestion that the former may "anchor" the meaning of the latter seems more justified. But let us now consider what really happens in Barthes's *Panzani* analysis. As Prieto (1975 b:193 ff) observes, the brand name "Panzani", which is the only linguistic message discussed by Barthes, is actually a visual-iconic sign representing a linguistic sign, for it is only found on the packages in the picture; and the real linguistic message, "Pâtes – sauces – Parmesan à l'italienne de luxe", is not even mentioned by Barthes. I think we could admit that the brand name, as well as all the rest that is written on the labels in the picture, continue to function linguistically, though they are iconically reproduced, but it is more serious that Barthes ignores the principal part of the linguistic message.

This is however only the beginning of the paradox. Under the heading "The linguistic message", nothing is said about the particular case of the *Panzani* publicity, contrary to what happens on the pages dedicated to the pictorial message; only the function of anchoring and relay are discussed in general terms. The general analysis only touches on the "connotations" of the brand name; it is never shown to "anchor" the pictorial meaning of the advertisment. Instead, on proceeding to the pictorial message, Barthes (p. 27) tells us it "livre aussitôt une série de signes discontinus". And with no apparent difficulty, Barthes goes on to list a series of themes which are prominent in the picture, though not at all linguistically expressed. In spite of his explicit claims, Barthes, in his analytical practice, would seem to agree with Prieto (1975 b:196 f) that it is really the picture (in which Prieto includes the labels) not the text, that could do without the other without losing its meaning. Maybe, as in the case of the meals and the clothing, Barthes wants to argue that the *categories* through which the pictorial meaning is expressed are linguistic in origin. But then the determination is from *language,* not from this particular *discourse,* there is no *anchoring,* i. e. the problem of a choice among the abundant pictorial meaning is left unresolved, and in fact there is very little reason anyhow to believe such a linguistic determination takes place.

But there is also the possibility that Barthes uses the term "linguistic" in a very Pickwickian sense indeed. In fact, it is only the "image dénotée", deprived not only of the linguistic message, but also of what Barthes calls "les signes de connotation", i. e. the "themes" mentioned above, which is "une plénitude de virtualités" (p. 34). Thus, while Barthes never tells us so, these "connotations" apparently contribute to the *anchoring* of pictorial meaning as well. Porcher's (1976:150) counter-proposal, that even "la photographie frontale de l'objet de la publicité", in this case a packet of Winston, is capable of anchoring pictorial meaning, is not far removed from Barthes's practice. But Porcher also seems to suggest, although he never returns to this point, that it is the pictorial *composition* which is doing the anchoring. But even if Barthes would include the pictorial connotations in that curious language he is talking about, it is not clear why he should want to call it language: his language "n'est plus tout à fait celui des linguistes" and is made up of units more extended than the word – but Barthes certainly does not seem to be thinking about sentence structure. Marin (1971 b) did argue for a parallelism between the sentences "Hora fugit – Mors imminenta – Marcescit honor" and the three objects found in a still-life from the XVIIth century: a watch, a death's-head, and a faded rose but, in this essay, he does not claim any priority for the linguistic message. Barthes never gets down to such specifics in his analysis.

This leads directly on to the third issue raised by Floch: he observes that the strategy of Barthes's analysis presupposes the identity of a series of dichotomies taken from psychology, sociology, and linguistics, namely *coded* vs *non-coded, perceptual* vs *cultural, literal* vs *symbolic,* and *denoted* vs *connoted.* Of course, nothing permits us to affirm that these properties must

go together. A curious fact, which seems to have escaped Floch, is that Barthes apparently considers the connotation of verbal language to be relatively *less* coded than its denotation, whereas in the picture he takes the connotation to be relatively *more* coded, and the denotation is considered to be deprived of any coding. This is suggested by the order of the steps followed in Barthes's analysis: first the linguistic denotation, then the linguistic connotation, after that the connotation of the picture, and lastly the pictorial denotation. When Barthes (1964 b:26) sets out to "'ecrémer' les différents messages", he begins, as Floch correctly observes, with the most obviously "coded" one (in the sense, I suppose, of the most conventional and the most systematic one at the same time) verbal language, and then advances to ever more dubious codings, to further layers of the picture, labouring under an ever-increasing resistance to extract from each layer its coded part, until at last only the pictorial denotation is left as a residue or, as Barthes (p. 34) himself tells us, "un message privatif". But if this is so, linguistic connotation is seen to "resist" more than linguistic denotation, and pictorial denotation, unlike pictorial connotation, never ceases to "resist"! This is certainly strange, but we must suspend judgment until we have considered in more detail what is meant by connotation in Barthes's work.

But there is a further paradox, also observed by Floch: there is no way of having access to a pictorial connotation before having *identified* the object to which it should be assigned, and identification, according to Barthes (p. 34), takes place at the level of pictorial denotation. For instance, only when we have identified a shape in the picture as being a tomato can we assign to it the connotation of "Italianity". But this requirement amounts to a direct inversion of the procedure of exhaustion used by Barthes in the rest of the essay, which permits the denoted picture to emerge only after the signs of connotation have been cancelled out. According to Floch, this contradiction is unavoidable when one, as Barthes does, tries to construct the system of interpretation at the same time as he is making an inventory of the parts of the picture.

This judgment of Floch's, let alone the causal explanation which he adds, seems unjustified. In fact, Barthes (p. 29, 33 f) repeatedly tells us that, from the point of view of a "spontaneous" reading there is no distinction between the two signification layers of the picture. He also tells us that there could be no purely denotative picture, and that the signs of connotation can only be mentally, not physically, cancelled from the picture (p. 33 f). The first contention has been contested by Porcher (1976:128 f), who tells us that his experimental subjects have been unable to assign any connotation to some of the pictures used, but the argument is vitiated by the differences in the two conceptions of connotation and, besides that, on any interpretation of connotation, no experimental procedure could demonstrate its *absence,* and many convergent operations would be necessary to render its absence probable. Costa (1977:73 ff) seems to contest the second contention when he argues that only 4,8 % of a particular photograph is denotative, the rest having been cut away without hampering identification. However, apart from this particular picture being occupied by one big object, and being extremely blurred, the question of identification from partial evidence or from a fragmented view is not quite the same as the problem of denotation (Cf. the discussion of *resemanticization* in III.4.3.). Anyhow, since Barthes must undoubtedly have made a "spontaneous" reading before the "structural" one, he will have no problem identifying the tomato before finding its connotation. In fact, the tomato may even be recognized from the global properties characteristic of its particular "tomatohood". Well considered, Floch's criticism is actually strange: the pictorial denotation, which is the layer most resistant to codification, is also quite naturally the one immediately seen.

A more serious problem is that, in spite of its "plénitude de virtualités", the denoted level of the picture is thought to permit the identification of the real-world objects represented. But identification requires the presence of some features distinguishing each object from the others, or each category of objects from other categories (Cf. Gibson 1969). Of course, these features are not necessarily conventional, if that is what coded means, but they must somehow be systematic. Thus, what Barthes calls the denoted picture cannot be as chaotic as he suggests. Here we recognize the problem of *iconicity* (cf. the whole of part III). It is difficult to understand how the possibility of identification should be reconciled with the repleteness of meaning of the denoted picture, though Barthes states that it can be (p. 34).

There is however a hint at the solution on the same page: a member of any given society "dispose toujours d'un savoir supérieur au savoir anthropologique et perçoit plus que la lettre". Maybe, then, we are back to the problem of the "cultural meaning" of objects, as Gurwitsch called it, the question of the cube and the dice (Cf. I.2.2.). However, Barthes's ultimate layer of signification, constituted, we are told (p. 28 f), "des objets nommables" known through "un savoir presque anthropologique", contains tomatoes, a string bag, a packet of spaghetti, and so on, and undoubtedly, Husserl's hypothetical Bantu would be unable to identify the string bag, the tin can, and the packets of grated cheese and spaghetti, while even a European before the discovery of Mexico would be at a loss to give any name to the tomato. Even at the denoted level, therefore, there is cultural meaning, and it is not clear how it differs from that of the connoted level. That is, if Barthes means to say that the denoted level is determinate as to the perceptual identification of the object, but replete with virtual cultural meanings, he is mistaken. It might be suggested that the cultural meanings of the denotation are those of the

Lifeworld, while those of the connotation are added by the picture, but as we shall see (II.1.4.), and as was already observed by Lindekens (1971:231 ff), the pictorial rhetoric of Barthes's is a *rhetoric of the referent,* "une rhétorique de l'information"! But before we can begin to make sense of all this, we need to know what is really meant by the term "connotation". This is the theme of the following sections (II.1.2–4.).

So far, we have seen that the purpose of publicity is, at least to an extent, *public* and *institutionalized,* so that it may be used as the invariant of a pictorial *commutation,* but it could not constrain the content, so as to specify all details of the expression plane; and we have discovered that the part of language in the anchoring of pictorial meaning is negligible, at least in the *Panzani* publicity. But we are left with some very strange, seemingly contradictory results, with regard to the question of the layers of pictorial meaning. Consequently, we now have to acquaint ourselves with the notion – or, as it will turn out, the notions – of *connotation.*

II.1.2. Conceptual sundries. Four notions of connotation

> *"Konnotatorerne vil være at analysere paa grundlag af deres indbyrdes funktioner, ikke paa grundlag af den inholdsmening der er tilordnat dem eller kan tilordnas dem /*The connotators are to be analysed on the basis of their mutual functions, not on the basis of the contents which are assigned to them or could be assigned to them/."
>
> *Hjelmslev 1943:105*

When Barthes, in his article on the rhetoric of pictures uses the term "connotation", it is reasonable to suppose that he wants it to be understood in the sense of Hjelmslev's definition of *connotational language,* on which he comments at great length in "Eléments de sémiologie", first published the same year in the same volume of the same review. Hjelmslev's definition is also hinted at in the article itself (p. 29 f), and there is an explicit reference to the relevant passage in "Eléments de sémiologie". Besides that, most of the other terms used in the article, like those of "Eléments de sémiologie", have in fact been taken from Hjelmslev. Nothing suggests however that Barthes is conscious of thereby using a term which has a problematical meaning.

Actually, as I have argued elsewhere (Sonesson 1983–84), at least four extremely different notions of connotation, together with the corresponding notions of denotation, are found in the (more or less) scholarly literature, and if there is to be *any* sense in using the terms, we have to begin by distinguishing these notions (of which some may be concepts) from each other. The classification will be repeated here in an essentially identical fashion to that of the earlier publication, but some further clarifications and justifications will be given in a later chapter (II.4.). Since my analysis was first made, I have become aware that there are at least three extant books on the subject (Garza Cuarón 1978; Kerbrat-Orecchioni 1977 b; Rössler 1979), and numerous articles (for instance, Molino 1971). Unfortunately, Rössler's book only serves to augment the reigning confusion in the field and even Kerbrat-Orecchioni, while giving some good specific analyses of the Hjelmslevian kind, comes up with a definition which is no less incoherent because its heterogeneity is explicitly affirmed.

In fact, she joins connotation in what we shall call the *stylistic* sense with connotation similar to what we will call the *semiotical* sense, on the grounds that they may sometimes appear together (1977 b:18), and though she claims Martinet and Eco confuse the latter notion of connotation with the *logical* one (p. 13), later examples seem to abandon this distinction. Furthermore, when she tries to define connotation by a sole trait, it emerges as a simple *residue concept:* it is "surplus" (p. 18), that which is not useful for identification (p. 15), those traits that are not necessary and sufficient for pointing out the object, i. e. features not being in the denotation (p. 6), and even the conjunction of variable features, constant features which are not distinctive, features responsible for metaphorical transference, and other connotative (sic) traits (p. 181). If meaning, is *prototypical,* as we have every reason to believe, *denotation* cannot be distinguished by necessary and sufficient traits. On the other hand there may very well be a *principle of relevance* permitting the identification of *connotative meanings.* Thus, even as a residue concept, connotation according to Kerbrat-Orecchioni is unacceptable. In the end, not even the residue concept is left untouched: we are told that even connotation may denote (p. 226)! On the other hand, Garza Cuarón has lucidly diagnosed the conceptual confusion behind the term "connotation", describing at length its historical causes. Her extensive list of the varying senses givento the term throughout history might be useful for other purposes, but for the present we will be content to distinguish for notions, with a few subcategories. And even Garza Guarón fails to note the peculiarities of the concept introduced by Hjelmslev.

In the cases which interest us, the notion of *connotation* is conceived in relation to another notion, that of *denotation.* Ignoring some marginal cases, these notions are defined on the *sign function,* in a somewhat loose sense. In fact, the four correlated notions of connotation and denotation may be viewed as different ways of *segmenting* a particular semantic domain, constituted of the two relata of the sign function, i. e. *expression* and *content,* and of the portion of the Lifeworld corresponding to the content, viz. the *referent* (Cf. I.3.2.). Of the two latter realms, the content is considerered to be a mental unit, as Saussure and Hjelmslev have insisted, or more exactly an intersubjective entity; and the referent is thought of as something which may be encountered in the Lifeworld, in direct perception, or at least potentially

so. In the case of the *logical* distinction, the connotation is identical with the content, or with a particular feature analysis of the content, and the denotation is the same as the referent, or the relation connecting the content to the referent (or, in some conceptions, starting out directly from the expression).

In what we shall call the *stylistic* distinction, denotation is a *part* of the content, which is considered to be in one-to-one correspondence with the referent, and connotation is what is left of the content when denotation is deduced; but, as this is a particularly confused distinction, connotation and denotation are, at the same time, considered to be different *kinds* of contents, where the possible kinds of content are defined by psychological predicates. Also, in some versions of this distinction, the semantic domain to be segmented is extended to include the subjective mental content of the sender and/or receiver of the sign. The *semiotical* distinction, so called because it is proper to semiotics, viz. to the Hjelmslev tradition, concerns a denotation which is a relation between the *expression* and the *content,* and a connotation which relates two signs (i. e. two units of expression and content) in a particular way. Finally what Eco calls connotation, when he is not thinking about the stylistic notion is really what is elsewhere termed a *(contextual) implication,* so that the distinction is this time concerned with different levels of *indirectness* inside the content, the denotation being simply the less indirect one. These differences are summarized in fig. 15.

In *logic, denotation* means the same thing as *extension,* i. e. the object or class of objects subsumed by a concept, and *connotation* is another term for *intension* or *comprehension,* i. e. the list of properties characterizing the concept, often just the necessary and sufficient properties; and/or permitting to pick out the objects falling under the concept. This distinction, using the last-mentioned terms, was first made in the Logic of Port-Royal, but the use of the terms "connotation" and "denotation" in this meaning probably derives from John Stuart Mill (Cf. Garza Guarón 1978:57 ff; 69 ff). Henceforth, we will employ "intension" and "extension" in this sense; in fact, the concepts of *extensional* and *intensional levels,* introduced in part I (Cf. I.3.2.), are clearly related to the logical distinction.

Intension and extension are sometimes identified with Frege's "Sinn" and "Bedeutung", permitting various intensions to correspond to one extension: for instance, "the Morning Star" and "the Evening Star", "equilateral triangle" and "equiangular triangle", "the vanquisher of Austerlitz" and "the vanquished of Waterloo", etc., have the same extensions but different intensions. If the intension is taken to contain all properties common to the objects in the extension, then, as Kubczak (1975:73)

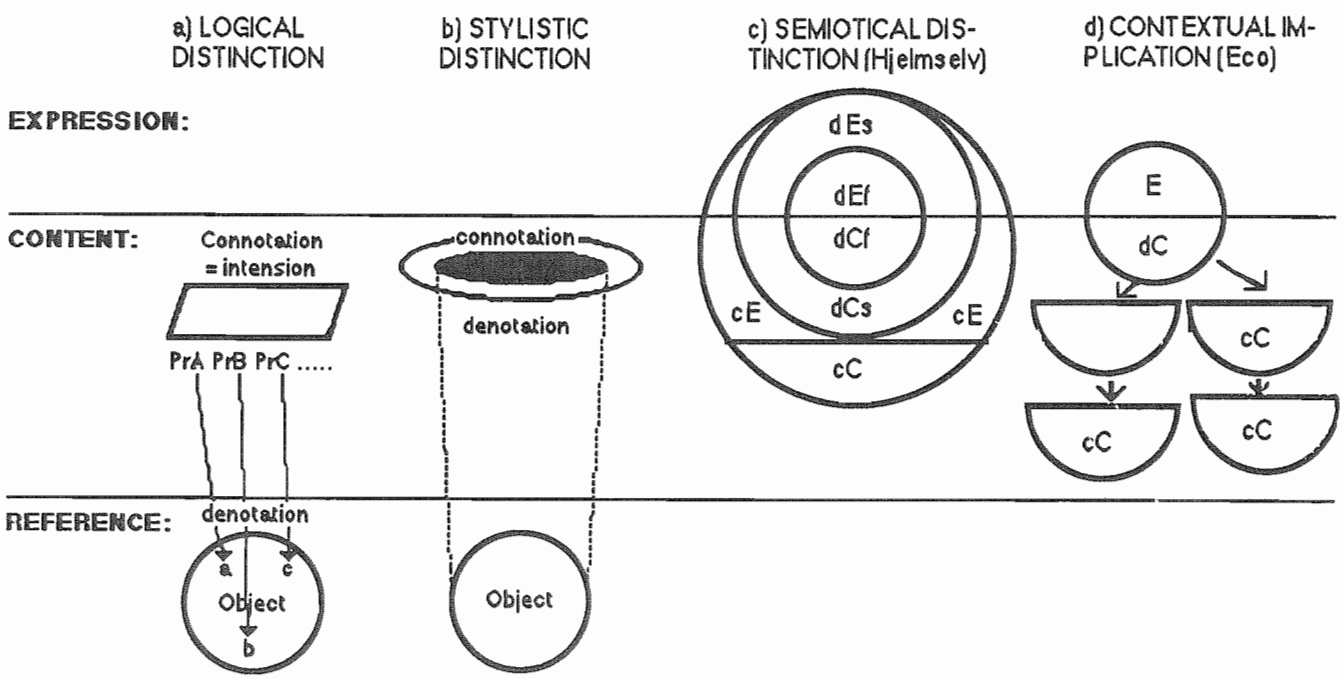


Fig. 15. The four ways of distinguishing denotation and connotation. E = expression; C = content; Pr = property; c = connotation, connotational; d = denotation; f = form, i. e. the pertinent or relevant (relative to a given counterpart on another level). Further variants are considered in the text.

rightly observes, all terms having the same extension will have the same intension. For instance, both the Morning Star and the Evening Star could be described as "a certain star, which may be seen shortly before the rising and shortly before the setting of the sun". But if this is indeed the content of both terms, we cannot explain that in many contexts, the one cannot be exchanged for the other. Kubczak concludes that, in linguistic signs, intensions do not contain full information about the objects referred to.

But it is not only a person ignorant about astronomy, mathematics, history, and so on, who would find it impossible to exchange the first term for the second, or vice-versa, in the examples cited above, at least in numerous cases. According to the analysis suggested by Husserl in *Logische Untersuchungen,* and developed by Gurwitsch (1957; 145 ff; 1947), the conceptual noema, i. e. the intension, will in fact contain all elements found in the object, but now *organized in a particular thematic hierarchy.* Sonesson (1978 a) used this idea to argue that terms lacking substitutability in "opaque contexts" contain the same features, but in a different *thematic hierarchy.* Thus, to use Humboldt's example, cited by Kubczak (p. 140), the Elephant may be conceived of as "der zweimal Trinkende", "der Zweizahnige", or "der mit einer Hand Versehene", each time giving pre-eminence to one of the proper parts or attributes of the whole (Cf. I.2.4.). However, if the whole has priority to its parts and attributes, as well as to its perceptual noemata, it is also possible that there may be different *segmentations* of the same whole, which are different ways of *intending* the same *extension:* thus, for instance, the human body may have one intension corresponding to our ordinary body scheme, another which corresponds to Le Bry's cannibalistic fashion, and so on (Cf. I.3.2. and III.5.).

Ever since the Port Royal logic, intension and extension have also been supposed to vary inversely to each other, but some counter-evidence exists to this claim (Cf. Kubczak 1975:86 ff). In this case, the extension is considered to be a *class* of objects, but we applied the term to *one* given object when we introduced the concepts of intensional and extensional levels (Cf. I.3.2.). This, it would seem, is more in keeping with the conception of the concept, or the category, as a *prototype* (Cf. I.3.1.). Thus, intension and extension may of course vary independently.

The logical distinction gives us, I think, a pair of real concepts, or rather, a twofold series of neighbouring concepts. The *stylistic* distinction, on the other hand, results in a rather clear notion of a denotation, and a series of confused notions of connotation. Connotation in this case, is a *residue concept* (Cf. Sonesson 1978 a). The stylistic distinction is discussed here mainly because it is so often confused with the other distinctions, notably with the semiotical one, but while it is certainly conceptually worthless, it is also interesting because of its very confusion. The origin of the notion is probably also in the Port Royal logic, in its "idées accessoires", but it was apparently Karl Otto Erdmann, who in 1900 distinguished "Hauptbedeutung", "Nebensinn", and "Gefühlswert", and Urban, Firth, and Ogden & Richards seem to be among those principally responsible for circulating these notions in the English-speaking world, translating the first by "denotation", and the latter two together by the term "connotation" (Cf. Garza Cuarón 1978:62 ff; 108 ff; Rössler 1979:1 f). Erdmann apparently thought that the core meaning, which he took to be conceptual ("Begriffsinhalt"), could be distinguished on the one hand from subsidiary meaning aspects, and on the other hand fromthe emotional values or atmospheres but, as the distinction is nowadays stated, these two terms are confused.

The general idea seems to be the following: inside the content there is a *part,* which is thought to correspond *point by point* to an object in the world of perception, such as it would appear in a completely "objective" account; and there is another *part,* which has no equivalent in the real-world object, but is added by the sign and/or the sign user. The features of the first part are supposed to be *cognitive* or *conceptual,* thus permitting the *identification* of the real-world object; the features of the other part are said to be *emotive,* or *emotional*, and it is never very clear if they are part of the intersubjective content of the sign, if they are contributed by the sign producer, or result from the reaction of the sign receiver. In addition, the cognitive meaning is thought to be the most *important* part of the meaning, but it is not clear if this is a further characteristic of the first part of the content, or whether this part is the most important by virtue of the postulate that cognition is more important than emotion.

Like the Roschian *prototype,* these notions suppose a number of properties to co-occur. Unfortunately, they do not. For instance, to take an extreme example, the most important features of the meaning of "darling", and those which permit an identification, are emotional, in the sense that they describe the emotional relationship between the speaker and the object referred to. Of course, it is an emotion which is a part of the intersubjective content of the term in the language system, not of the speaker's or the hearer's subjective mental content, and it is not, as in the semiotical concept, conveyed by the expression plane of the sign (Cf. Sonesson 1978 a). Straightforward variants of these confusions may be found in the work of Nida (1975a:28 ff, 98 f; 1975b: 17 ff, 19, 31, 36), though at one point (1975a:36 f) he shows himself aware of the difference between "emotive meanings" and "associated cognitive features" not required for the identification of the referent.

What I shall call the *semiotical* distinction derives from Hjelmslev's (1943:101) definitions of denotational and connotational language. A connotational language is a language, i. e. a system of signs, the expression plane

of which is another language. It is thus, in Hjelmslev's opinion, the opposite of a metalanguage. Contrary to both of them, denotational language is a language, none of whose planes form another language. We may take this to mean that the *denotation* serves to connect the *expression* and the *content* of a sign, whereas the *connotation* relates two separate *signs,* each with its expression and content. Hjelmslev also gives numerous examples of connotations: different styles, genres, dialects, national languages, voices, and so on. He suggests that all the while he is speaking in Danish, denoting different contents as he is telling us different things, he is connoting the Danish language. A foreigner, I suppose, would be connoting all the time "I am a foreigner", mainly because of his pronunciation. In many languages, the use of an /r/ produced with the tip of the tongue, or with the uvula, indicates different geographical origin. Thus, it is in the *choice of a particular expression to stand for a given content, or of a particular variant to realize the expression invariant,* that the semiotic connotation resides; it is from this choice that an additional meaning effect results.We will have to modify this formulation somewhat a little later (II.4–5.) and we also have to inquire into the pecularities of the relation connecting the two signs but for the moment, we will just make two additional observations.

Hjelmslev's connotations have often been related to some of those mentioned by Bloomfield: they depend on the social and geographical origin of the speaker, or they are associated with improper or intensified versions of more normal signs (Cf. Rössler 1979:31, 39 ff; Garza Guarón 1978:168 ff, 180). In spite of the similarities in the *kind of contents* invoked, it is a serious mistake to identify Hjelmslev's conception with that of Bloomfield. As Hjelmslev himself observes in the passage quoted in epitaph to this section, what is important to connotation is *not the particular contents, or kinds of contents* conveyed, but the *formal relationships* which they presuppose. The study of the "social and sacral" values usually conveyed by the languages of connotation are assigned by Hjelmslev (1943:105) to the theory of "substance", i. e., in our terms, of figurative, not operative meanings (Cf. I.4.). This explains that, as Greimas (1970:96) observes, Hjelmslev's list forms "un inventaire, approximatif et allusif", and Greimas' own essay would rather seem to be a contribution to this theory of "substance". But this supposes that particular *kinds* of content are associated with connotational organization.

And that brings us to our second point. There is no suggestion whatsoever in Hjelmslev's text that emotion has anything to do with connotation, in his sense. Apart from the testimony of Hjelmslev's own writings, there is also the observation of Spang-Hanssen (1954:61), a disciple of his, that neither do only emotive signs contain connotations, nor do all emotive signs contain them. Some of Nida's (1975 b:17 ff) examples would be connotations also in Hjelmslev's sense, for instance his "four-letter words", but not necessarily because of their emotional character. In order to justify his notion of connotation, Nida tells us that the emotional reactions too the expression of the sign, but not to its content, form part of the linguistic meaning, but this seems an arbitrary decision. In fact, each four-letter word will connote the property of being a four-letter word, no matter the reactions of the auditory, but the "uptake" of this connotation, to use Austin's term, may of course be the reason for an emotional reaction. Also, part of the meaning of a curse is to connote the anger of the speaker. From our present point of view, however, these are not central issues.

Nevertheless, the semiotical concept of connotation has often been wrongly identified with the stylistic one, in pictorial semiotics, for instance by Groupe μ (1979; 1980), Webster (1980:23), Laconte (1980:38), Gauthier (1979:53), Porcher (1976:55 ff), to cite some clear examples. Metz (to some extent, as we shall see later, in II.4.), Calvet (1976:32f), and Burgin (1982:57) show more insight into the originality of the conception. Prieto himself, who affirms that the problem of connotation has failed to advance in any way since Hjelmslev's capital contribution (1975 a:14), comes very near to Hjelmslev's own conception, as I understand it, in one of the earlier versions of his theory (1975 b:169 ff). We will return to this question later (in II.2.). Molino (1971:16 f) is right in saying that the Marseille dialect will connote the Marseille dialect, but he is mistaken when he concludes that Hjelmslevian connotation is tautologous, and therefore uninteresting. To return to Hjelmslev's own example, all parts of the Danish language will of course connote the Danish language, but some of them will do it better than others (as we shall see in the case of the brand name "Panzani") and, in the case of connotations which are not common to all units of a national language, the task of finding the signifiers for the signified is as interesting as in the case of ordinary linguistic signs. Again, as we shall see, a connotation may start a chain of contextual implications.

Although Eco (1976:111; 1984 a:32) himself claims to take over his notion of connotation from Hjelmslev, he actually seems to be concerned with something very different. When Eco (1968:98 ff) first discusses our problem, he produces a long list of very heterogeneous phenomena, which include logical connotation, stylistic connotation, syntactic associations, rhetorical schemes, and stylistic effects. Trying to find a common denominator for all this, Eco suggests the connotation is the sum of all the cultural entities brought up before the receiver's mind (p. 99). We thus return to the notion of association, in the vaguest sense of the term. Later, however, Eco (1976:111) defines connotation as "a signification conveyed by a precedent signification". Although it is immediately followed by a rendering of the Hjelmslevian model, this definition is rather suggestive of what the logicians call a *(contextual) implication* – not a

purely logical one, certainly, because it will only be true given a particular "meaning postulate", whose postulation will be taken care of by the Lifeworld itself. Eco asks us to imagine a dike provided with an alarm system in which, for instance, the sign AB denotes danger, the sign AD insufficiency, etc. In the context of the dike, we know that danger will result from the water-level rising too much, and that insufficiency is the same as the water-level being to low. In the first case, we know that it will be necessary to let some water out, in the latter to have some more water entering the system. Eco would thus say that the sign AB denotes danger and connotes evacuation (and perhaps also high water-level), and that the sign AD denotes insufficiency while connoting the water entering (and, I suppose, a low water-level). Given the "stock of knowledge" of the guardian, all these facts could be said to *imply* each other, in the context of the dike. Interestingly, Eco (1974a:33) himself has lately suggested that what he calls the second level of the connotational system is based on "inference"! Moreoever, Stuart Hall (1981b:226), when commenting on the connotations of news photographs, tells us they transmit "other, implied meanings", though he makes no particular mention of Eco.

But this is something very different from Hjelmslev's connotational language. Implication being a very general kind of relation, we could of course take connotation to be an implication from expression and content together, or rather, *from the particular relation between expression and content* to a new content. We will later justify this interpretation by considering Hjelmslev's own text. But Eco's connotation is something which would follow from the *content* of the first sign *alone,* with no regard to the expression, i.e. a common implication. "Symbols", in the traditional European sense of the term (cf. III.6.5.), are considered by Sperber (1974; 1979) and Todorov (1972a; 1974; 1977) to be implications from one content to another. Commenting on the example we cited from Eco above, and on another example of Todorov's, Kerbrat-Orecchioni (1977b:81 ff) observes that in spite of their multiple layers of meaning, these cases do not confirm Hjelmslev's model, since it is only the content of denotation, not the whole sign, which is transformed into the expression of connotation. Thus, she adds, instead of fig. 16a, we will have fig. 16b.

First, this confirms my observation that what Eco calls connotation is a relation from one content to another, because we can easily dispense with the "expressions" of the second and third signs of fig. 16b., for which there is no evidence whatsoever. Second, it should be noted

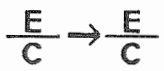


Fig. 16a.

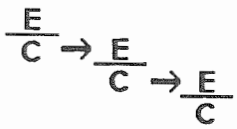


Fig. 16b.

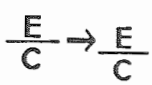


Fig. 16c.

that there is really no reason at all to expect that the studies of Todorov and Sperber should confirm Hjelmslev's model, since this kind of case is discussed by Hjelmslev (1943:100) under the quite different heading of "symbol systems".[2] Lastly, Kerbrat-Orecchioni's rendering of Hjelmslev's model in fig. 16a. is obviously wrong; fig. 16c. would be more correct, and more similar to Barthes's rendering of the model. But this still does not tell us whether the arrow begins from the sign as a whole or from the particular relation between the relata of the sign. As we shall se (in II.4.), I think it is rather the latter.

Implication is also different from the *stylistic* notion of connotation: it presupposes the existence of at least two distinct entities, not just two parts inside the content, but it does not stipulate anything about the kinds of content required. Of course, some of the cases usually mentioned as cases of stylistic connotation may be redeemed by implication. There are also cases when the question as to the presence of one or two entities is undecidable.

This leaves us with three authentic conceptual distinctions, and a third which is only a cognitive wastebasket. But henceforth, we will use *intension* and *extension* for the *logical* distinction, and we will call *(contextual) implication* what Eco chooses to rechristen connotation. When we use merely the terms *connotation* and *denotation,* they should be understood to refer to the *semiotical* distinction; but each time we need to mention the *stylistic* distinction, it will be explicitely designated with that term. We are now ready to investigate if Barthes's examples conform to the Hjelmslevian model, as he certainly wants to claim (II.1.4.). First, though, we will ponder the possible relations between connotational language as a model for pictorial analysis and the model proposed by Panofsky (II.1.3.).

II.1.3. Barthes and Panofsky. The case reopened

In his "Eléments de sémiologie", Barthes called the expression plane of the connotational language, which is identical with the denotational language, a *rhetoric,* whereas he termed the content plane of this same connotational language an *ideology.* It is reasonable to suppose that, in so doing, Barthes wanted to claim that the expression and the content of the Hjelmslevian connotational language were, at least in a few typical or particularly interesting instances, similar to what is commonly called a rhetoric and an ideology, respectively. In the case of the rhetoric, Barthes actually renders a more specific argument in the article on pictorial rhetorics, suggesting that the "figures" of classical rhetorics can be found in publicity pictures. In the semiotics of publicity this idea has been further developed, notably by Durand and Péninou, and lately, this tradition has been admirably discussed and criticized by Pérez Tornero

(1982:119 ff). In a more explicit relation to connotational language, Genette (1964; 1965) adopts Barthesian rhetoric in literary criticism.

Both Floch (1978 b) and the Danish semiotician Larsen (1976) have independently pointed out the similarities between the Hjelmslevian connotational language, as used by Barthes in the article on pictorial semiotics, and Panofsky's "iconological" model of analysis: as with the *pre-iconographical level,* the non-coded iconical message of Barthes's is directly perceived, without any cognitive operations being necessary, and the *iconographical level,* which requires knowledge derived from literary sources for its interpretation, is reminiscent of the coded iconical message, i. e. the rhetoric, and, lastly, *the iconological level,* which is to Panofsky the conception of the world behind the work, will easily bring to mind what Barthes calls ideology. Nevertheless, we will claim in the following paragraphes that these similarities are largely illusory and that, in the end, these models for pictorial analysis hardly have more in common than being just that: something as unusual as models for pictorial analysis! The one ultimately responsible for having suggested the identification incriminated is no doubt Eco (1968:230) who, in discussing one of Panofsky's iconographical cases, calls it a connotation, although he does not refer explicitly to the model of Barthes's in this context.

Now, Barthes's pictorial denotation and Panofsky's pre-iconographical level probably correspond to the same phenomenon: here the same kind of knowledge is required, according to Panofsky (1955:26 f), as that needed to recognize a hat-lifting gentleman, and Barthes (1964 b:29) claims all that is necessary to interpret this level is "un savoir presque anthropologique", i. e. almost (?) common to humankind, which is anyhow implicit in ordinary perception. The reason why Barthes and Panofsky may really be talking about the same thing here is, I believe, that the phenomenon in question is a *residue concept* of both models, i. e. it is that *about which the model has nothing to say.* That both models stop at this point is perhaps due to the resistance being here at its greatest; there is what Bachelard is wont to call an epistemological obstacle, in this case an incapacity to see the picture in place of the depicted, which has been shown to exist in small children (Gardner 1982:105; cf. Winner 1982:113 ff), and which may also survive to some extent in adults. Of course, it is not at all impossible that Barthes has received some influence from Panofsky, as suggested by his observation that beyond the denoted level, "le lecteur ne percevrait que des lignes, des formes et des couleurs" (1964 b:34; cf. Panofsky 1955:28, 33), but the essential influence no doubt comes from "common sense", an important ideological factor, as Geertz (1983) rightly observes.

But what about the second level? According to Larsen (1976) and Fausing & Larsen (1980, I:43), Panofsky's examples may be better accounted for using Barthes's concepts, for instance the difference between a Salome iconography and a Judith iconography (Cf. Panofsky 1955:36 f; also Eco 1968:230 uses this example). Corresponding to the content "Judith", there is "young girl + sword + charger with the head of a beheaded man (+ maid)", and corresponding to the content "Salome", we find "young girl + charger with the head of a beheaded man (+ parents)". Thus, in Larsen's opinion, shapes and colours *denote* contents like "young girl", "charger", and so on, but then they are transformed into expressions on another level, in order to signify, i. e. *connote* "Judith" or "Salome". If instead of the terms he uses, we consider the procedure which he applies to Panofsky's material, we will see that what Larsen is doing is really making a *feature analysis,* similar in this respect to the way words may be resolved into phonemes, and phonemes into phonological features. "Judith" and "Salome" are in fact shown to share certain features and to differ in others.[3] Unlike the features of a phoneme, those of these iconographies are themselves signs, but it does not follow that they constitute a connotational language. Also the feature "young girl" or that of "parent" may be analysed further, and "Salome" could be a part of a more complete iconography, but these are not reasons for thinking that there are infinite layers of connotational languages.

The words of verbal language combine into compounds and into sentences, the meanings of which are something beyond the mere sum of their parts, and the same thing is true of pictorial signs. Entire signs, complete with expression and content, are put together to form new, composite expressions and contents, instead of using one sign, as in the case of connotational language, to build up the very expression plane of a new sign. Actually, "Salome" and "Judith" are simply *composite signs.* However, a composite pictorial sign is not exactly like a verbal one: the same expression plane may, in a new context, be read at a new *intensional level* (Cf. I.3.2.). In fact, the present case appears to be closer to an *implication,* as Eco, and maybe Todorov and Sperber would argue (Cf. II.1.2.): we need a particular rule stating that the combination of certain signs signifies "Salome" or "Judith". Yet if it had been sufficient to scrutinize further details of the picture, as when one has recognized a shape on a photograph as being a man and now wants to identify him by name, we would have a pure case of deriving new meanings from the same expression, with a shift of intensional level, instead of going from content to content, as in implication. Anyhow, there is no connotation here. The connotation would have to result from the choice to express the content "Salome" with or without a parent in the picture, or the content "Judith", with or without a maid in the picture, or from taking any other possible option in the formation of the composite sign.

So far, Larsen's analysis is undoubtedly truer to Panofsky than to Barthes and Hjelmslev. On the other

hand, Larsen also neglects some aspects which are of fundamental importance to Panofsky: that the subject matter of the iconographical level is formed by stories and allegories, and that the sources of interpretation, the knowledge required of the interpreters must be literary (Panofsky 1955:40 f; Jfr Kaemmerling 1979:485–501). Another indication that the two models cannot be identified is Panofsky's placing the "history of styles" on the first level, whereas its near equivalent, or so it seems, the rhetorical figures which may be expressed also in "pictorial substance", are found on the secondary level, that of rhetoric, in Barhtes's conception.

As for the third level, ideology, it is conceived by Barthes to be an integrated part of connotational language, i. e. its content plane, whereas Panofsky, in particular in the first version, where he took his inspiration from Mannheim, thought of it as an interpretation based on "Weltanschaung", which was to *explain* the work, in spite of being located outside it, from the basic attitude of a nation, a period, a class, a religious or or philosophical persuasion, though in fact most of all from philosophy. If we take this seriously, the iconological level is not really a level of the work, but its *cause,* whereas ideology, in Barthes's meaning, is the content plane of the connotational language, that is, a relatum of an *appresentation.* Although it is possible that the same phenomenon could be the cause *and* the meaning of another phenomenon, this would only be a coincidence. Again, it seems that Panofsky was thinking of much better organized and more extensive systems of thinking than, for instance, the "Italianity" of the Panzani publicity.

To summarize the argument, we may say that Panofsky's second, iconographical level will stay on Barthes's first, denotational level, since iconographical symbols are composite signs; and also that Barthes's rhetoric, i. e. the expression plane of the connotational language, forms part of Panofsky's first, pre-iconographical level because this is the place of the history of styles. And whereas the relation between the second and the third level is intrinsic and semantic to Barthes, it is a relation of causality to Panofsky, which is thought to explain the sign from factors outside of it.

What would come out of a Panofsky style analysis of Barthes's publicity? Strictly speaking, it could not be done, because there is no literary theme in the Panzani advertisment, but if we suppose other cultural sources to be comparable, we would have to contrast the packet of spaghetti, the tin can of tomato sauce, the packet of grated cheese, and the vegetables in the string bag, as a composite sign for the meaning "Panzani" with other, similar constellations having contents corresponding to other spaghetti brands.

Like Larsen, Floch thinks Barthes's three levels are parallel to those of Panofsky but the former, he argues, has been able to relate the levels better, with the aid of the connotational language model. We have already seen that this cannot be true. More pertinently, Floch observes that Barthes's non-coded iconic message is the substance of expression of the denotational language, whereas the form of this same expression plane, which organizes all of "visual language", remains to be found. Thus, the real problem of visual semiotics, as conceived by Floch, is located *inside* the residue concept left by the models of both Barthes and Panofsky. In due cource we will follow Floch in the exploration of this basic question of visual semiotics (Cf. II.3.), but first we have to inquire into the interpretation actually given by Barthes to the Panzani picture (in II.1.4.) and probe deeper into the reasons behind this analysis (in II.2.).[3a]

II.1.4. Panzani-land revisited. How Barthes reads a picture

"Lorsque le sémioloque a opéré sur l'objet-forme la reduction sémiologique, l'epoché du sens,il reste en presence d'un objet mat, décrassé du vernis de significations douteuses,abusives, dont la parole sociale l'avait recouvert, restitué à sa fraicheur et sa solitude essentielles."

Genette 1965:111 (about Barthes)

In spite of its wealth of structuralist terms, the Panzani article presents itself essentially as an intuitive reading, with no apparent methodological consciousness informing the analysis. Nevertheless, if the terms "connotation" and "denotation" used in the article can be taken to correspond to those defined in the model introduced by Hjelmslev and vindicated by Barthes in "Eléments de sémiologie", at least a minimal theoretical carcase must be recognized in the analysis. No doubt Barthes himself thinks he is using this model, but there are some serious counter-indications to this view, notably in the repeated identifications of denotation and connotation with "literal" and "symbolic" meaning, respectively (Cf. Pérez Tornero 1982:35 ff, 82, whose criticism is correct on the latter interpretation). And Molino (1971:24 ff) argues that Barthes employs Hjelmslev's model quite illegitimately in the analysis of phenomena entirely foreign to Hjelmslev's intention, which are the same as those discussed by Barthes in earlier works using the terms "mythes" and "écriture".[4] Therefore, we now have to consider in detail the "connotations" which Barthes claims to discover in the Panzani publicity.

There can be no doubt about the authenticity of the linguistic example: the brand name "Panzani" really *connotes,* in Hjelmslev's sense, something like "Italianity", just as Hjelmslev's own speech goes on for ever connoting "Danishness" (Cf. II.1.2.). As Kerbrat-Orecchioni (1977 b:16) observes, the signifier of connotation is here particularly the final /i/, and also the consonantal sequence /nz/, which is impossible in French; and she adds (p. 92) that, like other brand names in France, e. g. "Scansen", "Fjord", etc., "Panzani" also connotes ex-

oticism, which is also implied by Barthes's (1964 b:27) remark that the Italianity of the name is only perceptible to a Frenchman or to a non-Italian.

Connotations result, as we will show later (in II.4.) because the sign, at the same time as it is an expression for a particular content, is an object having properties which may take on a meaning of their own. Hjelmslev (1943:103) makes a distinction which so far, I think, has never been noticed, betweenconnotations from the substance, and connotations from the form. When a particular semiotical system, having its peculiar way of segmenting reality (Cf. I.3.2.), is chosen to express this reality, there is what we will call a *formal connotation.* But when, on the other hand, features of the sign which are not pertinent for the expression of the content of the denotational sign are used to convey a secondary content, the connotation is *substantial.* Now, "Panzani" is not really a French word; it is a term in the system of brand names. As such, it segments reality differently from other systems, for instance French or English, because it puts spaghetti, tomato sauce, grated cheese, and maybe other things not shown on the picture, into *one category,* for which there is no name in English and French. This is the denotative content of the term "Panzani". It will be noted that we here accept Searle's (1969:169 ff) and Eco's (1976:162 ff) arguments for considering proper names to have denotation, against a persistent tradition in philosophy and logic at least since the time of Mill. The particular association of objects found in the term "Panzani" has no equivalent in Italian either, but it certainly corresponds to something in Italian culinary practices, at least as these are conceived in the ideology of non-Italians: the complete spaghetti dish. Thus, there is a formal connotation of Italianity. A brand-name may however be expressed in any way which is sufficient to distinguish it from other brand names: phonological combinations reminiscent of the Italian language, which are not pertinent for assuring its identity as a brand name, permit "Panzani" to connote Italianity a second time, now as a substantial connotation. In addition, "Panzani" would also seem to connote its own appartenance to the class of family names, maybe because of the end syllable -ni, and the simple syllabic structure found in such well-known names as Bernini, Paganini, Puccini, Pasolini, and so on.

But it is not true that the brand-name "Panzani" *connotes* the Italianity of the spaghetti, as Barthes (1964 b:27) seems to think, and as Kerbrat-Orecchioni explicitly states: it can only *connote* its own Italianity, and therefore this property must be transferred by some other means to the products, and what Barthes (p. 39) calls "l'essence condensée de tout ce qui peut être italien, des spaghetti à la peinture" must be specified by different ideological systems, in the cases of the spaghetti and the painting. The transferance of the connotation from the brand-name to the product must depend on the *contiguity* of the product and the label, which is



Pl. XVI. Panzani publicity (from Barthes 1964b).

once again transfigured into similarity (Cf. I.2.5. and below). Of course, there is a conventional relation between the label and the product, but this is normally thought to exist only on the level of denotation. As for specification, it is not quite clear how language and spaghetti differ in their Italianity, so let us consider instead the family name connotation mentioned above: here something more than specification is needed. It is rather common to use family names as brand-names for industrial products, no doubt because they are ideologically associated with small family enterprises which may be thought to have existed for a long time, to be more reliable, and to function in a manner more reminiscent of handicraft than of large-scale production. Thus, it is not

the family name itself, but common ideas about the relationship of family names to business enterprises that is important here. Therefore, we must conclude that something more than just connotation is required, both on the level of expression and on the level of content, to make the Panzani products appear Italian, and to transform this property into a value.

But what about the formal connotation, which Barthes seems to be unaware of? It derives, it will be remembered, from the particular way the denotation segments the world, or maybe the micro-world of the picture. The problem is how we get acquainted with the content of the new sign "Panzani". In fact we have everything an ethnolinguist could ask for to determine the meaning of this supposedly unknown sign: linguistic contexts in the syntagms "Pâtes Panzani", and "Parmesan Panzani", and ostensive definitions, thanks to the label convention (Cf. I.4.2.). Thus, at the level of denotation, it is, at least to some extent, the picture which determines the content of the linguistic sign, rather than the reverse. Again, the formal connotation of Italianity will only ensue because our world-knowledge, or our ideological system, tells us the particular combination of objects classified together by the term "Panzani" have in common, among other traits, that of being peculiarly associated with Italian culinary culture. So, even in this case, connotation is not enough.

For the present, we have to investigate if the meanings which Barthes finds in the picture are connotations, in the limited sense in which those emanating from the brand-name may be so termed. To begin with, these pictorial meanings differ from the linguistic ones in being derived from constellations of real-world things rather than signs. Lindekens (1971 b:281 ff) observes that instead of a pictorial rhetoric, what Barthes describes is a rhetoric of *things*. A real pictorial rhetoric, in Lindekens's view, would be concerned with the way the *topological* relations of the referents are changed when projected onto the flat surface of the photograph, for instance giving rise to contiguities between objects not found together in reality, or to inclusions, etc. Lindekens even thinks these relationships may be perceived as such, according to *Gestalt* laws, before the flat surface is translated back, on a more conscious level, to the three-dimenisonal scene of the real world.

We will return later to these interesting ideas, but they are clearly unacceptable to Barthes: if the denotation of a photograph (but not of a drawing or a movie) is *identical* with the things photographed, and if the relation between the expression and the content is "quasi tautologique" (p. 28) then, in spite of Barthes's own timid suggestion to the contrary (in 1961 and 1964 b:35), there can be no pictorial rhetoric distinct from the rhetoric of things. In fact, according to the definition, connotational language depends for its existence on the presence of a denotational *language* which may serve as its plane of expression, and a language is a semiotical system whose expression and content are distinguished by being differently organized (Cf. Hjelmslev 1943:94 ff). However, if the signified of the picture is the objects themselves, and if the equivalence of content and expression is a tautology (cf. 1964 b:28 f), then referent, content, and expression are all identical, and there is no language!

It still remains to investigate whether Barthes's connotations are real, if we admit that reality itself is a language, in such a way that the tomato, besides being a tomato, also signifies "tomato", in the sense in which Barthes tells us in "Eléments de sémiologie", that all things in a culture are immediately transmuted into signs of their use, the chair for sitting, and so on. It is convenient to start with the connotation of Italianity present also in the picture, according to Barthes: its expression is "la réunion de la tomate, du poivron et de la teinte tricolore (jaune, vert, rouge) de l'affiche" (p. 27). Does this mean that the meaning of Italianity is conveyed by the *combination* ("la réunion") of all these things, or by each one of them separately? The latter interpretation is supported by Barthes's talking about "l'italianité de la tomate" (p. 27) as if this were a meaning in its own right, and also by the later statement that "la tomate signifie l'italianité par métonymie" (p. 40). Metonymy is here undoubtedly used in Jakobson's sense, to stand for both *contiguity* and *factorality,* in this particular case for factorality: the tomato is part of what Italy means to a Frenchman (Cf. I.2.4.). But this is of course not a factorality which is present in the picture itself, like those we have already discovered in both publicity pictures and art works (case IIId in I.2.5.), but a meaning based on an abduction derived from an ideological system (case IIIa in I.2.5.), and thus perhaps not so different from what Eco calls a "connotation" and what Todorov and Sperber count as "symbols" (Cf. II.1.2.). But if the tomato implies Italy in some ideological system, this is certainly not the same thing as its usage becoming a sign, which is what Barthes's interpretation of the connotational language model requires. The usage-as-sign, therefore, would be an alternative explanation, if it had not been for the obvious difficulty in finding out what kind of usage Italianity is (Cf. II.2.1.). However, in both cases we also encounter a more trivial problem: why should this Mexican fruit, now cultivated the whole world over, stand for Italy?

So perhaps, then, it is the *constellation* of the three colours, repeated to some extent in the vegetables, which gives rise to the connotation of Italianity, in that case because, as suggested by the word "tricolore", they are the colours of the Italian flag. In fact, there is no yellow colour in the Italian flag so this colour, present in different shades in the spaghetti, on the tin can and in the grated cheese, remains unaccounted for but, on the other hand, the real third colour of Italy, white, is also found on the tin can, in the string bag, the mushroom, and the letters of the accompanying text. Returning, then, to our isolated tomato, suppose we take the colour to be the connotative layer:

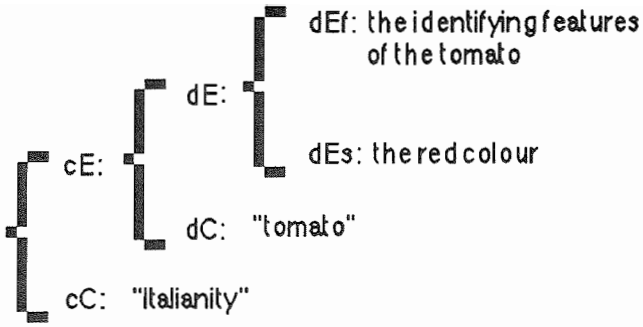


Fig. 17. How a tomato connotes (abbreviations as in fig. 16, in II.1.2.).

This is in accordance with Barthes's idea that denotation serves the identification of things (1964 b:34). But such a conception presupposes that there are necessary and sufficient features for the identification of the tomato, and that these do not include its red colour. In this case, the colour would be variable, a "substance" in Hjelmslev's sense, and could thus be used to convey the connotative content of Italianity. At the level of the single tomato, this will not do. To be sure, there are green tomatoes, and it is possible to identify the tomato, with some plausibility, even from a black-and-white photograph, but the ordinary, *prototypical* tomato is red, and is expected to look red (Cf. I.3.1.).

Even in the case of the chameleonlike paprika, there are certain limits to the variability of colours, and some colours seem more characteristic also of this vegetable. And if there is no free choice of colours, the minimal requirement for substantial connotation is not fulfilled. But those of us who know that there is also formal connotation resulting from the very choice of a particular semiotical system to convey a given meaning, are nevertheless able to suggest that a connotation arises from choosing the tomato to express – the tomato! Even though the tomato may indeed be expressed in other ways – by a word, for instance, and by a drawing, and so on, even accepting Barthes's contention that a photograph is the same as the real thing –, using the tomato undoubtedly seems the normal, unmarked choice (Cf. fig. 10 in I.3.3.), so that we would think that only other options do carry connotations. In the second place, the tomato will express tomatohood integrally, and we only need the colour for the conveyance of the Italianity connotation. Obviously some principle of relevance is needed both to get us to attend to the choice of the tomato, and to pick out the property of the content form which could serve as a signifier of the Italianity.

The *constellation* of colours – the green-white-red of the advertisment layout – *is* that principle of relevance, at the same time as it gives us the full expression plane (almost, as we shall see) of the Italianity content. The second function is trivial: not red alone, but the combination green-white-red, can carry the meaning of Italianity. The principle of relevance is needed in order to isolate the colours from the objects whose surfaces they cover, and to isolate them from other colours, which is the double function of *pertinence/relevance* which we have pinpointed many times already (in I.1.3., I.3.5., etc.). Somehow, the yellow colour must appear to be irrelevant, for otherwise we should have more reason to think of Ethiopia, Bolivia, Mali, or some other country. The green-white-red of the advertisement is, in our terms (Cf. I.3.3.), a *triple, regulative* opposition in *praesentia,* but it will only come to stand for Italianity when its *similarity* to the Italian flag is noted, and the Italian flag gets its meaning from the *system* of international flags, so that in a "metaphorical" sense, the picture will participate in the oppositions of the flag system, in its *constitutive* oppositions *in absentia* between the Italian flag and other flags. But not even this will be enough: Mexico, Bulgaria, and a few other countries have the same colours. In fact, there is even the flag of Surinam, which has all the four colours of the advertisement: green, white, red, and yellow. Of course, the limited flag-interpreting competence of most Europeans will help to reduce the ambiguity of the colour scheme, but even so, the colours could only function to confirm some more definitive indication of Italianity: the spaghetti perhaps, the grated cheese, and the tomato sauce, which may really be said to *pseudo-exemplify* Italy, because they are *proper parts* of it, *chosen-according-to-an-attribute* (Cf. I.2.4.). And there are also the linguistic connotations of the brand-name, and of part of the text on the labels, and of course the direct denotation of Italianity in the legend and on the labels. We will return to this in a moment, when discussing the connotation of the "service culinaire total" (p. 27).

To accept that the *constellation* of objects, which according to Barthes are signs of themselves, results in a connotation, is not to go along with the parallelism between Panofsky and Barthes, suggested by Eco, Larsen, and Floch (Cf. II.1.3.). No doubt the tomatoes, paprikas, mushrooms, etc. form a composite sign, which on another extensional level may be redescribed as a heap of vegetables, which, with a shift of intensional level, becomes the purchase of the day (Cf. I.3.2.). This is very similar to the way "young girl" results in "Judith", but it is not the connotation. Consider a linguistic example: "Me know not" is a composite sign, because it is constituted of the elementary signs "me", "know", and "not", but it connotes "pidgin English". In this sense, Barthes (p. 37) is quite right in suggesting that connotation is "supra-segmentale", like intonation in verbal language.

So far, there really is an analogy to connotation in the example considered, but we still have to discuss whether the treatment of reality as a language can be justified (Cf. II.2.). In any case, this is not a substantial connotation, and it is not a formal connotation from any isolated object, but it results from the *combination* of objects in the picture, and even so, the relevant features

will only emerge from the totality of the content form, to the extent that we are aware of the flag scheme to which the constellation is similar; that is, the content form itself has to be *re-analysed,* so that the contribution of the connotation as such, if indeed there is one, is rather limited.

Other connotations of Barthes's which immediately seem more plausible are "still-life" and "advertisement". It is true that Barthes (p. 27 f) himself rejects the latter content, but for erroneous reasons: to utter something is not necessarily to say that one does, as an overtly reflexive system like literature will do. But if this were a requirement of connotation, Hjelmslev's own celebrated example of a connotation, "I speak Danish", would not be one (Cf. II.1.2.). Barthes is actually confusing connotation with metalanguage. Also, when Barthes argues that the information about the picture's being an advertisement "est extensive à la scène" (ibid.), this is contradicted by his own earlier observation that the place of the picture in the review and the abundant labels with the brand-name designate its genre. The whole picture *is* publicity, but not all parts of it are the signifiers of this fact: somewhat modified, it may have other functions. As for the still-life, it is not clear which features define this genre, or this *archi-text,* as Genette (1972:12 ff) calls it: Barthes's understanding of it seems purely intuitive, and even Gombrich (1963:95 ff) who, in discussing the still-life, insists on the importance of the genre, does not tell us anything about what defines it. It seems probable that only certain *categories* of objects, and possibly also certain *types of relations* between the objects, may appear in a still-life: one of the categories, I think, is food, and one of the possible relations is a certain fortuitous disorder. Both are found in the Panzani picture.

But the connotations "still-life" and "advertisement" differ from each other in at least two interesting ways. In the first place, the advertisement quite properly connotes "advertisement", because that is what it is, but it is not really a still-life, at least not a genuine one. In other words, it refers to other advertisements as to its genre, its *archi-text,* but it refers to still-lifes as to the model it imitates or, in Genette's terminology, as to its *hypo-text.* As Genette observes, the "Ulysses" of Joyce relates to the one of Homer as the hyper-text to the hypo-text, and the pictures of Mel Ramos relate in the same way to certain paintings by Ingres, Manet, and Velasques. There is a "pratique hypertextuelle dans la publicité moderne", which amounts to something in between parody and travesty, Genette goes on to tell us, but we note that there is nothing satirical about the Panzani picture. Also, the Panzani case is different in that it seems to refer to a genre, not a particular work, i. e. it has as its hypo-text an archi-text different from its own, which is a possibility not considered by Genette (Cf. Genette 1982:12 ff, 436, etc.).[5] This is not like the connotation of Danish emanating from the Danish language; it is more like the suggestion of speaking another language which a skilled imitator may produce without abandoning his mother tongue, or like the "Rätselhafte Inschrift" from the German comic paper "Fliegende Blätter", which so fascinated Freud, where a text written in German dialect is made to appear like a Roman inscription, by means of the simple artifice of moving the word limits, so that initial consonant groups reminiscent of Latin result (see fig. 18. Also cf. Lyotard 1971:263 ff). Of course, these parallels suppose a strict definition of the still-life: given a looser one, we may prefer to say that the still-life archi-text is *used* to realize the purpose of the publicity archi-text.

In the second place, the connotation "advertisement" really seems to derive from pictorial rhetoric proper, at least if it is really expressed by the abundant labels and the place of the picture in the review, as Barthes tells us, but the connotation "still-life" could easily be expressed through a constellation of referents, as has indeed been done in some show-cases of the Lund museum of popular traditions, "Kulturen". And yet the distinction is not a clear-cut as that, for the common form of a still-life is undoubtedly a painting. Therefore, the museum showcases, as well as the publicity photograph, might be said to refer to a hypo-textual archi-text, which is a kind of painting. It will be observed, however, that what is simulated is not the expression plane of the painting, but only its accustomed subject matter. On the other hand, an arrangement similar to the advertisement could be on display in a shop window but, to the extent that an



Fig. 18. An example of an "enigmatic inscription" from the "Fliegende Blätter". The text should be read: "Di/Ana /is/da /un/da /Saep /i/ste d/ a/t roma/ ver/e r/ sit/ si/ne t" = "Die Anna is' da und der Sepei steht a' d'rob'n, aber er sieht sie net", i. e. "Ann is there, and Sepei also stands up there, but he does not see her".

advertisement must be expressed pictorially and/or verbally, that would be enough to change the genre. Here we discover that our second point is really related to our first: it is because the picture *is,* and does not only express the connotation "advertisement", that it must do so in pictorial rhetoric, and it is because it is not a still-life that is has to express this meaning by means of the referents. Thus we end up thinking that "advertisement", though rejected by Barthes, is the only unambiguous pictorial connotation of the Panzani picture (Cf. II.2.).

Another alleged connotation, which Barthes (1964 b:27, 38 f) calls "abundance", really seems to correspond to two different contents: first the "service culinaire total", the idea that Panzani offers all that is needed for a complete meal; and then the suggested identity of the vegetables, commodities in their natural state, and the industrial products, as instanced by the tin can. Both, according to Barthes (ibid.), are expressed by "le rassemblement serré d'objets différents", "la profusion et la condensation des produits", i. e. the conjunction of numerous (types of?) objects in a small space. However, when we look at the picture, we observe no notable abundance of different objects, and it is anyhow not understood how such an abundance should express the complete culinary service and the identity of the natural wares and the industrial products. Let us, then, have another look at each one of these contents.

The notion of a "complete meal" may be taken to correspond to what Barthes (1964 a:134 ff) has elsewhere described as the menu, which has its syntagm, i. e. the linear sequence of first course, principal course, and sweet dish, each one with its paradigm of possible choices. But the Panzani meal is not as complete as that: it remains at the level of the course, or of its components. Fortunately, Halliday (cited by Douglas 1972:62 ff) has pushed the analysis much further, segmenting the principal course into joint, staple, and adjunct, normally corresponding to meat, cereal, and vegetable. To an Italian, and also a Mexican, the spaghetti, the tomato sauce, and the grated cheese would normally constitute an entire first course, but to most Europeans, they would only complete the staple slot of the principal course. It will be noted that there is organization even further down than the course, for the spaghetti, the tomato sauce, and the grated cheese are units of a combinaton that cannot be freely exchanged, and our particular choice follows an Italian contextual rule.

Is this, then, a meaning present in the publicity? We have seen above that the brand-name "Panzani" resegments reality by means of a category comprising spaghetti, grated cheese, and tomato sauce, but we do not know if the category contains more elements, and so cannot know if it corresponds to a complete meal. It is also possible to say that the choice of commodities found in the string-bag, rather than corresponding to the real purchase of the day, is determined by the requirements of the dinner scheme, which is somehow projected onto the string-bag, but even this will be visible only for those who are familiar with this particular, Italian-inspired fragment of our culinary practices. Besides, a rule of relevance is needed in order to discover the complete meal, for the mushroom seems to fall outside it, and the tomato, the paprikas, and the onions are all redundant, given the tomato sauce. We must therefore conclude that this meaning is more contained in the interpretational schemes of the reader than in the picture itself. For an informed observer, there are clues to be discovered, as we saw above, but these will never tell us the meal is complete. It is on the intuition of the native eater we must rely for our principle of relevance.

Given the dinner scheme, we can account for the presence of the packets of spaghetti, the grated cheese, and the tomato sauce. We now need to account also for the vegetables present in the picture. It was noted (in the concluding part of I.2.5.) that there is a common advertisement practice which consists in using the *contiguity of expressions* to signify a *similarity of contents or referents.* Nöth (1975:19 f) called this a transference of features due to indexical signs (actually our type III d) and I have myself remarked elsewhere (Sonesson 1979 c) on the "pratique métonymique" of placing a naked girl on the stereo one wants to sell. Williamson (1978:19 ff) argues more generally that, in advertisements, things are correlated, not by an argument, but by the formal organization of the picture. In our reanalysis of her examples, we found *factorality* and *partial similarity of expressions* to be used, alongside *contiguity,* to make the same statement about the similarity of contents and/or referents. In the case under review, there are *contiguities* between the vegetables and all the Panzani products, and there is a particularly *close contiguity* between the vegetables and the tin can containing the tomato sauce. Of course, we also know that the content of the tin can is similar to the vegetables present, but this is not manifested on the expression plane of the picture. There is also a *factorality,* because nearly all the wares are contained in the string-bag and form part of the purchase, but we will return to this aspect later. No doubt the Panzani publicity participates in the "ideology of the natural", so convincingly demonstrated to be present in other advertisements by Williamson (1978: 103 ff): the contiguity of the raw materials and the finished industrial product is to be exchanged for their identity or similarity. The contiguity is in the picture, but it only acquires meaning because of the ideological system outside it. Thus, an analysis of the ideological system, not the picture, will permit us to affirm that an *antitype* is created here between *Nature* and *Culture,* giving to the Panzani products the natural values of authenticity, soundness, purity, and so on, while retaining the cultural values of convenience, facility, etc. (Cf. I.4.1.). But only the ideological system can tell us in what sense we are to transfer the values (Cf. I.2.5.).

We observed (also in I.2.5.) that in Williamson's jetty-and-tyre example, and in Groupe μ's cat-and-coffee-pot example, the similarities were really effects of the *pictorial* expression plane, and not present in the referents. But the *contiguity* which is operative in the Panzani picture seems to be present in the referents, in the arrangement of the objects themselves. What then, about the *factorality* we noted above? In order to grasp its precise import in the picture, it will be necessary to consider first the last of Barthes's alleged connotations, which is the first taken up in the article: the return from the market. Barthes (1964 b:27) himself notes that this *implies* two positive values; first, that the vegetables have been freshly harvested, and second, that they are intended for domestic use. Thus, once again, Nature is opposed to Culture. But there is also another aspect to this observation: it suggests that the Panzani picture shows us one scene from the complete scenario of Life-close-to-Nature, so that earlier moments, like the harvesting, and later moments, like the preparing of the food, may be deduced. Of cource, somewhere between the harvesting and the return home, there will also be the moment of purchasing at the market place. But nothing of this is seen in the picture: it is a culturally-bound interpretational scheme. And in fact, not even the return from the market is actually there. All we have is a *proto-index* (Cf. I.2.5.) for this return: the position of the string-bag on a surface that might be a table, partly opened, so that a few of the commodities have fallen out, maybe together with other details, retains the purchase at the market and the homecoming and protains the unpacking of the food and its preparation. The clues to all this are of course present in the picture, but they can be read only by a person with the adequate cultural experience. But to the extent that they are present, these clues are invariants to be picked up from experience, in the same way as those defining the string-bag, the packet of spaghetti, and the tomato, only at a higher intensional level, defined by the market going scheme (Cf. I.3.2.) There is therefore no reason to call this a connotation.

The position of the string-bag in the picture is however not completely determined by the requirements of the proto-index. For instance, the Panzani products must be so placed in the bag and relative to the camera, that the labels can be read, for otherwise, the new category "Panzani", which we mentioned at the beginning of this section, cannot be defined. And there may be many other determining factors. But one of them is probably the necessity of having the Panzani products included in the string-bag, which stands for a return from the markret, rather than from the supermarket, so that the natural values will dominate the artificial ones. Therefore, the *inclusion* of the Panzani products in the string-bag must be made conspicuous, and this is brought about by means of suspending the bag rather unnaturally from one of the handles outside the picture frame, so that the packets of spaghetti appear in the roundish opening of the bag. Of course, a particular camera angle is also needed to obtain this effect. Does this make it a connotative meaning?

To Barthes it would be one, no doubt, if only because it requires a particular choice of photographic angle. Indeed, Barthes (1964 b:35) tells us that "les interventions de l'homme sur la photographie (cadrage, distance, lumière, flou, filé, etc.) appartiennent toutes en effet au plan de connotation". In an earlier text, Barthes (1961:14 ff) distinguishes two categories of photographic connotation: those which modify the denotation, and the others. Taken literally, the first category is of course an impossibility (Cf. II.4.), but we could try to make sense of it, suggesting that it is the denotation of some pre-pictorial semiotical system which is modified by a connotation, the latter forming together the pictorial denotation.

In the case of one of the three subtypes, the pose, it is easy to think of the system of body-motion, the "kinesic" system, as Birdwhistell calls it, overlayered with "meta-communicative" messages, to use Scheflen's term, which are all seen in the photograph. Another subtype, the "objects", including "la pose des objets" (p. 16), to which the Panzani connotations would seem to belong, may perhaps be taken to function in the same way (Cf. II.2.). As for the third subtype, the "truquage", which, to judge from the example, corresponds to the photomontage, its position is more difficult to determine. Barthes's second category comprises three subtypes, which are more easy to accept as connotations: the "photogénie", which corresponds to the technical effects having a signification, as the blur used to signify the space-time; the "esthétisme", i. e. the connotations of art; and "syntaxe", which is the particular effects, comic ones for instance, resulting from the combination of pictures. We have already observed that none of these connotations should really be possible, if the referent, the content, and the expression are identical, as Barthes argues; at the very most, we would have a language whose expression plane was a "symbol system", in Hjelmslev's sense. That resolves the terminological question, but without the different relata of the sign, which may vary in relation to each other, connotation becomes completely mystical. In the following chapters we will take up this problem again from a somewhat different point of view.

If we now return to the *inclusion* of the Panzani products in the string bag, there is perhaps another, more correct sense in which this could be a connotation. No doubt the commodities are really inside the string-bag, which is an object of the world, but it is only because of the angle of vision *and the projection of the three-dimensional opening of the bag on the expression plane of the picture* that the topological form of inclusion is clearly brought out on the pictorial surface. The roundish shape, we may suppose, is the prototypical form of inclusion, and as such it is only visible as an *intra-iconic* Gestalt, in the sense of Lindekens, i. e. a shape that dis-

appears once the picture is translated back to three-dimensional space. Now, all the clues present on the pictorial surface may perhaps be read as indications of the real-world invariants specifying the identity and the position of the string bag, but it is possible that the position of the string-bag was itself chosen, so as to obtain a particular effect on the two-dimensional surface of the picture. That would be a genuine connotative sign. But from denotation, from the interpretational schemes of the Lifeworld, we know that the string-bag stands for Life-close-to-nature; and from denotation we are also able to identify the packets of spaghetti, the tin can, and the packet of grated cheese. Therefore, we need to apply the connotative sign of inclusion to the denotative signs of the string-bag and the Panzani products to seize the meaning of the message: that Panzani is included in the realm of Nature. The hints of this last paragraph also help set the task for the next chapter.

For the moment, we are able to conclude that Barthes puts many different things into what he calls "connotation": a few, like the linguistic connotation, the connotation "advertisement", the "photogénie" and the "esthétisme", are genuine connotations while others, like the Italianity of the display, could perhaps be connotations in an extended sense. In other cases, it is clearly interpretational schemes of the Lifeworld, and more generally cultural values, which are brought to bear on the reading of the picture, as in the case of the return from the market and the complete meal. Sometimes, it was also a question of changing intensional or extensional level, so we have to admit in the end that, in the case of some of Barthes's examples, though not in the definition of the concept (Cf. II.1.2.–3.), there really are similarities between Barthes's and Panofsky's interpretations (but cf. I.3.2.).

This wealth of meanings given to the notion of connotation leaves us wondering if there is anything left to denotation. What would be the residue of meaning, once the "semiological reduction" has been accomplished? We have to inquire into that question in the following chapter. There is no denying the utter confusion which characterizes Barthes's employment of the concept of connotation; and yet, it is only because of Barthes's article that we begin to discover the immense tasks awaiting us in the semiotics of pictures.

II.1.5.Summary and conclusions

The present chapter was entirely concerned with a critical analysis of Barthes's article on pictorial rhetoric, particularly directed to gaining a deeper understanding of the concept of connotation as applied to the analysis of pictures. First, we investigated some of Barthes's general presuppositions in the light of the criticism levelled at the article by later commentators. We saw that there were excellent reasons for invoking the public and institutionalized purposes of publicity in the interpretation of an advertisement, but that verbal language was of doubtful importance in the "anchoring" of pictorial meanings; and we had a first look a the paradoxes of Barthes's different layers of pictorial organization (II.1.1.). Next, we contrasted the notion of connotation, as defined by Hjelmslev, which Barthes claims to take over, with three other completely distinct notions christened in the same way: the stylistic and the logical notion, and the conception introduced by Eco. The latter two are useful, but they have other, common names, and the stylistic notion is so utterly confused that it can be of no use to us. Hjelmslev's concept, however, is interesting, so we decided to explore it further (II.1.2.).

We therefore went on to show that Hjelmslev's model of connotation as applied to pictures gives rise to different distinctions from those resulting from Panofsky's analysis, contrary to what has often been suggested (II.1.3.). But when thereafter, we studied the examples adduced by Barthes in the Panzani analysis, we had to admit that some of these were really rather similar to the composite signs we had recognized in Panofsky's iconography. In fact, it seems that the only authentic connotations among those claimed by Barthes are the linguistic ones and the "advertisement" connotation rejected by Barthes. Nevertheless, we left as a task to solve in the following chapter the possible existence of a "language" of the perceptual world, capable of taking on its own connotations, which is what Barthes sometimes seems to suggest. Finally, we also argued for the presence of other, authentic connotations in the Panzani picture, but again, we left the development of this idea to the next chapter (II.1.3.).

We will now leave behind us the close reading of the article on pictorial rhetoric. In the next chapter, we will return to the problems concerning the existence of connotations in the "natural world" and in pictures, but without the limitations set by the Panzani framework (II.2.).

Chapter II.2.
Armchair semiotics – Further problems of the Lifeworld

"Une chaise n'est-elle pas une invitation à s'asseoir? Un couteau, une invitation à couper? Mais, en réalité, l'interprétation de la plupart d'entre ces objets implique une initiation sociale."
Blondel 1927:115

"Von Sitzen auf Stühlen lernt man zweierlei: etwas über Stühle und etwas über das Sitzen."
Bruner & Olson 1978:308

In this chapter, we are concerned with a fundamental problem: how do things, as distinct from signs, signify? But we will treat it rather offhandedly, in the context of

our particular problem pertaining to the meanings present in pictorial signs. First, we will probe deeper into Barthes's suggestion that use is a kind of meaning, which is echoed by Eco, and compare it to the opposite, but fundamentally similar idea according to which meaning is a kind of use, which is at present defended by Prieto, but which was long ago popular in Oxford philosophy (II.2.1.). Then we will try a second approach to the problem of finding a sign structure in the meanings of the perceptual world, closer to Greimas's and Metz's conception of a semiotics of the natural world and akin to Barthes's distinction between the identity and the ideology (II.2.2.). This completes the essential task of the present chapter, but once this much has been accomplished, we will return to a consideration of the connotative layers of the picture itself, largely ignored by Barthes. Anticipating our third chapter, we will suggest a provisional approach to the organization of the pictorial surface (II.2.3.). The results of our general investigations of Lifeworld organization (I.2.), and our analysis of the constitutive features of signs (I.2.5. and I.4.2.), must be pressupposed in the sections which follow. Moreover, our review of the Panzani article, and the analysis of the four notions of connotation, form the direct background to this chapter (Cf. II.1.).

II.2.1. Meaning as use and use as meaning. The turning of the corkscrew

> *"Dès qu'il y a société, tout usage est converti en signe de cet usage; l'usage du manteau de pluie est de protéger contre la pluie, mais cet usage est indissociable du signe même d'une certaine situation atmosphérique."*
>
> *Barthes 1964 a:113*

Long before Hjelmslev's concept of connotation is introduced and defined at the end of "Eléments de sémiologie" (1964 a:163 ff), Barthes has been using the term a number of times (pp. 92, 102, 114, 141 f,144, 159 f, and maybe others), sometimes invoking Hjelmslev's examples of dialect variants, the different R's of the persons from Paris and Bougogne, for instance, but also in relation to the phenomenon which he calls the "fonction-signe" (p. 113 f, 141 f), i. e. the function which is also a sign. In our society, Barthes claims, every object which has a particular use will also immediately be a sign for this use. However, this meaning is "rationalized", and that can only be done on the level of a connotational language, according to Barthes. And we know that connotational language needs for its existence another language, that is, an expression and a content, which it can use as its expression plane (Cf. II.1.2./4.).

Maybe Barthes is claiming that the first language *is* the actual use of the object, and that the meaning that the object engenders in society beyond its use is the connotation. In that case, the use of the object is considered to be *a kind of sign relation,* i. e. the object used is to its use, as the expression is to the content. The connotation would be a sign relation in the ordinary sense, but it is not necessarily, as Barthes (1964 a:114) points out, a simple reproduction of the usage at the level of sign content: the chair does not necessarily tell us just to sit down, or the knife to cut, as Blondel suggests. In this sense we could also understand Baudrillard (1968:81 ff) when he launches an attack on what he calls the functionalist myth, which aims at having the object *connote* its function rather than having it. In later books, Baudrillard (for instance 1972:7 ff, 155 ff, 191 ff) criticizes the distinction between denotation and connotation, which he identifies with use value and exchange value, respectively, because he thinks it amounts to a reduction of the complex of symbolic values with which the object has been invested. Commenting on Barthes's Panzani article, he affirms that denotation, because of its alleged objectivity, is the most ideological part of the meaning, thus reversing what seems to be Barthes's proposition there.

It is possible, however, that in the obscure passage from "Éléments de sémiologie", referred to above, Barthes wants to way just this: the macintosh, he tells us, rapidly comes to stand for rainy weather, which is perhaps not exactly the same as its use; and it is made according to the standardized model of a macintosh prevailing in our society, thus acquiring, in contradistinction to an improvised utensil, the meanings associated with the model; but later this complex set of meanings is reduced, "re-functionalized", so as to correspond to the object's use, in the most narrow sense of the term: the macintosh is now treated as only serving to protect a person from the rain.[1] Thus, all connotations from objects would express the functionalist myth, in Baudrillard's sense of the term. If this second interpretation is correct, the sign and its use will be something distinct from the denotational sign, and there will be two signs, besides the use, the first reproducing the full range of meanings resulting from the social embedding of the object, the second sign reducing this to the use, in a narrow, utilitarian sense. It does not follow that these signs are related as denotation and connotation (Cf. II.1.2.): rather, it would seem that the second sign reproduces the content of the first sign, applying to it a very reductive principle of relevance.

But in this case, Krampen (1979 a:6 ff; 1979 b:158 ff) is wrong to include Barthes among those who "reduce objects to signs" or, in other words, considers the instrument to be a particular kind of sign. The most straightforward exponent of this theory must anyhow be Eco (1968:287 ff) who explicitly identifies the function of a building with a content, which he calls denotation, adding (p. 296, 298, 302 ff) a "secondary function", or connotation, which conveys such contents as "security", "protection", "intimity", "religion", etc. Elsewhere, Eco applies this kind of analysis to the functional interrelations of the parts of a desk, to a flight of stairs,

and to a column (Cf. Eco 1972; 1977). It will be noted that, according to Eco's distinction, the total meaning of the object is distributed between denotation and connotation in the complete opposite way from that found in Barthes's analysis: that is, if our interpretation holds good, Eco's connotation will be Barthes's denotation, and vice-versa.

That would give us the following chart (Table XI):

It is difficult, no doubt, to separate the theoretical differences from the purely terminological ones. Nor is it clear how the concept of connotation defended here by Barthes relates to Hjelmslev's concept (Cf. II.1.2.) and to those found in the Panzani analysis (Cf. II.1.4.). Eco's connotation is perhaps a contextual implication. We will return to these problems a little later. We should first take note of Krampen's (1979 a:15 ff; 1979 b:163 ff) observation that, besides those who reduce objects to signs, there are also those who reduce signs to objects, i. e. treat them as a particular kind of instrument. Actually, Krampen is thinking of Prieto's theory, according to which the expression of the sign is related to its content as the instrument is to its purpose. Understandably, Krampen (1979 a:21) considers this last view to be the correct one, or at least the most profitable, permitting us to look upon linguistic laws as particular cases of the rules valid for all instrument use. And yet, there is a sense, it seems to me, in which the reduction of signs to objects, and of objects to signs, amount to the same thing: to state the identity of phenomena which to naive experience appear very different.

For to Lifeworld intuition, instruments and signs are two very different things. The typical instrument, or tool, serves to bring about a change in the material world. The sign, on the other hand, relates an expression to a content and, in a given situation, to a referent. Both reductions presuppose that these two phenomena are only superficially dissimilar, and that the superficial aspect of one of them better accounts for the deeper import, the "essence", of both phenomena. Either the sign or the instrument is thought to carry the common essence on its surface. To say that signs are instruments is to leave open the possibility of signs, but not instruments, having further properties, and to say that instruments are signs is to avoid pronouncing oneself on the existence of other properties of instruments while precluding the same possibility in signs. Since they do not pronounce themselves on the question, both reductions would seem to admit to the possibility that the class of signs is simply identical to the class of instruments. On the other hand, both reductions exclude another possibility, which is, I believe, the correct one: that signs and instruments, while having both additional characteristic features, have one important property in common: *alter-functionality,* i. e. the fact of having their identity determined by an instance exterior to themselves (Cf. I.1.2.–3.).

Throughout work, Prieto (1966:1 ff) conceives of expression and content, instrument and operation, means and end, as being essentially analogous. Between the members of each pair, commutation is possible (Cf. Prieto 1975 b:123 ff). The instrumental act, like the semic act, correlates two classes: the operant, corresponding to the signifier, and the utility, corresponding to the signified. The class of all tools having the same utility, or class of uses, is the operant, and the utility comprises all the operations which can be executed with the same tool (Cf. Prieto 1975 a:59 ff and Krampen 1979 a:15 ff). Only once does Prieto (1975 b:171) give us a concrete example which may help to understand this distinction: both a corkscrew and a bottle opener with a corkscrew may be used in opening a bottle of Bordeaux, but only the latter can also be used to open a bottle of beer. Therefore, the utilities of the two tools will be different, but both will comprise the operation of opening a bottle of Bordeaux. Let us now try to develop this example (fig. 19):

But just as the utility (to the right in fig. 19) contains different operations, the operant is constituted of many tools, which differ in properties not pertaining to the utility. For instance, I happen to possess two corkscrews with can-opener, one of them a rather ordinary corkscrew having a can-opener on its handle, the other formed as a badger-dog, whose mouth is the can opener. Both would be members of the same class, the same operant. We now see that Prieto's class theoretical terminology indirectly expresses what Hjelmslev more properly designates as *form* and *substance, invariant* and *variants.* The form, i. e. the invariant, must have priority to the class, because the class cannot be formed without making use of some criteria, which could be a

	BARTHES:	BAUDRILLARD:	ECO:
UTOPICAL PAST:	*use without any sign*	*symbolics*	*use = denotation*
HISTORICAL TIME:	*denotation = use, use context, traditional shape, etc., transmuted into sign*	*symbolics*	*use = denotation all associated meanings = connotations*
CONTEMPORARY SOCIETY:	*connotation = use, in a narrow sense, transmuted into sign*	*denotation = use connotation = other meanings*	*as before*

Table XI. Denotation and use.

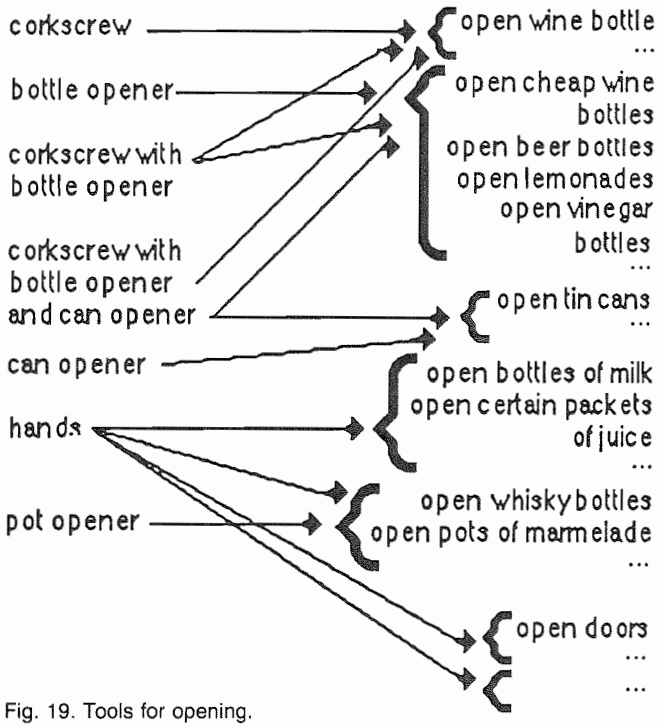


Fig. 19. Tools for opening.

series of features or a prototype (Cf. I.3.1.). Therefore, we shall prefer to say that the invariant of the corkscrew with can-opener has a number of variants, one of which has the shape of a badger-dog. In order to translate Prieto's classes into features, it may be convenient to employ the kind of analysis suggested by the anthropologist Leroi-Gourhan (1971:43 ff) in his study of the development of simple technologies: for instance, percussion is cross-classified as placed or launched; perpendicular or oblique; linear, punctiforme, or diffuse; and if linear, longitudinal or transversal (also cf. Sonesson 1978 a:132 ff). In the case of a tool as specialized as a corkscrew with can-opener, it will probably be necessary to characterize more specific operations.

Recognizing Hjelmslev to have been the only serious theorist on connotation, Prieto (1975 a:63 ff) takes over Hjelmslev's distinction and transfers it to what he considers to be the general case, the instrument (notably in 1975 b:143 ff, 169 ff).[2] In denotation, the sign is considered only as a signifier for a particular signified, and the instrument as a tool for a particular class of operations, or utility; in connotation, the choice of a particular signifier or tool adds a further meaning. Some of Prieto's examples (but not all, as we shall see in II.4.) are of the same kind as Hjelmslev's, but the former also considers non-linguistic instruments. Contrary to the denotation, the connotation is not necessarily deliberately chosen by the originator of the act: but if the way the operation is executed is itself intended to be a message, Prieto (1975 b:175) thinks we will have a work of art. In the case of literature, film, and painting, the basic operation, i. e. the denotation, is itself communicative, but in architecture, design, and so on, only the second operation, the connotation, communicates something. For instance, to sit down is not a communicative operation, so the chair, considered as a tool for sitting down, does not communicate anything, but it does denote the utility, and since the operations of this utility must be executed in a particular manner, this manner will communicate. Music, dance, and non-figurative art have no obvious basic operation, but Prieto thinks they communicate subjective reality (Cf. Prieto 1975 a:68 ff; 1975 b:160 ff, 175 ff, 188 ff).

We whould first recognize that which is true in this theory and then pass on to the criticism. To begin with, we will limit the discussion to tools in the narrow sense, roughly what Leroi-Gourhan (1971) calls the "moyens élémentaires d'action sur la matière" and the "techniques de transport". We will then consider instruments in an extended sense, as the chair for instance, cultural objects in general, and natural objects. Tools, like the corkscrew, the hammer, and the spoon, certainly have their identity determined by a principle of pertinence outside themselves. The tool must have a given shape, a certain solidity, and so on, not because of intrinsic reasons, but because that is required by the operation it is meant to execute. Thus, there is *alter-functionality.*

Things are probably made in most or all societies in order to satisfy a number of needs, but many of these are background needs, present in all common practices of that particular society, so the function of the tool may rather easily be separated from its general "symbolics", in the sense of Baudrillard. According to Barthes, the tool acquires meaning in a given society, among other things because it is made in accordance with a standardized model. Thus, not everything which has the ideal properties for hammering will be considered a hammer. This is a case of identity being determined for intrinsic reasons. Prieto (1975 a:67 f; 1975 b:187) objects that if there is no choice of the way of executing the operation, there is no connotation. It should be remembered that, according to our interpretation above, Barthes really argues this is the denotation. However, it is not true that there is no choice: other societies have chosen otherwise. What is more, part of the cultural identity of the tool commutes with the kind of operations it is supposed to execute, and part of it commutes with other cultural meanings. It the first relation had been a sign relation, we could have said that there was a difference between the *system* and the *norm,* and that the latter adds a *formal connotation* (Cf. I.1.3. and II.4.).[3] The problem is, it is *not* a sign relation.

As is obvious from his discussion of the "basic operations" of different arts, Prieto thinks there are instrumental acts which are communicative and others that are not. He does not tell us how they differ, but the fact that he uses particular terms for the relata of the communicative acts indicates that he believes them to have

additional properties. We have already suggested which these properties may be (Cf. I.2.5. and I.4.2.). If the typical use is taken to be tool use, it will also be found to have properties, besides alter-functionality, which are not found in the sign. The tool and its operations are certainly of distinct nature, for the first is an object and the second a series of actions, and these are always held apart in naive metaphysics. On the other hand, the relation between the tool and the operations is not exactly discontinuous, because they must be present in the same situation. In particular, the operations include, and imply the presence of, the tool: it may indeed be possible to open a wine bottle without a corkscrew, but without using one it is not possible to accomplish the operation in exactly the same manner – more precisely, it is not possible without using an object having all the alter-functionally determined traits of a corkscrew. The relation between the tool and the operations is *motivated* (cf. part III), but not in the manner of a motivated sign: there is no similarity, nor is there contiguity in a strict sense. Like the torn piece of paper, and the pieces of the jigsaw puzzle, the tool and its operations go together, in a way which is not spatial, but still material. Again, the tool is directly presented and thematized: it is an object in its own right. As essential as the operations are for the determination of the identity of the tool, they are not directly presented, nor thematized, *in the tool,* though of course they can be concomitantly present and thematized in the situation.

Essentially the same description can be extended to objects such as chairs. Together with the sofa, the chair obtains the first rank among prototypical furniture in Rosch's (1975 a) experiment: unfortunately, she did not investigate the category "tools", only "carpenter's tools", so we do not know if chairs, and furniture in general, are considered to be some kind of deviant tools. Anyhow, chairs must be characterized alter-functionally. Pottier found in his linguistic analysis of the lexical field in which the word "chaise" is included, that the differences between this word and others like "fauteuil", "tabouret", "canapé", and so on, can be apprehended in terms of the parts and attributes they have or do not have: the back, the elbow, etc. (See discussion in Baldinger 1980; Geckeler 1971; Kerbrat-Orecchioni 1977 a). But the common feature of the field, "furniture for sitting down", is still alter-functionally characterized. Moreover Gipper (1959; 1978:43), who asked a number of persons to classify pictures as representing a chair or an armchair (in German, "Stuhl" and "Sessel"), obtained classes that could only be explained by features such as "adapted for working, eating, or other utilitarian purposes", and "adapted for relaxing", respectively. These are obvious tool functions. If chairs are not typical tools, that is perhaps because they are left on fixed locations, even when they are not fulfilling functions as being used for sitting, and because in our culture, contrary to what seems to be the case in "primitive" cultures, furniture, but not tools, is invested with many supplementary meanings. These traits are probably not unrelated: when it is not sat on, the chair is there to mark the different home regions, to express homeliness, social class, life style, and so on. It would be interesting to know if the Japanse consider furniture and even inner walls, which they constantly move around, to be more tool-like.

In Barthes's Panzani picture there are, unfortunately, neither tools in the strict sense, nor furniture. The red surface could be taken to be a table top, but it is not distinctly so designated. However, there is the string-bag, which is a kind of tool for transporting things – usually for transporting fruit and vegetables purchased at the market back to one's house. Here, then, is possibly a connotation from the object's use. We will return to this question a little later. However, it will be noted that the other objects present in the picture are not tools in any ordinary sense. Food, of course, could be said to be tools for staying alive, but even such a metaphorical extension will not help: this is a general function of everything edible, and we need more particular meanings.

Pérez Tornero (1982:64 ff) suggests we should dispense altogether with the distinction between connotation and denotation, and separate Nature from its culturalization instead, from the way it is "marked" by features of human activities, for instance the roads and power lines found in the landscape. This is exactly the opposite of Barthes's conception, but it surely seems more adequate to the Panzani picture. Barthes, as we now know, starts with a *cultural* object, whose use in a society is transformed into a sign. Pérez Tornero begins from Nature and considers how it is organized and acquires meanings from the traces left on it by Human presence. When applied to the Panzani picture, this will yield culturalizations on two levels: as material transformation in the industrial products, i. e. the Panzani wares, but also the string-bag; and, in the case of the vegetables, their gathering and transportation. We will return to this question in the next section. What has been said so far should be enough to show that even if there are connotations from the use of objects, this will explain very little, at least in the Panzani picture.

But we still have to show the unfeasability of using denotation as a common term for use and meaning, leaving connotation a secondary relation of both. Tool use cannot be identified with denotation because there may be a relation in tools, which *is* a sign relation, without being a connotation. We will have to approach our problem in a number of steps, beginning with identification. Arguing for a distinct "semiotics of artefacts" against Eco's reductionism, Hesselgren (1973:425 ff) points out that the shape of the spoon will not tell us about its purpose unless "we once have eaten with a spoon". It will be noted, however, that this identification is learnt in relation to the "standardized" or "normal" shape of the tool in each given culture, not just to those properties of the tool which are alter-functionally defined. *More* features

are normally pertinent for identifying the tool as such, than for making it apt to accomplish its functions. But this only concerns the prototypical tool. Psychological experiments in the tradition of Duncker usually require the experimental subjects to discover elements which can be used to accomplish a specified task, although they are embedded in a context which makes the relevant properties inconspicuous. The properties which are hidden but which must still be found are not those which define the corresponding tool, but rather some general, global properties like angularity, flexibility, solidity, bendability, swingability, and so on. Identification will here use *fewer* properties than those determined by alterfunctionality. Therefore, the function of the tool cannot be identified with that which permits identification. In itself, however, identification is not a genuine sign function: the features which it uses are part of the object identified itself, not of another object, i. e. they are *relevant,* not just *pertinent* (Cf. I.4.6.). In this respect, tools are not different from most other objects: what the particular shape of the hammer permits us to identify is the hammer, not the hammering!

The identification may, however, be transformed into a sign function when the tool is made to signify itself. Prieto, who notes that the way a denotation is executed may or may not be a new message, ignores the fact that the same thing is true of the use itself. If use is denotation, there is of course no way to state this. According to Baudrillard, the style of design known as functionalism *signifies* the use of its products. In fact, what is signified is rather the identifying traits of the products, which may be *more* than the traits specified by the use, i. e. the cultural model, or *less* than these traits, i. e. some global features like graspability, etc. It is of course part of the functionalist myth that the features relevant for identification are supposed to *coincide* with those determined by the operations defining the tool, and this, and also the requirement that the relevant features are enhanced in the product, is a particular way of making the tool, and thus a *connotation.* But what it relates to as its denotation is not the use but the identifying features. Consider for instance the lighter mentioned by Baudrillard (1968:82): it is announced as being "'hautement fonctionelle': non pas qu'il donne du feu mieux qu'un autre, mais parce qu'il 'épouse la paume de la main'". It *connotes* functionalist design, but it *denotes* graspability; its use, besides lighting cigarettes, also includes the possibility of being held in one's hand, itself a complex function containing, among other properties, graspability and lightness.

Therefore, meaning is not use, and use is not meaning, but they have in common the property of being alterfunctionally determined. Barthes, at least as we have interpreted him, in right against Baudrillard, Eco, and Prieto, in making the denotation a semanticization of the use, rather than the use itself. We can, however, distinguish in Barthes's semanticization two different phenomena: identification and self-reference. The meanings given by Barthes to denotation and connotation in this context are quite unrelated to any known distinction pertaining to these terms (Cf. II.1.2.). Using the terms in Hjelmslev's sense, the transmutation of use into a sign is an ordinary denotation, which may then have its connotations. In his Panzani analysis, Barthes employs the same terms in yet another sense (Cf. II.1.4.). The objects which seem to appear in pictures, like the objects actually present in display-windows and show-cases, refer to their own identifying features. Thus the string-bag in the Panzani picture will *denote* its identifying features making it, among other things, a means of transporting vegetables from the market place. So what will it *connote?* Probably the self-referring sign function, accomplished through a picture instead of a real object, which is a photograph used for a publicity. And all this brings us directly to our next section, where we will investigate another supposition of Barthes's: that denotation has something to do with identification (II.2.2.).

II.2.2. The science of the tomato. Identification and structure

> *"Si en plus des éléments permettant d'identifier la tomate (qui, pour un graphiste se ramèneraient essentiellemement à une courbe et une couleur) se greffent d'autres signifiants (gouttes d'eau), à la tomate s'ajoute le concept de fraîcheur, c'est-à-dire que nous sommes désormais au-delà du concret."*
>
> *Gauthier 1979:56*

In the Panzani analysis itself, Barthes (1964 b:34) seems to suggest another meaning in which real objects have denotation and connotation: there are the properties permitting their identification and all other properties. This must be a confusion with the stylistic notion of denotation, the "cognitive" part of meaning corresponding to the real-world object (Cf. II.1.2.). However, identification may take place on any intensional level of the picture, corresponding to different cultural objects, more or less culturalized, from the tomato to the string-bag and further to the Panzani products (Cf. II.1.1.). Nevertheless, we shall now try to make sense of Barthes's proposition. Suppose the world itself, the "natural world" in Greimas's sense, is itself a language, made up of expression and content (Cf. I.1.4.). If this can be established, we may even be able to find the secondary language system, which is expressed with the help of the first one, i. e. the connotation. But what, then, would be the expression plane of the natural world?

According to Greimas (1970:45) the expression plane of the common sense world, as he also calls it, is identical with the content plane of verbal language. There would be a conformity between the content plane of one system and the expression plane of the other, not (on-

ly?) at the level of words and things, but on the level of their defining features. For instance, the word "tête", in its most general sense, means "une extrémité pointue ou sphéroïde" (p. 46), i. e., it contains the traits "extrémité + supérativité" (Greimas 1966:48). The content plane of the natural world, on the other hand, is what Greimas calls "la *forme scientifique*": for instance, chemical formulae will express themselves as particular smells, tastes, and so on. Thus, on seeing a head, we will pick out the traits "extremity" and "superativity", and take them to stand for chemical formulae, or maybe some other scientific constructs. This comes very close to being the reverse of Pierce's interpretation, when he considers ordinary perception to be an *abduction* made from sense data (Cf. I.2.), thus implying that the "scientific form" is found on the expression plane!

Metz (1977:129 ff), in a long article on the relation of language to the visual world, emphasizes the importance of Greimas's observations: in a picture too, he claims (p. 151), the object, a head, for instance, will be identified by means of the kind of features isolated by Greimas. But Metz also insists on the difference between a metacode, or metalanguage, and a simple transcoding. Metalanguage is understood in Hjelmslev's sense as a language having another language as its content plane. Transcoding, on the other hand, only supposes an overlapping of the two content planes, the two expression planes being independent. Between the codes, the substance of expression, or only its form, may differ, and even the form of content could be different, but of course not the substance. A case in point is ordinary linguistic translation (p. 147 f). Since Metz accepts Greimas's analysis, this would seem to make the relation between the visual world and language a transcoding.[3a] In fact, Metz (p. 149 ff) claims it is a *metacodic* relation. While admitting a deep correspondence between the linguistic content and the visual expression, Metz thinks that, because of language being a "commentatrice universelle" (p. 149), each linguistic act must be *about* the relationship of the visual expression to the visual content (p. 151). We recognize here the linguistic determinism encountered in Barthes's work (Cf. II.1.1.). If I understand Metz correctly, the picture will only transcode reality, probably with the help of linguistic commentary (p. 149). However, the signified in the language of the natural world, as conceived by Metz, is the object itself (p. 144 ff), that is the "objet reconnaissable" (p. 151). In fact, as Metz observes in the beginning of the essay (p. 131), his problem is a problem of *identification.*

Let us first consider the content plane of the natural world, as described by Greimas. It is true that for a scientist, while he is involved in an experiment, a smell or a taste may signify a chemical formula, but this is obviously a very particular case. If the qualities of the world were all the time appresenting their corresponding chemical and/or physical description, science would really have been born in the Garden of Eden. It seems more acceptable to say that the chemical formulae signify the smells and tastes (Cf. Husserl's critique of the "Ideenkleid", I.2.1.). But even that lies outside the range of the "natural world". Peirce's inverse theory, involving sense data rather than chemical formulae directly, is also unacceptable on the common evidence of Husserlian phenomenology and contemporary psychology of perception (Cf. I.2.2.): there is no experience of sense data, so these could never function as the expression plane of anything whatsoever.

On the other hand, Metz's interpretation appears bo be in perfect accordance with the account of identification given by the Gibsons (Cf. in particular E. Gibson 1969): certain features of the object are picked up, thus permitting the recognition of the object as such. But this is not really a sign relation. Eleanor Gibson (1969:61 ff) takes great pains to show that it is the recognition of the object's own properties, not the association to it of independent labels, that permits discrimination and thus, I suppose, also identification. However, since Metz calls verbal language a metacode, he must obviously mean that the natural world itself, prior to its linguistic gloss, is a language, having its expression and content. But there is no appresentation between the properties and the object having them. In fact, Metz (p. 144) himself compares the relation between the properties of the object and the object itself to that between the semantic features and the semema, itself modelled on the relations between the phonological traits and the phoneme, the phonemes and the words, morphemes or monemes. These, of course, are relations of constituency, not of appresentation. Greimas (1970:54 ff) actually suggests there may be a way of decomposing the objects of the natural world into a limited set of features; however, he thinks that the correspondence with linguistic units may take place at the level of features or whole configurations (p. 45). This is not a sign relation, because the features are parts of the object they mean, i. e. they are not alter-functionally determined. We have *relevance,* not *pertinence* (f. I.4.6.).

Before we proceed to consider the possible resolution of this problem, we have to discuss the plane of expression of the natural world, as conceived by Greimas and Metz alike. It is, in a way, not surprising that Greimas finds a correspondence between the features of expression in the "natural world" and the features of content, which he has himself adduced in his description of verbal language. If we return to consider Greimas's analysis of the lexeme "tête", we will see that the features are not discovered by means of commutation, as confirmed structuralists like Hjelmslev, Geckeler, and Coseriu would have it, for in that case a pertinent difference on the expression plane would have been required in order to justify a change on the content plane (Cf. I.1.3.). Instead, Greimas studies a series of verbal contexts furnished by the Littré dictionary in order to discover the

common denominator of these contexts. That means that we are at the level of discourse, and even a strict structuralist would probably admit that a correspondence with the perceptual world exists at that level. Also, Greimas is using his knowledge of the perceptual world to give a content to the distinctions he establishes between different uses of the word "tête", but it could reasonably be argued that, in practice, any linguist would have to do that. More to the point, we observe that Greimas postulates *two* features thought to be common to all the uses of the word "tête", but from a strictly linguistic point of view there should only be one, since Greimas has not shown his two traits to be capable of varying independently. But, of course, we all know from perceptual experience that not all extremities are "superative", i. e. either superior or anterior, in relation to the whole of which they are a part. We may conclude that Greimas is not a strict structuralist and that, I believe, is to his advantage (Cf. the "semantic operations" of III.4.1.).

In spite of all this, Greimas's features are probably not the features which are relevant for identifying a real-world head. Interestingly, the features proposed, at least in this analysis, are *global* traits, and thus good candidates for being the "formal invariants", as Gibson would say, though perhaps not "mathematical" ones (though some of them seem topological), required for the identification of objects in perception. The problem is that Greimas (1966:42 ff), in his search for the common denominators of the word "tête", treats "metaphorical" uses like "head of a group", "head of a needle", and so on, as being on a par with the use of the same word for the head of a man or an animal, and the category thus obtained does not seem to correspond to any immediate object category. Consider a head in the most obvious sense: the head of a man. We will recognize it even it if is cut off with a knife or only by the picture frame, so neither "extremity", nor "superativity" are necessary features of this category. If we identify the head with the face as being its most prominent part, we know that, from around two or three months, the child will define the category from the eye pattern, including spots in the corresponding arrangement; later, the presence of the upper face section becomes important, and then the whole over-all oval contour; still later, by five months, the mouth becomes a relevant trait (Cf. Gibson 1969:347 ff). In due course, invariants emerge, which permit the identification of faces even in deviant orientation. None of these, however, correspond to those mentioned by Greimas. In perception, we would be more certain to attend to the *differences* between a man's head, the head of a group and the head of a needle, the invariants for which are quite distinct. It is probable that the traits adduced by Greimas will tend to co-occur with those characterizing a prototypical head, but rather low down in the hierarchy of criterial features. In fact, it will be argued later (in III.6.3.) that metaphors are based on features low in the thematic hierarchy (Cf. I.3.1.), or even resulting from a rival analysis of the content. That the metaphorical extensions considered by Greimas are "dead metaphors" only gives them a deeper anthropological interest. We may conclude that it is not *even* in the case of a picture showing an unknown object, as Metz (1977:151) believes, but *precisely* in that case, that we could use Greimas's features to identify it as a head.

We have failed to find a language, with expression and content, in the natural world. Indeed, we have not raised Hjelmslev's question as to the conformity between the planes, because if there is no alter-functionality and no appresentation this question does not even arise (Cf. I.2.5.). If there is no denotation, there can be no connotation. Metz (1977:135 f) notes that there are other codes, besides those serving identification, for instance the narrative ones; another text, which we will consider later (in II.4.), hints that there are also connotative codes. However, it should be obvious that identification can take place in any code, if we only change intensional level: someone may be identified as the protagonist of a story, or as a melancholy appearance. As for Greimas (1966:57; 1970:54 ff), he treats Bachelard's "elements" as being sememes on the same level as "tête", which we considered above. Therefore, we appear to end up with a completely negative result in this section.

However, it seems plausible that the linguistic act can transform the relation of constituency into a sign relation, making the object stand for its properties, or vice-versa. Since there is no prior language in the natural world, this will not be a metalanguage, nor a connotation, but simply a language. For the present, we want to know if something similar could be made to happen, using non-linguistic means. This is actually the case: a thing may be *displayed,* to stand for itself, as will happen with a painting at an exhibition, with the wares on sale in the show-window, with the historical remains in the museum's show-case and also, I submit, with the objects shown in a picture. Thus, we have found a sign relation which is not the same as that in the pictorial sign itself, because it is not only found in pictures. Of course, it seems strange to have an object signify itself. But I will argue that *self-identification,* as a sign relation, or *display,* is a limiting case of what Goodman terms *exemplification* (Cf. I.2.4.). Therefore, it will be necessary to return to our discussion of Goodman's term and to amplify what has already been said about it.

In order to avoid Goodman's label metaphysics, we said that *exemplification* was a sign relation from a particular object to one or a few of the attributes characterizing the object, which means treating the latter as a *categorial object* ("nominalize" it, Husserl would have said). This supposes a decomposition of the original object according to the *attribute* mode (Cf. I.2.4.). Therefore, we are concerned with a kind of indexicality. However, we noted that, while the description of the process so far accords with what could possibly take place in the

arts, which is what interests Goodman, it is insufficient to account for the examples he adduces to explain his new term: the tailor's swatch, and the cupcake displayed at the bakery, do not stand for any categorical object or any "label", they stand for a class of things having the attribute named by the categorial object, or the several attributes named by it, in common. This needs to be specified: the cupcake, being a complete object in its own right, stands for the class of identical cupcakes (in fact, for a subclass of these: the subclass of identical cupcakes made the day of the delivery), but the swatch, since it is an "improper" part of a kind of material – cloths – stands for something which to grammar is "uncountable", itself lacking completeness. Thus, there is a *double indexicality* here, one between the expression and the categorial object ("attribute-of-E"), and one between the expression and the content ("part-of-E", that is, either attribute, perceptual part, proper part, or, as we have just seen, improper part). We could even say there is a triple indexicality, for the *attribute-of*-relation must of course obtain also between the categorial object and the content of the sign relation (Cf. fig. 20).

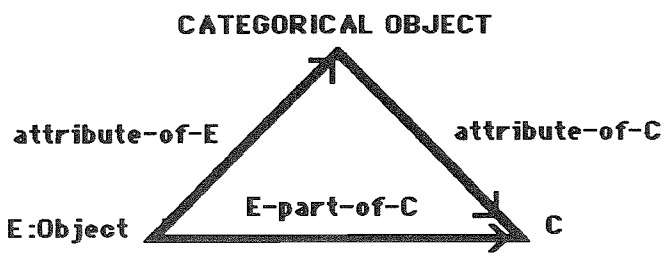


Fig. 20. Samples.

If the content of this extended exemplification could be some kind of material or a class, then, we reasoned (in I.2.4.), it should also be capable of being a complete object, in which case the expression of the exemplification may be a proper part of this object, an attribute of it, a perceptual part, or even an improper part. It should be noted that this indexicality is, at least partly, independent of the first one: we could chose a *proper part* or a *noema* of an elephant, because it best visualizes a particular *attribute*. In the case of homogeneous materials and classes, as in Goodman's examples, the distinction collapses, but for classes and materials having more or less prototypical members and parts, it must be relevant, though we will not consider the question here. Also, we will suppose that the decomposition according to the attribute mode is the only one that can appear between the expression of exemplification and the categorical object. In addition, it should be noted that exemplifications standing for classes or materials may in an even more extended sense be taken to stand for indvidual objects: when Goodman makes his command at the tailor's or the baker's, the swatch or the cake he is shown will stand for the suit he expects to be made, and for the cake he thinks he will receive on the day of delivery.

In the sequel, we intend to show that, besides these *exemplificational displays,* there are also *identificational displays*. We will begin with a review of the different types of exemplification we discovered among Goodman's examples and of the further ones we added in our earlier discussion (Cf. I.2.4.), from there on approaching identification. The following chart does not claim to be exhaustive; it is intended only to contribute a few more possibilities.

In the chart reproduced below, the cases found under I comprise the samples of Goodman's, together with a few more we added in earlier chapters (I.2.4.); in II, we have exemplification in art, as conceived by Goodman and reanalyzed by us, first simple exemplification and then "metaphorical" exemplification or "expression" in Goodman's terms (II a and II b, respectively); lastly, in III, we give a number of other examples, some of which are pure identificational displays (III c), while others are closer to extended exemplification. For instance, III a only differs from I b, because it is itself included in the class it stands for; as for IIIb-c-d, they are distinguished by the way the identity of the identification is characterized. We will return to consider some of these latter cases later, notably in part III.

We now have found a number of ways in which things may be made to signify, in particular, parts of the properties they have, or even all, or all relevant properties they have, in some cases returning to signify themselves as the possessors of these properties. Thus we have discovered, not only the relation of denotation, but its connotative possibilities, resulting from the variable form of the denotation. As an example, it now becomes obvious that the functionalist lighter will exemplify, i. e. denote (in Hjelmslev's, not in Goodman's sense) "graspability", but connote functionalist design (Cf. II.2.1.); also, we see that to conceive a head as an anterior or superior extremity is to employ the head to exemplify these properties, thus connoting a certain tendency to global perception, which may itself derive from figurative, bodily-based experience (Cf. I.4.5.).

But a serious problem remains: in the examples so far considered there has usually been a convention or a situational clue, helping us to discover the sense in which the object in question must be taken. Suppose, as we have argued, that pictured things will also exemplify some of their properties, the classes of things having these properties, or even themselves – how are we to know which of these denotations, with ensuing connotations, apply in each particular case? The answer, I believe, is again *structure,* but this time usually the structure of objects and of their constellations (Cf. I.3.3–4.).

There is an excellent example in an analysis by

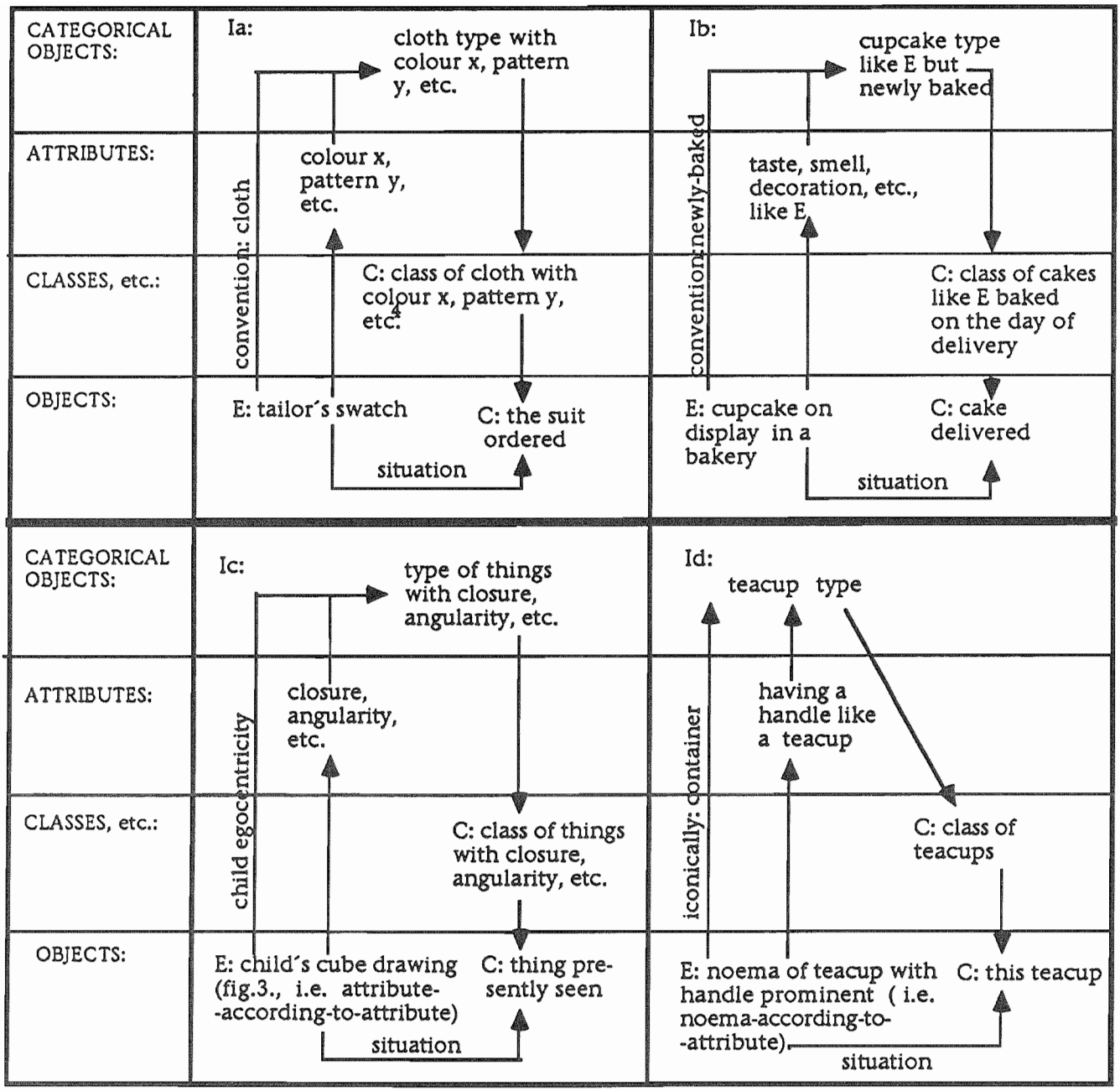


Table XII. Exemplification and identification.

Gauthier (1979:55 ff), obviously in the Panzani analysis tradition but much more attentive to the finer details of the publicity analyzed. The picture shows a tomato with a drop of water lighting up its surface, placed inside a glass bottle. Some incident light is reflected also from the bottle's sides, but the background is dark. We note also, for its possible further relevance, that the bottle, which appears enormous in comparison with the sole tomato, is placed exactly in the middle of the page, and the tomato itself takes up the central position on the bottom of the bottle. Gauthier (1979:56) begins his analysis by telling us that the tomato becomes a sign, because it immediately evokes those of its properties which are not directly present in the picture. This is not really a sign relation, but an appresented pairing, like the one from noema to noema (Cf. I.2.5.), or like the intermodal references (Cf. E. Gibson 1969:215 ff), and is equally present in real-world experience of the tomato. The drop of

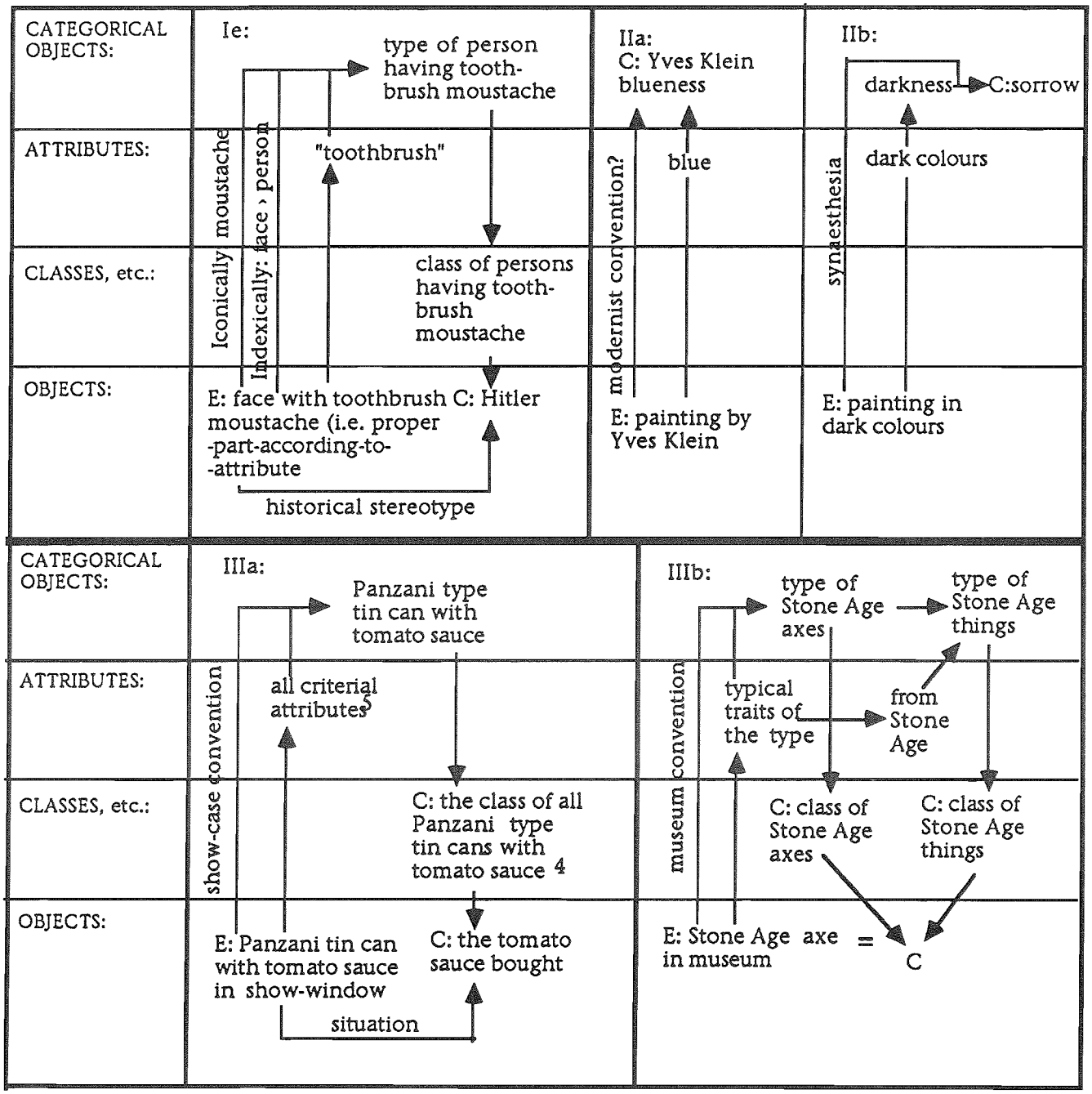
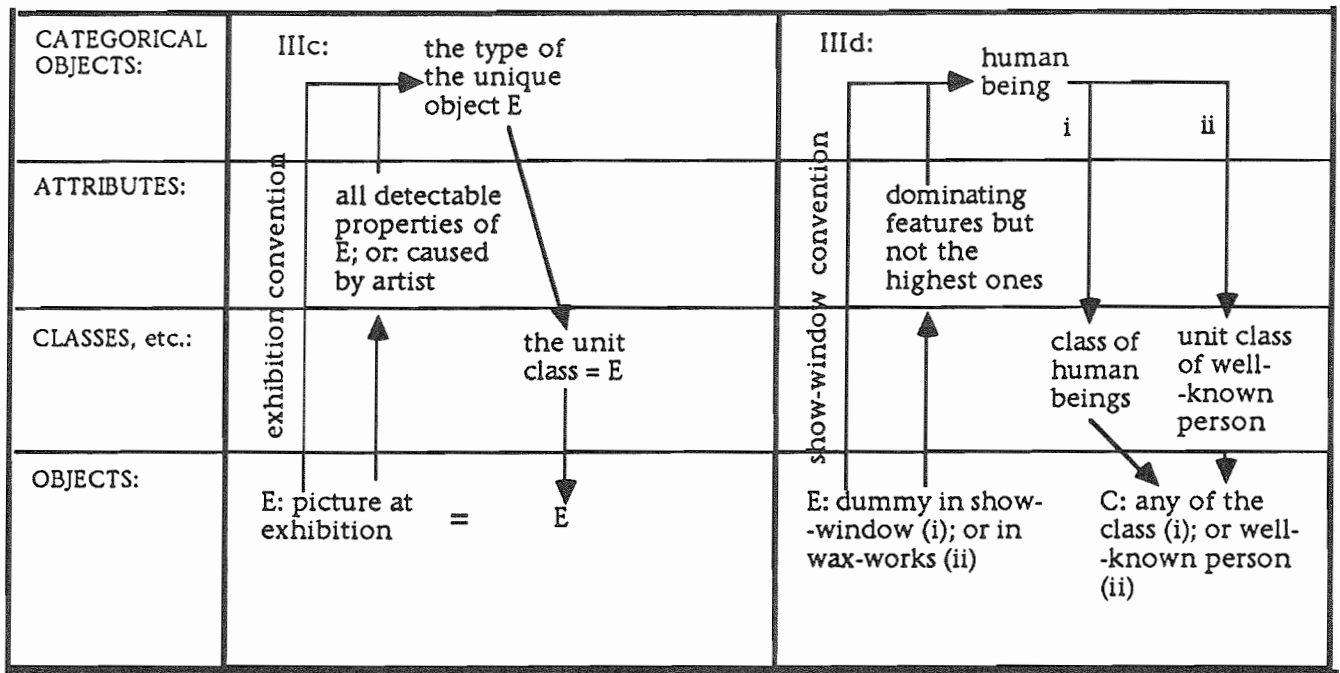


Table XII-II. Exemplification and identification

water, Gauthier tells us, signifies "freshness" and together with the tomato, it evokes the garden in the early morning, which in turn refers to "la nature non souillée non altérée", that is, an ecological ideal. It is remarkable that Gauthier fails to tell us how he arrives at this signification, because he is much more cautious later. However, we are reminded about Williamson's "ideology of the natural", which also seems to fit here, and therefore of a Nature very different from the "culturalized" one of Pérez Tornero (Cf. II.1.4. and II.2.1.): we are in the lands of simple labour, so simple it hardly detaches itself from the Nature upon which it works, but sufficient to bring the tomato from the garden to the glass bottle. On this reading, there is nothing in the picture itself which deter-



Further possibilities:

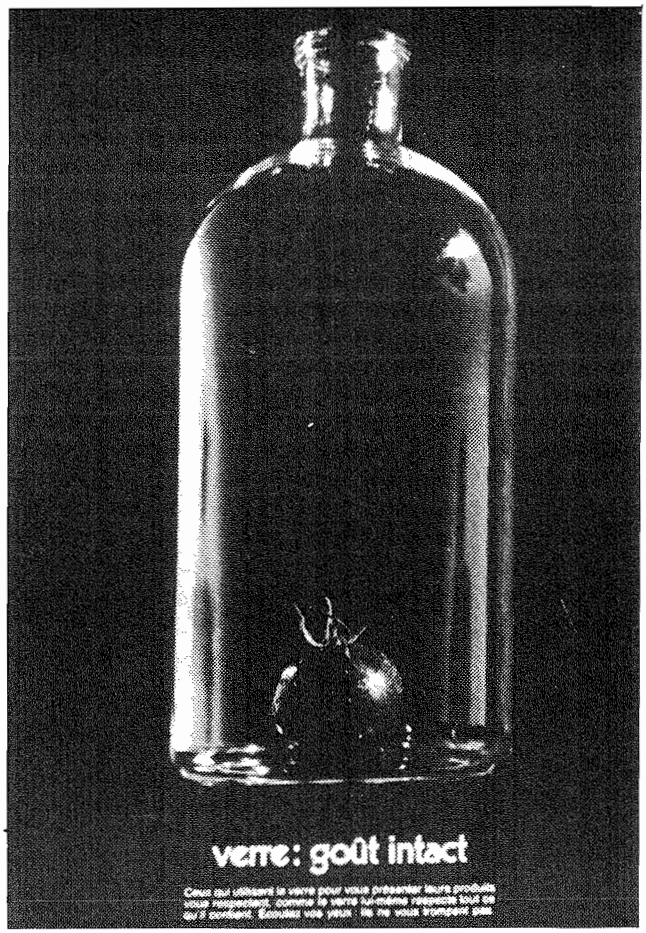
IIIe: E = noema of object (cf.Id); stands for attributes of the noema, the type resulting from those, and ultimately for itself. IIIf: E = proper part (cf.Ie); stands for attributes of the proper part, the type resulting from those, and ultimately for itself. In IIIe-f, Lifeworld knowledge must assure the relation to the total object; otherwise, E is simply an object in its own right

Table XII-III. Exemplification and identification

mines this interpretation, so it will simply cease to exist if the picture is transported back to another century, or perhaps to a part of the world in which the required ideological system in unknown. However, that is perhaps not all there is to it.

First, as we shall see later, it is not obvious that so much ideology is required in the present case: it may be sufficient to see the tomato as newly-harvested. This is an obvious *proto-index* (Cf.I.2.5.) in the picture: we know tomatoes do not grow in glass bottles but on bushes, so someone must have put it there. The water on the tomato may be taken to be dewdrops, as Gauthier thinks, or water remaining from the tomato after being washed. In both cases, we may reasonably conclude that the tomato has not been in the bottle for a very long time, or at least, that it is like a tomato that has just been put into the bottle. On its own, the water drop will never signify freshness; it is the water drop *on the tomato* that will take on the meaning of tomato being newly-harvested. Thus, the tomato identifies itself as a member of the class of tomatoes being prominently fresh (case III a, but one property is singled out as dominant). Of course, in a real display of the tomato and the bottle we could, with the help of our world knowledge, observe all this, if we had chosen to observe this aspect. But how do we know that is what is relevant here? If we take the illumination, the localization of the highlights, to be a simple thematizing device, the watery surface of the tomato, together with the walls of the bottle, is certainly important to the message of the picture. In addition, the verbal text ("verre: goût intact") is of some help. But there is also, I believe, the basic organization of the picture.

That brings us to our second point. Only two complete real-world objects are shown in the picture: the bottle and the tomato (the water drops can hardly be apprehended as anything more than an attribute of the tomato). Together, the tomato and the bottle form a figure on a completely homogeneous background. The figure itself is heterogeneous: the fact of their *contiguity,* or rather their *factorality,* helps picking up the essentially *opposed* properties of the tomato and the bottle. Therefore, we have a *structure,* or an *opposition,* directly present in the arrangement of objects, i. e., a *contrast* (Cf. I.3.3.). In order to analyze this fundamental opposi-



Pl. XVII. The bottle and the tomato (from Gauthier 1979).

tion and distinguish the dimensions on which it occurs, we must have recourse to world knowledge, at least as long as we do not have other, similar pictures for comparison (Cf. I.3.5.). Most of the time, there are no exclusive oppositions, but rather two terms pushing each other in the closeness of opposite *prototypes.* The bottle is rather *big,* the tomato rather *small;* also, the bottle has a predominantly *vertical* orientation, whereas both the tomato's axes are nearly *equal* in extension, though the *horizontal* one does seem to have a small preeminence. Since the illumination in the picture makes the bottle appear nearly quadrangular, and since the tomato is obviously "roundish", the first will approach the prototype of the *rectangle,* and the latter that of the *circle.* Besides being associated with the Male and the Female, as shown by Jessen (Cf. I.4.5.), these basic shapes may also have other meanings: to the young child at least, the roundish forms stand for something rather than nothing, for "Etwas überhaupt", as shown for instance in Hoffman's (1943:39 ff) figure imitation tests, so it somehow seems more elementary. Another opposition is the one between the *compact* body of the tomato and the *contour,* which is the only visible part of the bottle, again because of the illumination. Hoffman found, in the same test, that compact forms were preferred over contoured to designate "Etwas überhaupt", so there are redundant indications that the tomato is somehow on a more simple, "natural" level. Finally, there is also an opposition pointed out by Gauthier: the tomato is the *included* member, the bottle the *including* one. If we translate all this into common ideology, we will find that the bottle is *protecting* and *dominating* the tomato, and that it is closer to *Culture.*[6]

This could help justify Gauthier's (p. 57) postulation of "fragility" as a further property signified, and in fact exemplified, by the tomato. To establish this, Gauthier's commutation with other vegetables is not sufficient because, for one thing, we cannot know beforehand that vegetables is the relevant category, and secondly, even if there is a similar advertisement using a carrot, and none using an apple, it does not follow that the common factor is ephemeral freshness, since there may be other similarities between a carrot and a tomato, and since, on the other hand, there is no guarantee that the tomato picture and the carrot picture mean the same (Cf. our critique of Lévi-Strauss in I.3.5.). In fact, the fragility of the tomato will be picked out as *relevant,* because that concords with the protecting/protected structure discovered in the preceding analysis. But Gauthier also makes another observation, which is, I submit, much more important than he thinks: the tomato is really too big to pass through the neck of the bottle, so in the real world it could never have got into the bottle, and if we want to preserve this effect, we cannot exchange the tomato for a cherry. But does this stand for the independence of the tomato relative to the container, and is it just "une pointe d'insolite" (p. 60)? On the contrary, I believe we have here the fundamental message of the advertisement: there is an outright *contradiction* between the *state* of the tomato, its shape and size, and its *position,* for in the actual world, it could either be like it is, but *outside* the container, or it could have changed its state, be crushed, and then be *inside* the container. Actually, most containers would not have such a narrow bottle neck, and there are smaller tomatoes, so both elements have been further constrained in order to transmit this message, which is identical to the one of the verbal text: "verre: goût intact", if we admit that the natural state of the tomato stands for its taste. Although culturalized by the glass container, the tomato is at least as natural as ever. Owing to the cultural character of its position and because of the naturality of its state, it becomes on a certain level an *antitype* (Cf. I.4.1. and II.1.4.). However, the naturalization of the container has been prepared beforehand.

Indeed, there are not only oppositions between the tomato and the container, but also similarities. And not only those similarities that are presupposed be the very oppositions (e. g. both being geometrical shapes; cf.

I.3.3.), but also similarities which follow on the oppositions and modify their character. For instance, the fundamental opposition between the square formed by the container and the circle of the tomato is attenuated by the square taking on some attributes of the circle. First, the upper part of the bottle, at a position which is extremely opposed to that of the tomato, forms a halfcircle, whose parallelism goes beyond that with the roundish border lines of the tomato, because the bottle neck itself repeats the tomato tops. There is also, in direct contiguity to the tomato, the rounding of the bottle bottom, though this is less prominent in the picture. Therefore, the tomato may well be antitypical to the Nature/Culture-opposition on the level of *proto-indices,* but it is the container that manifests this same antitypicality on the level of shapes. Perhaps it is because it is already somewhat naturalized that the container is able to culturalize the tomato, leaving it as natural as before, or rather, preserving its innocence for ever!

The preceding analysis is of course in no sense complete: it merely serves to indicate how the mode of signifying present in the things themselves, as well as on the pictorial surface, may be determined by the *structure* of things, and of shapes, respectively. We will now abandon the tomato of Gauthier's to return to that of Barthes's: how, then, is it made to signify Italianity (Cf. II.1.4.)?

Let us suppose what happens is more or less this:

This is clearly a parasitic sign, but not in the sense of Barthes: it denotes, however, indirectly, Italianity, and is thus not a connotation. It is parasitic, however, because on its own it would not signify much; or, rather, its meaning would be too general. It is the colours in ordered sequence of the Panzani labels which, by means of *contiguity,* narrows down the category signified; in fact, as we noted above (in II.1.4.), it is only because our real world knowledge informs us there are things, notably flags, with ordered sequences of green, white, and red, that we are able to detach one of the attribute types, colour, from the objects displayed, i. e. because of the *structure* of the flag system; and also, no doubt, because a limited number of colours tend to organize themselves into fields of colour in the picture. But that is not all: in order to discover that our category of ordered green-white-red things is a *metaphor* for Italianity, we have to reach the Italian flag, and that will only be possible because of the redundance of other signs pointing to Italy. The Italianity already suggested by other means will be confirmed, and also insisted upon, so much more so as, if we are to believe Kerbrat-Orecchioni (1977 b:17), Panzani is really French!

The above-mentioned redundancies are also needed in order to deprive the yellow colour of its potential relevance: however, if we note that this colour appears principally on the Panzani packets, once on the label of the tin can, and as the colour of the spaghetti and the

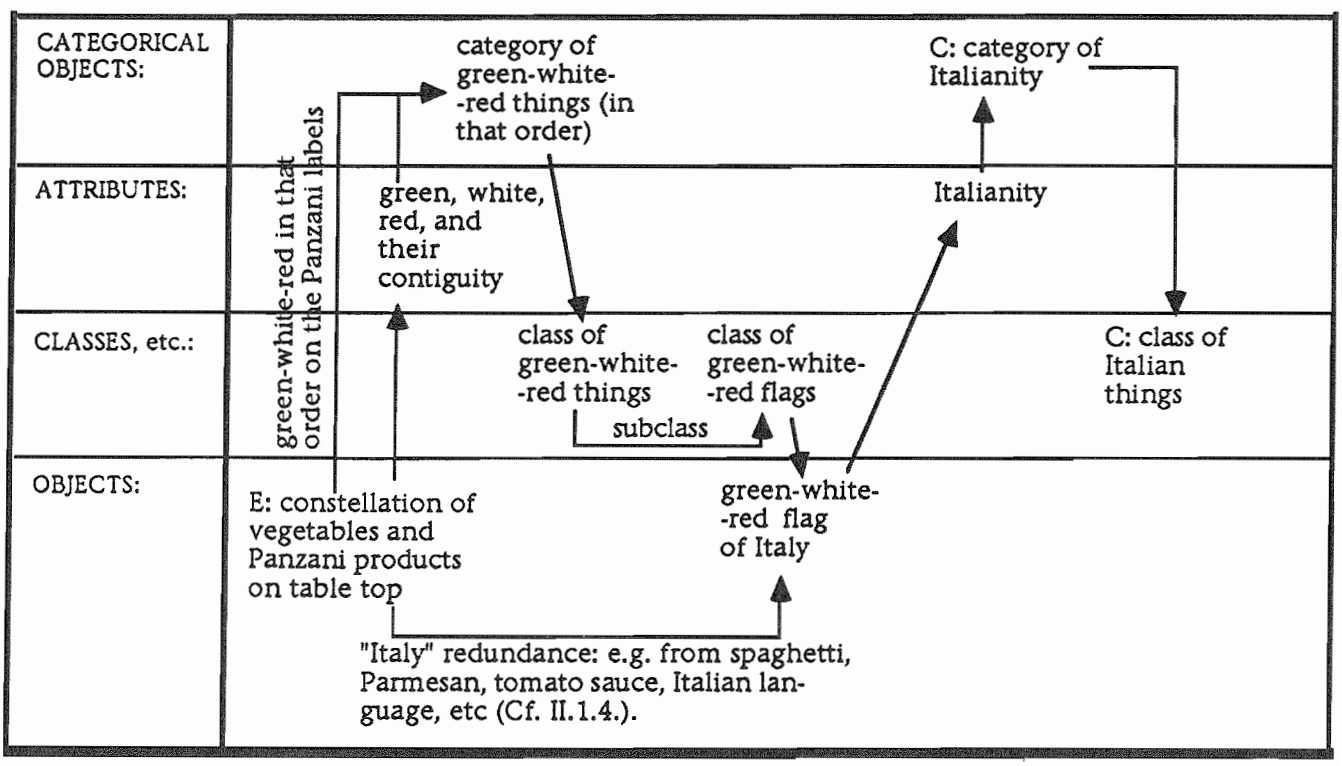


Table XIII. The exemplification of Italianity.

cheese seen through the transparent plastic bags, we may speculate that it represents the peculiar nuance of Italianity incarnated in the Panzani products. It should also be noted that the metaphor does not necessarily stop at the category of Italianity, or the correspondig class: because of the *contiguity,* and indeed the partial *factorality* of these signifiers of Italianity with the iconical signs of food, the Italianity could be transferred to the latter, thus being specified in the sense of the typical properties found in Italian cooking, perhaps generalized to Italian dinner habits, and the Italian way of life. From then on, if not before, we enter the domain of private associations.

The Italianity in the Panzani publicity, we have argued, is a case of metaphor, and the metaphor is itself one of the variants of exemplification/identification (Cf. case II b).[7] So in the end, it seems, we are back to the pictorial rhetoric of Barthes's. In fact, Barthes (1964 a:165) tells us the form of connotative content, in Hjelmslev's sense, is *ideology* and the form of the connotative expression is *rhetoric.* He also states (1964 b:40) that literature, pictures, dreams, and so on are different substances which may convey the same expression form of connotation, corresponding to the rhetorical figures of Classical rhetoric. So far, the idea seems valid, although there are a few small problems with the way it is formulated. "Form" means to Hjelmslev those features which are pertinent, so if rhetoric is the *form* of connotative expression, there will only be what Hjelmslev calls "formal connotations", but that is contradicted by most of Hjelmslev's examples (Cf. II.4.). But perhaps Barthes thinks the form of connotative expression is something different from the form of the denotational language, and indeed it is so, in the case of substantial connotation. Barthes is possibly only unclear about this point. Second, literature, pictures, and so on are particular semiotical systems, and will accordingly have their peculiar "forms", so they can only share *part of* their connotations. What is more serious, Barthes seems to think that the rhetorical figures *are* connotational language, which is absurd, because each figure will relate contents, and sometimes expressions, in different ways, but connotational language always relates a correlated expression and content to another content. In fact, rhetorical figures will connote, but so will all other signs.

Also, Barthes (1964 b:40) is confused about *what* the rhetorical figures will connote. In his review of this part of Barthes's work, Genette (1965:105) gives an excellent example of rhetorical connotation: if "voile" is used to signify "navire", this is a figure, not a literal sign, and it will accordingly connote "poetry". Barthes, however, thinks that the tomato will signify Italianity by means of a metonymy (p. 40), but we know that this is supposed to be a connotation (p. 27). In fact, supposing the tomato is really a metonymy for Italianity (Cf. II.1.4.), it will *denote* Italianity by means of a peculiar kind of exemplification, but it will *connote* metonymy. The same confusion is found in the work of Kerbrat-Orecchioni (1977 b:149 ff).

It will be useful to push a little further the analysis of Genette's example: it would be normal to use "voile" to signify "sail", and to use "navire" to signify "ship" so, if instead "voile" is used for "navire", this deviant choice will engender a connotation; but this choice is of course only relatively deviant, because it corresponds to the form of a well-known rhetorical figure, the metonymy (cf. III c of I.2.5.). That is to say, the denotational language which is the expression plane of the connotational language is already a secondary sign, though constituted by means of content inclusion. The intricate organization of a sign like this (Cf. III a in I.2.5.) *is* the expression plane of the connotational language, so it is the content plane that in this case will contain the concept "metonymy". In certain context, "poetry" may follow from this as a contextual implication. But this is probably not the case in the Panzani picture.

As such, the metaphorical sign function will not get us very far. Let us now consider that ordinary things like vegetables are used to express an abstract concept by means of their similarity to other concrete objects. This is a mode of signifying which has a Baroque ring to it. However, this impression is attenuated when we note the discreet way in which the sign is executed, employing a re-analysis of the totality of the coloured surface, rather than allegorizing each one of the objects separately. But this touches on the theme of our next section.

In this section, we have argued that the Lifeworld does not as such form a language, but that there are cases in which objects of the Lifeworld will be transformed into signs, sometimes signs of themselves. This will happen, for instance, when objects are exposed in show-windows, show-cases, exhibitions, and so on but also in pictures. Identification, we argued, is a limiting case of exemplification, as defined by Goodman, and we went on to consider a few examples of both exemplification and identification. We also saw that there must be a *structure* in the arrangement of objects, which permits us to determine the way a particular object is transformed into sign. Finally, we returned to Barthes's Panzani analysis, and gave to both denotation and connotation their due. In the next section, we will proceed to distinguish the part of pictorial rhetoric from that of the referent.

II.2.3. The Flatland part of Panzaniland. The pictorial surface

"Peindre une nature morte consiste à transposer les rapports des objects du thème par l'intelligence des différentes valeurs de couleurs et de leurs corrélations."

Matisse 1972:72

Barthes, it will be remembered (cf. III.1.4.), claimed the expresssion and the content of a photograph were almost tautologous but, apparently unaware of the contradiction, he admitted that on rare occasions, connotations may result from the modification of the photographic expression plane. That in fact the pictorial sign has an expression very different from its content will be seen in our third part (Cf. in particular III.3.). For the moment, it will suffice to note that the expression plane is a surface, while the content will for the most part be a three-dimensional scene. To Lindekens (1971 b:231 ff), that part of rhetoric which is properly pictorial constitutes a much wider domain than Barthes would admit: in his view (p. 42 ff), we at first apprehend all those relations of contiguity, inclusion, and so on, which result from the application of the Gestalt laws to the pictorial surface, later reducing the numerous configurations thus obtained to just those which correspond to "un réel identifié ou identifiable" (p. 45), that is, to objects well-known from Lifeworld experience. Beginning from the putative chaos of Nature itself, there would then be two levels of filtering, according to what we would call different *principles of relevance,* viz. Gestalt laws and experience with things in the world, and if both levels could be shown to correlate with separate content planes, we would have a double sign function.

It is perhaps strange to suppose the existence of an immediate phase of perception, giving rise to multifarious configurations, which are later to fade away, but which are still thought to convey some kind of meaning. We can probably dispense with this hypotheses while preserving some of its advantages, for it now seems fairly well established that the pictorial surface must be perceived all the time, at some level of consciousness, because, as first suggested by Pirenne, it is only because we are aware of this surface that we can avoid seeing the three-dimensional scene as distorted, when our viewing position does not coincide, as it rarely does, with the one prescribed by the perspectival grid (Cf. Rosinski & Farber 1980). It even seems that in order for the eye to "make up what the light leaves out", it has to compute the "best forms" among those most likely to render some deformed perspective on a real world object (Cf. Perkins & Cooper 1980; Perkins 1973). Perhaps, then, we must have continuous access, not only to the surface itself, but also to the possible configurations on this surface. It does not necessarily follow, however, that these configurations must be signs of something, and it seems impossible, that they all should be so. As we noted above in discussing things, some *structure* is required to determine what is relevant.

A case in point is Matisse's "La fenêtre bleue", cited by the psychologist Julian Hochberg (1980:73 f, 84) as a painting in which the flatness of the pictorial surface has been emphasized by the avoidance of normal depth cues of interposition. In fact, there could be a moment in ordinary perceptual experience in which the border lines of different objects happen to form a continuous line, but the subsequent phases of perception will immediately dissolve this ambiguity, and we do not expect pictures to select this short ambiguous phase for reproduction. On the contrary, picture makers have been at pains to utilize the law of good continuation in order to define unambiguously the identities of the represented objects. Matisse, however, not only lets "trees grow out of the tops of lamp and plaster head" (Barr 1951:166), but also avoids interposition of surfaces, rounding the interrupted line in order to continue it into the interrupting line (Hochberg 1980:73). In this case, there is really a conflict between object recognition and configurations resulting from Gestalt laws. The contradition is so unusual that it must have a meaning. Perhaps it means, as Hochberg suggests, that there is a continuity between the outdoors and the room. It should be observed that, in this proposition, the first term, i. e. the continuity, is on the pictorial surface, but the landscape and the room are denoted objects of the pictorial sign.

It is conceivable that the pictorial surface will carry meaning, not only because of the presence of conflicting configurations, but also by means of global properties of a simpler kind (Cf. I.4.5.). In our re-analysis of Gauthier's tomato in its container, we actually invoked meanings due less to the things themselves than to the peculiar ways they are reflected on the pictorial surface. Neither the tomato nor the bottle, nor particular noemata chosen from their respective noematic matrices, will take on the shapes of a circle and a rectangle, but only their projections on the pictorial surface, which is the only level to possess flatness. The circle and the rectangle, being prototypes, are "good forms", and so configurations, but what about the other traits we noted in the relation between the shape corresponding to the bottle and the shape corresponding to the tomato? The dimension *compact* vs *contoured* is formed by elementary global properties, too diffuse to be configurations (Cf. Sander & Volkelt 1962; Volkelt 1963; Hoffman 1943). Furthermore, the modifications of the basic prototypes, for instance the secondary roundness of the rectangle, can only exist as global, non-configurational properties. Thus, it seems that not only configurations of the pictorial surface may be made into signs, but also simpler properties this surface may possess.

Contrary to Barthes's belief, meanings emanating from the pictorial surface, even in a photograph, are not necessarily a rare occurrence. Do we have any reasons for thinking that the Panzani picture may convey any meanings of this kind? We need to establish some prin-

ciple of relevance. Nevertheless, let us begin by practising the "plastic reduction" favoured by Floch (Cf. II.3.), in order too see if our picture contains any potential configurations which have no interpretation as objects and/or any global, non-configurational properties.

In the Panzani picture (cf. fig. 21.), the most conspicuous opposition is not, I think, the one between the various colours, as Barthes leads us to expect. The primary opposition is perhaps as usual the one between the figure and the ground, but then, or at the same time, comes another one which opposes two parts of the figure, roughly the including and the included member: the first, a finely and rather regularly textured surface corresponding to the string-bag, is made up of numerous contoured,[8] roundish spaces, while the second, which at first seems to be a rather homogeneous field, formed by the Panzani products, has few proper parts, which are predominantly angular in shape (as is the whole field), compact, and on the whole irregular. Summarizing these and a few other properties, we will obtain the following chart:

In addition, there are, I think, properties of the figure which pertain to the figure as a whole: it is, for instance, orientated along the diagonal from the upper left to the lower right, and it is contiguous to the frame only at the upper left and below the midline to the right. The included part, which is spatially most separated from the ground, appears more similar to it than the including part, perhaps because it has fewer parts and because compact surfaces come closer to having diffuse limits than contoured ones. This would suppose that attribute distribution and relation of parts, in which the including part seems more similar to the ground, are lower on the dominance hierarchy (Cf. I.3.1.). There is also a passage between the included part and the ground, formed by the tin can, the sack of grated cheese, the handle of the bag and the vegetables outside the string bag. Therefore, apart from participating in the general orientation of the figure to the upper left, the included part has a secondary orientation to the lower right. This is a secondary orientation for a number of reasons: first, the upper part of the included field follows the general thrust of the figure to the upper left, enhancing it by its very angularity. Second, the protrusion to the lower right lacks any directed angles, which could take on the character of arrows (Cf. I.2.4.), for even those angles that must be present materially are hidden in the picture. The passage is

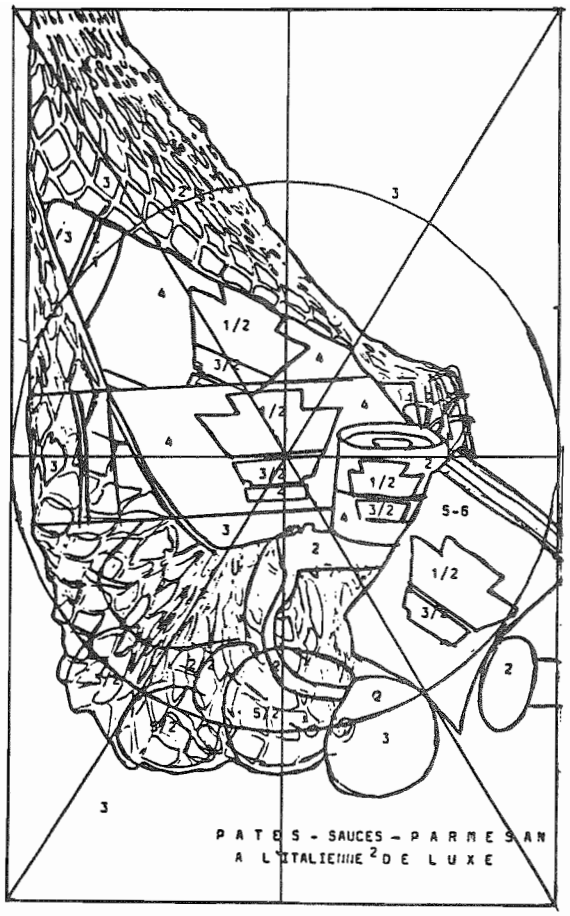


Fig. 21. Panzani publicity.
1 = green; 2 = white; 3 = red; 4 = yellow; 5 = yellowish; 6 = whitish; 3/2 red with white; 5–6 = yellowish-whitish.

	FIGURE	*vs*	*GROUND*	
	INCLUDED	*vs*	*INCLUDING*	
Texture:	roughly textured		finely textured	untextured
Attribute distribution:	irregular		regular	complete redundancy
Number of proper parts:	few parts		many parts	no parts
Relations between parts:	discontinuity		continuity	continuity
Overall shape:	angularity		roundishness	no shape
Predominant shape of parts:	angularity		roundishness	–
Limits:	compact		contoured	diffuse limits
Dominant orientation:	horizontal with vertical		curved upwards to the left	no orientation

Table XIV. The plastic language of the Panzani picture.

also mediated by a number of separated, though somewhat overlapping, surfaces, but the movement does not quite reach the picture frame, thus failing to gain the necessary support. Therefore, even in the included part, the leftward and downward orientation is secondary. But if we may generalize a result of Lindekens's (1971 b:153), this orientation must anyhow be secondary for the figure as a whole. In a test in which the experimental subjects were to mention the properties they attributed to complex shapes employed as brand names, the properties elsewhere associated with the outer shapes were found to gain the upper hand. This is in accordance with Sander's observation that in the process of "actualgenesis", the contour begins to be organized before the inner space (Cf. Sander & Volkelt 1962:101 f).

But what does all this mean? And how do we know that these properties (or perhaps others) are *relevant* for the message of this picture? And are these properties, to the extent that they are transformed into signs, connotations in the semiotic sense of the term? Or are they something else, perhaps exemplification and/or identification, as discussed in the last section (Cf. II.2.2.), and what would then be their connotation? These are the central questions of the next chapter, in which we consider Floch's approach to pictorial semiotics, which is at least in some respects similar to the analysis of the Panzani advertisement we have just suggested (Cf. II.3.). Before we end this section, however, we will at least consider one aspect of the pictorial surface projected by the Panzani advertisement at which we have already hinted (end of II.1.4.): surface inclusion.

There is at least one, public, institutionalized purpose of the Panzani publicity: to sell the Panzani products (Cf. II.1.1.). The presence of the Panzani products in the picture therefore does not need to be explained, but all other elements must have some justification deriving from this will to sell. Because there is an ideological system favouring naturalness, we concluded that the vegetables were there in order to transfer by contiguity their supposedly intrinsic value of naturalness to the Panzani products (Cf. I.1.4.). Perhaps, then, there is also a justification for the surface configurations of the picture in the same ideological system. The field formed by the Panzani products is almost entirely embedded here in the regular, continuous, roundish, and upward curved field which is the surface projection of the string bag. Not only does the string bag, as well as the vegetables it contains, stand for Naturalness on the level of things, but also its very shapes, as well as those of the vegetables, are made to signify this same Naturalness. And these shapes which signify Naturalness are clearly seen, on the pictorial surface, to *include* those angular, irregular, horizontal and vertical shapes corresponding to the Panzani products, thus transforming their manifest artificiality into a Naturalness by association. The process is the inverse of that found in Gauthier's tomato advertisement (Cf. II.2.2.).

But if this is true, we are left with a question that needs in-depth discussion in the following chapter: is the function of "plastic language", as Floch calls it, simply to repeat once again what is already said at the level of iconicity, or could plastic language also transmit another message? And if so, is there any hope of ever discovering it?

II.2.4. Summary and conclusions

In this chapter, we have reviewed a few of the central questions posed by Barthes's Panzani analysis: those caused by Barthes's treating the perceptual world as a language (II.2.1.–2.), and those resulting from his failure to see that pictures are signs (II.2.3.). First we discussed the relationship between the content of a sign and the use of a thing postulated by Barthes or, as we argued, by his interpreters. We claimed that both the theories treating meaning as use, and those treating use as meaning, confuse things of different nature, which just happen to have one property, alter-functionality, in common. Nevertheless, we argued that there are cases, and notorious ones, in which tools and other useful things are used as signs. (II.2.1.). That led us to the second part of our discussion, in which we investigated the possibility of the Lifeworld being a language in yet another meaning. Here, we pointed out some curious aspects of the analogies suggested by Greimas and Metz. With the help of Goodman's notion of exemplification, which we re-analysed, we introduced identification as a limiting case, permitting an object to stand for itself over the properties which characterize it. This result could be used to suggest a number of sign variants between exemplification and identification, which therefore must have different connotations. We proposed that there must be an intrinsic *structure* in the arrangement of objects in order to determine what kind of sign they formed, and we illustrated this with the Panzani picture. (II.2.2.). We then argued the case for the pictorial surface, also showing the Panzani picture to be full of configurations not corresponding to real-world objects, and in particular of holistic, non-configurational properties. The problem remains, however, how we are to decide which of these properties are relevant (II.2.3.). This, fortunately, will be the theme of our next chapter, in which we abandon the rhetoric of the referent to probe deep into the rhetoric of the pictorial surface (II.3.). Then we will return, in our fourth chapter, to the theoretical interpretation of connotational language.

Chapter II.3.
Floch on plastic language

"Ils /Claude Lorain, Poussain/ avaient leur langage personnel. C'est depuis devenu un langage appris, il me faut trouver des signes en rapport avec la qualité de mon invention. Ce seront des signes plastiques nouveaux qui rentreront à leur tour dans le langage commun, si ce que je dis par leur moyen a une importance par rapport à autrui. L'importance d'un artiste se mesure à la quantité de nouveaux signes qu'il aura introduits dans le langage plastique."

Matisse 1972:172

We will be almost exclusively concerned with the work of Jean-Marie Floch in the present chapter. Although he is certainly much less famous than Barthes, Floch is in my mind a much more important contributer to pictorial semiotics, perhaps *the* most important worker in the field. Apart from another disciple of Greimas, Félix Thürlemann, and the Groupe μ, he is the only one who has seriously occupied himself with the meanings intrinsic to the picture *as a picture.* It will be necessary to explain more exactly what is meant by this affirmation (in II.3.1.). We will then follow two of Floch's best analyses, peeking over his shoulder and making now and then, I am afraid, rather nasty comments. We will consider two of Floch's essays: one which is concerned with Kandinsky's "Composition IV", and then also the analysis of a publicity picture. In the first case, we will show that the hypothesis requires plastic language to be necessarily redundant in relation to the iconic one, which seems a rather distressing assumption (II.3.2.). We next turn to the analysis of the "News" publicity, an advertisement for a French cigarette brand. First, we will spell out the implication of the kind of organization Floch claims to find in the News picture (II.3.3.). Our discussion of what seems to be the blind spot of Floch's work, the represented world, will permit us to return to the problems related to rhetorical figures as manifested in the arrangement of things and of the parts of the pictorial surface (II.3.4.). Then, Floch's and Greimas's notion of semi-symbolic systems, obviously related to Hjelmslev's symbolic systems, will be reviewed and, as it happens, criticized (II.3.5.). We will also inquire, with the help of psychology, into the possibility of there being an autonomous plastic language (II.3.6.). None of these issues can be resolved in the present context; but at the end of the chapter, we will leave the problems somewhat modified.

II.3.1. Iconic and plastic layers of the picture

Gowing (1979:111) tells us that in the language of Matisse's time, the "véritable espace plastique" of which he spoke meant the intrinsic space of the picture, the spatiality of the patterns and patches, quite apart from any illusions of depth. In France, the term apparently continues to be given this meaning, for both Floch (1981 a, b:1986) and the Groupe μ (1979; 1980; 1984; 1985) oppose independently it would seem, *plastic* language to *iconic* language, using the latter term for the relation of the picture to the outer world, but the former for the meanings engendered by the pictorial surface itself.[1] Since in the rest of this chapter we will be concerned exclusively with Floch's way of reading pictures, it will be useful to consider briefly the Groupe μ model, which has the advantage of having been formulated in a clear, schematic form (Cf. fig. 22 taken from Groupe μ 1979; 1980). Only a few of the particularities of this model will be discussed here.

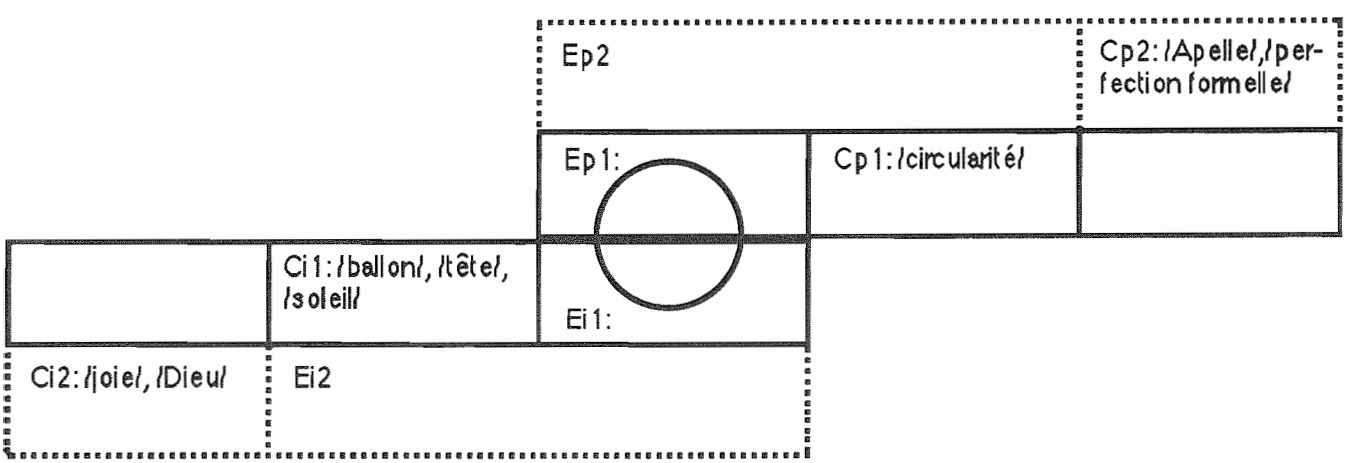


Fig. 22. The Groupe μ model. E = expression, C = content; i = iconic, p = plastic; 1 = denotation, 2 = connotation. We have transferred one of the examples given in the text to the schema.

Three dichotomies are here made to cross-classify the parts of the pictorial sign: expression and content, denotation and connotation, and iconics and plastics. Floch would of course reject the terms opposing an iconic *sign* to a plastic *sign* (Cf. I.2.5.), but to judge from the rest of the analyses, this is really a superficial terminological difference. Let us now consider the example we have introduced in the model. The expression plane, i. e. the drawing of the circle, is identical for the two signs. In the iconic sign, the circle will perhaps denote a balloon, a head, or the sun, while at the same time connoting "joy", "God", or something else; in the plastic sign, the same circle will denote "circularity" and connote "formal perfection" and the like. There are some strange aspects to this model that we will have to look into immediately.

To begin with, it cannot be correct to say, as Groupe μ does, that the expression plane of the plastic sign is identical to that of the iconic sign. The material, the "substance", may be identical but the "forms", as determined by the alter-functionality of the respective meanings, must differ, though they may no doubt overlap a little. The limits of variability of the circle relative to the meaning "head" or "sun" are not the same as those for the content "circularity". Also in another respect, Groupe μ uses Hjelmslevian terms in an unacceptable way: although connotational language has been rendered in the model in the same way as Barthes drew Hjelmslev's connotation concept in "Éléments de sémiologie", the examples show that these "connotations" must be of the stylistic or implicational kind (Cf. II.1.2.). Let us consider the latter interpretation as being the most favourable hypothesis: then these secondary meanings will in no sense depend on the *relation* between expression and content, nor on expression *and* content, but on the content alone, so the model is entirely misleading. But how *is* connotation related to plastic language? Is the latter simply the manifestation of connotation in the pictorial sign? Let us consider a rather different example.

Calvet (1976:32 f) uses the Barthes/Hjelmslev model of connotational language to spell out the significations of political graffiti. A supporter of the FEN, a political movement on the extreme right, well-known for its defence of French colonialism in Algeria, has inscribed the initials of the name on a wall. An adversary of the movement later changes the meaning of the inscription, simply adding a few strokes to the initial F, so that the result is FEN, which Calvet analyzes in the following way (fig. 23):

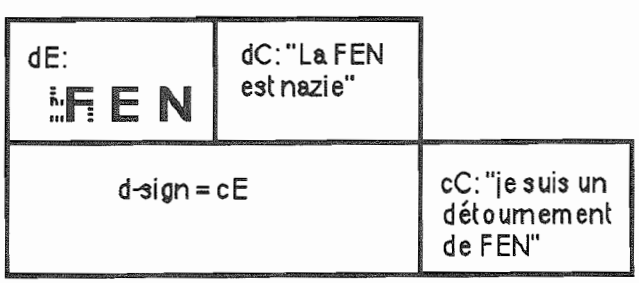


Fig. 23. Connotation according to Calvet.

Unfortunately, Calvet does not explain in any detail how he believes such a connotation may come into being, but perhaps it is because the different semiotical systems implied, the alphabet and the swastika, have been executed in different "handwriting" that the message of "distortion" is transmitted. The primary condition for the emergence of this connotation would in that case be that the different parts of the inscription are clearly seen to have been executed by distinct hands (Arguing from content, we would say that no supporter of FEN could have made the whole inscription, but his adversary could, in which case there is no distortion). Generalizing, in Hjelmslev's spirit, from phonetic to graphic facts, we must admit that handwriting connotes, for Hjelmslev (1943:102) himself tells us the "physiognomy" of the voice or the "organ" engenders connotations. But this still does not account for the meaning "distortion", which is higher-level, depending on the apprehension of the *difference* between the two ways of writing. And this difference of handwriting is itself of interest only because it appears in the same inscription, in *contiguity,* or perhaps better *factorality* because, relative to the swastika and relative to the whole group of initials, we are concerned with parts of the same whole.

But we should have started from the other end. Why does Calvet think that FEN is a denotative sign? True enough, F E N is an abbreviation, which denotes a name, which in turn stands for a political movement; and the swastika has a number of meanings in traditional symbolic lore, only one of which, Nazism, is today commonly known. But there is no syntactic rule, common to these very different semiotic systems, which permits us as a matter of course to derive the complex meaning "FEN is Nazi". Instead, we find a *contiguity*, and in fact a *partial overlapping,* of the expression planes of both signs, of their respective "substances" to be precise. This is a case we have already encountered in our discussion of *indexicality* (Cf. I.2.5.): the cat which is a coffee pot, and the fruits which form a crown (cf. fig. 7), as well as Magritte's picture of a face which is also a female trunk (pl. VIII). Two expressions, together with their contiguity or their reunion in one whole, will often stand for the identity, or the similarity, of the corresponding contents or referents, we observed; and we added that the comparison was usually directed from one of the contents to the other. From our present point of view, this must be a connotation, not from one of the signs, but from their combination, for if connotation results from the way in which denotation is expressed (Cf. II.1.2.), here someone has chosen to express two signs with the help of partially the same substance. In this particular

case, then, *factorality* will be the conditon of possibility of connotation (case III d in I.2.5.). The difference of handwriting is not relevant on this level because, in the context of the whole 卐 E N , we can trace the F, and the swastika immediately stands out as a whole from the following letters. In order to obtain the higher-order connotation "détournement", if this supposes some particular kinds of content, for instance political messages, a very complex construction will be needed (fig. 24):

For us, the interest of this analysis is that it suggests a similar treatment of the two signs, the iconical and the plastic which, according to Groupe μ, coexist in the pictorial sign. Perhaps then the circle, probably together with some other elements, will denote a face, and also circularity, and only from the conjunction of these signs in one expression may there result a connotation. Nevertheless, the case appears to be different: the circle will exemplify, and even self-identify, circularity, because it signifies a property which it also possesses. (Cf. II.2.2.). In the case of things we admitted that this must be a kind of denotation, but is this true also in the case of signs? If the Danish language connotes Danishness, if a particular way of pronouncing the phoneme /r/, for instance, connotes Marseille dialect, and if the voice of a speaker connotes different "physiognomic" characteristics, why should not the circle also connote its circularity? We certainly need to gain a deeper understanding of the nature of connotation and its relations to plastic language. I think our study of Floch's work will help us in this respect.

II.3.2. Kandinsky's "macchia" and the plastic reduction

"Die 'macchia' Bruegels schlägt also gewisse Ausdrucksregister /. . ./ an, die ihre Resonanz nur im gans bestimmten Gegenständen und Bedeutungen finden. Solche Ausdruckswerte /. . ./ sind: das Plumpe, Dumpfe, Unartikulierte, Primitive; das Stückhafte, Zusammengesetzte, Zerfallende; das Verschlossene, Isolierte, Atomhafte; das Massenhafte; der Wirrwarr, das Durcheinander, das Chaos."

Sedimayr 1959:283

We are now going to follow Floch (1981 b) in his analysis of Kandinsky's "Composition IV", trying to account for each step in his procedure. This is worthwhile because Floch's essay has none of the intuitive characters of Barthes's work (Cf. II.1.4.), but is built up according to a clear argumentative scheme. When we come to the considerations of Floch's second essay, on the "News" publicity, it will be easier to make comparisons with Barthes's Panzani analysis, because both analyses concern photographs used as advertisements but, in some respects, it is certainly the Kandinsky essay that gives the clue to Floch's approach.

In spite of what was stated above, there is a step at the beginning of Floch's analysis which appears to be intuitive in character: it is the segmentation of the picture into its constitutive units. It is natural that this should be done at the plastic level for, at first, the painting with which we are concerned has the appearance of being a "non-figurative" work, in the sense in which this term is

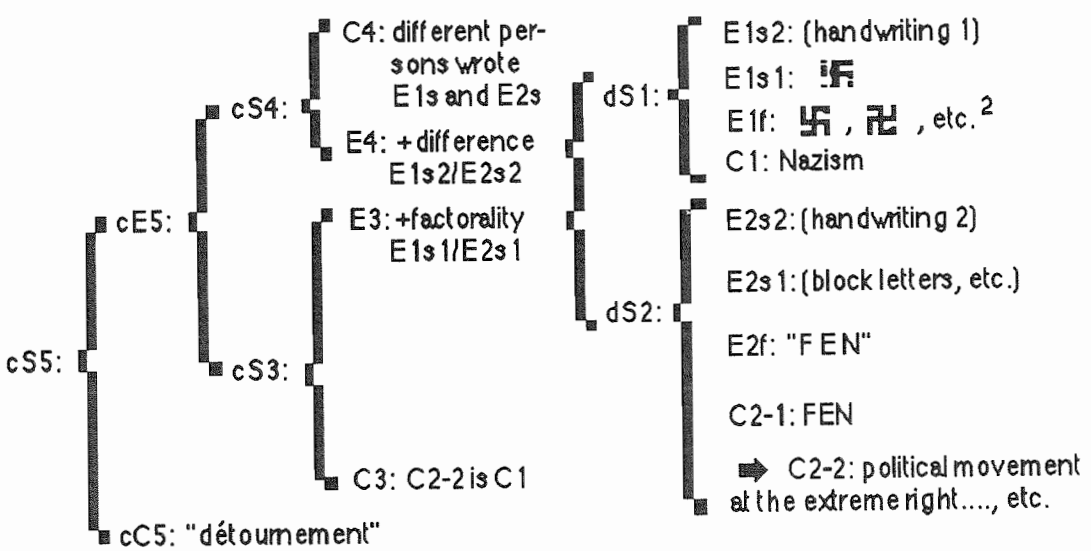


Fig. 24. Reanalysis of Calvet's example. (Cf. fig. 23). C = content, E = expression; c = connotation, d = denotation; S = sign, s = substance, f = form, → contextual implication.

used in Art history. According to Greimas and Courtés (1979), the criteria which are to be used in the segmentation of texts comprise the exchange of acting persons, transitions in time and place and changes of emotional atmosphere. Unfortunately, these criteria only seem applicable to verbal texts, or perhaps to texts extended in both space and time, and Floch rightly ignores them. That seems to leave him with intuition alone, but he *does* have a kind of regulative principle, the idea that all relevant properties must come in pairs, i. e. be *binary contrasts,* and that many of those will join to form bundles of *similarites.*

A *contrast,* it will be rembered (Cf. I.3.3.), is the manifestation of both the poles of a *binary opposition* in the same text. In English, the phonemes /p/ and /b/ are defined, among other properties, by the opposition between mute and voiced pronunciation, but this opposition could never be manifested as a contrast *in the same phoneme.* At the semantic level, there is an opposition between the feature ± female in, for instance, "boy" and "girl", but both poles of the opposition could never appear *in one word.* In extended discourse, however, both poles of an opposition may be manifested, but this has no semantic importance in language itself. On the other hand, in poetry and rhetoric, such contrasts are often invested with meaning, as Jakobson (1965) has insisted: a "poetry of grammar" will result when the "grammar of poetry" projects the paradigm, i. e. all the alternatives in one place of the text, onto the syntagm, i. e. to the sequence of textual places constituting the text. Floch hypothesizes that it is a peculiarity of pictures to manifest all the underlying oppositions as contrasts in the given picture. It is not clear if he means to say, like Schéfer (1968; 1969) and Marin (1971 a), that each picture will carry its own peculiar oppositions with it, or if instead, like an ethnolinguist studying an unknown language, he hopes to find the system of oppositions common to all pictures through a judicious choice of actual instances. In fact, as we shall see, he may be opting for a third alternative: in this case, the Kandinsky system.

It is easy to understand *why* Floch makes his contrast hypothesis: since there is no pictorial interpretation system of which everybody is aware, as in the case of verbal language, and no *public, institutionalized purpose,* like in advertising (or no sufficient one), we must have *some* principle in order to begin the segmentation of the text. It would be possible, of course, to exchange some of the elements of the Kandinsky picture for others, to see how the audience would react, if and how it would change its interpretations. Porcher (1976) and Gauthier



Pl. XVIII. Kandinsky: Composition IV (1911).

(1979) did just that, but with advertisements and news photographs respectively. But in the case of language, we know more or less what kinds of dimensions may be relevant, and that is not obvious in the case of pictures, particularly not so on the plastic level. Or, at least, Floch must think so, for he never tries any commutation tests. But if there is no way of attaining the *structure,* binary contrasts, particularly if they come in bundles, will be of some help in quadrating the hermeneutic circle (Cf. I.4.1.).

Supposing all oppositions are binary (Cf. I.3.3.), all contrasts will be binary too, and so the assumption of contrasts is a useful heuristic device, for once we have found one property, we know that the opposite one must be present in the same picture (for the ambiguities of this, cf. I.3.4–5.). However, it is strange that, at the end of the "News" article, as well as here, Floch muses over the fact that he has found the paradigm projected onto the syntagm, so that the pictures are "poetic" in Jakobson's sense: nothing else could ensue, once the binary contrasts were postulated as a principle of interpretation. On Floch's presuppositions, all pictures will be poetic according to Jakobson's definition!

Even the principle of binary contrasts will not tell us how to find the first element of the pair: once we have A, we can find non-A, but that leaves us with the problem of finding A. This first phase must therefore remain intuitive. In order to gain "semiotic status", as Floch says, the elements must be *repeatable,* like the units of linguistics, i. e. they must be susceptible of returning in identical form in many "texts". That brings us to the second phase of the analysis: we must define a "corpus", i. e. a collection of "texts", which we suppose to derive from the same semiotic system, and in the analysis of which we will verify the identity and extension of the units proposed in the first analysis. In linguistics, the result of this procedure could very well be that what appeared to be one unit must now be dissolved in two or more, or that the limits between the units must be placed elsewhere (Cf. I.1.3. and I.3.2.). In Floch's case, no such revisions take place. The corpus used is the collection of Kandinsky's works which are more or less contemporary with "Composition IV". But this corpus is not really used to corroborate the units of expression of the plastic level already postulated; as we shall see, it is employed to discover their meaning!

So far, in fact, we have only been concerned with the *expression plane* of plastic language. Now, this is strange: an expression can only be defined relative to a content, that is alter-functionally (Cf. I.1.2–3.), so if we ignore the content, we shall never be able to determine the identity of the expression. Therefore, on the most favourable interpretation, at the same time as we go from "Composition IV" to the corpus, there is also a passage from "substance" to "form" in Hjelmslev's sense, i. e. from global impressions to relevant or pertinent features. In the present third phase of his investigation, Floch goes on to find out which meanings are expressed in Kandinsky's contemporary works by configurations which are similar to those in "Composition IV": this is possible, because the other pictures are relatively more *figurative,* that is, come closer to represent objects of the real world, and because they have titles saying something about their content (1981 b:138 ff), and because, in spite of this, in "leur organisation générale et leurs autres unités" (p 144), they are very similar to "Composition IV". Sometimes, Floch goes beyond this to pay regard also to the particular context: the light area in the middle field of "Composition IV" may only be compared to other light fields also found below dark, bluish masses (p 145). Thus, while Floch is supposedly searching for the content plane of the *plastic* language, he is actually all the time concerned with the content plane of the *iconic* language! Sometimes, it is true, he also notes the emotional atmosphere common to particular contents, or rather, to the manner in which they are expressed, but also these seem to be derived from the contents.

For instance, Floch earlier found what he calls a double, extended shape ("une double forme allongée") in the lower right corner of "Composition IV". He now notes a series of other Kandinsky pictures, where more or less similar shapes iconically refer to the object which the contending parties of the pictures hope to gain; and another series of Kandinsky pictures, where the same shape represents a couple below some coloured, concentric discs, which could be taken to be the sun, that is, a positive value. Retaining only the most abstract common meaning of these series of pictures, Floch concludes that the double, extended shape signifies the conjunction of two subjects with a positive value.

At other times, the clue is more directly taken from the manner in which something has been painted: euphoria or dysphoria is expressed by the execution (p 138, etc.). However that may be, Floch's procedure is clearly based on a conception which, at least at first, seems very strange: viz. that the content of plastic language, which Floch has been at pains to distinguish from the iconic content, can be derived from at series of iconical contents, and is thus redundant in relation to these iconical contents (Cf. fig. 25).

Once again, in order to find the *plastic* content of "Composition IV", not its *iconic* content, Floch seeks out a series of other pictorial signs, whose *iconic* expressions happen to coincide with the same *plastic* expression, and then applies an abstractive procedure to the series of corresponding *iconic* contents, thereby deriving what he takes to be their common *plastic* content, which is then also transferred to "Composition IV", which lacks an obvious iconic content. But this is to suggest that the artist chooses to execute the expression plane in such a way that, apart from reminding us about the things of the external world, it tells ur about the general, abstract properties of these things, i. e. about the

categories of which they are members.

But why should we bother to analyze the plastic language if what it tells us is anyhow the same thing that the iconic language will tell us, and in fuller detail? Floch is perhaps not aware of this problem, for he does nothing to resolve it, but there seems to be at least one interpretation which makes this procedure worth-while: perhaps different artists will correlate plastic language and iconic language in different ways, so that the correlation itself becomes significant. For instance, using the same plastic shape for a captive princess, a person in a fight, a woman holding her chin, etc., Kandinsky tells us they have something in common, i. e. he creates a new category that no other artist would have used. Thus, he is *segmenting* the Lifeworld in a new way (Cf. I.3.2. and I.4.1., fig. 14). Of course, on this interpretation, he does not tell us *what* he thinks they have in common. But *that* they have something in common he tells us by the very *form* of the sign, by the way in which plastic and iconic signs are correlated, so this is certainly a *connotation* in the strictest sense of the term (Cf. II.3.1.). Thus, even if there is redundance between plastic and iconic language *in the case of each particular artist's work,* the double analysis would not be vain.

Unfortunately, it seems that Floch's claims go much further: that there will be *the same redundance* in all pictures. Not only are the contents of plastic language necessarily those kinds of "abstract" terms which, according to Greimas's theory, lie "deeper" than the figurative terms (Cf. I.4.4.), but they are taken from a limited set of those; thematic parts, aspects, and other thematic processes (p 147); and if this is so, all variation in the correlations between iconic and plastic languages must be excluded. Here, then, it appears that Floch tries to find the constitutive oppositions of the whole pictorial system, not just those of Kandinsky's pictures, and that the contents of the plastic language are really imposed *a priori,* rather than discovered in the "texts". So why should we bother about plastic language?

This procedure certainly does have a function in the Kandinsky essay. It serves to discover the content of "Composition IV", which does not have any obvious iconic content. According to Floch (p 147 f), this content is the subsumed contents of all the other pictures, that is (he says) it manifests the thematic content directly. This is an analogism, and analogisms, though important to abduction, are not necessarily valid. Anyhow, we will see that in the "News"-analysis, where there is no such justification, Floch also thinks it is worthwhile analyzing plastic language separately. Perhaps he believes he is discovering *that* iconic and plastic contents are redundant; in fact, however, as in the case of the pictures' "poetry", he is only discovering his own presuppositions! Nevertheless, Floch would apparently not admit the redundance which we have found as a presupposition in his procedure, because he tells us elsewhere 81986:169 f) that plastic language may be used to subvert or to legitimate iconic language!

In later parts of the essay, Floch goes on to list those oppositions he believes to have discovered in his analysis, and then considers how they are combined into more complex units (p 148 ff); and he finally discusses plastic language as a "bricolage" in Lévi-Strauss's sense, and as a semi-symbolic language (p 150 ff). All this will be examined later, in connection with similar propositions in the "News" article (Cf. II.3.5.). For the moment, we will try to make sense of this singular redundancy between the content planes of the plastic and the iconic languages.

In considering Floch's strange reasoning (fig. 25), one is immediately reminded about Sedlmayr's (1959:274) argument about Bruegel's "macchia". This latter term, taken by Sedlmayr from Imbriani and Croce, refers to the picture considered as a flat surface covered with differently coloured patches and with no indications of the objects found in the perceptual world. To Imbriani, it seems, "macchia" meant the impression the picture made from a distance, and/or the artist's first conception of the picture, which was as yet unintepreted in terms of real-world scenes, but Sedlmayr is in fact using the term in his article more in the sense given above. In Bruegel's pictures, Sedlmayr tells us, the "macchia", that is the

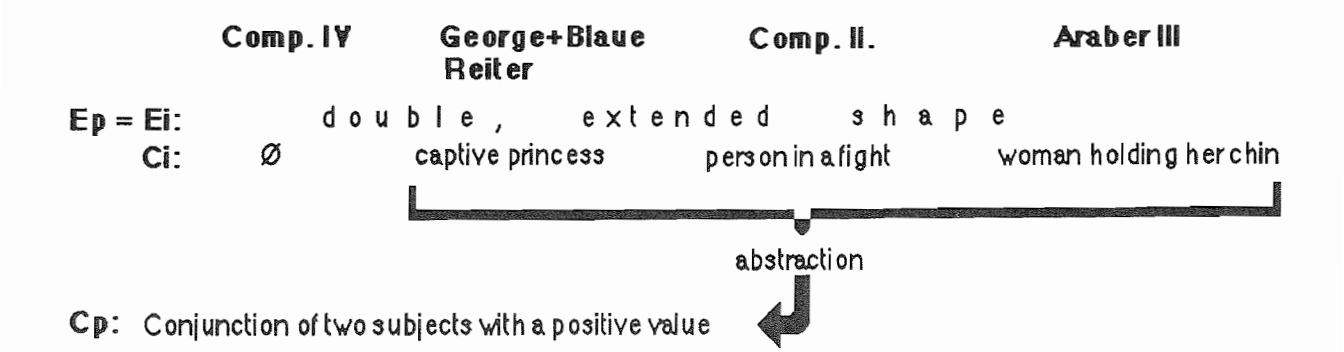


Fig. 25. Floch's reasoning. Abbreviations as in fig. 22 above. The relationship between iconical and plastic language postulated here is not necessarily the correct one, nor the one intended by Floch. We only insist on the procedure of abstraction.

shapes and the colours, expresses meanings such as coarseness, primitivity, uncompleteness, isolation, chaos, confusion and so on (p 283 f). As for Bruegel's motives, they have in common that they express humanity in its debased form (p 284) or, more generally, strangeness ("Entfremdung"; p 287). And this latter meaning, Sedlmayr (p 286 f) tells us, is also what results from the way in which the "macchia" is executed. Interestingly, at least in the case of one Bruegel picture, Sedlmayr (p 321) verified this idea, showing it tachistoscopically to a number of people, who all found it to be "unheimlich".

Seydlmayr is undoubtedly much less systematic than Floch in his separation of the two levels of the pictorial sign, but essentially the procedure seems the same. It certainly requires a particular effort to avoid seeing the picture as the picture *of* something, so we shall say that Sedlmayr and Floch alike accomplish a *plastic reduction* (Cf. III.3.). Contrary to the term "macchia", "plastic language" suggests that the secondary level has its own intrinsic organization, but in their concrete procedures it is Sedlmayr rather than Floch who recognizes this organization. In fact there is a conception, more compatible with Sedlmayr's analysis than with Floch's, which would make it possible to admit a correlation of the plastic and the iconic contents, while still saving the intuitively satisfying idea that plastic language *adds* meaning to the picture, which must then be secured from other sources. Suppose the shapes of the pictorial surface each have intrinsic meanings, or rather a number of them; with the help of a principle of relevance, some of the properties possessed by these shapes can be exemplified, or self-identified, by the shapes, which are then transformed into signs (Cf. II.2.2–3). If the same shapes are used as iconical signs for objects in the world, the properties exemplified or self-identified by the objects are not necessarily the same as those of the shapes, but if abstraction is applied to the plastic contents as well as to the iconic contents, there may be some point where the two procedures yield the same value. This is exactly what happens in Sedlmayr's analysis, I believe, for he adduces a number of properties of the shapes and colours as well as of the motives, but both series are reduced to "Entfremdung". In the case of the shapes, which are given in perception, it is of course possible that the meaning is higher-level directly, rather than abstracted, as is suggested by the view from the distance, and particularly by the tachistoscopic experiment. As for the particular interpretation of Bruegel suggested here, it is perhaps doubtful (Cf. Dittman 1967), but it will not be scrutinized in the present context; we are interested in the procedure itself. So far, even the existence of this procedure remains pure speculation.

In this section, we have tried to spell out the procedures used by Floch in his analysis of Kandinsky's "Composition IV". It was shown that plastic language, which Floch insists must be analyzed separately, has to be redundant in relation to iconical language, if Floch's procedures should be possible. On certain conditions, which are however contradicted by Floch, plastic language could still be interesting because each artist might reorganize the world with the help of his plastic categories, thus *connoting* his particular world-view. But perhaps, we concluded, iconical content and plastic content will only be identical at a high level of abstraction. In this case, it would no longer be possible to derive plastic contents from iconic ones, so we must find some other source. This source is probably the plastic expression itself, for plastic contents appear to be exemplified or self-identified. But that still leaves us with the problem of the relevant choice, if this is not solely determined by iconic content.

II.3.3. Reading the "News". Structure or configuration

> *"Un blason n'est pas dit 'en abyme' toutes les fois qu'il comporte sur sa surface un autre blason quelconque, mais seulement lorsque ce dernier, à la taille près, est identique au premier."*
>
> *Mertz 1966 b:97*

At the beginning of his analysis of a picture advertising the cigarette brand "News" (pl. XVIII), Floch tells us his procedure will be at the same as in the case of "abstract" paintings; as we shall see, this is only partly true. The first step is again a purely intuitive segmentation of the *plastic expression,* that is, the conspicuously present iconic sign is ignored to begin with. But even at this stage, Floch goes beyond the simple listing of contrasts, telling us that they are organized together into the shape of what is known to heraldry as "en abîme", that is, the repetition inside a larger shield of a smaller one, which is in all respects but size identical to the first (1981 a:11, 13).[3] Floch himself tells us he is "frappé par sa ressemblance", meaning that of the inner "shield" to the outer one (p 8), and then later explicitly acknowledges it is an intuition which has been corroborated (p 10).

In fact, there are of course no identical shields here, but only identities on a relatively high level of generality, describable each time by a binary contrast. The total surface consists of three bands, the intermediate one of which is formed by oblique polygons and is intercalated between two bands of typographical elements in horizontal parallelism. There is a contrast between intercalating and intercalated parts. But the field of polygons in the middle is itself formed by two parts, the enveloping part, made up of gray polygons, and the enveloped part, formed by a coloured rectangle. Since both intercalation and envelopment are kinds of inclusion, according to Floch (p 9), there is a repetition at a very high level of generality, of including and included parts. It is however only on the third level that a real repetition of the config-

uration built up by the surface as a whole is found, for the innermost part of the second level, the coloured rectangle, again separates into three bands, the marginal ones of which show the same horizontal parallelism as before and have intercalated between them a network of predominantly vertical lines. Though he has actually noted differences between the respective innermost parts, viz. that on the first level it is a jig-saw of oblique polygons and on the third level a network of predominantly vertical lines (p 8), Floch will in the rest of the article treat these levels as identical – as authentic shields "en-abîme".

But the same construction can also be conceived as a "homology", i. e. as what we have called a Lévi-Straussian *proportionality,* which is, as we pointed out (Cf. I.4.1.), a similarity between contrasts. This claim immediately seems to bring the perceptual intuition over to a more cognitive level. Floch (1981 b:153) certainly claimed to have found a proportionality also in the Kandinsky article, but only after having accomplished a whole series of analytical procedures to reach the "deep" level, where such organization, according to the theories of Greimas and Lévi-Strauss, is to be expected. But this time, the proportionality seems to be directly given to perception. It will be necessary to inquire further into the meaning of this difference, but first we have to accompany Floch in the remaining steps of his analysis.

As in the Kandinsky article (Cf. II.3.2.), the passage from the expression plane to the entire sign is made at the same time as the search for repeatable, *iterable* units (to use Husserl's term) begins. But now, there is no *corpus* beyond the particular "text" under analysis so instead, Floch looks for repetitions *in the same picture* of the contrasts he has already discovered, comparing the different areas of the picture as well as the different graphic and chromatic phenomena observed. It is of course permissible to look for the iteration inside one given "text", but the result will then only be valid for the sole picture analyzed, and the social status of a system giving rise to only one "text" is, to say the least, unclear. It is true that in his penultimate section, Floch (p 24 ff) considers a few more advertisements pertaining to the same product, but this comes as an after-thought, is sketchily done, and the result is that only one out of five other "News" advertisements repeats the same plastic organization (Cf. 1981 a:14–15). In fact, I think the organization will be identical only at the highest level of generality; for instance, the middle band of the whole surface is in the other advertisement (Floch's fig. 3) much less dominated by oblique lines and polygons, for there is a partial symmetry in the horizontal dimension and much fewer distinct shapes. Moreover, three later "News" advertisements, published in 1982, after Floch's study, have a completely different plastic organization, with what was earlier the upper band now placed in the middle, overlapping, rather than being intercalated by two photographs. I am not sure what this shows, nor what would be demonstrated by the opposite result; after all, it is not even obvious that the class of advertisements pertaining to a particular product forms an adequate corpus. Floch's choice depends on a double contention: that plastic language will repeat what is said iconically (and/or verbally), and that the same argument will be used for the same product.



Pl. XIX. The News publicity (from Floch 1981a; 1984a).

In a later step, Floch goes on to corroborate the organization intuitively discovered, showing that each of the areas takes a distinct value on a number of dimensions, according to whether it is an including or an included part. There are two kinds of properties, *graphic,* which has to do with shape, and *chromatic,* which pertains to colour. Graphically, parallelisms are opposed to networks, orthogonal networks to non-orthogonal ones, and symmetries to asymmetries; and chromatically, there are oppositions of pure colours and interplay of values ("jeu de valeurs"), of polychromatism and monochromatism and of pure colours again and nuances ("couleurs rompues"). But all the graphic contrasts may be reduced, according to Floch (p. 10 f), to an opposition between regular and irregular composition and all the chromatic contrasts amount to the opposition between composition by bounds and composition by degrees. In

turn, these oppositions manifest, in shapes and colours respectively, the fundamental opposition between *discontinuity* and *continuity.* This is easy to see in the case of the chromatic contrasts but, for the graphic domain, the argument seems arbitrary, if not erroneous: if there is a relation, it must certainly be regularity, not irregularity, which is a kind of continuity, for the former implies a kind of repetition (as is recognized by the mathematical theory of information), and repetition is a continuity of higher-level categories (Cf. I.2.4.).

Nevertheless, this procedure of reduction is interesting to us in a number of ways. First of all, it is in fact on this high level of generality, i. e. continuity and discontinuity, that Floch will later claim an identity with the content of the iconic language of the picture, so all the lower-level properties are left free to be invested with other meanings (Cf. II.3.2.). Thus, plastic language is perhaps not entirely redundant. Secondly, there is something very curious about the way Floch formulates his oppositions. The term "pure colours" is opposed, on the one hand, to the term "interplay of values" and, on the other hand, to the term "nuances". Thus, we are not at a level analogous to that of phonological features, because in that case, the dimension should completely define the terms, and no term could appear on two dimensions. Perhaps, then, "pure colours" is like a phoneme, for instance, /p/, which is opposed to /b/ on the dimension of voicing, and to /m/ on the dimension of nasality. However, Floch tells us both his oppositions concern chromatic discontinuity and continuity, which is like saying, in the case of our phoneme parallel, that both the oppositions are oppositions of voicing! The only way to make sense of this, since these are not gradual oppositions, is to say that regularity and irregularity, continuity and discontinuity and so on are really *attributes-of-attributes,* or perhaps attributes of the oppositions, not simply more generic terms. It is disappointing that Floch also fails to explain in what the *difference* between these two oppositions resides; perhaps, we speculate, in one case pure colours are opposed to less prototypical variants, in the other case to contiguity of nuances, so that the difference is one of spatial distribution (Cf. in general I.1.2–3., I.3.3. and I.3.4.).

Before we go on to accompany Floch in his study of the content plane, it will be necessary to return to the beginning and consider what Floch has really been doing. Intuitively, as he himself tells us, he discovered the surface organization of the "News" picture and then corroborated his conclusion in all its details. What we know so far about the difference between *structure* and *configuration* (cf. I.3.4.) would make us expect that this is impossible. While I would entirely agree with Floch's first, intuitive interpretation, I maintain it cannot be substantiated on the level of elementary contrasts, but it is no less valid for that. The organization "en-abîme" is there for everyone to see. But it is there *perceptually.* And in perception, it seems, things are apprehended in their degree of divergence from a *prototype,* which may either be a "good form" or a more empirically established reference point (Cf. I.3.1.). Suppose that, upon first seeing the "News" publicity, we are impressed with the overall lay-out of the surface; we will then be ready to perceive the innermost rectangular shape as another of the kind, a token of the same type. Psychologists have shown that, if it only diverges a little from the "good form", a somewhat deviant shape will never be perceived as such; but if the divergence is sufficiently great, without the shape approaching another "good form", it will be seen as emphatically different. In our case, there are differences which are immediately striking, and others which are hardly noticeable, and which may have to be pointed out. Among the latter is perhaps the fact that the rectangular field corresponding iconically to the cigarette packet does not have any replica of itself in its middle band. Moreover, there is the fact, noted by Floch in passing, that the total surface has oblique polygons where the cigarette packet has almost vertical lines. But there is another difference which I believe to be more important because, in the context of the whole surface configuration, it must probably appear as a *plastic transformation.* In order to see this, we will have to take the analysis of the constituent parts a little further, in particular in the case of the marginal bands, which Floch treats very summarily.

Let us begin with the upper marginal band of the total surface. Horizontality seems to dominate here, though the band includes prominent vertical elements, even in its horizontal middle field, but contrary to the horizontal lines, these elements are not completely in the main direction, and not parallel to each other, and it is these factors which probably enhance directionality. The upper band can also be separated into a number of parts: the letter block, horizontally intercalated between two identical blocks of thin, horizontal lines, which are parallel to each other and vertically intercalated between a relatively thin upper line interrupted by a text, and two parallel, successively thicker lines, of which the last, in contradistinction to the rest of the band, is red with a text printed in black. Since they are close together, and much thicker than the other lines, the last two lines seem to go together. Let us consider the lower band of the total surface. Floch (p 8) tells ut it is also characterized by horizontal parallelism, due to the text and its relation to the lower border-line of the middle band. In fact, parallelism takes at least two lines, and in this case the second line would have to be constructed imaginarily from the limits of the space occupied by the text. Thus, if there is any horizontal parallelism, and indeed any horizontality, it is a very feeble one. If we now compare the upper and the lower band, the former will no doubt be felt to be "heavier", if only because it contains much more, and much more extended elements, and because these are more complex and more regular (Cf. Arnheim 1974:23 ff).

In the inner rectangular form, all this is different. Most conspicuously, the upper band, as compared to its shape on the total surface, has been split open and now lets the area correspondeing to the middle band of the total surface emerge between its upper and lower lines. What is left of the upper band now seems predominantly vertical because the two parallel thick lines have passed below the middle field to divide the rectangle into two almost equal parts. As for the lower band, it has now lost the little horizontality it had, because it is no longer contiguous to the border-line of the middle band and it is no longer seen as one of the principal division blocks of space. On the total surface, the division lines are definite and impenetrable, but here, the middle band is seen to overlap what is left of the upper band. Since the middle band is made up of vertical elements, and since what is left of the upper band is also predominantly vertical, the whole upper middle of the rectangular area takes on a vertical direction, which is counter-balanced only by the two thick lines, which now appear in the middle of the area, having an almost entirely white band below it. There is still a difference between the upper and the middle bands, however, because the former has more regular shapes and pure colours, in Floch's terms, and the latter adds a different colour. It will be noted that it is global properties like these which, apart from the complete identity of the integrating parts of the upper bands, assure the experience of identity, in spite of the much transformed configuration which results.

But what is the meaning of this transformation? Here we can only make a suggestion, which is not necessarily the relevant one. The emergence of the central field between lines corresponding to the upper band of the total surface has at least one property in common with the overlap between the middle and the upper band: they open up the limits established on the total surface. That is, there may be an *attribute-of-attributes,* common to both these attributes, which is that of being openings, opposed, I assume, to the topological property of closure. There is also, I believe, another attribute of the conjunction of attributes in the rectangular area as compared with that of the total surface, and that is change. The very organization "en-abîme" of the pictorial surface makes the difference between the total surface, i. e. the prototype, and the rectangular area, i. e. the deviant member of the same category, obvious in itself. But since this difference is itself manifested in a number of parts, attributes, and attributets-of-attributes, there is no obvious way of knowing which one of these will be exemplified, or if the areas themselves will be self-exemplified (Cf. I.3.3. and II.2.2–3). To Floch, in the end, iconical language will decide (Cf. Ii.3.4.).

We have followed Floch's first steps in the analysis of the "News" publicity. We found that he began from an overall impression of the whole plastic organization, which he then tried to corroborate multiplying the contrasts between the areas already distinguished. This is quite the opposite of the procedure used by another disciple of Greimas, Félix Thürlemann (1982), who, in his analysis of some works of Klee's starts from elements which are then combined to ever greater wholes. This difference may of course have something to do with the differences between the pictures analyzed but, on the whole, Floch's procedure has the advantage of following the order of perception (Cf. I.3–4.). It was shown that, though valid on the level of immediate perception, Floch's analysis could not be entirely sustained when more details were taken into account. There will be no absolute contrasts, only units having different degrees of prototypicality. We also argued that at least some of Floch's attributes are really attributes-of-attributes (I.2.3.), and finally we even hinted at some attributes-of-the-difference-between-attributes, like opening and change. So Floch's admirable analysis, it seems, still leaves us with some fundamental questions to be answered: how to avoid deforming configurations transforming them into structures in the analysis; and how to find the relevant part, attribute, or attribute-of-attributes, exemplified in a configurative, rather than structural opposition? We have sketched an answer to the first question; to the latter we will return after a detour by way of iconic language.

II.3.4. The blind spot of the analysis: iconic language

Until now, we have not made use of that segmentation of the picture which follows from its correlation with objects and beings of the "re-produced" world (1981 a:11). When Floch, in the next step, goes on to analyze what he calls the content plane (p 12 ff), we expect to hear something at last about the iconic language of the "News" publicity, that is of the picture as a sign for a real-world scene. At first, it seems that this is what will really happen: the advertisement "represents" the first page of a newspaper, since the upper band is made to resemble that part of the newspaper, where its name and slogan usually appear, and the "Times" type employed is the kind often found in newspapers. Also the central part of the advertisement, Floch argues (p 12), is made up of letters and pictures whose disposition is reminiscent of that which characterizes the several titles, texts, and photographs of the first page. To us, however, this sounds strangely similar to those of Barthes's connotations which we found entirely admissible, that of "advertisement" and in particular that of "still-life" (Cf. II.1.4.). But, at least in Barthes's view, this is directly opposed to what the picture represents, that is to say iconic language!

We need to consider this case in more detail. The verbal text "News", manifested in graphic substance, i. e. writing, here block letters of the particular typographic type "Times", denotes as such the content "news", but it connotes, at the formal level, language, English, and

writing, and at the level of substance, printed matter and the "Times" type. Since "Times" is common in newspapers, there will be a contextual implication from the "Times" connotation to the property of being a newspaper. Furthermore, since the content "news" forms part of a small class of meanings, which are often used as titles of newspapers, there will also be an implication from the choice of content of the linguistic sign to the property of being a newspaper (Cf. II.4.). All this will be true in the real newspaper, as well as in the "News" advertisement. In the latter case, however, the semiotic system of the advertisement has been embodied in a substance which is foreign to it, and thus will connote something which it is not. This is comparable to the German dialect text which connotes Roman inscription (fig. 18), and of course to the Panzani advertisement connoting "still-life"!

This is, however, only one of the ways in which the "News" publicity suggests it is a newspaper. The disposition of the text, and the way the horizontal lines and the slogan are placed around the name, as well as the location of all this on the top of the page, are just what we would expect to find on the first page of a newspaper. But this is not a substance or a form of a semiotic system, but simply (the iconic sign of) a part of an object, which is not an advertisement, but a newspaper. In fact, it is a part of a part, the first page, chosen so as to present the characteristic properties of a newspaper, that is, it is a *proper-part-of-a-proper-part-chosen-according-to-attributes,* viz. the *typical* attributes. In the strict sense in which we used the term above (III c of I.2.5.), this is not a *synecdoche,* for there is no other, institutionalized sign, for which the parts substitute. Nor is it really a synecdoche in the attenuated sense noted above (case III a of I.2.5.), because there is no primary sign relation (except the iconic sign), just the thing being itself. It is however an *exemplification* in the extended sense, for the newspaper head and the first page in its turn stand for the class of things having certain properties they also possess (Cf. II.2.2.). To be more precise, it is a *pseudoexemplification,* because the class of things so defined is understood to be characterized also by certain properties which tend ordinarily to co-occur with the properties being exemplified (Cf. I.2.4.). This is a rhetoric of things, because the newspaper head could just as well have been taken from an existing newspaper, or one that existed or will exist. This is then pictured, but the picture sign does not enter essentially into the production of meaning.

The advertisement simulates a newspaper in yet a third way, if we are to believe in Floch: the middle band resembles the montage of texts, pictures, and titles found under the newspaper head (p 12). This is a surprising claim, but perhaps Floch means to say that the intrication and monochromatism of the middle band, and perhaps other, not specified properties, will also be found on the first page of the newspaper. This would be a case similar to the child's cube drawing (Ic of II.2.2.), but here the reference to the class of all things having these properties could be narrowed down, not by child egocentricity, but by the redundant context produced by the above-mentioned sign relations.

If we except this last aspect, it is true that there has been a shift of level in Floch's analysis, from shapes and colours to phenomena of the real world seen in the picture. But Floch immediately proceeds to ask for the meaning of the newspaper itself (p 12 f.), thus leaving the iconic language behind at once. Of course, he does so, because he is interested in knowing *why* a first page of a newspaper, rather than something else, has been chosen to say something about a cigarette brand. According to Floch, the newspaper stands for the activity characteristic of journalists, which consists in creating new meaning from the discourses of other people. In the same way, the picture corresponding to the middle band of the whole surface shows the lay-out table, where pictures are chosen and combined, which again is an example of an activity creating a personal product out of the contributions of others. And the photographs lying on the table show journalists in their different activities, putting together their work from the actions of other people. Here, on three levels, corresponding to the plastic "en-abîme", we encounter, according to Floch (p 16), the conjunction of identity and alterity, i. e. something personal made out of the elements furnished by others. Again according to Floch, the cigarette, like the journal, is made of raw materials delivered by others, and yet has its personal identity. To me, these explications seem rather arbitrary and, as can be seen, we have long since abandoned the iconic sign.

We are not going to discuss iconicity here, because that is the task of our entire third part, but we will approach the question about the choice of the newspaper page from an angle closer to both iconic and plastic language. Suppose we have to make a "text" belonging to the genre or *archi-text* "advertisement" (Cf. II.1.4.), and that we *choose* to do it *as if* it were the first page of a newspaper. If the resemblance were complete, the result would be a faked first page of a newspaper, and there is no obvious sense in which this would still be an expression of the generic content "advertisement". But to the extent that it is possible to discover that the resulting page is really a publicity page, we will have something similar to a *metaphor.* It is, of course, not a real metaphor, for the same reason that, in the case cited above, there were no real synecdoche: no existing sign is replaced. But there will still be something unexpected appearing instead of something which is considered the normal case. Let us draw a parallel by considering a linguistic metaphor.

The expression /I ∧ v/ for the content "love" can be pronounced in different ways, accordingly connoting different styles, persons, physiognomies, etc. But one may also *choose* to express the content "love", or rather the

whole corresponding sign, using another sign, perhaps /fleɪm/, which normally stands for "flame", or preferably some other more original metaphor. In this case, a whole sign, complete with expression and content, stands for another complete sign. But this is something very different from a combination of a connotational language and a metalanguage. Since, in Hjelmslev's sense, a metalinguistic sign has another sign as its content plane, it will thematize the plane which is another sign, and present directly the other plane; and the connotational language will present directly the plane which is another sign, and thematize that plane which is not. In a metaphor, one of the signs, more precisely its expression plane, is directly presented, but what is thematized is perhaps rather the common elements of the contents. In fact, a condition of possibility of a metaphor is no doubt a certain overlap between the two content planes. The fact of choosing a metaphor rather than "plain words" to express a content engenders a connotation which is "this is a metaphor" and, in certain contexts, "this is poetry", as Genette says (Cf. II.2.2.). However, as has often been suggested (Cf. III.6.3.), the effect of a metaphor, as distinct from its conditions of possibility, is to intimate an even greater similarity between the contents compared than is really the case, transferring features from the content plane of the sign serving as expression to the content plane of the sign used as the content: that is, in the example above, love becomes more flamelike. Thus we have at least three levels of language here: the linguistic signs, the metaphor relation, and the connotation resulting from the latter, which in its turn carries implications of similarity or identity.

But in this case we are concerned with things, which will only secondarily become signs when they are made to refer to themselves through the corresponding categorical object: to exemplify in the extended sense or to identify themselves (cf. II.2.2.). Normally, the object will refer to itself through the list of all criterial attributes, the typical traits, or all detectable properties (cases IIIa-b-c in II.2.2.). Exemplification means only a limited set of properties is taken from the list of properties. A fairly normal case is here the dummy (case III d) which, like a dead metaphor, identifies a distinct object directly. We have also encountered the strange case, where the attributes themselves, as in the child's cube drawing, are made to stand for a class of things or a particular thing having these attributes (case I c.). Here, however, we are concerned with things which, through criterial properties, typical properties, all their detectable properties, or even properties low in their dominance hierarchy, are made to stand for other things having these same properties. This is what happens to the Panzani vegetables when they are used to signify the Italian flag; we get a kind of thing metaphor. One may wonder, of course, if this really makes the Italian flag more vegetable-like, and perhaps it does, in the Panzani context. Anyhow, the choice of using this constellation of vegetables and other objects, rather than the Italian flag directly, connotes metaphoricity, which in its turn carries an implication of the essential identity of the flag and the vegetables. Indeed, since the flag exemplifies Italianity, and the vegetables stand, by contiguity, for the Panzani products, the final statement is further modified.

How do we know, in this case, that the first page of the newspaper is a metaphor for the cigarette packet? According to Floch (1981 a:16), there is a "homology" between the total surface and the rectangular area corresponding to the cigarette packet and since homologies suppose similarities, we may interpret this in the sense of our metaphor. Floch argues this homology is expressed by the organization "en-abîme" of the advertisement. But to my mind, there are two aspects to this configuration: first, the total surface and the rectangular area are, in some respects, *similar* to each other; and secondly, the latter, i. e. the cigarette packet is made to appear a part of the former, i. e. the newspaper page, so there is a kind of *factorality* here, comparable to the contiguities between the tyre and the jetty, and the factorality between the crown and the fruits (Cf. I.2.5.). It will also be noted that here, contrary to what we supposed in the discussion above, and contrary to the Panzani case, both the newspaper page and the cigarette packet are directly present in the advertisement, resulting in something similar to a comparison or a "metaphor in praesentia", to use Kerbrat-Orecchioni's (1977 b:151 ff) terms: "the cigarette is like a newspaper" or "the cigarette is a newspaper" (cf. III.6.4.).

What we now have to find is that minimal similarity between the contant planes of the first page identifying itself and the cigarette packet which also identifies itself. Supposing this to be an identification through criterial or typical attributes, there can be no similarity of the respective contents, for even though in this case the cigarette packet has been made so as to resemble a newspaper head, this feature has no bearing on its identification as such, for which a particular shape, and perhaps the cigarettes protruding, are important; it is of course pertinent for the identification of the "News" brand, but this is the new identity which is to be *introduced* by the advertisement. In order for a similarity to appear, the objects must first of all be viewed from a particular angle, i. e. be exemplified through one of their possible noemata. In the case of a flat object, like the first page of a newspaper, this is negligible, but the cigarette packet has to be viewed from the front for the pattern to be visible. The noematic aspect is more conspicuous, as we noted (in I.2.5.), in the tyre and jetty example. Secondly, among the many possible ways of shaping a newspaper head, which still permit it to identify itself, one must be chosen which has some plastic properties in common with the cigarette packet. So far, the similarities are really on the *expression* plans of the rhetoric of things, but it might be argued that they will therefore appear on the *content* plane of the picture, so that a real metaphor be-

comes possible only on this level. But the factorality of the total surface and the rectangular area only seem to exist on the expression plane of the picture, and the same thing must hold for the similarities between the central parts of the two areas, which Floch claims to observe. Thus, it seems difficult to separate the rhetoric of content from the rhetoric of expression in pictorial semiotics. However, there can be no doubt that the meaning of the whole procedure is to claim a similarity of contents and/or expressions. The pictorial metaphor transfers similarity from the plane of expression to the plane of content. (Cf. fig. 26.)

But why should this similarity of expressions and/or their contiguity or factorality be taken to signify, indeed to connote, the similarity or identity of the corresponding contents or referents (Cf. I.2.5.)? Perhaps this is an effect of that ideology of the "quasi-tautological" relation between the relata of the pictorial sign, which Barthes professes (Cf. II.1.4.), and which, seemingly with more justification, could also be applied to exemplification and self-identification. In fact, even in the latter case a principle of relevance is needed in order to decide which of the many properties found in the object is this time exemplified or used in the self-identification, which, as we now know (Cf. II.2.2.), may depend on very different conceptions of the identity of the object. So how shall we find the property exemplified by the newspaper, or its first page, or used by them in their self-identification? Floch's proposal unfortunately seems rather far-fetched? However, there are some guide-lines. First of all, we know that because of the institutionalized purpose of publicity (Cf. II.1.1.), a property which is positively valued in our society must be chosen from the objects in the picture, and be transmitted to the product. We also know that the product has to acquire through this procedure a character which makes it distinct from other, more or less identical products. Thus, the newspaper has to refer to one of the properties it possesses, and which, at the same time, is a positive value to our society and would not normally be associated with a cigarette brand. A thorough analysis of the iconic contents of the photographs present, not only in this advertisement, but also in the others of the series, would undoubtedly help us determine exactly what kind of property of the newspaper is relevant. Here we can only have a very short look at the iconic content.

If we leave aside those advertisements where only the cigarette packet itself is pictured, we can study the collage of photographs themselves presented *as* pictures in three of Floch's advertisements (his fig. 1, 3 and 4) and in three other advertisements which I have observed since then (in *Nouvel Observateur,* 18th September, 30th October, and 27th November 1982); we shall find that their motives are in part those kinds of events considered important in contemporary massmedia, and in part people caught in the act of recording or

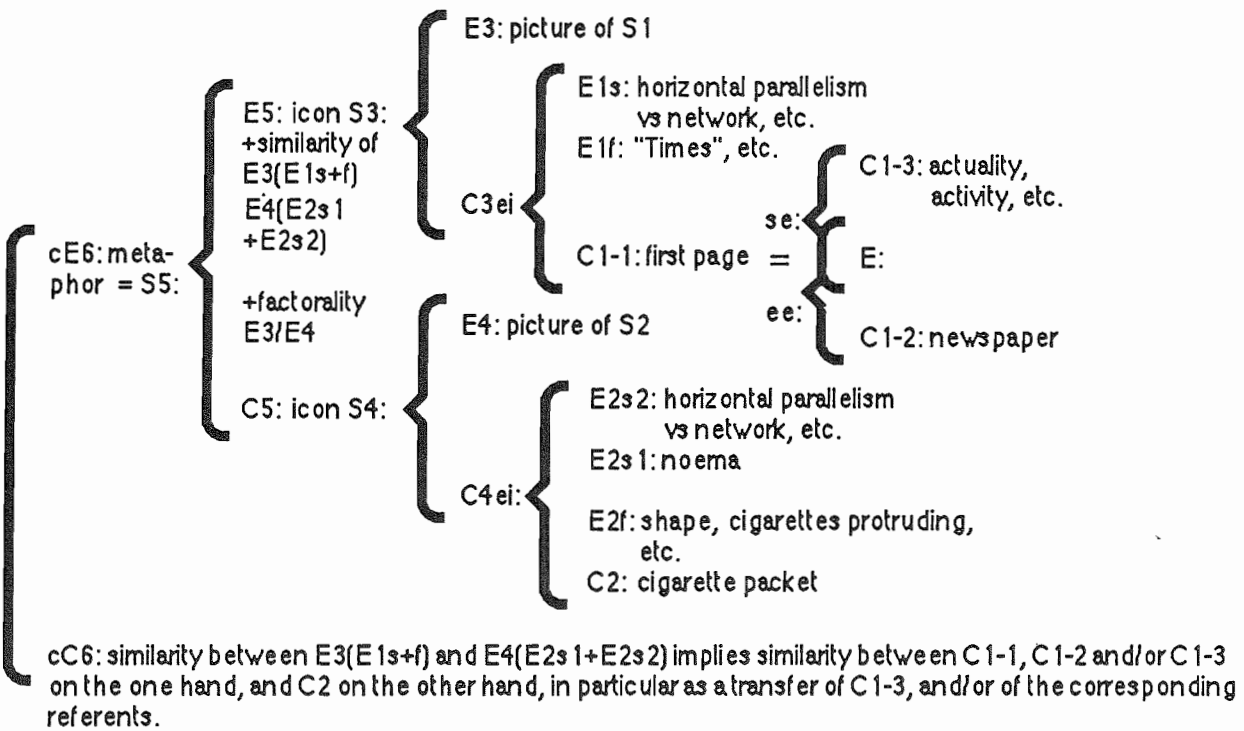


Fig. 26. How a metaphor connotes. Abbreviations as in fig. 24. In addition: se = simple exemplification; ee = extended exemplification (in the sense of II.2.2.); ei = extended identification.

transmitting information to others. This is particularly obvious in the latter three advertisements, where one picture of each kind is placed below and above the imitated newspaper head. Interestingly, it is the same photographs which reappear in different combinations in the advertisements of the "News" series. What all this suggests, I imagine, is that this advertisement as a whole, and also the newspaper imitation, intend to evoke that great massmedia myth of contemporary society, according to which journalists, reporters, photographers and other massmedia people work assiduously day and night to keep us all well-informed, to tell us about all these frightfully important events occurring all round the world all the time, and going where the action is to help us keep abreast of the state of the world. At the beginning of this, I suppose, stands the utopic myth of the "bürgerliche Öffentlichkeit", born out of the Age of Reason, according to which problems should be publicly discussed, to guarantee their rationality (Cf. Habermas 1962; Sonesson 1985). Nowadays, however, massmedia are less concerned with discussion than with information, and being informed, no matter about what, has become a value in itself. As Stuart Hall (1974 a:148) observes, news is a product, a staple of the industry of consciousness, and the production follows the basic criteria of "action, temporal recency, and newsworthiness", where the latter has something to do with "what is not (yet) widely known, the scarce, rare, unpredictable event" (Hall 1974 b:235). It is this "ideology of news", I assume, that the "News" publicity wishes to transfer to the cigarette brand.

After showing that the total surface corresponding to the newspaper page and the rectangular area standing for the cigarette packet were in some respects – in fact, at a high intensional level – identical, we pointed out some of the peculiarities of the former, which were transferred to the latter by means of the metaphoric sign relation, but we have also already noted (in II.3.3.) that the latter differed in some interesting ways from the former. Perhaps, we said, the relevant attribute of the attributes which are conspicuously different in the two cases is the more open character of the rectangular area, which in this context could refer to the opening to (or of) the wider world, or the change itself, which could be that of the information flow as such, if it does not stand more generally for activity and action. So maybe the message, at the plastic level, is this: the cigarette "News" is not only like a newspaper; it is even more so than the newspaper itself! However surprising the logic is, it is common in pictorial rhetoric.

In this section, we have considered in detail an intricate case of pictorial rhetoric: we have seen how similarities of the expression plane, in conjunction with contiguities, may be used to induce similarities on the level of content, or in the referents themselves, sometimes making use of similarities that only seem to exist in plastic language. This was possible, we argued, because there was an ideological implication following from the connotation of pictorial metaphors. After studying the details of the similarities found on the expression planes of the pictorial signs involved, we went on to consider the importance of the *differences* between the relata of the metaphoric relation. Now that we have given our interpretation of what is going on in the "News" advertisement, we will be prepared to confront, in the following section (II.3.5.), Floch's analysis of the same case, which is also intended as a general description of what Floch, and then also Greimas, has called a *semi-symbolic system.*

II.3.5. Symbolicity and semi-symbolicity. Thorvaldsen's Christ, Barbara, and maluma

> *"Der synes at være en væsensbeslægthed mellem spillets interpreterbara brikker og de isomorfe symboler /som Thorvaldsens Kristus som symbol for barmhjertigheden, inden for dagligsprogens omraade onomatopoietica, etc./, idet ingen af dem tillader den videreanalyse i figurer som er karakteristisk for tegn."/* There seems to be an essential similarity between the interpretable pieces of a game and the isomorphous symbols /like the Christ of Thorvaldsen as a symbol of mercy, in verbal languages the onomatopes, etc/, in that none of them admit further analysis into figures which is characteristic of signs/.
>
> *Hjelmslev 1943:100 f*

According to Floch, all the oppositions of colours and shapes in the "News" advertisement are reducible to the fundamental opposition between *continuity* and *discontinuity* (1981 a:10 ff); in the same way, the contents may be reduced to the opposition between *alterity* and *identity* (p 12 ff). We have already expressed doubts on some aspects of these analyses (in II.3.3. and II.3.4., respectively), but here we shall have to take them at their face value. Floch now goes on to tell us that the discontinuity of the expression plane is correlated with the identity of the content plane, while the continuity of the expression plane depends in the same way on the alterity of the content plane. Such a surprising correlation must of course be purely conventional. Anyhow, we are told this is an example of a *semi-symbolic system* (Cf. p 16 ff, 23 f).

More instructive, though, more complex in an essential respect, as we shall see, is Floch's decomposition of the content and the expression of the verbal message accompanying the "News" publicity: viz. "Take a Break in the Rush" (in English!). Starting with the content, Floch (p 20) rapidly concludes that the "rush" is characterized by continuity, but in time rather than space, and that the "break" is discontinuous, also in time. Thus, the opposition of the pictorial expression plane has migrated here to the content. This time, however, the same opposition is also found on the expression plane, producing an illusion of motivation, i. e. the opposite of ar-

bitrarity (Cf. III.1.1–2. and Floch 1981 a:23 f). In the first part of the message, all consonants are occlusive, i. e. they are produced through a complete obstruction of the vocal tract; and in the second part of the message, the consonants are fricative, i. e. they only require a constriction for their production. Hence, the manifestation of the category of *discontinuity* in the first part of the message is followed by the repetition of elements manifesting *continuity* in the second part. Even the nasal is continuous here, Floch adds (p 21), because it may be prolonged in the end position where it appears. On the whole, this argument is convincing: of course, it requires that the continuities of the movements *producing* the sounds are also present in their audition, but that is not unplausible. In fact, children as small as 6 months will react to the similarities of continuous tones and continuous lines, paired with pulsing tones and lines (Cf. Winner, Wapner, Cione, & Gardner 1979:74 f). This is perhaps not quite the same distinction, but at least the evidence is sufficient to suggest that continuity is a primitive category of human perception (Cf. I.4.4–5.).[4]

What renders the verbal message more complex is the appearance of identical categories on the content and expression planes, but since the elements of the analysis are more clearly spelled out here than in the case of the pictorial message, we will base our discussion on the verbal message, ignoring for the moment what Floch calls the illusion of motivation. Perhaps we can take Floch to mean that the correlated categories of expression and content are themselves related to their respective planes in the following way (fig. 27; cf. fig. 25!):

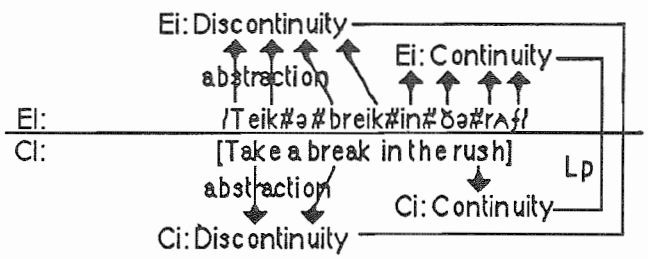


Fig. 27. Semi-symbolicity? E, C, p as before. I = linguistic, here in the position of iconic language. L = language.

As before, we have added the operation of abstraction (cf. II.3.2. and fig. 25.). But is it really twice the same process taking place? First, it will be noted that on the expression plane, continuity and discontinuity are properties *possessed* by the sounds themselves, maybe even by the phonemes, so that a reference to these properties will be an *exemplification,* in the strict sense (case II a of II.2.2.); thus, from the phonemes to the categories, parallel to the abstraction, there is already a sign relation! This does not preclude the existence of a further sign relation from the categories of the expression plane to the categories of the content plane, which would be a metaphor if, as here, the categories are identical. On the content plane, however, continuity and discontinuity are not *attributes* of the objects from which they are abstracted, but rather *proper parts* of these (Cf. I.2.4.), because it is part of the meaning of a "rush" that it is continuous and of a "break" that it introduces discontinuities. The semantic features in question will probably be rather deeply embedded in the usual kinds of semantic representations, perhaps participating in the more well-known distinction between event verbs and process verbs (Cf. Miller & Johnson-Laird 1976); thus, they will be parts of parts, which is why they have to be picked out by some principle of relevance, which could be their very similarity to the categories of the expression plane, perceived against the background of the differences between the planes (in the sense of remark a, in I.3.2.). That means there is no new sign function, no further appresentation here (Cf. I.2.5. and I.4.2.), only a possible difference in the parts of the content which are enhanced. Hence, there is at least one assymmetry between the operations on the two planes of the primary language.

But there is also, it seems, a second asymmetry between the planes: on the content plane, we will need a real abstraction, a *generalization* perhaps (Cf. I.4.4.), to get from the relatively concrete contents "rush" and "break" to the concepts of continuity and discontinuity. But on the expression plane, which forms part of the ordinary perceptual world, there is "abstraction" only in Arnheim's (1969) sense, because the (relatively) abstract seems to precede the (relatively) concrete; as shown by numerous experiments of the Leipzig school (Sander & Volkelt 1962; Volkelt 1963; Hoffmann 1943), and as argued by E. Gibson (1962), perceptual knowledge begins from the most general level and then goes on to differentiate itself further. But that means we usually enter the hierarchies of content and expression from opposite ends, so that the categories which are to be correlated have to be approached from different directions. This clearly supposes that there is some separate access to the meanings of plastic language, i. e. to those of them which are exemplified on the level of the linguistic expression plane; as for the relevant categories of the linguistic content plane, they are, according to our first observation above, simply parts of the linguistic content hierarchy. We will return later to consider how far the case of visual-iconic language can be considered to be parallel.

Floch's analysis of the slogan "Take a break in the rush" is reminiscent of Jakobson's (1964; 1965 b) way of discovering the "poetry of grammar", so it is not surprising that Floch, both in the "News" essay and in the Kandinsky essay, refers to Jakobson's principle of the projection of the paradigm on the syntagm (Cf. II.3.2.). Contrary to what Jakobson used to do Floch leaves a number of conspicuous traits of the slogan unaccounted for. There is, for instance, the rhyme of "take" and

"break", which, since it seems unrelated to discontinuity, could perhaps be taken to *connote* a moderate degree of poeticalness, thus helping the slogan to qualify as such. There is also the fact, remarkable in a French advertisement, of the slogan being written in English, thus *connoting* the English language, which is also what the brand name "News" itself will do. Because of our acquaintance with the public, institutionalized aims of publicity (Cf. II.1.1.), we conclude that this "Englishness" is to be transferred, through the contiguity, to the product, i. e. the cigarette brand. As in the case of the Italianity of the Panzani products (Cf. II.1.4.), there is a sufficient amount of other indications present pointing more or less in the same sense, which suggest that this Englishness has to be specified as American rather than British, and that, when transferred from the slogan to the product, it concerns a way of life rather than a language.

What really interests us in the above observations, however, is the clue they give us to the difference between connotational language and plastic language. Though in part they may use the same signifier, and although both seem to be "secondary" in some sense or other, as Floch (1986:169) tells us in the case of the latter, plastic language will only need the expression plane of the first language for its own expression, but connotational language requires the entire primary sign. So it will be worthwhile reconsidering the nature of *semi-symbolic systems,* of which plastic language is said to be a particular case (Floch 1986:169; Greimas 1984:22).

A *semi-symbolic system,* we are told (Floch 1981 a:22 f), is characterized by the conformity, not of the isolated elements of expression and content, but by that of certain categories of both planes. The head gestures used commonly to indicate "yes" and "no" are said to be semi-symbolic (ibid.; Floch 1986:169), though not secondary, and thus not plastic. But in the cases of the picture and the verbal text, there is a primary language, the natural world and the natural language respectively, which is a "semiotic system", on which a semi-symbolic one is mounted. Here, it will be noted that the picture is identified with the "natural world", so that the problem of iconicity completely disappears (Cf. II.3.4.): for though the "natural world" may be present "indirectly", as Floch remarks (1981 a:23), it is obviously on the iconic sign that semi-symbolicity must depend. Or at least it will be obvious, once we have seen what a semi-symbolic system is, and in order to do that, it will be necessary to relate this notion to Hjelmslev's concept of a *symbolic system* and to investigate how it differs from a *language,* in Hjelmslev's (1943:90 ff) sense, which is probably what Floch calls a semiotic system.

A *language* is, to Hjelmslev (1943:94 ff), characterized by the property which Martinet and Prieto call double articulation: it can be segmented, first into correlated units of equal extensions on the planes of content and expression, then, a second time, for each plane separately, into minimal units whose limits no longer coincide from plane to plane, but which are still indirectly correlated, in the sense that an exchange of one of these minimal units for another in one of the planes, will lead to the complete replacement of the other plane, that is, there will be *commutation* (Cf. I.1.2–3).[5] The units of the first level are called *signs,* those of the second *figurae.* For instance, "Take a break in the rush" is analyzable into the signs "take", "a", "break", etc., these, in turn, can be analyzed into phonemes or graphemes, "t", "a", "k", "e", etc. (and these may be further decomposed into features, without recurring to a new principle; cf. III.4.1.); and in the same way, the content plane of each sign can be separated into semantic features, "break" including, for instance, the feature "discontinuity". The fact that the second division is no longer parallel on the two planes is called *non-conformity* by Hjelmslev (1973:152; cf. all of Hjelmslev 1973: 119–153; and Prieto 1966:153 ff.) Besides verbal language, the telephonic code, according to both Hjelmslev and Prieto, and also certain clock chimes, according to Hjelmslev, have non-conformous planes, and therefore double articulation. In Prieto's (1966:162 f) example, the French telephone number "67.49.00", is made up of four signs, the first two of which have two figurae each: "67" is the number of the French department the Hérault, "49" is the number of the telephone unit concerned, and "0" and "0" (in that order) serve to locate the connection on the unit as to row and column.[6]

A *symbolic system* is to Hjelmslev (1943:99 f) essentially a system where the effort to proceed to the second segmentation fails, resulting in smaller signs rather than in figurae: every division on one of the planes will reflect one on the other. Examples of this are, according to Hjelmslev, Thorvaldsen's statue of Christ conceived as a symbol of mercy, the hammer and the sickle as emblems of communism, the balance as a symbol for justice, the onomatopes, and other signs which are felt to be non-arbitrary, but also the pieces of a game and the logistic signs which, though arbitrary, cannot be decomposed into figurae. In cases like these, Hjelmslev feels, there is no longer any point in distinguishing the planes of expression and content. We will not follow him in that conclusion because, as already pointed out (Cf. I.2.5., I.4.2. and II.2.1.), not all doubly articulated systems have appresentation and not all systems based on appresentation are doubly articulated. Apparently, Floch and Greimas must agree with the latter statement for their semi-symbolic systems continue to have two planes, and Floch (1981 a:22) even calls them "languages"!

In order to clarify all this, it will be useful to consider a case in which the same "substance" is exploited by two (or three) different *kinds* of signification systems, not just two different systems of the same kind (as in fig. 18, fig. 7, etc.). In the terms of Alfred Schütz (1967), the ap-

perceptual scheme "Barbara" corresponds to at least two different interpretational schemes: a rather common girl's name and the designation of one of the "figures" of Aristotelian syllogistics. Developing Schütz's example, we will find that the internal organization of the apperceptual scheme, i. e. the expression plane, will itself change when we pass from one of the interpretations to the other: the first is a language system, the second a symbolic system (Cf. fig. 28 b and 28 a respectively). For the sake of the argument, we will have to take the controversial, but by no means new standpoint of considering proper names to have meaning (Cf. II.1.4.): any "Barbara" will be human and a woman (Cf. Lévi-Strauss's 1962:245 ff discussion of the proper names of dogs!). But, at least from the point of view of verbal language, neither the humanity nor the femininity resides in any particular phonemes of the expression plane, so this is a non-conformous system, a language system. On the other hand, if "Barbara" is interpreted as a designation for one of the Aristotelian figures, it will turn out to be a super-sign, made up of seven smaller signs, not including the meanings of the syntactical positions: "B" is an abductive index (cf. I.2.5.) for the group of figures having names beginning with a B; "r", "b", and "r" are rules of reduction from one figure to another; "a" signifies a universal proposition; and the syntactic positions are icons for the sequence of premisses and conclusion in the argument (Cf. fig. 28 a; the example has been somewhat changed for the convenience of the exposition). Since the decomposition of the two planes is completely conformous, we have this time a symbolic system.

The same example could even yield a third version, which is a semi-symbolic system, if our earlier analysis of such a system (fig. 27.) is correct: the vowel /a/, which is often thought to express "femininity", i. e. no doubt, to exemplify it metaphorically (case II b of II.2.2.), is repeated three times in the name, and femininity is also one of the components of the content. Of course this is a fact quite separate from its being a proper name for women in our culture, for many women's names do not contain the vowel /a/, and there are names containing it that are men's names (Cf. fig. 28 c; see I.4.6.).

Unfortunately, we have still not arrived at a clear conception of what a semi-symbolic system is, and it seems rather hard to conceive of it in relation to language systems and symbolic systems, in Hjelmslev's sense. So far, all examples we have considered have been parasitic on language systems (in fig. 27 and fig. 28 c.); but according to Greimas (1984:21 f) and Floch (1981 a:22; 1986:169), there are also semi-symbolic systems which are not "secondary", but produce meanings in their own right. For instance, in our culture, the head gestures corresponding to "yes" and "no" are expressed by the opposition "verticality/horizontality" (Thürlemann 1986: 203 f.). There would be a symbolic system, Greimas tells us, if in a formal language, "a" and "b" were used to signify "heaviness" and "lightness", re-

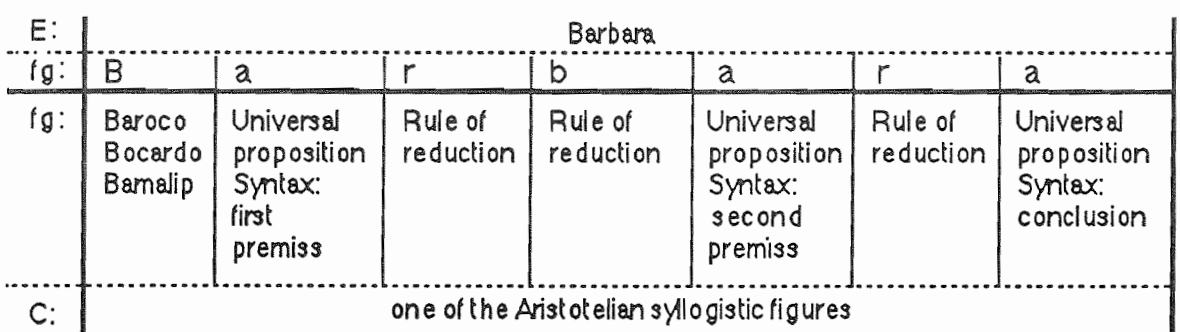


Fig. 28 a. Symbolic system.

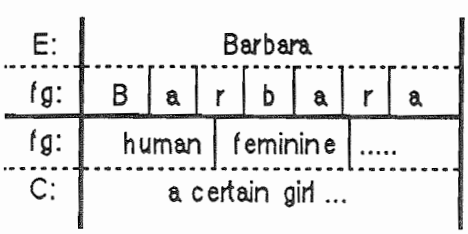


Fig. 28 b. Language system.

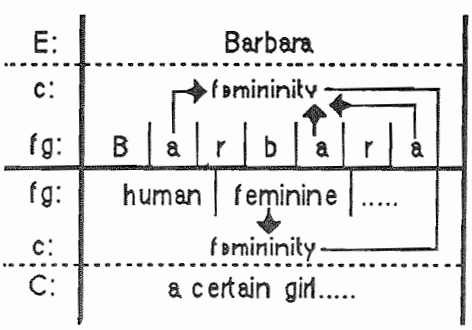


Fig. 28 c. Language system with semi-symbolic system?

Abbreviations: E = expression, C = content; fg = figurae; c = categories

spectively, but if the symbols "sa" and "sb" or, even better, the two terms of the same category, i. e. in Greimasean parlance, the opposite terms of one semantic dimension were used, a semi-symbolic system would result. The head gestures, I suppose, would qualify for both reasons: verticality vs horizontality are of course the two terms of the dimension "spatiality", which is here an opposition *in absentia,* not a contrast, as in Floch's example (cf. fig. 27; and I.3.3.); but also, the horizontality or the verticality of the gesture will be repeated in each one of its phases (perhaps more like the Kandinsky analysis, fig. 25; or our fig. 28 c.). Like Saussure's notion of the "relative motivation" of words (for instance, "eye-specialist" but not "oculist" is clearly motivated from "eye"), Greimas's semi-symbolic system shifts the requirement of identity from the relation between the planes to the inner organization of each one of the planes! This is of course not quite true, for some kind of conformity, of categories, not of elements, is also demanded, but what does that mean?

When introducing the term "symbol system", Hjelmslev (1943:100) observes that usually only signs which are non-arbitrary, like the balance signifying justice, are called "symbols", but he suggests extending the term to all those signs which cannot be further analyzed into figurae. It will be noted that the two cases are similar, for they are both *iconic* in Peirce's sense, but while the first depends on a similarity in qualities, the second requires only a correspondence of the relations, i. e. a *diagram,* in Peirce's sense (Cf. III.1.). Then perhaps there are the same two kinds of semi-symbolic systems? There are cases, according to Floch (cf. fig. 27), in which the same category appears on both the planes, but this is not necessary for there to be a semi-symbolic system. In the first case, there is a similarity of qualities, or an illusion of motivation, as Floch says. But the second case is different, judging from the examples; for not even the same relations appear on the two planes: "discontinuity", for instance, is manifested four times on the expression plane, but only once (or twice) on the content plane (in fig. 27). Hence, not even diagrammatic similarity is necessary for a semi-symbolic system. But what is then meant by the conformity between the *categories* on the two planes?

As a first approach, suppose it is sufficient that a particular category starts to be repeatedly exemplified on the plane of expression and then ceases to be so, more or less at the same time as another category appears on the plane of content. The repetition in question may be of various types: in the case of the head gesture meaning "yes", each particular phase of the movement will have, among other properties, that of being vertical, but the discontinuity of the first part of the "News" slogan (fig. 27) is only intermittently manifested (just as the femininity of "Barbara", fig. 28 c.). Even in the latter cases, however, discontinuity and femininity, respectively, will perhaps be sufficiently conspicuous to form *dominance concepts* (in the sense of I.3.1.), either because of the repetition itself, or because of it being located on important positions. Thus, the conformity would exist between the phases of onset and of termination of the categories being manifested on the planes of expression and content.

Unfortunately, this is untrue, at least in the examples so far considered: the meaning "yes" is the complete content plane of the head gesture, not present in each of the phases, as is the verticality, for the individual phases may well be parts of other gestures having other meanings (Cf. Eco 1968:245 f; 1971 a, b; and III.1.3.). As for the other cases, the content in question only seems to be manifested once, while the correlated expression category continues to be repeated (though we have added a possible repetition of discontinuity in fig. 27.). This is a further asymmetry between the two planes of semi-symbolic system, not unrelated to those we suggested at the beginning of this section. Unless we insist on the sign relation of *exemplification* on the plane of expression, and the further sign relation connecting the categories of the two planes, all signification systems will be semi-symbolic: for instance, all verbal languages manifest on their expression planes the category of being made of sound, and of sounds taken from the repertory of possible speech sounds, and these expression categories coincide with a number of content categories, among which the most general is the very property of being a verbal content. This is the basis of connotation. Both semi-symbolic systems and connotation, it would seem, transform into sign relations properties that would not normally be such.

How will this happen? Perhaps we should take more seriously the suggestion that semi-symbolic systems require oppositions, as Greimas (1984:21) could be taken to mean, perhaps manifested directly as contrasts in the "text", as Floch (1986:204) certainly seems to suppose. In this case, our "Barbara" (fig. 28 c) will no longer qualify; but the advantage is that we can at last see what is conformous in the case of semi-symbolic systems: the very fact of the opposition. Thus, we are back to the "petites mythologies" of Lévi-Strauss's, to the binary operator the skate (Cf. I.4.6.). But as in the case of the skate, we will now argue that the opposition is just one of the possible ways of introducing a *principle of relevance,* and normally not a sufficient one. First of all, there are probably no systems of signification in which *constitutive* oppositions (in the sense of I.3.3.) appear on the level assumed here. In the head gestures for "yes" and "no", the dimension of spatiality is usually not singled out, nor correlated with anything on the level of content: it is simply a property with no signification which is common to both signs of the micro-system. If we are willing to push the analysis a little further than Prieto himself would, beyond the minimal units to the features (Cf. IV.1.1.), Greimas's head gestures will turn out to be an example of what Prieto calls a system hav-

ing the second but not the first articulation.[7] A new principle of relevance may undoubtedly give prominence to these common traits in a ballet, investing them with a new meaning. But that would be a *regulative* opposition, as in the pictures we have already analyzed (in I.3.3.).

And that brings us to our second point: there is really no reason to believe that *contrasts,* corresponding to *oppositions,* will be more efficacious than *repetitions,* corresponding to *identities,* in bringing out the relevant features of the display (Cf. I.3.3., observation a). So our "Barbara" analysis (fig. 28 c) is "in" again. As for Floch's Kandinsky analysis (cf. II.3.2. and fig. 25.) its sources remain unclear, for the repetitions are not found in "Composition IV" itself. However there are some repetitions in the "News" publicity, in particular from the outer to the inner areas (Cf. II.3.3–4).

Third, neither contrast nor repetition is in itself sufficient. The contrast or the repetition must itself be conspicuous, or it must be made so by the organization of the expression plane. For instance, the repetition of the vowel sound in "Barbara" seems much more conspicuous in itself than the continuity and discontinuity of Floch's consonants in the "News" slogan, because the identity exists on a much lower level of abstraction, and perhaps because it appears on the level of configurations, and not only features (Cf. III.4.1.). This is similar to Saussure's "relative motivation", which will only appear on the level of signs, i. e. still further up. The general organization of the expression plane may also contribute: this would have to be illustrated for whole texts but, when it comes to pictures, the included inclusions of the "News" and the "Panzani" publicities (Cf. II.2.3. and II.3.3.) would seem to be cases in point.

The content plane may be involved, of course. In the cases considered by Floch the only similarity between the two planes is that both hold contrasts; the same thing could happen with repetitions and perhaps other types of organization. Given a contrast or a repetition on the expression plane, *which is already conspicuous,* we will perhaps expect to find a contrast or a repetition on the plane of content as well, though not necessarily with the same qualities or categories. But the reverse case, the content determining the expression, is improbable, if there is not also a concordance of qualities. Once the quality is repeated from the expression plane to the content plane, a new contrast or repetition is not needed on the content plane as well, as could be seen in the "Barbara" case (fig. 28 c). Even features on a high level of abstraction may be picked out and emphasized in this case. Consider the famous experiment by Köhler (1947:224), in which the experimental subjects had to decide which one of two scribbles were to be called "maluma", and which one "takete". With very few exceptions, the "words" and the visual configurations were paired as shown above (fig. 29). Since then the experiment has been quoted in so many psychological manuals, that "takete" and "maluma" may by now be considered the conventional designations for the two visual configurations – conventional, because each of the words and each of the configurations is only one out of a series that might be correlated with equal justification. Thus, "takete" and "maluma" are nowadays "words" of a particular vocabulary.

Since, in the experiment, the two scribbles and the two labels were presented together, there was an obvious effect of contrast. If the analysis suggested above is correct, the relevant features, i. e. "angularity" and "roundishness", can be subsumed by one category, i. e. they will form a semantic dimension, one of the elementary dimensions of spatiality. But neither the contrast, nor the common category can explain the preference of one pairing over the other. Only the nature of the qualities themselves impedes the opposite pairing's being just as probable. Hence, there is motivation, not just the illusion of it, as Floch contends.[8] Also note that here, contrary to the cases considered above, the correlated

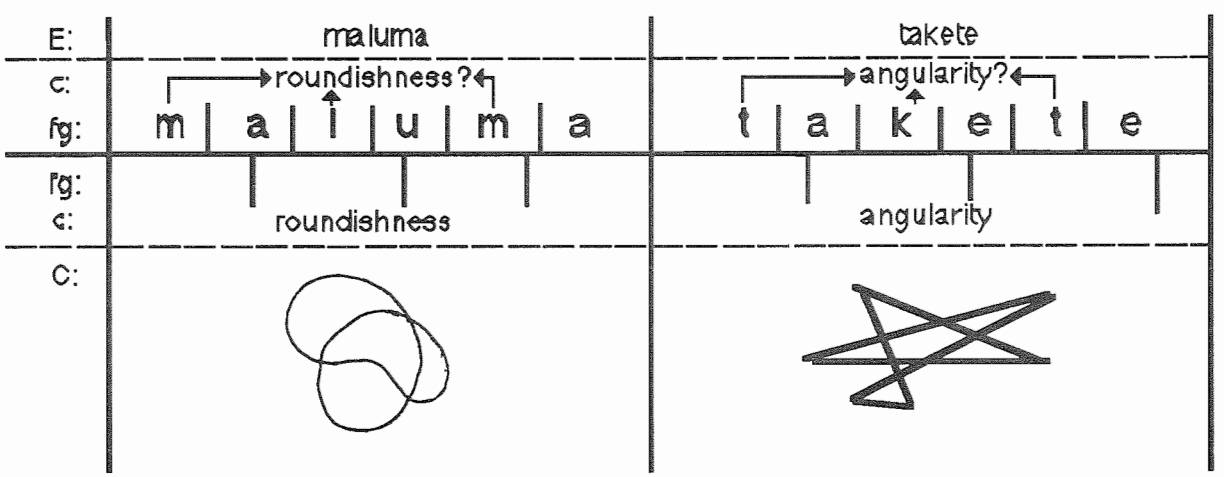


Fig. 29. Maluma and Takete. Abbreviations as in fig. 28.

categories of the content are exemplified properties, not parts, just like those of the expression plane (see criticism at the beginning of this section). Thus, there is also a kind of diagrammatic correspondence. However, whichever might be the parts of the two visual configurations, they are certainly not conformous with those of the words, so this is no symbolic system in Hjelmslev's sense; but the roundishness and the angularity, respectively, seem to be present in every conceivable part of the configurations. There is in this respect, then, more parallelism between the two planes in the present example than in earlier ones (or perhaps we should say rather that it reverses the relationship between the planes found in Greimas's head gesture example). Nevertheless, both the configurations and the words could very well be taken to exemplify a number of other properties found on other levels of abstraction, so here it is clearly seen that, as we suggested earlier (Cf. II.3.2.), the abstraction taking its departure from plastic language will only coincide with the one beginning from iconic language, if the two procedures are adjusted to each other so as to stop at a convenient point.

Two things should be noted before we proceed. All cases so far considered are necessarily of the kind discussed by Floch, in so far as they suppose the content of the plastic language (or the equivalent level of verbal language) to be redundant in relation to iconic language (or to ordinary linguistic content). The only chance of ever finding a plastic language which is not redundant in this sense consists in finding a system of constitutive oppositions, perhaps derived from "qualitative logic" (Cf. I.4.) and having their own meanings. It certainly seems possible that plastic language might say something different from, and even contradict, iconic language, and we shall return to this possibility in the next section (I.3.6.). The second thing to note is that, according to our present conception, the term "semi-symbolic system" is inadequate, because the case which has a certain similarity to Hjelmslev's symbolic system, the diagrammatic correspondence of contrasts, is only one of the variants taken by plastic language, as we have come to know it, certainly not the most common or the most characteristic one, and not, as we have seen, one that will determine a meaning of its own.

And yet we shall now go on to consider Hjelmslev's examples of symbolic systems. In fact, one of these, the onomatope, is reminiscent of the "maluma/takete" case just reviewed (fig. 29). The onomatopes, in the stricter sense, are words used for describing other sounds, as for instance the calls of certain animals, so unlike the "maluma/takete" case, they do not require the workings of synaesthesia. But contrary to what Hjelmslev seems to suggest, these words are clearly doubly articulated, using the phoneme repertory of each particular language, which is one of the reasons why onomatopes imitating the same sound will differ between languages; another reason is surely that the sound itself is captured in different parts and noemata. Malmberg (1977:116f, 288ff), who quotes the above-mentioned objection to the motivation thesis, points out that certain expressions are more probable in relation to particular contents, in French for instance "coucou" rather than "cigale" or "écureuil" for the content "cuckoo" – that is, as we said in the "maluma/takete" case, the conventional expression and content are chosen among the members of two "naturally" correlated classes (Also cf. Genette 1976 and Todorov 1972b on this whole question). As in the "maluma/takete" case, the similarities only exist at the level of features or of properties exemplified. From the point of view of its parts, the onomatope is clearly nonconformous, and thus doubly articulated.

Consider the sound made by the cock, rendered in English by "cock-a-doodle-doo", in French "cocorico", in Spanish "quiquiriqui", in German "kikeriki" and in Swedish "kuckeliku". Perhaps all these expressions, found in closely related languages, resemble the sound of the cock, as well as a number of other sounds; and perhaps the sound of the cock resembles them, while also resembling many other sounds. For our comparison, it would be necessary to possess, not only complete phonological analyses of the linguistic expressions, but also of the real sound made by the cock, not a physical, acoustic analysis, but an auditive one, telling us how it sounds to a speaker unprejudiced by the onomatopes of his language. I know of no such description, but maybe we could ask a speaker of tojolabal, a Mayan language, which apparently lacks an onomatope for this phenomena, calling it simply "the sound of a cock-or-a-hen" (See Lenkerdorf 1981:609; 1979:260). In the absence of this analysis of the sound itself, we are left to compare the extant linguistic expressions, to see what they may have in common.

All the expressions have four syllables. But of course the sound made by the cock does not have *any* syllables, because it is not articulated, not made up of phonemes which form syllables. Nevertheless, it is possible that the syllables here serve to exemplify "fourness", which is metaphorically extended to stand for all things having four parts and in particular for the rhythm which may perhaps be taken to be typical of the cock's sound. With few exceptions, the expressions are made up of open syllables in their simplest form, a consonant followed by a vowel. Again, this is not a property which could be found in the imitated sound itself; but it is the most elementary variant of a linguistic syllable, the one a language will have if it has no others, so perhaps it renders the "primitive", "unarticulated" nature of the imitated sound. But in fact, all onomatopes are built up of the most elementary linguistic means, as Malmberg (1977:289) observes. This simple nature, together with the reduplication, could even be taken to *connote* "onomatope".

In all examples, except the English one, the first, the second, and the fourth syllables all begin with the pho-

neme /k/, but of course the cock does not use any phonemes. This only means that the /k/-phoneme in these languages was the closest, *prototypical category* to which some traits of the cock's sound could be assimilated as deviant members (Cf. I.3.1.). In order to express the sound of the cock in our language, we have to take the step from an unorganized chaos (which is a chaos to us, not to the cock), like the one Jakobsons postulates before the development of language, to the linguistic system with all its distinctions. The sound of the cock is assimilated to the phonemes of our language, just as the deviant productions of children and strangers are, only that the distance is this time so much greater. But the sound of the cock is not only assimilated to the common categories of language; it is also adapted to the particular language. Thus, the Spanish cock pronounces its /r/ with the tip of the tongue, the French one usually with the root. Apparently, the sound is heard as so undetermined as to precede the relatively late distinction between /r/ and /l/, for languages differ in the assignations made to these prototypes. As for the vowels, our languages only agree on the distribution of the features Jakobson calls consonantal vs vocalic, and compact (/a/) vs diffuse (/u/ vs /i/, etc.). In other words: each part is only as similar to the parts of the phenomena imitated as it can be when projected onto a completely different appresentational scheme.

The result of all this is, anyhow, that the expression planes of the onomatopes, the words of English, French, Spanish, German and Swedish, resemble their content plane, the real sound of the cock, not in their proper parts, but in their features or attributes (Cf. I.2.4.). These attributes seem to be mostly global, non-configurational properties. In view of the preoccupations of later parts of this book, it is interesting to note that onomatopes have been designated as "linguistic iconicism" (Cf. Sebeok 1979:117 f). The onomatope, the imitation of sound by sound, has already been compared to the "takete/maluma" case, where sounds stand for visual attributes,[9] but how visual attributes render visual attributes when transferred to other object categories has yet to be investigated. According to the fascinating experiments of the Leipzig school, notably those of Volkelt and Hoffmann, the child, when first learning to draw, will render the global properties of the things pictured in a way which is reminiscent of the feature correspondences found in the onomatopes and in the "takete/maluma" case (Cf. II.3.6. and I.2.2., fig. 3.). The problem is to find something in the child's drawing and in more ordinary pictures which may be compared to the signs and phonemes of the linguistic message, on which the correlated features of the two planes are parasitic: that is, a fundamental non-conformity as a basis for this secondary conformity.

Floch, as noted above, tells us his "semi-symbolic system" is parasitic on "the natural world", just as it is on natural language. If this is the semi-symbolic system which is also called plastic language, its expression plane has suddenly been shifted from the pictorial surface, where the plastic reduction left it (Cf. II.3.2–3.), to the pictured world itself. Since we have taken pains to distinguish the kind of sign function which pictures will share with any kind of exemplification and/or self-identification (Cf. I.2.2.) from the pictorial sign proper, we are faced with two questions: is there a non-conformity between the expression and the content of exemplification/self-identification? and is there non-conformity between the planes of the pictorial function itself? Hjelmslev (1973:115) certainly tells us in a text from 1941 that painting, like music, theatre, national costumes, the symbols of mathematics and logic, signaling systems and games all obey the exchange principle, but this only means that the substitution of one unit for another on one of the planes will have consequences for the other plane (i. e. our *alter-functionality,* cf. I.1.2–3.). As for the question of the non-conformity of pictures, the examples of symbolic systems given by Hjelmslev have no direct bearing on it: for instance, Hjelmslev tells us that Thorvaldsen's Christ as a symbol for mercy, not as a picture of Christ, is a symbol system. But to see Thorvaldsen's Christ as standing for mercy is to some extent similar to taking a young girl with a sword and a charger and sometimes accompanied by a maid to stand for Judith (Cf. II.1.3.). The difference is, I think, that we have to take account of the outer horizons of the young girl to find Judith, but it is the inner horizons of Christ which we will have to study in order to find Mercy (cf. II.3.2.). We will return to this example shortly.

If there are any symbol systems, in Hjelmslev's sense, then it seems that self-identification must be one, at least when it depends on all detectable properties of the object doing the exemplifying (case III c in II.2.2.). Common sense makes us expect that self-identification, as well as the picture, should be made up of a sequence of expression segments completely conformous with the units of the content plane, as in our analysis of "Barbara" as the name of a syllogistic figure (Fig. 28 a.). These conformous units on the two planes are also thought to be qualitatively similar in the case of pictures, and identical in the case of self-identification. In fact, self-identification requires spatial identity, and categorial identity ("type identity") is a necessary though not a sufficient condition for spatial identity ("token identity"). Later (in part III), we will argue against these contentions in so far as pictures are concerned, but in the case of self-identification, they seem to be essentially correct. When all detectable properties are relevant, they will of course stand completely conformously for themselves; but the same thing must hold in the case of (proto)typical and criterial features, for here each feature will stand conformously for the class constituted by itself and some other features, which are the different approximations to the typical features, and the features normally co-occuring with the criterial features,

respectively. Also in the case of the sample (our case I a), there is a direct correlation of a few features of the expression with some properties of the content. But perhaps this is not all there is to it. Consider the case of the dummy in the show-window (case III d.), which we took to exemplify properties fairly high up in the dominance hierarchy (in the sense of I.3.1.), but not those at the apex: for instance, one of the predominant attributes of the dummy is its being an inanimate object, and that is a property that it will not exemplify.

Thus, we have introduced the idea, which will turn out to be very useful in our later discussion of the pictorial sign (in part III), that the parts of a sign, whether they are figurae or minimal signs, form a *hierarchy,* not just a sequence. Even if the units of the two planes are conformous, their hierarchy is not necessarily so. Now, it might be argued that the feature "inanimate", or whatever will dominate the hierarchy of the dummy only when it is considerred as a substance, not as the form of the sign in which it stands for a human being or, as Schütz (1967:299) puts it, in the apperceptual scheme, when it is taken as a self, not in the appresentational scheme, when it is considered as a member of a pair. But this begs the question. We have to see the dummy as an object whose predominant feature is "inanimate" in order to see it as signifying, rather than being a human being, thus avoiding the *Olympia fallacy;* that is, for the sign function to come into being the hierarchy of the expression plane has to be different from that of the content plane. We shall later (in III.6.) encounter an even more extreme case of inverted dominance hierarchy in the typical metaphor. And even the tailor's swatch must be seen as being first and foremost something other than a piece of cloth in order to function as a sample of a class of cloth having the same pattern and colour but another shape and size.

In conclusion, we have found extreme cases of self-identification to be completely conformous signs, but we have also discovered that exemplification and more peculiar cases of identification are conformous on the level of parts but not in the hierarchical relations which their defining features entertain. If we suppose the hierarchy itself to be located where Greimas and Floch put the semantic axis, since the former is a complication of the latter, the dummy will be conformous where the semi-symbolic systems are non-conformous, and vice versa. In this case, then, there is no semi-symbolic system parasitic on a doubly articulated language. And in self-identification which, in one or other of its variants, seems to be the normal case in pictures, there is simply no non-conformity at all, and so no semi-symbolic system will be needed.

But what about the pictorial function itself? We are still not ready to discuss the conformity or non-conformity of the planes in the pictorial sign; later (in part III), we shall find that the picture represents a further type of organization. But, summarizing the insights of the last three chapters, we are at least able to form a preliminary idea of where iconic language stands in relation to plastic language, on one hand, and to the natural world on the other. For our demonstration, we need a vary straightforward kind of picture, so let us consider just the inner rectangle of the "News" advertisement, which, in iconic language, corresponds to the packet of cigarettes (Cf. fig. 30).

This analysis (fig. 30) calls for a number of comments, most of which must be amplified later (notably in part III). Here we shall only note some of the presuppositions of the analysis.

The content plane of the iconical sign consists of a fixed perceptual part or noema, which should perhaps be considered part of the substance of a self-identification (as in fig. 26.). Normally, this perceptual part is simply a part factorially related to the whole, not the expression plane of a sign having the self-identification as its content plane (Cf. I.2.6.). As it was characterized above (notably case III a in II.2.2.), self-identification does not lend itself readily to the distinctions of expression and content we have been using. To begin with, we will see an as yet ill-defined object in the show-window; then, becoming aware of its criterial attributes, we will return to see it in a new light. When the self-identification is rendered in a picture, however, and perhaps in a few other cases, it seems we will recognize the object pictured rather as being of a particular kind, and then go on to note its further details (Cf. fig. 26.). Perhaps the functional roles of expression and content are really exchanged a number of times before the signification process of self-identification has come to an end. But then the process may have to start all over again, because the object, once it is identified, may be found to exemplify something, either directly or in an extended sense (Cf. II.2.2.).

A picture will normally be based on just one perceptual part (Cf. I.2.2.), but it may contain many proper parts and numerous attributes (I.2.4.). Therefore, intensional and extensional hierarchies have been introduced into the different parts of the sign. As previously (in I.3.2.), we take *extensional hierarchies* to consist of configurations which are partly coextensive, ordered according to relative inclusion; and we take *intensional hierarchies* to be built up of units which are completely coexistensive, but which differ in the attributes defining them, ordered according to the relative abstraction of the defining attributes. In the present context, we have permitted the intensional hierarchies to include the attributes themselves, but his *attributive mode* of the intensional hierarchies must still be distinguished from the *configurational mode* of the same hierarchies. Thus, "News", "packet of cigarettes" and "packet" are ever higher levels of the intensional hierarchy, but they are configurations, not attributes; and "horizontal parallelism" and "order" are increasingly abstract attributes, which are not spatially located, but which happen to be

exemplified by the configuration "rectangular shape typical of a packet of cigarettes". As noted above (in I.3.2.), the intensional level may be modified by taking account of the inner or outer context in which a unit is found, appearing lower and higher in the extensional hierarchy, respectively. For instance, the packet of cigarettes, seen in the context of the layout table, will be redefined as "one of the objects essential for the making of a newspaper", and thus may come to exemplify the active life of the newspaper ideology (Cf. II.3.4.).

We take every sign to have its *basis level,* both an intensional one, which corresponds to Rosch's use of the term, and an extensional one (Cf. I.3.2. and II.1.3.): this is roughly the level of immediate perception taken for granted by Barthes and Panofsky. But from the given extensional and intensional level, it is always (more or less) possible to climb up and down the two conceptual ladders. In this sense it could be said that pictures are "decisions withheld" (Janlert 1985:233), escaping the committals necessary to a verbal description, but on the other hand, the picture must, as we noted above, commit itself to the choice of a particular perceptual part, which is a decision avoided by verbal language. Later (in III.5.), we shall see that there are other ways, also related to the two hierarchies, in which a picture must commit itself more than a verbal message. If in the iconical sign there is a correspondence point-by-point between the intensional and extensional hierarchies of the two planes, there will be a kind of conformity between the planes (as in fig. 28 a.). But this is not sufficient to resolve our issue, for it is still possible that these units could be analyzed further into figurae.

For the moment, what is important to us here is this: in a picture (as sometimes in reality), *signs* are found *inside other signs,* not only when fruits and vegetables form a crown (fig. 7.), but also when parts and whole are related in the common Lifeworld way. Therefore, there is no reason to suppose a semi-symbolic system, as Thürlemann (1983:1393) does, when the colours brown, green, and blue of a Flemish landscape are made to stand for the distances of the objects, for the foreground, middleground, and background, respectively.

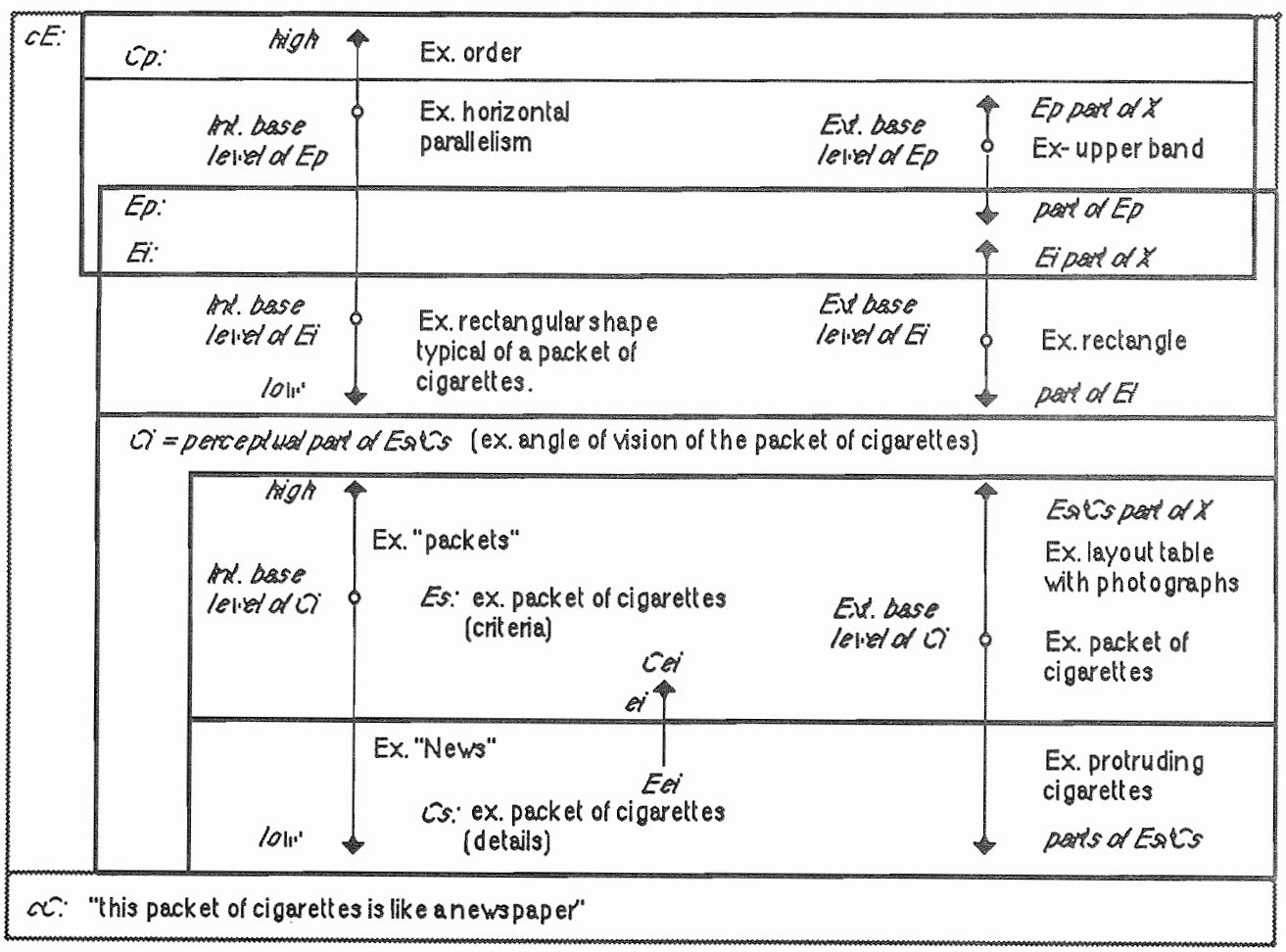


Fig. 30. The iconical sign. Abbreviations as in fig. 24 and 26 above. In addition: s = scene; Ext. = extensional; Int. = intensional.

The distances are simply properties of the objects, considered as parts of the landscape, and thus signs inside the signs for the different objects. In the case of Thorvaldsen's Christ signifying Mercy, it is not clear how it will transmit this meaning. Suppose it is the expression of the face, or the hand gesture, which conveys mercy. In that case, we have to enter the inner context of the unit identified as Christ, establishing him to be, on a lower-intensional level, a merciful Christ, and then, climbing the intensional ladder, we must take this unit to exemplify the category of Mercy (Cf. III.4–5.).

It may seem as if we should not need any plastic language which goes beyond the iconic one. And yet, in fig. 30, the expression plane of the plastic language is shown partly overlapping that of the iconic one, and, apart from the separate extensional hierarchies of the two expression planes, just one intensional hierarchy, leaping through both the expression planes and ending on the content plane of plastic language, has been included in our figure. What does all this mean?

In fact, the mercy expressed by Thorvaldsen's Christ could well be located somewhere else, on the surface of the statue. And this brings us back to the question concerning the autonomy of plastic language (Cf. II.3.6.).

In this section, we have tried to make sense of Floch's and Greimas's notion of a semi-symbolic system, comparing it to Hjelmslev's concepts of language systems and symbol systems. The discussion of Floch's linguistic example proved highly instructive, in particular when compared to onomatopes and to words which mimic visual configurations in a parallel fashion. However, when defined by a diagrammatic correspondence of contrasts, the semi-symbolic system turned out to be just one variant of a more widespread phenomenon, and in spite of an alleged example to the contrary, it seems that it can only function parasitically on other semiotic systems. When we turned to the case of the pictorial sign, we found that its planes are usually conformous, or otherwise non-conformous in an opposite way to that found in doubly articulated systems having a parasitic semi-symbolic system. As to the iconic sign itself, we were not able to decide the question about its noncomformity, but we could show some alleged examples of semi-symbolicity to be explainable from the way the iconic sign is built up. In the light of all this, the question as to the autonomy of plastic languages becomes more pressing than before.

II.3.6. The autonomy of plastic language. Taming the hobby horse

Plastic language, according to Floch's (1986:169) definition, is a semi-symbolic system, which is *visual* and *secondary* in nature. There are at least two different senses in which this secondarity could be understood. First, in a picture, plastic language is secondary because, by its very nature, a picture is a picture *of* something, i. e. a sign of some object in the world and will first be apprehended as such, once its being also a thing in its own right, a "self", is attended to. In the second place, plastic language could be secondary because it is limited to repeating part of the meaning already contained in iconic language. It is this latter sense which Floch (ibid.) is thinking of: plastic language is "un double détournement partiel" of parts of iconic content and some features of iconic expression.

There is reason to believe that plastic language must indeed be secondary in the first sense. We know from Gardner's (1982:105) experiments that children between 4 and 7 years identify the picture with its motive, calling the horse picture a horse, not, of course, in the sense of being unable to tell them apart, but failing nevertheless to attend to the pictorial expression itself, to the picture as a "self". Even though they are clearly conventional, linguistic signs join expression to content in a way which, as Benveniste once put it, is felt to be necessary by the native speaker. The transitivity of the pictorial expression plane may be even greater, if we are to believe Husserl and Wollheim (Cf. III.3.1 and 5.). Perhaps adults are less marginally aware of the sign character of the picture than children, but only to note its shortcomings in conveying the full meaning of the scene depicted. It is much less common to realize that the picture might also *add* meaning.

That plastic language must be secondary in the second sense, which is Floch's sense, is not at all obvious. But it is only if there is an autonomous content plane of plastic language, i. e. if plastic content is not redundant in relation to iconic content (Cf. II.3.2–3.), or not necessarily so, that there is any reason for attending to plastic language, in spite of it being secondary in the first sense (but see our discussion at the end of section II.3.3.). The redundancy of the plastic content is postulated by Floch, as we saw (II.3.2.), in an entirely arbitrary way. Nevertheless, it is convenient: it gives Floch a procedure for discovering plastic content (Cf. fig. 25.). If there is an autonomous content plane of plastic language, we will need a quite different procedure in order to discover the meanings it conveys. And this is in fact the problem.

Actually, there are two problems. First, we need to discover what kinds of meanings could be contained in the configurations, shapes and colours themselves. For instance, it would be important to know if they are reducible to those found in Gardner's list of modal/vectorial properties, perhaps to an extended version of that list, and in that case, if they derive their deeper significance from sexuality, or maybe, as we suggested, more generally from bodily experience (Cf. I.4.5.). But in the second place, since any visual configuration has a potentially infinite number of properties, we need to know which of these properties are most likely to be *relevant* to our experience. In other words, we would need to know which attributes and which attributes-of-attributes tend to dominate the others that are present with them in the same configuration. Let us now start with the second point.

Studying the phases of the child's language development, the stages of reduction in the aphasic and the relative complexity of the world's languages, Jakobson (1942) arrived at a series of inclusive oppositions, ordered according to both temporal and logical precedence (Cf. note 9 to ch. I.1. and I.3.4.). Gardner thought it should be possible to discover a similar system for the child's drawing ability, and the idea was at least partially implemented by Lurçat and Olivier, although they were apparently unaware of both Jakobson's system and Gardner's proposal for transferring it. Contrary to what is suggested by Lévi-Strauss's mimicking Jakobson in his analysis of cooking mythology, an opposition hierarchy derived from sources of this kind does not necessarily tell us anything about the way the relations which define the units of a particular semiotic system are organized hierarchically at the present time. In the case of phonology, the *structure* of the particular language will change that. Perhaps drawing ability remains closer to the original source of development, since it is not reorganized by different national systems, at least not in an obvious sense (But see Gardner 1980:160 f.). However, even if we suppose the hierarchy defining the units of the adult's plastic language to parallel that derived from the temporal development of the system in the child, the analogy should be based on the phases of development, not of the child's drawing ability, but of his capacity to interpret drawings. The phases could well be different, among other things because drawing ability also requires manual dexterity. Unfortunately, relatively little is known about this question.

The only study which I have been able to discover having a bearing on our problem is Lotte Hoffmann's (1943) investigation into how children, between 2,2 and 9,7 years of age, behave when they are urged to imitate some simple geometrical configurations using ready-made material, like sticks, plates, and rings (some relevant studies are also quoted in E. Gibson 1969:377, 411 ff.). Explanations from the child's limited manual dexterity could be ruled out because of the ready-made material used for the task. In addition, to submit the same configurations to the observation of both children and adults at a more rapid speed, Sander's actualgenetical method was employed (Cf. I.3.4.). From this rich and thorough study, only a few results, which are of particular interest for our present problem and for those taken up in our third part, will be extracted and commented upon in the following paragraphs.

The configurations used by Hoffmann are deprived of all directly iconic content, i. e. they are "sachsinnfrei" (p 19), not suggestive of any real-world object. Hence, there is no risk that the child will imitate his own idea of the object which he takes the configuration to represent, rather than the configuration itself. The point of departure, therefore, is a set of 19 simple, geometrical configurations, differing in properties, such as being roundish or angular, open or closed, internally articulated or not, etc. (Cf. fig. 31.). The objects which must be used in the imitation task are also of different types: sticks of various lengths, rings, half-rings and 3/4 rings having different diameters and differently proportioned plates, which are either round or quadrangular. By combining the sticks, and sometimes also the rings, it is possible to arrive at faithful imitations of the configurations which are presented to the experimental subjects; however, there is no object which on its own reproduces the whole of a configuration, and none of the plates corresponds to any parts present in the configurations. Both the configurations to be presented and the objects used for imitating them are obviously chosen so as to manifest a small number of spatial dimensions, which are not quite the same in the two cases. The task is therefore to discover a mapping between two different, but partially overlapping, structural systems. The choice of dimensions embodies a hypothesis on the part of the experimenter as to the potentially relevant properties employed in this mapping. That the hypothesis is confirmed does not prove that there are no other, relevant dimensions.

The children resolve the problem in different ways. The youngest children, 3–4 years of age, contribute what Hoffmann (p 39 ff) calls "Etwaslösungen", i. e. the solution through anything whatever. When presentation is actualgenetic, even older children will do the same. Here Hoffmann fails to find any property held in common by the configuration and the sole piece employed in the imitation, concluding that wat is important to the child is to *do* something, no matter what, in response to the presentation – in semiotical terms, the act of stating and not the statement matters (It is possible, of course, that there *are* properties less abstract than being "anything whatever", which the configuration and the object have in common, and which do not become relevant to the adult, or at least not to Hoffmann and me). Interestingly, no matter the configuration imitated, the objects used are predominantly the round ones and those which are compact rather than those having contours.

Later the child will produce "Sowaslösungen" (p 55 ff), using again only one piece, not to imitate proper parts of the configuration, but to render properties, or attributes, of the configuration, such as being closed, angular, pointed, having holes, and so on. Even though all configurations have contours, and some are angular, the child will often choose objects to imitate them which are compact and round, and which have some other property in common (p 56 ff). Also, faced with a configuration which is like a 3/4 ring with a point standing out or entering the circle, the child insists on using a complete ring, telling the experimenter the configuration is "kaputt" (p 76). No doubt, then, the child *sees* much more than it renders, but certain properties are more conspicuous; in our terms (Cf. I.4.6.), this is a question of *relevance,* not of *pertinence* (p 82 ff).

At further stages, many pieces will be used, rendering sometimes the *number* of parts, but not their shapes;

and sometimes corresponding to different properties of the configuration (p 94 ff). The quantities are of course physiognomic: a zigzag line, which really has three horizontal and three diagonal parts, will be rendered, in many cases, by three round, compact pieces.

Sometimes, the child will pile, spread out or put in a row a number of pieces of the same type; in this case, it is often the gesture of moving the objects which is expressive of the child's experience (p 102 ff). When the configuration to be imitated has the character of a row, this property will be exaggerated in the child's version (p 120 f). Most of Hoffmann's configurations are continuous, either because they are closed, or because they are made up of lines, and the child often uses round objects to express this general property of "Etwas Ringsherumgehendes-überhaupt"; and/or he calls the configurations round (p 126 f). Even in order to construct his row, the child prefers round objects (p 129 ff). But when the child tries to follow the contours of the configurations in his construction, there are really two tendencies which he has to overcome: the one to create a roundish shape, but also the one to continue straight on for ever (p 147).

Later, the objects are combined so as to form configurations having an articulation, i. e. "gliedernd-fügende Gestalten" (p 157 ff).[10] In the case of the latticed square ("Gitterquadrat"; cf. fig. 31), the solution will be of this kind, not when something case-shaped or hollow ("etwas Gekästeltem oder Löchrigem") in general is expressed, nor when the presence of these properties in a delimited area is rendered, but only when a particular way in which these properties are present together has found expression. In some solutions, only part of the articulation has been rendered and there are different degrees of closeness to the imitated configuration. Even at this point, however, many of the imitations are not at all similar to the configuration supposedly reproduced, not, that is to say, in their particular internal and external articulation (Cf. I.3.4.). As before, these solutions will take up some of the global properties found in the configuration they are supposedly imitating, but they will distribute them in different ways, organizing a new whole with an articulation completely foreign to the original configuration (p 159 ff). How is this possible? Perhaps the real question is how it can ever be avoided. Both kinds of configuration are, according to Hoffmann (p 160), based on the child's actual experience of the things around him, his interaction with them, including the qualities of feeling he attributes to them. The problem will therefore be to separate what belongs to the object from what is the subject's part, and also to distinguish the variable from the invariant – which is, in part at least, Piaget's problem of egocentricity. If operativity is experience projected onto a scheme, as Piaget has argued, and if figurativity, in a parallel but inverse fashion, is this same experience projected onto the body (as suggested in I.4.5.) then it seems Hoffmann's two types of configurations may be distinguished by being relatively more and less dependent on operativity and figurativity, respectively (A few typical examples of the children's production at different stages are reproduced below, in fig. 31:).

Before we go on to develop this suggestion, it will be necessary to make some more simple observations. It is clear that, for the child at least, certain properties will stand out in a configuration, notably those of roundishness and compactness. Not only that, but the compact, perfectly round object is used to stand for a number of configurations, which differ from it in numerous ways, and in spite of the child being aware of the differences, even to the point of telling the experimenter the original is "kaputt". Therefore, this round, compact object seems to function like a *prototype,* a "best form", to which more deviant cases are assimilated (Cf. I.3.1.)

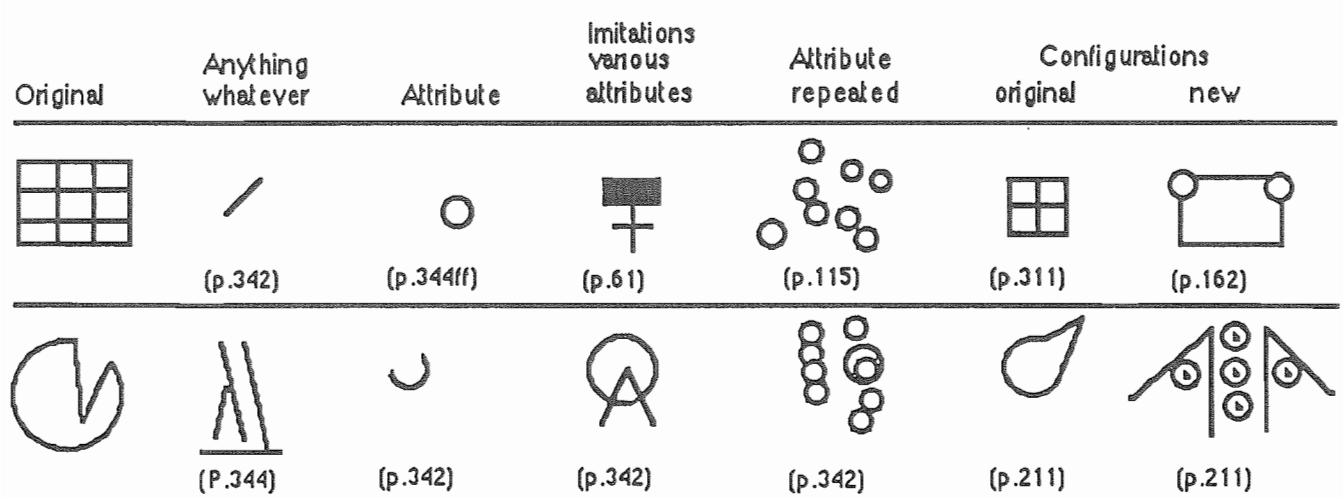


Fig. 31. Different stages of imitation pertaining to two of Hoffmann's configurations. In a few cases, the interpretation is the present author's.

which, by the way, corresponds to our interpretation of Jakobson's law (Cf. I.3.4.), according to which the child has a few phonemes standing for many adult ones. Unfortunately, Hoffmann's indications are insufficient to build an hierarchy as complete as Jakobson's one, but at least we can sketch a provisional model (fig. 32). However, there is no clue to the interrelations of the last two stages of the model in Hoffman's work, so perhaps the precedence should be reversed. The interest of fig. 32. is, as often in this book, to suggest a principle.

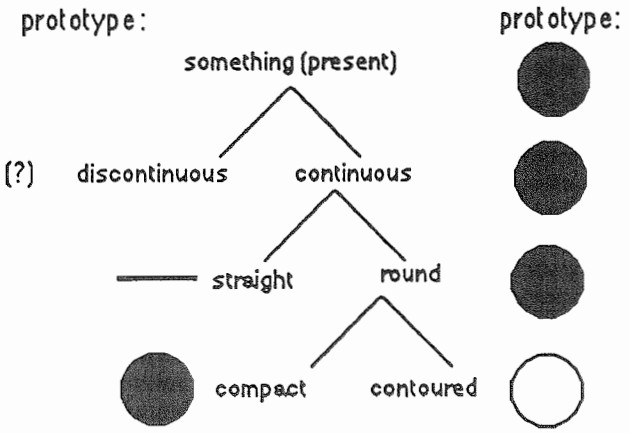


Fig. 32. A prototype hierarchy for planometric configurations (as suggested by Hoffmann's work).

The principle suggested, in the present case, is that of an ever further differentiation of prototype categories, beginning from very gross distinctions. At a stage when they distinguish straight and round configurations, imitating the first with a stick and the second with a ring, Harry and Mimi disagree about the classification of a few configurations, relating them to different prototypes (Cf. fig. 33); but later they end up with rather similar imitations (Cf. p 89, 343, 345). Unfortunately, Hoffmann's material does not permit us to see if there are any further categories which emerge before the reproduction of the individual configurations is attained. In general, many more investigations of Hoffmann's kind would be needed to complete our feature hiearchy (in fig. 32). However, we know from other sources (Rudel & Teuber quoted in E. Gibson 1969:377), that the straight line will be rapidily differentiated into the horizontal and the vertical, but that the two directions of the diagonal are hard for the child to distinguish. But the vertical, the horizontal and the diagonal (perhaps in that order, cf. Gibson 1969:376 f) also serve as prototypes in adult thinking, according to Rosch (1975 b).

All this should remind us of Gombrich's (1963:1 ff) hobby horse, brought back into the discussion of iconicity by Eco (1976:349 f). At first, Gombrich (p 3 ff) tells us, a simple stick will serve as a horse to the child, not because of any similarity, but because it has the property of being "ridable" in common with the horse, just as the ball as well as the mouse are "chasable" to the cat. This is similar to Hoffmann's "Etwaslösungen", where properties outside the configurations to be imitated decide the correlation. Eco, however, thinks the stick and the horse are both linear and extended, but he also finds the same property in the sword and the sceptre, which the stick may in fact also stand for in symbolic play. These are obvious "Sowaslösungen": Eco's linearity is the fact of having one more conspicuous dimension, what we could call *dimensionality,* and the other feature is Greimas's *superativity* (Cf. II.2.2.).

Later, Gombrich suggests, the stick will be outfitted with some grass to serve as a mane, something else to stand for the eyes and so on: portrayal comes after mere substitution (p 5). In Piaget's opinion, indexicality precedes iconicity (which precedes conventional signs), as we have already noted (in I.2.5.; cf. Piaget 1945; 1967b; 1970; and Fein's contribution to Winner & Gardner, ed. 1979). But indexicality to Piaget is what we have called an *actual perceptual context* (case Ia of I.2.5.), for instance, the presence of the rattle with the string attached to it. And the stick will be present with the action of riding only once it has been discovered to

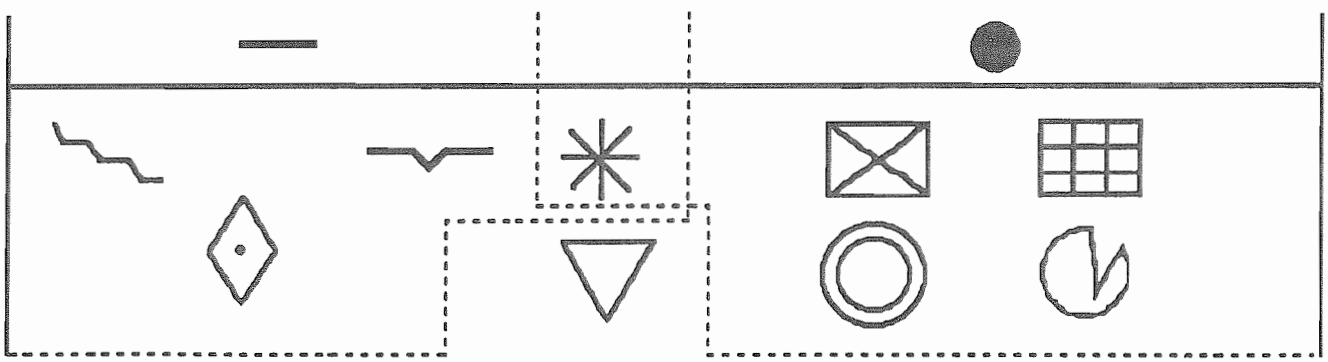


Fig. 33. The different borders of prototype categories in the imitations of Harry and Mimi (Cf. Hoffmann 1943:89, 343, 345).

be one of the class of "ridable" objects, where "ridable" is itself a perceptual quality, one of these subtle invariants which, as the Gibsons would have put it, are not easily rendered in words. It may be, then, that similarities are discovered in action long before they can be reconstructed, and often also expressed in action, as when Hoffmann's children throw the objects on the table, spread them out, etc. (Cf. above!) We will return to these questions in later parts of this study (notably in III.4.).

So far, we have apparently been concerned with iconic language and its deficiences in children's imitations. But suppose the same feature hierarchy (fig. 32) is valid even when the features in question are not employed iconically. Then features like discontinuity vs continuity, straightness vs roundness, compactness vs contouredness, etc., should be prominent among those dominating any configuration, at least if there is nothing in the structure of the display itself to change those dominance relations. If we consider angularity to be a composite form of straightness, and if we accept the merely simulated contouredness of the including part, the Panzani advertisement contains all the primitive distinctions of our feature hierarchy (cf. II.2.3.); though the continuity and discontinuity of parts in the Panzani advertisement are not so easily identified with the continuity and discontinuity of lines in Hoffmann's configurations. On the other hand, if the latter continuities and discontinuities are equivalent, on some abstract level, to those found by Floch in the "News" advertisement (Cf. II.3.3.), the dominant position of these oppositions, postulated by Floch, has been confirmed by our feature hierarchy. If so, we are still left with the question as to the *meaning* of the opposition.

This brings us back to the second problem of this section: what meanings are attached to plastic language? Suppose that, of the many properties possessed by a particular configuration, it is its roundness which is exemplified, or its discontinuity, or its particular variant of waviness, but what do these properties then tell us? Does roundness always signify formal perfection (Cf. II.3.1.) or femininity (Cf. I.3.4.); is discontinuity always a sign for identity (Cf. I.3.3–5.), and will the particular variant of waviness each time point to a given quality of feeling? Perhaps it is not necessary to go any further; perhaps there will be enough "plaisir du texte", as Barthes would have called it, simply from recognizing the elementary qualities of child experience. Or perhaps there is an autonomy of plastic language only as far as simple exemplification is concerned, whereas what Goodman calls metaphoric exemplification (Cf. II.2.2.) must be determined from another source, maybe "anchored" by iconic language, as in Floch's analyses (Cf. II.3.2.). Like Floch, the psychologist Perkins (1981: 125 ff) found contrasts, though not necessarily binary ones, to be useful in fixing alternative meanings. It is difficult to decide which feeling is expressed by an isolated, wavy line, but given a series of differently undulating lines and a set of labels like "peaceful, afraid, happy, angry, lonely", etc., the mapping is much easier to accomplish. But now all autonomy of plastic language is again compromised: Perkins points out that the comparison will bring out new features of the lines.

And yet, the choice has to be made between the meanings which are already *potentially* in the lines; this is *relevance,* not *pertinence.* Perhaps there is a nebulosity of meanings associated with each property or configuration. Arnheim (1966:70 f) cites experiments purporting to show that angular lines stand for the exciting, the furious, the hard and/or the powerful, while curves signify something sad, quiet, lazy, and/or merry. Rising lines, we are also told, mean strength, energy, force; and descending lines stand for weakness, lack of energy, and depression. Here it is not clear if all these meanings depend on a single, global property of the lines, or if they hinge on different attributes of these attributes; nor are we told if they are due to angularity, roundness, and so on, or only to lines exemplifying these properties. A few semioticians have been concerned with these problems. With the help of the semantic differential, Lempp (1983 a, b) studied the textures of different paper qualities, finding the difference between roughly and finely textured ones to be the most important: the latter are felt to be passive, obedient, light, weak, small, and so on, while the former are active, powerful, dark, etc; and diagonally oriented textures are more active than horizontal and vertical ones, and vertical ones are more active than horizontal ones, other things being equal. In a similar way, Lindekens (1971:121 ff, 142 ff) investigated which meanings where attributes to different typographical styles and to elementary geometrical shapes appearing in trade marks: in the latter case, the circle was found to be soft, dynamical, friendly, natural, unified, and so on, and the square was adult, serious, statical, closed, elaborated, frank and massive, among other things.

Lindekens (p 171 ff) also tried to find differences in the meanings suggested by the same photograph, showing for instance a human eye, when it was developed, so as to be more or less nuanced or contrasted (Cf. I.3.4.). Apparently unaware of this, Espe (1983 a, b) made the same type of experiment, using different kinds of motives, such as a landscape, a person, and a tea pot. He found clear changes in the meanings transmitted, but they interacted with the motives in many cases: when the photograph was made light grey, the landscape and the teapot were felt to be uncontaminated, familiar, and clean, but the girl now appeared to be contaminated, uncanny, and dirty ("steril-vertraut-sauber" and "verseucht-unheimlich-schmutzig", respectively; cf. Espe 1983 a: 106). It will be noted that the properties concerned are here attributed to the motive, so from the point of view of the interpreter, there is no plastic language, but only an iconic language, whose meaning de-

viates from that of the real-world referent. Moreover, Espe (1983 a:94) conceives of his experiment as an argument against the tautological relationship which Barthes takes to be intrinsic to the pictorial sign (Cf. II.1.4.). But it is not obvious that plastic meanings *must* be absorbed into the iconic content, even admitting that the border-line will never be very clear in the case of a picture.

Gardner (1971; 1973 b) has conceived of artistic value, along Goodman's lines, as depending partly on exemplification, both ordinary and metaphorical (Cf. III.2.4–5.). Here, it is the pictorial surface which does the exemplifying. Actually, Goodman (1968.47) points out that a feeling exemplified is not necessarily the one felt by the motive or the viewer. Thus, plastic language is here separate from iconic language. Carothers & Gardner (1979) have investigated children's sensitivity to qualities thus exemplified, for instance by having them complete almost finished drawings. Sensitivity to degree of brightness emerged first, with sensitivity to line thickness arising later, followed by sensitivity to shading. The children's capacity to capture expressiveness, or metaphorical exemplification, was low at the beginning but developed steadily. The latter dimension was tested by having the children add a tree to a happy and a sad scene. The emotions concerned here were clearly as much expressed in the motives as in the way they had been drawn: bad weather, a sad man, and a closed-down house, in the sad scene, for instance; but in the case of the tree, only a plastic expression of feeling is possible.

At first, it seems strange that children should be so insensitive to plastic language, both because it has so far appeared to be their special domain, and because children are in fact more likely to note details irrelevant to the task (Cf. I.4.4.). It might be suggested that the children's real problem in the completion test is to understand that the same property is to repeat itself all through the drawing, in fact, that in Floch's terms the drawing is to be a semi-symbolic system (Cf. II.3.5.). But Carothers & Gardner used other tests too, and anyhow, on second viewing their result agrees perfectly with what we have seen at the beginning of this section, that at first very few properties will stand out as conspicuous. Perhaps Carothers & Gardner are really studying the reverse end of the feature hierarchy emerging from Hoffmann's experiment: those properties which it will be possible to attend to when discontinuity and continuity, straightness and roundness, compactness and contouredness, and so on, are long since assimilated to experience!

So where does all this leave us? We have seen that there is some, though very limited, evidence as to the feature hierarchy prevailing in visual displays, notably from the work of Hoffmann, and perhaps from that of Carothers & Gardner. As for the further meanings, more relevant to life and experience, which are associated with these attributes, very little is known as yet. In general, we need more experiments to elucidate this and the results could thereafter be tried out in text analysis. For the moment, the autonomy of plastic language remains a plausible hypotheses, nothing more. And apart from the rather vague suggestions of this section, the properties attributed to plastic language in the analyses of the present work can have no firmer basis than simple participant's intuition.

II.3.7. Summary and conclusions

For the bulk of this chapter, we have been concerned with the discussion and evaluation of Floch's work and of the consequences to be drawn from it. There can be no doubt that Floch has made one of the most important and enduring contributions to pictorial semiotics, but a number of problems have nevertheless emerged from our treatment. But to begin with, plastic language, the theme of this section, was related to connotation, which is what all this second part is about, and to iconic language (which will be discussed in part III) by means of some examples suggested by Groupe μ and by Calvet (II.3.1.). The relationship between connotational language and plastic language will be taken up again in chapter 4 of this part.

We then followed Floch through his analysis of one of Kandinsky's paintings, "Composition IV", discovering the similarities of Floch's *plastic reduction* (as we called it) and Sedlmayr's well-known "macchia" technique as applied to Bruegel's work. While the plastic reduction appears to be an interesting procedure, the way Floch employs it unfortunately supposes – very counter-intuitively, I think – that plastic language must necessarily be redundant in relation to iconic language (II.3.2.). Further properties of plastic language were discovered in the subsequent section, where we tried to find out what Floch was really doing in his analysis of the "News" advertisement. First, we learnt something from Floch about the way the pictorial surface is organized so as to convey a secondary content, i. e. plastic content. Then, pointing to some errors in Floch's observations, we showed that the organization in question was essentially a *configuration,* comprising subconfigurations having different degrees of prototypicality, not a *structure* (II.3.3.). After that, we turned to iconic language, only to find that this was the blind spot of Floch's analysis. Instead, we showed that the pictorial surface of the "News" advertisement forms a pictorial metaphor, telling us something about the cigarette brand, not only through the similarities of the two relata, but also by means of the differences, pointed out in the preceding section (II.3.4.).

The last two sections of this chapter are concerned more exclusively with theoretical issues. Floch's and Greimas's notion of semi-symbolic systems is reviewed in the light of Hjelmslev's distinction between language

systems and symbolic systems, and is also related to the more traditional discussion of motivated signs in linguistics and psychology. We argue against the existence of primary semi-symbolic systems, like Greimas's head gestures, while we place the secondary, "parasitic" ones among a wide range of partially motivated semiotic systems (II.3.5.). Finally, arguments for the autonomy of plastic language are assembled from semiotics and psychology, suggesting a provisional fragment of its intrinsic feature hierarchy, but it transpires that much further research is needed (II.3.6.).

With this background, we return in the following chapter to the sources of the semiotical concept of connotation in order to conclude, among other things, on its complex relationship to plastic language.

Chapter II.4.
The classical theory of connotation

"La connotation n'est rien d'autre que la forme de la denotation."

Metz 1970:406

The present chapter will have to accomplish two tasks: first, it must justify the interpretation made earlier of the semiotical concept of connotation from the analysis of Hjelmslev's own text (Cf. II.1.2.). And, second, it will have to develop this concept, so as to show its relevance also for pictorial semiotics.

We will start gently, considering the way Hjelmslev's concept has been interpreted by the cinema semiotician Christian Metz (II.4.1.). From there we go on to construct a model of the intuitive foundations on which Hjelmslev's theory is built, which turns out to be, among other things, the heterogeneity of meanings, well before Garroni introduced that concept into semiotics (II.4.2.). But the basic principle of connotation, considered next, is the dialectic of the invariant and its variants, as is shown from a consideration of Hjelmslev's own examples (II.4.3.). We end this chapter with a discussion of some remaining problems in Hjelmslev's conception of connotation, pertaining in particular to the suggested parallelism with metalanguage (II.4.4.). The concluding considerations will then prepare us for the approach to iconicity initiated in the third part.

Before we enter the body of this chapter, some further presuppositions resulting from our earlier discussion (in II.1–3.) should be noted. Often, in earlier chapters, we have been tempted to identify the plastic layer of the pictorial sign with connotational language, an identification which is certainly suggested by some of Barthes's examples, by Genette's literary ones, and by many others. We have already noted the difference many times (see for instance II.1.2., II.2.2., II.3.1., II.3.4. with fig. 26., and II.3.5. with fig. 30.), although the task of spelling it out has been left for this chapter. Nevertheless, it is important to take account of the conceptual confusion which looms behind this identification. Its fundamental condition of possibility is of course that the expression plane of connotation, like that of plastic language, is taken to be identical with, or to overlap, that of denotational language. This is a sophisticated confusion, unlike that of the four notions of connotation (cf. I.1.2.). In fact, many of Hjelmslev's examples at first seem to lend themselves to such an analysis, and so do those of Kerbrat-Orecchioni's examples which are Hjelmslevian in spirit (Cf. I.1.2.).

The escape out of this confusion leads into an ever deeper one. Sven Johansen (1949), in a *Festschrift* for Hjelmslev, affirms the existence of four kinds of connotation, having as their expression plane different parts of the denotational signs: the expression substance, the expression form, the content substance and the content form respectively. In addition, there are complex connotational signs, depending on more than one of these strata for their expression. Johansen's examples of the simple connotational signs are rhyme, rhythm, semantical licence, and syntactical licence, in that order. Complex connotational signs are, for instance, Hjelmslev's connotation "Danish", and the difference between "cheval" and "coursier". According to Johansen, his simple connotational signs are what Hjelmslev himself calls "signals". This conception was developed in the early work of Trabant (1970). If it is true, plastic language will only be one of the possible variants of connotational language, the one being expressed by the expression plane of the denotational sign, by its form or its substance. But then perhaps, one could surmise, the variant expressed by the content is our stylistic connotation (cf. II.1.2.) as suggested by Johansen's examples.

In her confused study of connotation, Rössler (1979:29 f) maintains that Hjelmslev has distinguished "indicators", which are connotations resulting from the denotational form of expression, and "linguistic indices", which depend on the denotational form of content. She cites as examples of the first type the /r/ phoneme pronounced with the tip of the tongue, as well as the lack of nasalized sounds in Provencal dialects, while the choice between "les mallons" and "les carreaux" is said to be an example of the second type. Substantial connotation is ignored in her book. However, the different pronounciations of the /r/ phoneme are in fact differences of substance, since they are not alter-functional in French, and so is the lack of nasal vowels in Provencal, if the latter is taken to be a dialect of French. But this is not the most serious error of this passage.

If I am not mistaken, both Rössler and Johansen use the terms "signal" and "indicator" wrongly, and Röss-

ler's second term, "linguistic index", is unknown to Hjelmslev. An *indicator* is a part that

"indgaar i funktiver saaledes at disse faar indbyrdes substitution naar disse dele fradrages, og som under givne betingelser genfindes i samtlige funktiver af en given grad /enters into functives in such a way that these have mutual substitution /i. e. become equivalent/, when these parts are removed, and which under given circumstances are found in all functives of a given degree/" (Hjelmslev 1943:104).

After this definition, Hjelmslev adds that there are two kinds of indicators: signals and connotators. A *signal* is an indicator which may be univocally assigned to only one plane of the language where it appears, whereas a *connotator* is always encountered on both planes of the language. Signals have been discussed much earlier in the text (p 65 f), where the example given is the different word order of the main clause and the subordinate clause. These can be treated as variants of the same invariant proposition, if the difference of word order is merely considered a signal of their identities.

To Hjelmslev, then, *signals* are not *connotators,* but merely phenomena having in common with connotators the property of impeding denotatively identical signs from being completely equivalent, i. e. the property of being *indicators.* Judging from the terms, a *connotational* language should also be expected to contain *connotators,* not *signals.* More importantly, since connotational language is defined (p 101) as a language having another language as its expression plane, signals, which are said to be univocally assignable to just one plane of the language (p 104), are certainly not involved in connotation. In fact, "main clause" and "subordinate clause" are neither expressions nor contents of denotational language, and the same thing is true of their differences of word order, or at least so it might be argued. Being a main clause is a property a series of words may have, considered as a part of a discourse, and having a particular world order is a property of the word constellation itself, but none of these properties are necessarily exemplified, just as a tomato may be Italian without exemplifying it (Cf. II.2.2.). To the linguist, the word order may come to exemplify or, as Hjelmslev puts it, signal the main clause, but then this will be a primary sign! Or at least, in this way Hjelmslev's reasoning could be reconstructed.

Having thus avoided the conclusion that there are connotational signs based on either expression or content alone, we now realize that both planes of the denotational sign must be involved in each connotational sign. And that makes a lot of difference to plastic language which, for its meanings (except perhaps for choosing among them, cf. II.3.6.), is independent of denotational language. And yet, there could perhaps be cases in which the expression or the content is the important element in bringing about the connotation. We will return to this question in the body of this chapter (notably in II.4.3.).

II.4.1. Metz on Hjelmslev on connotation

In an early discussion of connotation, Metz (1970:404) tells us that cinematographic connotation must always be "symbolic", apparently in the sense of Romanticism: "le signifié motive le signifiant mais le dépasse". The kiss that ends the film stands for love and marriage, but there is more than kissing in love, just as the cross which signifies Christianity does not exhaust its meaning. Later in the same article, he goes on to say (p 406 f) that in a film denotation and connotation cannot be distinguished, being based on the same units, so that grammar and rhetoric are one. Connotation, he argues, is the *form* of denotation (here "form" should probably not be understood in the Hjelmslevian sense): in order to denote simultaneity, a film may employ a montage showing various happenings consecutively or alternatingly, and these will connote differently. The film maker has many more options in choosing the connotation than the speaker of a language, because he can construct the denotation for himself.

These examples and considerations hardly appear compatible. The first example points in the direction of stylistic connotation; the second may possibly correspond to the semiotical concept (Cf. II.1.2.). In another article, where he sets out to criticize not only the coherence of Hjelmslev's theory and Barthes's interpretation of it, but also his only earlier conception, Metz (1973:163 ff) only appears to retract one of the affirmations reported above: that the same units are responsible for both denotation and connotation (in the cinema). Earlier, he now tells us, he thought the denotative content was the object which had been filmed and could be identified, but the way of filming it was the denotative expression, and both these together formed the connotative expression, its content being a particular style, an atmosphere and so on (Cf. Metz 1968:83, 100). But to talk in this way about "la façon de filmer", Metz claims, is to beg the question: only because schemes of connotation have been integrated into the denotative expression beforehand will there be a connotative content, as is the case of the lighting having a particular symbolic value. Otherwise "l'objet sera identifié mais non connoté, il n'évoquera rien au-delà de lui-même" (p 165). Therefore, Metz concludes, the denotative sign is not enough to form the expression plane of connotation, but an autonomous connotative expression is needed.

The introduction of a particular term, "connotator", for the expression plane of the connotative sign, could be taken to suggest that Hjelmslev too would recognize the presence of an autonomous connotative expression, beyond the denotative sign. But in spite of this interpretation being very widespread (no doubt because of Barthes 1964 a:165), Metz thinks he can show that the connotator is the content of the connotative sign, not its expression. This is unclear in Hjelmslev's original formulation, Metz thinks, but later passages dissipate any

doubt. Thus, the presence of this term cannot be used to argue that Hjelmslev recognizes the autonomy of connotative signs.

And yet, according to Metz, there are justifications for two different interpretations of connotation in Hjelmslev's text. The first, which is traditional and uninteresting in Metz's opinion, could be based on examples like "Danish" as a connotation of Danish language (or "French", as the French translation and Metz would have it). Here, Metz affirms, as in Hjelmslev's list of examples (for instance dialects, sociolects, poetical style, and so on), it is really the denotative sign which is responsible for the connotation.

More interesting is, in Metz's view, the second possible interpretation, which takes its point of departure from Hjelmslev's affirmation that in the analysis of denotative language,

"framtræder de tegn, der kun er forskellige ved at være solidariske med hver sin konnotator, som varieteter /those signs, which only differ in being solidary with different connotators, appear as varieties/" (1943:104: cf. p73f)

– that is, as Metz (p 167) correctly notes, not as free variants, but as variants conditioned by the context of appearance. In this case, Metz maintains, the expression plane of connotational language is not constituted of the entire denotational language, but only of particular parts of it. Further justification for this interpretation he finds in the passage where Hjelmslev (p 104 f) says that

"den solidaritet, der bestaar mellem givne tegnklasser og givne konnotatorer, er en *tegnfunktion*, idet tegnklasserna er *udtryk* for den paagældenen konnotator som *indhold* /the solidarity, which exists between given sign classes and given connotators, is a *sign function*, in that the sign classes are the expression of the connotator in question as a content/".

Although the French translation quoted by Metz here renders correctly the Danish original, Metz in his subsequent argument talks about "certain signes" instead of "certaines classes de signes". In a moment, we will return to criticize this interpretation; for the present, however, it must be noted that Metz here claims the connotative expression is *part of* the denotative sign not, as seems to be required in other parts of the article, something *more than* the denotative sign (see above)!

No matter what Hjelmslev wants to say, it is the second interpretation which is of interest, Metz affirms. Connotation is somehow analyzing a second time the "text" of denotational language, choosing certain segments and combinations of segments for its expression. It is not true, as Metz had argued before (see above), that connotation is the form of denotation, for connotation has a form of its own. Only the matter of the two signs will coincide, and this "coincidence matérielle" (p 168) is the cause of the many confusions criticized here by Metz. What denotation offers connotation is not a basis for its expression but for its content, but because of the correlation between the two relata of the sign, also expression will be affected (p 169). In a film, therefore, a cinematographic style is a bifacial unit, a language of connotation having contents of its own (evocative force, different resonances, ideological implications, and so on) and expressions of its own: the choice of film quality and objective, the angles of vision, the movements of the camera, the montage schemes, etc. The connotation is always the connotation *of* something: if the film is said to "baigne/r/ dans un climat de tristesse", this gloominess cannot be separated from a particular object reproduced in the film, as part of the story (p 170). Only "texts" which are "figurative", i. e. which reproduce reality, can have a denotation distinct from connotation, for the first level must exist, at least as a theoretical possibility, if the second level should come into being.

Metz has admirably analyzed Hjelmslev's conception, confronting it with examples of pictorial signs but, unfortunately, his many deep insights are stained with serious confusions. Metz is probably not sufficiently familiar with Hjelmslev's concepts, introduced in earlier chapters of the book and employed here, for he obviously misses some essential points. He does not seem to use the term "form" in Hjelmslev's sense, and the distinction between "form" and "substance", essential in the section on connotation, as in Hjelmslev's whole work, is not given its due. It will be remembered that, to Hjelmslev, *form* is that part of the expression plane which cannot be exchanged for another without bringing about a complete change of the content plane, and vice versa; and *substance* is all the rest of the sign, that which is not relevant or pertinent (Cf. I.1.). Another way of expressing the same thing is to say that the form is the *invariant*, and that the substances are the different *variants* in which the form may appear. Therefore, the semiotic function is made up of a *solidarity*, i. e. a relation of mutual presupposition between the *form* of expression and the *form* of content, excluding their respective substances. Between each one of the forms and the class of substances corresponding to each one of them, there is only what Hjelmslev calls *selection*, which means that the form is a necessary condition of the substance, but not the reverse (Cf. Hjelmslev 1943:21 ff; 1959:44 ff.).

Suppose that there are two ways of denoting simultaneity in a film, as Metz tells us: a montage showing various happenings alternately and a montage which shows the actions following each other. In ordinary language, this could well be described as two "forms" of the sign, but in Hjelmslevian terminology it will be just the reverse, two substances! For if they both signify the same thing, as Metz supposes, these montage types are simply two variants of the same sign, having identical pertinent (or relevant) features, i. e. the same form. Hence Metz's later criticism of this phrase, where he seems to take the term "form" in Hjelmslev's sense, is beside the point.

In the light of what has been said so far, Hjelmslev's

introduction of the term "connotator" is not as unclear as Metz maintains. After giving a list of different connotative signs, such as styles, genres, idioms, slang, national languages, dialects, and physiognomies, Hjelmslev says that

> "de enkelte led i hver af disse klasser og deras kombinationsenheder vil vi benævne *konnotatorer.* Af disse konnotatorer kan nogle være solidariske med givne sprogbygningssystemer, andra med givne sprogbrukssystemer, andra igen med begge dele /the individual terms of these classes and their combinatory units will be termed *connotators.* Among these connotators, some will be solidary with given systems of language construction, others with given systems of language use, yet others with both of them/" (1943:103).

We have already been told that the expression plane of connotative language is the denotative language, and that which is solidary with an expression is, according to the definition of the sign function, a content. Thus, not only in the passage cited by Metz, but in this introductory paragraph and in a number of contexts where the phrase "solidary with" appears, we are explicitly told that the connotator is a content. So far, then, it seems that Metz's interpretation should have been obvious all the time. And yet, there *is* a passage which does not accord with this: as observed in the introduction to this chapter, Hjelmslev tells us that the connotators, in contradistinction to the signals, appear on both planes of the language. It is certainly clear from the context that the two planes of which Hjelmslev is talking here are the planes of *denotative* language, but once we realize that, to Hjelmslev at least, denotative language *is* the expression plane of connotative language, this amounts to saying that also connotative expression is (or contains) connotators! But perhaps this is not a confusion on the part of Hjelmslev: rather, a *connotator* may be any of the relata of connotational language, just like a "functive" is any one of the units participating in a function (Cf. 1943:31 f). Further justifications for this interpretation can be gained from the passage, in which Hjelmslev (p 105) states that the connotators have to be analyzed on the basis of their "mutual functions" (quoted as an epitaph of section II.1.2.).

In the passage introducing the term "connotator", there is also another affirmation, which is fundamental for the understanding of Hjelmslev's theory: the expression plane of connotative language may be "the system of language construction" or "the system of language use", which is another way of saying that it may be based on the form or the content of the denotative sign. Elsewhere, Hjelmslev (1943:61 ff; 1959:55 ff) claims that the distinction of *form* and *substance* is valid not only in the case of language, but is a consequence of any scientific analysis, which has to decide on certain critera of definition, a particular level of abstraction. Hence, specific terms are required for the case of a language, and Hjelmslev decides to call linguistic form "language construction", reserving the term "language use" for the substance which is related to a language. Therefore, the sentence quoted above means that certain connotators are solidary with the denotative form and others with the substance of the denotative sign.

Now, if the point of view of linguistics, and semiotics, is the point of view of the user (Cf.I.1.4.) then, it might be expected, the distinction between form and substance will not depend on an arbitrary, "scientific" criterion, but on the correlation of content and expression, as conceived by the user of the semiotic system concerned. But this is only partly true: given an expression, we will find the content with this principle and vice versa, but it does not permit us to delimit the expression, or the content, to begin with. In this sense, Hjelmslev (1943:72 ff; 1959:56) is right in saying that something which is form from one point of view may be substance from another point of view; that substance as such cannot be known; and that it is the network of dependences which transforms something into form, so that only a new point of view, defining another network of dependences, is needed in order to characterize a new form. At the beginning of the section on connotational language, Hjelmslev (1943:101) tells us that, contrary to the fiction he has employed so far, all real "texts" are *heterogeneous.* If so, it is not only scientific analysis which is able to adopt different points of view, but the user of the semiotic system himself is apparently employing different "networks of dependences" at the same time.

These observations will help us to elucidate one of the passages (1943:104) which Metz adduces as proof of his second interpretation: two phenomena, which are equivalent from one point of view, here the denotative one, may constitute two different forms from another point of view, the connotative one. But if many different points of view may be applied to one and the same thing, perhaps a particular relationship between two points of view is implied, when one of them is called denotative, and the other one connotative. Metz thinks, as we have seen, that there are two possible interpretations of what Hjelmslev claims in this respect, but probably it would be more correct to recognize two kinds of connotational language, one stemming from the form of the denotative sign, i. e. those features being pertinent or relevant for denotation, and the other one stemming from denotative substance, that is features which tend to accompany the denotative sign (the norm), or features that are sometimes combined with it (alternative variants). In the case of *formal connotations,* it will be true, as Metz said in his first article, that the units of denotation and connotation are the same; but in the case of *substantial connotations,* it is as obviously true, as Metz said in his second article, that connotation and denotation must divide up the materia in different ways, for connotation will come into being only if a substance is transformed into the form of another sign. (As for the suggestion that connotation is something *more* than the denotative sign, it is of course true that substantial connotation introduces a new organization, but Metz's ex-

amples indicate another meaning, to which we will turn later).

In some as yet unclear sense, connotational language is *secondary* to denotational language (not necessarily in the same sense as plastic language; cf. II.3.6.). Two languages will be distinct, only to the extent that the expressions, contents and/or their interrelations are different in an essential way; perhaps we could say: to the extent that they embody different principles of relevance. Let us suppose, following Metz (1973:170), that the denotational language of pictures and films is what we have previously called the iconical language. In that case, according to Metz, its content is "l'objet en tant que reconnu", and the expression will be those features of the picture which are required for this identification (Cf. II.2.1–2.). Consider, then, what this means. In a picture representing a dog, only those features of the pictorial surface which permit us to identify the content of the picture as being "a dog" constitute the form of expression of the pictorial sign. But suppose it is a gloomy dog. In a picture representing a gloomy dog, only those features of the pictorial surface which permit us to identify the content of the picture as being "a gloomy dog" constitute the form of expression of the pictorial sign. That is, there are, often enough in the same picture, criteria for identifying the content as being "a dog", "a gloomy dog", "a gloomy beagle", "Snoopy in a melancholy mood" and so on. These are what we have earlier called different *intensional levels* of the picture (Cf. I.3.2.). But they are all states of the world, at different levels of description, so they can all be identified, in exactly the same way and according to the same principle of relevance. The melancholy atmosphere is *in* the picture, integrated into the appearance of the dog, just as Metz observes, but then it is because it is no connotation, at least not in Hjelmslev's sense. Metz wrongly takes emotional contents to be connotations in the semiotical sense, but this is, as we know (Cf. II.1.2.), a confusion with stylistic connotation.

On the other hand, the picture of the dog could also have been made employing colours and shapes which by themselves suggest melancholy, either by convention or because of the "laws" of synaesthesia. This is plastic language. Here, a new principle of relevance has been applied, for the expression plane consists of shapes and colours as such, in their two-dimensional reality, and the content plane is made up of attributes, not of things existing in the perceptual world or things which, like unicorns and golden mountains, are of the same general type as perceptual things. In a case like this, it is true that iconic language and plastic language will share at least part of their expression planes, as we have seen above (Cf. II.3.). This case should however be distinguished from another one, which we have met already, in which the overlapping expression planes both belong to iconic signs: for instance, the crown which is also an arrangement of fruits and vegetables, the trunk which is also a face, and the Roman inscription, which should really be read as a text in German dialect (Cf. I.2.5.; fig. 7 and fig. 18). Thus, there are two ways, at least, in which the expression planes of different signs may coincide, wholly or only in part. But is this really also the case of connotation? And can it be identified with any of the cases above? If we take Hjelmslev's definition *and* his examples seriously, which I think we should, the expression plane of connotational language *must* partially overlap that of the corresponding denotational language, because it includes the latter, complete with expression and content and, probably most important of all, the relation between the two. In the next section, we will try to clarify all this by approaching the question from another angle.

Metz is perhaps the only one to have realized the difficulties of applying the concept of connotation to pictures but, unfortunately, not even his close reading of Hjelmslev's text has prevented him from coming up with some rather strange ideas about connotation and some very dubious examples indeed (some of which will be discussed later). The two possible interpretations of connotation which Metz suggests are actually the two *kinds* of connotation distinguished by Hjelmslev: those stemming from the form, and those which are due to the substance. Not all secondary languages, and not all languages whose expression planes overlap others, are connotational languages. Before we can proceed, it will be necessary to reconstruct a model of the intuitive foundations on which Hjelmslev's threory is erected (II.4.2.). Only then will the specificity of connotation become apparent.

II.4.2. Heterogeneity. Intuitive foundations of Hjelmslev's theory

> *"Denne forudsætning /at den forelagte text udviser strukturel homogeneitet/ holder imidlertid ikke stik i praxis; det er tværtimod saaledes, at enhver text der ikke er af saa ringe udstrækning at den ikke afgiver tilstrækkeligt grundlag for en til andre texter generaliserbar systemdeduktion, sædvanligtvis indbefatter derivater der beror paa indbyrdes forskellige systemer. /*This assumption /that the text at hand shows structural homogeneity/ cannot be maintained in practice; on the contrary, the fact is that each text, which is not of so small an extension, as not to afford a sufficient basis for a generalizable deduction of a system, usually comprises derivates depending on mutually distinct systems/."
>
> *Hjelmslev 1943:101 f*

In spite of Hjelmslev's positivist pretensions, the basic assumptions behind his reasoning, which are never clearly stated, seem intuitively acceptable (Cf. I.1.3.). Let us now try to render these assumptions more explicit, and to complement them with observations taken from other sources. To begin with, we should recognize with Hjelmslev that, from the point of view of the system,

it is true that the substance presupposes the form, since many different substances may manifest the same form; but on the other hand, from the point of view of the "text" and its perception, it is also true that the form presupposes the disjunctive class of all its corresponding substances because, without at least one substance, the form could never be manifested and would then have a purely metaphysical existence! Fortunately, since the form cannot presuppose any particular substance, the relation from substance to form is still distinct from the relation from form to substance, and thus these two relations may still be used to define the terms.

And yet there is something more to form and substance than these definitions suggest. A long philosophical tradition, from at least the Port Royal grammar to the ideological school, was aware that the sign, or rather its expression, was also a thing and as such had properties which it did not possess as a sign, i. e. as related to a particular content. The logical paradoxes concerning self-referential terms, rediscovered by Frege and Quine, are essentially due to this double nature of the sign (Cf. Récanati 1979). This "opacity" of the sign, which block the way to the referent, must be of the same nature as the *poetical function,* which, according to Jakobson (1963:218 ff), emphasizes "le côté palpable des signes". Mukařovský (1974) says the same thing more generally about the aesthetic function: it makes necessary a detour via the expression before reaching the content, the import of which is thereby changed. The thing character of the sign is particularly stressed by Mukařovský: the work of art thereby acquires a layer of purposelessness, which resists the totalization of the receiver (p 40, 45 ff); which is a natural, rather than a cultural, fact (p 45); and which speaks to our common humanity, rather than to that which is socially specific, as is usually the case with signs (p 64).

According to the phenomenologist Alfred Schütz (1967:49 f), each act of interpretation supposes an *apperceptual scheme,* which conveys the category of which the sign is a member as a "self", a thing, and an *appresentational scheme,* which gives the category to which the expression belongs, considered in its relation to a given content, i. e. to another "thing" of which it is the expression. There are also two other schemes which we shall ignore for the present. Something which apperceptually appears to be mere strokes on the paper will perhaps turn out to be letters, from the point of view of appresentation. To Hjelmslev in 1943, the strokes would be substance and the letters probably form. But later, Hjelmslev (1959:58 f) insists that the substance must be "sémiotiquement formée", and uses the term "matière" for the matter as yet unorganized by the form. The strokes as strokes would then be matter, and only when they take on the characteristic shape of letters will they partake of substance; as for form, it is merely the fact of there being a distinction! Like Mukařovský's layer of purposelessness, matter seems to be a natural fact, whose meaning, if there is any, must be the business of our common humanity – the place of figurativity, perhaps (cf. I.4.), and of plastic language (cf. II.3.). Anyhow, it is unrelated to the content, and thus would normally form no connotations (but cf. the discussion below!).

Perhaps, then, we can take the appresentational scheme, or the form, to pick out those properties of the thing which are relevant, or pertinent, for the purposes they serve. In this case, *part of* the properties of the thing would also be properties of the sign, and no others. But consider the two forms that "Barbara" may take on, if it is considered as an item of our common name system, or as a sign labelling one variant of the Aristotelian syllogistic figures (cf. fig. 28 a, b and II.3.5.). Here matter is identical, and so is the form at the level of letters, and yet at the sign level, the two substances, understood as conjunctions of form and matter, clearly have different properties. Therefore, it seems, form may also *add* something, not magically of course, but because the sign user comes prepared with certain presuppositions, protensions and retentions, and because the context also suggests how the sign is to be taken (Cf. I.1.3.). This only partial overlapping of form and matter is also expressed in Bühler's (1934:28) *Organon* model of language (see fig. 34). The concrete sound phenomenon, depicted as a circle, is intersected by a triangle, the expression plane of the sign, which is thus both more and less than the sound: less, because not everything in the sound wave is pertinent for the sign (the principle of abstractive relevance) and more, because the listener, by means of his linguistic knowledge, is able to supply what is lacking from the signal (apperceptive supplementation). Hjelmslev (1973:226) himself observes that Bühler's principle of abstractive relevance is necessary for the derivation of form, but he ignores the second principle, that of apperceptive supplementation.

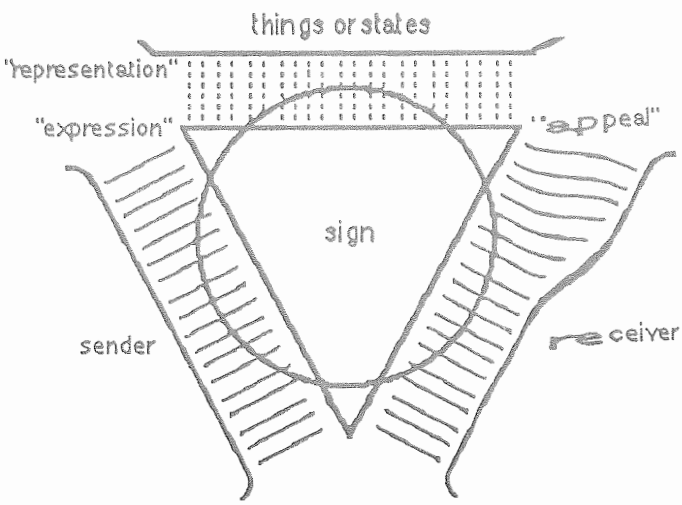


Fig. 34. Bühler's Organon model.

The sign is here characterized as a triangle because it is related to three units outside it: the object or state for which it stands ("Symbolfunktion"), the sender, to which it gives expression ("Symptomfunktion"), and the receiver, to which it appeals ("Signalfunktion"). The second function manifests the inner man, Bühler adds, and the third function directs the behaviour of others (p 28 f). Mukařovský hastened to add a fourth function, the aesthetic one, emphasizing the thing character of the sign, and then Jakobson (1963:209 ff) proposed two further ones, the phatic and the metalinguistic functions. Unfortunately, neither Bühler, nor Mukařovský or Jakobson seem to distinguish the cases in which the speaker or his emotions, or the listener, are the referent of the semiotical act (Bühler's "Symbolfunction"), and thus the content of the sign in the ordinary sense, from the cases in which other features of the sign, irrelevant for conveying the denotation, carry information about the participants of the communication process. As for emotion, numerous linguists and semioticians always assign it to the "Symptomfunktion", whether it is conveyed by the features of the sign content themselves, by an implication from its use, or whether it depends on some further properties of the expression plane of the sign (Cf. II.1.2.). Conceived in this way, the distinction seems pointless: it would permit an arbitrary multiplication of the number of functions.

Baldinger (1970:230 ff), however, seems to combine Bühler's terms with Hjelmslev's sense of connotation, when he argues synonymous words may have different "symptomatic and signaletic connotations". He then lists words having the same content but differing in being employed by different geographical, social, professional, political, generational, sexual, and other groups. This brings us back to Hjelmslev's heterogeneous "text", in which various systems are manifested. A given expression is alter-functionally conditioned, not only by the content for which it stands, but also by certain characteristics of the sign user and of his public though it is not ordinarily a *sign* for these characteristics, but perhaps only when used outside its normal group. In a way, these are properties the expression has but does not always exemplify in Goodman's sense (Cf. II.2.2.). But only in a way: the properties in question can only be pseudo-exemplified (Cf. I.2.4.), because they have to be supplied from the system – not, strictly speaking, the sign system, but the system of social groups. Supposing "father" and "daddy" to mean the same thing, a further condition on the use of "daddy" is perhaps that the user is a child (Cf. Baldinger 1978:233 f). In many cases, the requirements for the sign user and his public are identical, but in the case of child language, the restrictions only apply to the speaker, and in other cases, for instance "four-letter words", the restrictions are imposed on the public only: they should not be used in front of children, it is said. Also Mukařovský's aesthetic function could easily be conceived in this way: of two synonymous signs, one is chosen because the conditions require something "aesthetic". This interpretation could even be extended to Jakobson's "phatic function", at least if it serves to evoke an atmosphere, not, as Jakobson also suggests, to establish contact.As for the metalinguistic function, it is, most of the time, only the referential function applied to a referent of semiotical nature (Cf. II.4.4.). However, if there is metalinguistic intonation, as Récanati surmises (cf. below), there must also be a particular metalinguistic principle of relevance.

Hence, the expression plane of a sign is manifested by things, and these things have, in addition to the properties required for their function as expressions of particular contents, other properties which are conditioned by other systems, and which may come to connote these systems. In this sense, Hjelmslev pointed out that *combinatory variants,* not free variants, were responsible for connotational languages. Corresponding to every form, there are different substances which convey different connotations. Therefore, Hjelmslev said that "certain classes of signs", not, as Metz renders the phrase, "certain signs", were solidary with certain connotators (Cf. II.4.1.). In the class of possible expressions for a given content, connotation will delimit a smaller class also having the same connotational content. Thus, connotation is possible because there is a further choice when denotation is determined (Cf. II.4.3.).

As with the theory of denotational language, Hjelmslev's theory of connotational language was to be concerned with form, not substance (Cf. 1943:105). If there is any place for Barthes's ideological analysis in Hjelmslev's conception, it is in the study of substance.[1] When the connotators have been analyzed on the basis of their mutual functions, the theory of substance can be erected on these foundations, which it must presuppose. Here, then, we will at last learn something about those "ideas of a social or sacral nature, which are usually associated with concepts like national language, dialect, sociolect, style, etc." (ibid.). But much work remains to be done before the theory of connotational *form* has been developed. Hjelmslev's list of six types and four subtypes of connotators is, he tells us (p 102 f), not exhaustive, but only meant to show the existence and the multifariousness of the phenomenon. If we take the different titles here to be substances, it would be a mistake to suggest further categories of the list on the basis of their meaning: literature, advertisements, etc. as extensions of Hjelmslev's genres. Instead, we have to determine if there is any peculiar relationship between the two relata of the sign function, which is common to all the examples given.

Hjelmslev's list is a list of contents, not of expressions: for instance, the Danish language, Hjelmslev (p 105) tells us, is an *expression* for the *content* "Danish". When he then goes on to say that a national language may be a "symbol" for the nation, he must be thinking about a further meaning relation, for symbol systems, as

we know, are not languages (Cf. Ii.3.5.); it must be a relation between the content of the connotational language and another content, that is, a contextual implication (Cf. II.1.2.). In that case, Barthes's (1964 a:164 f) "véritable anthropologie historique" would remain *outside* connotational language proper. Thus, we are concerned with a language whose expression plane is another language, as the definition reads. The listed contents, on the other hand, could very well be conveyed by other means, for instance by the use of ordinary linguistic denotational language, as in Hjelmslev's text.

But the listed connotators, as the contents of expressions made up of other expressions and contents, possess further properties in common. They all seem to characterize *classes of signs* having many members, of which the sign serving as connotational expression is one. Combinations of signs, if these can be considered further signs forming classes, are also included. The classes in question seem to be *subclasses* of the entire sign repertory found in a given semiotical system, dividing it up in a new way. An obvious exception to this is subtype 6 b, national language, which is co-extensive with a semiotical system, and also the genres "speech, writing, gestures, flag code", type 4, if these are considered to differ as to form, not only as to substances. As for type 1, styles, i. e. poetry or prose, they would seem to form classes more extended than ordinary semiotical systems. While the properties singled out are always *directly* properties of the signs, they take their principle of relevance from social phenomena with which they are associated: thus, the sign *classes* 1–3, perhaps also 4 and 5, are correlated with different *classes* of social purposes or situations; and the sign classes 6 a–d are correlated with different social groups, 6 d, physiognomy, with a one person group; and 2 and 3, perhaps also 4 and 5, may also be so correlated. In the case of poetry and prose, the social purpose seems less immediately obvious. In view of all this, it is not surprising that Hjelmslev (p 110) should want to include sociological linguistics in the theory of connotational languages.

But none of these restrictions are mentioned in Hjelmslev's definition of connotational language, and it seems much more interesting in this case to go by the definition. In his text, Hjelmslev repeatedly insists that the expression plane of connotational language is made up of another language, complete with expression and content, each having its form and its substance. Following this definition, we have suggested that, for instance, the distortion of graffiti, as well as the mere difference of handwriting which this supposes (cf. Ii.3.1. and fig. 24.), and the meaning "metaphor", with its implications of similarity or even identity (Cf. fig. 26 and 30), are cases of connotation. The handwriting, like Hjelmslev's type 6 d, the "physiogomy" of the voice, is a substance, in this case a graphic substance, whose exchange leaves the form of expression and the whole of content intact. Since we are not familiar with the writers, the content will not be "the real physiogomy So-and-so", as Hjelmslev (p 105) says, but the mere difference of the handwriting and thus of the writers. Less classical is the case of the distortion: here, besides the two signs and their respective substances, the partial overlapping of the latter is required, in order to bring about the connotation. The resulting content is not the label of a class of signs, or even of sign contexts, but rather the unique context of two particular signs. It does not transfer to any social group or situation associated with it. And yet, it is clearly a result of the particular disposition of the two substances as used in the expression of two given signs.

Thus, Metz is right in arguing that the expression plane of a connotative sign may require more than the denotative sign, though not, it seems, in the way he intended it. The content "distortion" will only result, if the two signs are in different handwriting and partially overlap – features of the substance, or perhaps rather the matter, of the denotative signs, which become part of the *form* of the connotative sign! The same is true of pictorial metaphors, at least of those we have analyzed so far (fig. 26): both a partial similarity of the substances (and sometimes the forms) and a factorality or a contiguity is needed to produce the connotation "metaphor", with the ensuing suggestion of further and deeper similarities (Cf. II.3.4.). But "metaphor" is not a label for a class of signs, but for the class of sign couples defined by a particular type of relation. Metaphors do not transfer to any social group or situation, but the implications following upon them may, in some cases, carry over to the referents corresponding to the contents involved. This later relationship is merely a suggestion not, as in the cases in Hjelmslev's list, the result of a real contiguity, a "perceptual context", which is capable of defining indices (Cf. I.2.5.); instead, there is iconicity (Cf. III.2.2.). Contrary to the social groups and situations, the referents do not furnish the principles of relevance characterizing the connotational language. Nevertheless, it is the particular expression used for a content which brings about the meaning "metaphor", and that makes it a connotation, according to the definition.

Wittgenstein, rediscovering the old idea of the sign being also a thing, pointed out that there are certain facts that the sign may *show,* apart from what it signifies (Cf. Récanati 1979). Not everything a sign can show has to do with connotation. It is as substance, not as matter, as this-sign-being-also-a-thing, that it will bring about connotations. For instance, horizontal parallelism could possibly exemplify order as matter, because of its intrinsic properties: this is the level of plastic language (Cf. II.3.5. and fig. 30). But because of the particular disposition given to this horizontal parallelism on the packet of cigarettes "News", it also helps identify the packet of cigarettes as such, while at the same time suggesting another identification with the first page of a newspaper. In this respect, the horizontal parallelism contributes to

the connotation "metaphor", which contextually implies further similarities between the cigarettes and the newspaper, which are the relata of the metaphorical relation. Thus, the same property or configuration may be involved both in plastic language and in connotation.

In this section, we have seen that the basic thing character of the sign, recognized in many philosophical traditions, is a prerequisite of the distinctions between form, substance, and matter. The theory of connotational language is first and foremost a study of its *form,* Hjelmslev observed, but of course connotational form may be identical to denotational substance. Even if considered at the level of formal relations, Hjelmslev's list of cases suggests a much more restricted range of phenomena are connotations than the definition would permit. We opted for the definition, and then discovered that it is not the mere thing character of the sign, which Hjelmslev calls "matter", but the more complex property of the sign being at the same time a thing, which is responsible for connotation. In the next section (II.4.3.) we will explore further the interrelations of the denotational relata in the production of the connotational sign.

II.4.3. The dialectics of the invariant and its variants

The whole denotational sign forms the expression plane of the connotational sign; but so far, it seems that only expression substance is susceptible to variation, expression form and the whole of content serving merely as the constant background of this variation. We have already hinted that the case was different with metaphors, but how this is possible remains to be explained (Cf. II.4.2.). Let us once more take our point of departure in Metz's criticism of Hjelmslev: Metz, it will be remembered, thought the example of Danish language connoting "Danish" was incompatible with the definition (Cf. II.4.1.). This is understandable. It is easy to think of two words which are identical except for the first being pronounced by a man and the second by a woman; or a number of signs having exactly the same organization, but one being spoken, another written, a third indicated in a flag code and the fourth expressed in braille; and maybe even words being identical, apart from connoting "archaism", "slang", and so on. But it seems impossible for a Danish word and a Turkish word to have the same content (and expression form), differing only in that they convey different connotations, in particular since Hjelmslev himself insists that different languages cut up the world of experience in different ways.

It seems natural to suppose, that Hjelmslev's type 6 b, national language, must be a formal connotation. Directly after introducing the distinction between connotations stemming from the form and from the substance, Hjelmslev (1943:103) says it is impossible to know beforehand if, for example, national language and physiognomy, "to mention possibilities that will perhaps appear extreme", are connotations from the language construction system or from the language use system (for these terms, see II.4.1.). These examples are extreme, I suppose, because one would expect a national language connotation to be due to form, but a physiognomy connotation to be brought about by substance. Only if all those features of expression and content which are pertinent at the denotative level are identical, will it be necessary to have recourse to substance in order to obtain the national language connotation, and that is probably never the case. Nevertheless, a given fragment of a language may well connote the corresponding language system because of its substance (Cf. the Italianity connotation in the Panzani analysis, II.1.4.).

The interesting case is the one in which "Danish" is a *formal connotation.* Until now, it has been possible to vary the substance in relation to the form held constant, in order to discover the features responsible for a connotation, but in this case, form itself must be varied, so what will now be the invariant serving as background to the variation? Nowhere does Hjelmslev propose any direct answer to this intriguing question, but well before the discussion of connotation, a short passage borders on our problem (p 46 ff): the comparison of different languages shows us that there is something which Hjelmslev calls "purport" but which we shall call content matter, which these languages have in common, although they will normally organize it differently (Cf. I.3.2.). The examples quoted by Hjelmslev are: Eng. "I do not know", Danish "Jeg véd det ikke", Fr. "Je ne sais pas", Finnish "En tiedä", and Eskimo "naluvara". There is a number of content elements, such as "first person, grammatical subject, present tense, verb, knowledge, negation, third person, and grammatical object", which reappear here, though in some cases part of them are left out, and they are always differently combined and ordered. English: 1p+subj/pres+verb/neg/knowledge+verb. Danish: 1p+subj/pres+verb+knowledge/3p+obj/neg. French: 1p+subj/neg first part/1p+pres+verb+knowledge/neg second part. Finnish: 1p+subj+verb+neg/knowledge+verb. Eskimo: neg+knowledge/1p+subj/3p+obj. This is the way in which the "same" content matter is divided up by a number of languages, and the formal connotations ensuing are those which have been marked before the examples: English, Danish, etc.

In other words, the invariant when form is varied is the *referent,* the real world situation, or perhaps our thinking about it. But this "masse amorphe", in Saussure's phrase, is as such unknowable, Hjelmslev tells us, and can thus only be attained through the comparison of languages. Such a conception is of course untenable after the work of Rosch, which demonstrates that the world of our experience *has* an organization of its own (Cf. I.3.1–2.). Nonetheless, it is probable that other kinds of semiotic systems than verbal languages, as for instance pictures, would pick out somewhat different elements as relevant. But pictures, it has been said,

cannot express negation (Cf. Worth 1981:174 ff; Bucher 1977:42 f), so Hjelmslev's example will be of no use in such a comparison. To this question we will return later in this section. In any case, the form in its relation to the referent appears to illustrate Humboldt's famous "Weltansicht" of a language: a peculiar perspective on the common world of the human race.

Interestingly, what has here been varied in relation to the referent is apparently the forms of expression and content *together.* This should not be surprising, since these forms are united by a solidarity, i. e. a mutual implication, with the result of the units on the two planes being conformous: by definition, if a language has one content joining for example first person, subject, verb and negation, it will also have just one expression for all this. By definition of the sign, that is to say, for on the level of the "second articulation" this is no longer true (Cf. Ii.3.5.). For instance, words having an identical content, but differing in connoting "slang", "archaism", and the like (Hjelmslev's type 2 above), *must* have the same form of expression on the sign level, but in most cases it is not just a difference of expression substance that separates them, but also different expression forms on the level of figurae. Suppose, to use Johansen's examples (see the introduction to this chapter), that both "cheval" and "coursier" simply mean "horse", but that while the first term is normal speech, the second connotes "poetry", nowadays no doubt "cliché poetry". Then the referent is identical, and so are the forms of content and expression, the latter, however, only on the level of signs. On the figurae level, on the other hand, the expression forms are widely divergent: not even the number of units coincides!

We have already rejected Johansen's idea that each of the strata of the sign has its proper connotations, because this is contradicted by the definition of connotational language. And yet, it seems, there is a sense in which Johansen is right: even if all strata of the denotational sign must be involved in the expression of connotation, different strata can be variable, while the rest of the sign is constant. We may look upon the sign as the result of a series of consecutive choices: with the referent held constant, different content forms may be chosen, with the result that the expression form, on the sign level, is also determined. With the form of the sign invariant, different combinations of figurae can be selected, perhaps on the content plane as well as the expression plane. And given an invariant expression form, there is still a choice of numerous expression substances compatible with it. It will be noted that this conception implies a fundamental asymmetry of the sign: from the referent to the expression substance, we go from relatively more to relatively less invariant strata. Not even the point of view of the receiver will reverse this for, while the latter must choose between alternative interpretations, it is only by reconstructing the choices of the sender that he is able to capture the connotations.

As an example of a simple pictorial sign, where this may be illustrated, consider the ordinary logotypes indicating the toilet of men and women respectively (many variants in Aicher & Krampen 1977:119 ff). What is directly signified here is a man and a woman, respectively, or rather, if we also take account of some more curious variants (the pipe and the fan, etc.), masculinity and femininity. These then serve as abductive indices for the corresponding lavatories, but should certainly have been very difficult to interpret, had it not been for the convention fortifying this relationship in most cultures. Because of their location, these abductive indices then serve as performative indices for the location of the lavatories (Cf. I.2.5.). Thus, the task left for the picture itself is to convey the difference between masculinity and femininity. That means mankind is our domain. However, the individuals composing mankind differ in many ways, so to distribute them between two content forms, men and women, implies a choice, albeit a very natural one, at least in this case – but Husserl's hypothetical Bantu would perhaps have thought otherwise, and so would we, if the signs were used to maintain a generalized sexual apartheid instead of just indicating toilets. This choice of content form, therefore, engenders a *formal connotation,* which at least suggests that such a distinction between human beings is important (and of course it is). On the sign level of the expression plane, nothing new happens.

As yet, we do not know if the secondary articulation of the pictorial sign is conformous for the two planes, as perhaps Hjelmslev and most certainly his disciple Spang-Hanssen (1954:85) would maintain (cf. II.3.5. and VI.1.3.). If that is the case, the forms of expression and content on the figurae level cannot be chosen independently of each other, but they are still only partially determined by the forms of the sign. Given the two domains of masculinity and femininity, different features may be picked out for use in the signs. Here we should expect such differences as are ascertained and particularly prominent to be chosen, viz. those which are called primary and secondary sexual characteristics in biology. When instead a pipe or a top hat and a fan or a lady's shoe are employed, this choice engenders a connotation, which has obvious ideological implications. The same is true in the case of the more common version, of the way the man and the woman are depicted. The lavatory lady always wears a skirt, although this is no longer particularly common among real-world women. If we compare the pictograms created for a number of international encounters (reproduced in Aicher & Krampen 1977:122), we will find that, from Tokyo 1964, via, among others, Mexico 1968, to Munich and Sapparo 1972, the skirt of the woman becomes continually shorter – a feature which, at least until 1968, conveyed the idea of modernity. Hence, the particular composition of the sign form is certainly not indifferent.

In their most common version, the lavatory picto-

grams directly depict a man and a woman, not masculinity and femininity. Thus, the features of expression permitting us to identify the man and the woman as such are the expression form of iconic language. From this point of view, all the rest is substance (or matter). All these signs have expressions which are highly symmetrical; most of the time they are made up of straight lines, interrupted by smaller and always regularly round elements. Perhaps this is sufficient to produce the connotation "pictogram", which would then be a *substantial connotation.* But even such a simple picture as the lavatory pictogram contains a plastic language (Cf. II.3.). In many cases, in particular in the versions from Mexico, Munich, and Sapporto, the man's body has been deformed, in a way which is not at all functional in helping us identify it as such: the trunk forms a perfect square or a vertically directed rectangle. The woman's skirt is curved outwards, in a way which has probably not been used since the last century: in the Tokyo version, it comprises three quarters of a circle; in the Munich version, the skirt is only a circle section, but the trunk and the arms build up a complete circle; and in all cases, the global property of roundishness is most persuasively conveyed. In other cases, the skirt of the woman forms a triangle pointing upwards. Now Jessen found that even East African children, who are not familiar with our kind of clothes, thought a circle or a triangle pointing upwards must signify a woman, and that a square or a triangle pointing downwards must signify a man (Cf. I.4.5.). That is to say, femininity and masculinity are also communicated at the level of plastic language. That this particular plastic language has been couched in the substance of this particular iconic language itself produces a connotation: primary, perhaps, of "naturalness" which, from a more critical stance, is reinterpreted as traditionalism.

After having admitted so many different kinds of connotation, we run the risk of a new kind of confusion. Or, in a sense, a very ancient confusion: is not the connotation from the content substance our good old stylistic connotation? At the end of his previously cited article, Metz (1973:171 ff) makes an analogy, which is worthwhile discussing. There are different ways of filming the same, recognizable object, Metz says: first make it appear sad, then absurd, simply by changing the lighting, the angle of vision, etc. Here, then, denotation and connotation are inextricably mixed up with each other. The same thing happens in verbal language, Metz continues: "violon" and "crin-crin" have the same denotative content, a well-known musical instrument, but their connotative content is distinct, for there is a pejorative shade, a slang nuance in "crin-crin", which is not present in "violon". This is not a difference of denotation, Metz affirms, so the two terms will also be connotational expressions: "crin-crin" connotes the bad state of the instrument, or the speaker's familiarity with it, while "violon" connotes its normal condition. This is Metz's analogy. Let us now first consider the linguistic example.

"Denotation", as used here, must mean *referent,* i. e. the object in the world of our experience. In discussing both the filmic and the linguistic example, Metz takes emotional and value-laden contents to be connotations, so apparently the referent is supposed to be mirrored in consciousness through purely cognitive factors. This is of course the stylistic distinction between denotation and connotation (Cf. II.1.2.). But to Hjelmslev, denotation simply means the content plane of the semiotic system, i. e. a part of the sign: those features which imply and are implied by the expression plane. When Metz says that "crin-crin" connotes slang and "violon" standard language, he is using the terms like Hjelmslev; but when, a few lines later, he tells us that "crin-crin" connotes a bad instrument, he has suddenly shifted to the stylistic notion of connotation. In fact, there are two possibilities:

a) there are two signs in French, "crin-crin" and "violon", which have different *denotative* contents, which only differ in the values they take on the semantic axis "bad vs normal". Thus, there is one semantic feature, "bad", which may take the place of the feature "normal" in the constellation of semantic features defining the expression "violon", with the result that a new constellation of features is produced, to which a different expression corresponds in the language, viz. "crin-crin". This is *commutation.* And it is precisely the possibility of establishing such oppositions between contents *which have their own expressions in the semiotic system concerned* which defines the denotation as something distinct from the connotation. From a psychological point of view, the relevant features may be cognitive, emotive, and the like.

b) or else, "crin-crin" and "violon" have exactly the same meaning, the same denotative content, but their forms of expression, at the figurae level, and of course their substance of expression are distinct. Because of this latter fact, they will have different connotations: "crin-crin", for instance, connotes "slang". Now this is a connotation exactly in the spirit of Hjelmslev: it includes the word "crin-crin" in a *class* of other words, and the principle of relevance delimiting this class is derived from the social group or the social situations with which it is associated (cf. II.4.2.).

Both these cases may certainly occur, but not in the same use of these words. Baldinger (1970:237) cites the case of "bagnole" which to a French middle class speaker means an old, broken-down car, but which, on lower social levels, is simply a more common synonym for "voiture". In the same way, different people, or the same person in different situations, could use "crin-crin" for a bad violin and then for a normal violin, but with the intention of connoting "slang".

Metz's pictorial example is very different from this. In one case, the iconic language denotes, say, a dog

viewed from an angle and with lighting which makes it appear sad; in the other case, the same dog, in a different lighting and angle of vision, appears absurd, both the dog and the absurdity being denoted by ordinary iconical means. Thus, the two signs (or sign combinations) have different denotative contents, and from a classical point of view, there is simply no connotation, or no way of finding it!

However, in our effort to understand how *formal connotations* are possible, we introduced the referent as an invariant for which the sign content itself is a variant. If this is correct, there will indeed be a choice of denotations or sign contents to a given referent, which will engender connotations. To see what this can mean, let us once again return to Hjelmslev.

The substance of content, as Hjelmslev (1943:72 f, 91) calls it, comprises the extralinguistic referent, and also the psychological notion, to the extent that it includes features which are not found in the linguistic content, i. e. such properties whose exchange does not lead to the exchange of expression plane in the language. Later, Hjelmslev (1959:59 ff) distinguishes three levels in the content substance: the physical level, the sociobiological level and the level of collective evaluation. Here, inside the substance, there could perhaps be a place for Metz's distinction between the violin as such and as it is evaluated. At the level of collective evaluation, Hjelmslev says, the dog is something different to the Eskimo, for whom it is a draught-animal, to the Parthians, who considered it holy, to the Hindu, who classes it as a paria and to the Westerner, who sees it as a hunter and company – and also, I would like to add, to the Aztec, for whom it was a kind of foodstuff! But since the level of collective evaluation forms part of substance, Hjelmslev must apparently think that all this is of no avail for content form: it will be identical in all these languages. The physical identity of the dog, even crossing language borders (as Benveniste 1966:49 ff says about the horse) is largely irrelevant to all human affairs outside zoology; and in relation to the level of collective evaluation, "la seule substance /. . ./ qui du point de vue sémiotique soit immédiatement pertinente" (1959:62), the content form appears to be *less* variable between languages, not more so, as we have supposed. Thus, supposing our referent to be culturally interpreted, as seems reasonable, the first step in the constitution of the sign will lead from the variant to the invariant, not the reverse.

But consider how the content form is determined. In French, "violon" and "crin-crin" have different content forms because, when the feature "bad state", or something of the sort, is taken away from the feature constellation defining "crin-crin", a new feature constellation, corresponding to the expression "violon" in the language, will result (case a above). But there could be another culture, in which all violins were thought to sound bad, so that, in the corresponding language, to say that something is a violin, is to say that it emits a terrible sound. In this case, the same feature which is part of the content form in French would belong to the level of collective evaluation. This is so because a person disagreeing with the opinion that all violins sound terrible, or having found the sole violin which is not a bad instrument, would still have to use the same expression as before. On the other hand, those features which are present in the collective evaluation of dogs in different cultures could well appear elsewhere as the difference between two content forms. In contemporary Mexican Spanish, the word "escuincle", derived from Nahuatl, is still used to designate that dog breed eaten by the Aztecs, but for other dogs the common Spanish word "perro" is used. The "escuincles" are no longer eaten; indeed, there are very few left. But since Indian languages borrowed Spanish words very early on, there may well have been a moment when, in Mexican Spanish and/or in Nahuatl, the content forms of the two words "perro" and "escuincle" were distinguished by the latter having the additional trait "edible". Features sometimes found in collective evaluation may at other times be the building blocks of content form.

With the exception of some simple cases, like the lavatory pictograms, pictures are seldom distinguished by taking different values on a single semantic dimension, so it is not clear how we are to find their content form. Even in the case of verbal language, the present account seems to me to be misleading. If meaning is prototypical (Cf. I.3.1.), there will be features which are *more or less* relevant, rather than some features which are relevant and others which are not. In the Lifeworld, many properties are expected to co-occur; if they don't, there must be a semantic hierarchy, which decides which one of them is most important. Properties which are simply taken for granted like, in our fictive example, the bad quality of the violin as a musical instrument, are not necessarily unimportant, though they can of course not be at the thematic apex, in which case the newly found unique good-sounding violin would be called a concertina, if these instruments were supposed to sound good in the normal case. However, if forced to use the term "violin", with its implication of bad instrument, the discoverer of the first good instrument of that kind would certainly add a number of "adjuster words" or "hedges" when reporting about his finding, so as to show his awareness of the inadequacy of the term employed (Cf. I.3.1.). In order to discover the feature hierarchies present in particular semiotic systems, it will no doubt be necessary to use other indirect semantical operations besides oppositions (Cf. III.4.1.). What this suggests is that there is no clear limit between the level of collective evaluation and the content form: the latter would merely be the pinnacle formed of the most relevant traits emerging from the lower regions of collective evaluation (Cf. I.4.6.).

But in that case, what remains of the referent? The

real dog, if that is taken to mean zoology's description of it, is, from the point of view of meaning, just one among a number of variants. As for the level of collective evaluation, we have just argued that it cannot be neatly separated from the content form. But, if we are to justify the model developed so far, there must be something which can serve as an invariant, in relation to which the different content forms are the variants. In Husserl's view, we would no doubt have to go beyond all cultural meanings with which the dog is inbued, to arrive at the "pristinely pure" perceptual experience of that dear creature. But, as Gurwitsch (1974 b:22 ff, 92 ff, 145 ff) observes, since every Lifeworld is the cultural world of a particular sociocultural group, it is the mere thing world which must be founded on these cultural worlds, rather than the reverse: the dice precedes the cube, not the opposite (Cf. I.2.2.). Taking a curiously structuralist stance, Gurwitsch even suggests that the thing world is arrived at through a comparison of the different cultural worlds. But this is exactly how Hjelmslev, in an analysis previously cited, arrived at the "content substance" common to "I do not know" and a number of sentences of other languages. What is discovered in this way is perhaps, in part, some very general categories of the Lifeworld, of which the labels proposed by Hjelmslev could be some instances, but also, and above all, a multiplicity of open possibilities. It is to the extent that this "thing world" contains everything as implicit potentialities, that it can be the invariant, of which all content forms are variations.

In this sense then, there can be what Baldinger (1970:232 f), using Bühler's sense of the term, calls "symbolic connotations" (Cf. II.4.2.): signs with different contents being chosen for stylistic reasons, or, as we would say, producing also stilistic effects. Thus, in the face of a particular invariant fact, one may choose to talk about it as a "crin-crin" rather than a "violon", and this will not only change the meaning of what is said, bud in choosing to convey this content rather than another, one also produces a secondary meaning which is a connotation. Consider the "photographic synonyms" of the photographer Andreas Feininger (1973:131): just like "woman, lady, madam, matron, missus, female, dame, broad, Jane, etc." convey different contents within the same general concept, so different photographs of the same motive, using different tools and techniques, will produce "more or less but not the same results"; in addition, some of the photographs will be "memorable" and others "ordinary". This means the photographs will denote somewhat different things, organizing the same stuff into different content forms; but beyond this, they will also *connote* differently, for some of them will have a difficult to describe property, which makes them "memorable". The lighting will likewise change the meaning of the dog, or whatever, making it appear sad or absurd, but the decision to make it appear sad rather than absurd may connote something. The essential point here, however, is that the additional meaning and the connotation are two different things: the peculiar way in which lighting was used in expressionist films meant the world was frightening, full of dangers and anguish and so on, but this same lighting *connotes* expressionism. Nowadays, the connotation is more visible than the meaning.

It was observed earlier that Prieto seems to come very close to our present interpretation of Hjelmslev's concept of connotation (Cf. II.1.2. and II.2.1.). This is only partially true. Connotation is said to be the way in which denotation is conceived. In his first approach to the problem Prieto (1975 b:143 ff) distinguishes two "dimensions" of connotation. First, connotation may result from the different ways in which a sentence is pronounced (p 156 f): thus, "il est revenu" could be pronounced /il#ɛ#ravany/ or /il#ɛ#ʁavny/. In the second place, the message that the brother of the listener has returned may, depending on the information which is available, be phrased "Il est revenu", "Ton frère est revenu", "Le tien", and so on, and these are also considered to be connotations (p 158 f). Later, however, we are told that it is dangerous, or at least uninteresting, to say that a particular pronounciation of the French /r/ connotes the rural orgin of the speaker (p 259) (a typically Hjelmslevian example; cf. II.4.1–2.), and now all of Prieto's examples seem to be of the second type: the Italian sentence "Arriva oggi", with no explicit subject, has the same denotation as the French sentence "Il arrive aujourd'hui", but a different connotation (p 244 f). The linguistic meanings constitute a secondary classification, and thus a connotation, in relation to the general system of intercomprehension (1975 a:102 ff). In this way, Prieto finishes by calling connotation exactly what others call denotation and by rejecting those examples which Hjelmslev would certainly include.

This revision of terminology is, if not dangerous, at least uninteresting. What *is* interesting, however, is that Prieto shows how in one and the same language, not only between languages, as in Hjelmslev's "I do not know"-case, different content forms correspond to one referent, as we have termed it so far, or to one state of things, as it should perhaps more properly be called. In relation to an invariant state of things, "Arriva oggi" and "Il arrive aujourd'hui" have different meanings or *denotations,* in Hjelmslev's sense of the term: in the Italian version, the subject is not singled out as a component of the situation. At the same time, these signs have different *connotations,* because of choosing different views on the same state of things: and the simplest difference of connotation is of course, that one of the sentences connotes "Italian", and the other "French". It is essential, in cases like this, to distinguish the connotation from the additional meaning, the denotation (Cf. the end of II.2.2.).

No one has analyzed more thoroughly than Prieto (1966:118 ff; 1975 b:85 ff) the way in which the same state of affairs can be transformed into different content forms, leaving out those aspects of the situation which

are either already known or indifferent to the message. Quite independently, Halliday (1967–68;1973;1978) has pointed to other factors, for instance emphatic stress and word order, which have a similar effect. Just as it was suggested above, Halliday (1973:25) looks upon the constitution of the sign as a process leading through "a set of alternatives /---/, which is what the speaker/hearer *can* (what he can mean, if you like), not what he knows". The resulting chart, the "meaning potential", has also been used in the analysis of the game "pontoon" (Halliday 1973:80 ff), and of the organization of the English meal (Douglas 1972). In the following figure (fig. 35), the meaning potential has been used to illustrate the choices in a simple situation: we see somebody riding a horse over a field. There is a set of choices pertaining to the form and substance of the message, and each decision will, according to our supposition, engender a connotation. Of course, the choices do not take place in "real time", as the psychologists say.

In the present example, we will consider the sole case of the horse having been chosen for attention. On the formal level, we have to decide on which semiotical system, and which subtype of it, we want to use: here, it is verbal language, and Swedish the subtype. From the point of view of collective (and/or individual) evaluation, the horse may now be qualified in different ways, but only a few of these qualities distinguish signs in the semiotic system employed: if the horse is very bad, or if the speaker has a very friendly, intimate relationship with the horse, the adequate term is "kuse" (close to the English "hack"); in all other cases, it seems, the only possible term is "häst". From these three choices of verbal language, Swedish, and "häst" or "kuse", formal connotation on the sign level will result. Without changing the denotative content, we can also choose between at least three variants of the expression form at the figurae level: the standard level "häst", the childish "pålle" (like English "horsey"), and the poetical "springare" (like French "coursier"; English "courser" has a different denotative content, according to the dictionaries consulted). Finally, modifications of the substance will produce substantial connotations, for instance, indications of particular dialects and sociolects. If instead, a picture or a gesture, or something else, had been chosen as a means of expression, the whole process would of course have been different, and so would the resulting connotations. At present, however, nothing can be said about the case of the picture, for we first need to understand the nature of iconicity (cf. part III).

In this section, we have suggested that as soon as there is a choice between alternatives, a passage from an invariant to its variants, the constitution of the sign gives rise to connotations, which may be of different kinds: formal connotations on the sign level, which depend on expression and content together; connotations from the expression form separately (and perhaps the

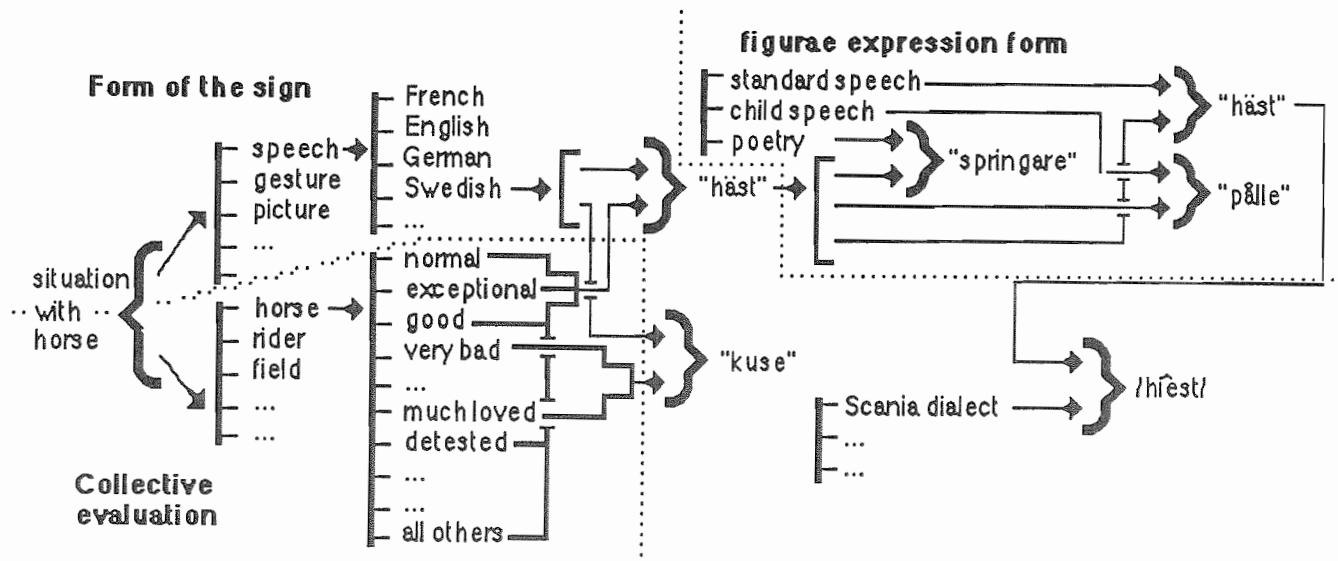


Fig. 35. Meaning potential for "horse" in Swedish. The graphic signs, adapted from Halliday 1967 a:37 f and somewhat modified, are:

= one of the alternatives must be chosen.

= all the preceding features form together the condition for the following:

= one of the preceding features must be the condition for the following;

= simultaneous systems of options.

content form separately) on the figurae level; and substantial connotations, which always stem from the expression substance. Thus, the sign is asymmetrical, oriented from the referent, via the forms to the expression substance. Furthermore, formal connotations on the sign level, though arising from the variant organizations of the invariant referent, are something quite distinct from the nuances of a given meaning (which is one of the things that the stylistic notion of connotation confusingly seeks to formulate), in spite of being contemporaneous with them. Each time a new content, i. e. another denotation, is proposed for the same referent, or state of affairs, additional features are thus added to the primary meaning, *and* the choice of that particular alternative engenders, on the secondary level, a connotation!

II.4.4. Beyond classicism in the theory of connotation

> *"To every existing linguistic usage there are finally attached certain notions, as a rule of hallowed character, which consist in the fact that a given linguistic usage (or a given set of linguistic usages) is an* expression *for a* content *consisting of factors outside language: home, people, nation, etc./- - -/ Here again, we find the content/expression function and are once again confronted with sign systems which must be described functionally by application of the exchange test."*
>
> *Hjelmslev 1973:115*

So far, we have essentially been concerned with the interpretation of Hjelmslev's "classical" theory of connotation, trying to save it from confusion and incoherence. Such as it emerges from this interpretation, the theory still raises a number of serious questions, which we shall have to discuss, however briefly, in this section. Here, we shall touch on three, related questions; there are no doubt many others. First, is there a clear limit between connotative expression and content? Second, is every denotational language also a connotational language, or, are there particular conditions for the emergence of the latter? And third is the connotational language really the exact inversion of the metalanguage, as Hjelmslev surmises? In addressing ourselves to these questions, we will ge beyond the "intuitive foundations" of Hjelmslev's work, employing concepts derived from the researches of earlier chapters. Nonetheless, we will insist on Hjelmslev's (1943:105) contention that the theory of connotation should be a *formal* theory, treating of the mutual functions of the connotators, i. e. the relations between the relata of the connotative sign.

As a background to the treatment of the first two issues, it will be necessary to consider the way in which Hjelmslev introduces the concept of connotational language. The task at hand is to analyze a "text", and Hjelmslev observes that the assumption of its structural homogeneity cannot be upheld in practice; instead, different systems must be posited in order to explain the units completely (quoted as the epitaph of section II.4.2.). Directly after these considerations, there follows the list of 6 types and 4 sub-types of systems or "connotators" (p 102), as they are subsequently designed (p 103). After the list, Hjelmslev goes on to say that the different types are "mutually solidary", so that each denotational language will have to be determined in relation to each one of them: thus, every denotational sign will connote a particular style, stylistic level, genre, national language, dialect, and so on – infinitely, perhaps, because the list is not meant to be exhaustive (p 103). If we were right in taking the definition, rather than the examples, seriously (cf. end of section II.4.2.), each denotational sign must form the basis of innumerable (potential) connotative signs. This is hardly feasible, if most of them do not remain potential.

"Heterogeneity" was given a prominent part in semiotics by the work of Garroni (1972:317 ff), who used this notion to throw some doubts on the specificity of the cinema as a semiotic system. Metz (1973:164) refers to Garroni, when he argues for the autonomy of the connotative signifier, and so does Kjørup (1977), when conceiving the film as "a meetingplace of multiple codes". In the sole passage where Hjelmslev refers to such a heterogeneity, it clearly applies to the given "text", whereas each one of the systems must be supposed to be "specific", or else there could be no connotational languages identifying the systems as such. It is not our task to determine whether in the case of the cinema or other semiotic systems, none of the systems present are sufficiently predominant to define the text (Cf. Metz 1977:109 ff). However, Hjelmslev's concept of connotation clearly supposes there to be, in the case of a verbal text, one central system, the linguistic one, which *constitutes* the text, and a potentially infinite number of other systems, which work on the text established by the first system. It is arguable that the choice of first system depends on Hjelmslev's particular research interest, but this choice is certainly not unrelated to what is taken to be essential in the ordinary Lifeworld. The same thing could be said about pictures (and the cinema).

The problem of connotation arises when it is a question of telling apart the different systems involved in the same "text": thus, the signs present in this "text" stand for the systems to which they belong, the systems themselves being the contents of these sign functions. At least in this concrete task, what is important is to distinguish the content "Danish" from the content "Swedish", not to separate the national stereotypes, which these meanings in their turn suggest (Cf. II.4.2. and II.1.2.). If the Danish language is a "symbol" for the nation, for home and people (1973:116; cf. 1943:105), and if "symbol" is to be taken in Hjelmslev's own sense (cf. 1943:100), then this can only mean that other meanings are parasitic on the content plane of connotational language itself: they are contextual implications (Cf. II.1.2.).

This is not very clear in Hjelmslev's writings, but it must be admitted that we have not been particularly clear about it ourselves: is "metaphor", for instance, the expression or the content of the connotative sign (Cf. fig. 24, fig. 26 and fig. 30.)? The fact is we have no separate terms for describing the content plane and the expression plane of connotational language: "metaphor" usually designates both, and so does "national language", "poetry", and so on. This does not apply to the nation, or the social groups and situations generally, which are mere implications, lying outside the connotative sign.

If this is so, perhaps Molino is right in saying that connotational language, in Hjelmslev's sense, is tautologous, and thus uninteresting (Cf. II.1.2.). Or maybe it can retain its interest, while still being tautologous, if we can identify connotation with what Goodman calls exemplification (cf. II.2.2.). Our first issue becomes inextricably mixed up here with the second one. We have observed that a denotative sign can be the basis of an innumerable series of connotations. Therefore, it seems more reasonable to suppose that only one of these potential connotations, or just a few of them, will be chosen to function as the connotational language of a given denotative sign in a particular context. In the case of the heterogeneous "text", from which Hjelmslev takes his point of departure, the signs are expressions of the systems to which they belong, because the task is that of identifying these systems. But in a more ordinary interpretational context, a particular structure will be needed in order to isolate the relevant properties chosen for connotation (Cf. II.2.2.). Thus, connotation would be a particular case of exemplification: the exemplification of sign properties!

However, the first requirement for this description to be valid is that the connotative contents are properties possessed by the denotative sign. This would be trivially so, if Molino were right in thinking that the Hjelmslevian connotational language must be tautologous. But it seems to me that Molino is mistaken: when he (1971:16 f) suggests that the Marseille dialect simply will connote the Marseille dialect, the two occurrences of the same term do not stand proxy for the same phenomenon. In the first case, we are concerned with some particular feature, or features, of the utterance; in the second case, with the whole system of Marseillian particularities. In traditional, articulatory terms, the Parisian /r/-phoneme is a dorso-velar fricative, but its equivalent in Southern France is often an apical vibrant. If these articulatory characteristics can be taken to correspond to auditive ones, the Southern variant of the /r/ certainly exemplifies apicality and vibration, at least if used in Paris: these are properties the phoneme possesses and refers to (analogous to plastic language, cf. II.3.). But being Marseillian and being French are not properties of the same immediate character. At least the former is a relative property: only once we know, for other reasons, that it is French, will an /r/ realized as an apical vibrant point to the Marseille dialect. More importantly, while apicality and vibration are entirely contained in the apical vibrant, Frenchness, and Southern-Frenchness, are only partially so contained. That is, the connotative content by far exceeds its expression (at least in this case).

Much, of course, hinges on how far we are willing to extend the notion of possessing a property. Goodman (1968:54) says that Socrates exemplifies the property of being rational, but Janlert (1985:231) observes that this property is not "intrinsic" to Socrates, so that, from another point of view, he could as well be taken to exemplify the property of being a "henpecked husband". Since intrinsicness has already been made a relative concept (1985:134 ff), the import of this claim is not clear. However, if Socrates had been a personal friend of ours, or our neighbour, none of these properties would perhaps have been "intrinsic", if this means constitutive of the person as such: his looks would have been more essential than his rationality, or his property of being a henpecked husband, for our identifying him as being the same. But this is not the case. Searle (1969) has observed that if, one after the other, all the works of Aristotle were shown to have been written by other people, there would be some point where the proper name "Aristotle" would change its meaning to us. In the same way, an irrational Socrates, which is in contradiction to the whole Socrates legend, is hardly acceptable, but our legendary Socrates could fairly easily dispense with his particular relationship to Xanthippe, who is only known from anecdotes dating from the Roman period. Given the present state of the Socrates legend, both abovementioned properties are relatively salient, and Socrates could easily be taken to exemplify them. And yet, our neighbour Socrates seems to exemplify the properties of his looks in a more immediate sense.

There are also less immediately exemplified properties. In the syllogistic exercises of the Middle Ages, many other properties were attributed to Socrates, some of which he must possess in common with all human beings: that of being mortal, for instance. But since Socrates shares the latter property with so many others, there must be a precise structure defining the context in which he is to be taken to exemplify mortality. Because of their particular histories, others may be more susceptible to exemplifying this property. All this is also true of personal characteristics which are not specified by the tradition. For instance, while it is not implausible that Socrates made love to Xanthippe before going to the famous Symposium, though Plato would never have mentioned such a fact, Socrates could never exemplify this property, if it had not been explicitly introduced beforehand. Hence, in these two cases, exemplification could only take place inside particular relevance systems, which specify as relevant properties which are not constitutive of the exemplifying object.

But the case of connotation is different again. To be-

gin with, properties which are more or less constitutive are involved in the sign function: not just any property possessed by the Marseille dialect will do, but only those in which it differs from other French dialects, and those which are easily identified as such, i. e. which are typical of it (cf. the brand mark "Panzani", in II.1.4. above). Thus, we are concerned with relatively salient properties only, though a principle of relevance is still needed in order to determine which one of the salient properties carries reference in each particular case. But unlike the cases considered above, what is exemplified in a connotational language is not a property made perceptible inside a system of relevance, *but the system itself.* The apical vibrant realizing the phoneme /r/ indicates the Marseille dialect of the French language, but it is only a small proper part of that dialect, and the dialect itself is a network of relations spanning from this part to many others. It therefore refers to a property of which it only possesses a part, or, more exactly: one relata in the network of relations which defines the property. This is quite different from Socrates exemplifying the property of being mortal, along with all human beings, for each one of them will possess this property entirely. We introduced earlier the term *pseudo-exemplification* for the phenomenon considered here (Cf. I.2.4.): in this case, however, it is not Lifeworld experience, but the rules of the sign system, which define the co-occurrence abductions. But this difference does not seem to be essential from our present point of view.

It remains to be considered whether this description applies to all cases of connotation. Since there is no exhaustive list of such cases, we cannot answer this question, but the description seems to be true of Hjelmslev's examples, except perhaps the distinction poetry and prose (case 1), and physiognomy (case 6 d). If we take poetry to be a system of poetical procedures, it will answer to our description too, but the equivalent suggestion in the case of physiognomy is scarcely convincing. As for the connotations we have suggested, for instance "still-life", "advertisement", "distortion", "metaphor", etc., they are different, insofar as it is the conjunction of many signs, or perhaps rather the relations between them, that is doing the exemplifying. Although there is no independent system defining the property exemplified, it is still true that this property cannot be found in its entirety in any of the signs which serve as exemplifying objects. While it is possible that some connotations may be simple cases of exemplification (where sign properties are exemplified), it has been shown that many connotations involve more complex operations, the particular nature of which we must refrain from investigating further.

In Hjelmslev's (1943:105 ff) study of connotation, and then in Barthes' (1964 a:163 ff) presentation, this peculiar language type is contrasted with a more well-known one, metalanguage, which is said to be a language, the content of which is another language. It has been observed above (in I.4.2.) that if we take seriously the interchangeability of expression and content for which Hjelmslev argues, connotational language and metalanguage will prove to be the same according to Hjelmslev's definitions. Therefore, we searched for some means of characterizing formally the difference between expression and content, hitting upon their relations to the perceiving subject and to each other: in the prototypical sign, there is one item which is directly present and not thematized, which is called the *expression,* and another item, called the *content,* which is indirectly present and thematized; in addition, the two items are discontinuous to each other, and are felt to be of different nature (Cf. I.2.5. and I.4.2.). In the following paragraphs, we will try to probe a little deeper into the consequences of this, for the comparison of metalanguage and connotational language.

If connotational language is a language, the expression of which is another language, then this other language is directly given, but it is the connotational content which is thematized. In a parallel fashion, if metalanguage is a language, the content of which is another language, then it is the second language which is thematized, but denotational language is directly given. So far, it should be noted that at least the way in which Barthes (1964 a:164) has illustrated the two double language systems is misleading, for the perceiving subject will have access to connotational language through denotational language, i. e. the "primary" system, but his only possible access to metalanguage is through metalanguage itself, that is through the "secondary" system! Differently put, in the case of connotational language, denotational language is still the only thing there is to be perceived, but what metalanguage offers to perception is something quite distinct from denotational language. This is important: there can be hierarchies of metalanguages, because we can use the signs of the directly given metalanguage to define the next one and so on, but there can scarcely be any connotational hierarchy, since all that putative series of connotational signs would be indirectly given, and so could not be separated into different signs: what has often been taken to be hierarchies of connotational languages, in the tradition stemming from Barthes, are really signs having somewhat different expression planes, perhaps depending on partially overlapping sign properties of the denotational signs (cf. fig. 24, etc.).

Translated into the terms of appresentation, Hjelmslev's definition of metalanguage still seems valid, at least for some of those cases which are often so termed, for instance definition and translation. The definition of connotational language is, on the contrary, hardly acceptable: true enough, it is denotational language which is directly given, but we would not normally want to say that in the examples so far considered, it is only the connotative content which is thematized. Consider a person who hears something said in Danish, without under-

standing that language, although he is able to identify it as being Danish. Then only one layer of meaning is accessible to him, but if he is aware of the fact that the intended denotation is something different from "Danish" we may still want to say that he is interpreting a connotation. If he takes all Danish words and sentences to be just a redundant way of affirming "I am speaking Danish", it would be more proper to say that "Danish" is to him a denotation. Thus, it seems essential for a connotational language, that some other language layer should be felt to receive the primary thematization.

We have so far ignored the inner organization of the relata in the two double language systems. Since the expression plane of the connotational sign is made up of another sign, it should contain one part which is directly given but unthematized, and another part which is indirectly given but thematized. And the content plane of a metalanguage should be composed of one part which is directly given but unthematized, and another part which is indirectly given but thematized. In order to make sense of this, we must suppose there to be different degrees of indirectness and of thematization, which, in the simplest case, would form two parallel, but inverse scales, so that a higher degree of directness implies a lesser degree of thematization. This is of course not true generally (Cf. I.4.2.), but perhaps it will turn out to be valid in the case of Hjelmslev's two double systems. Thus, we should expect the denotational expression to be the most directly presented and the less thematized relatum of the connotational sign, with the connotational content being the less directly presented and the most thematized relatum, while the denotational content, and perhaps the connotational expression, considered as a whole, occupy intermediate positions on both scales. Also, in the case of metalanguage, there should be a series of decreasing directness and increasing thematization from the metalinguistic expression over the metalinguistic content as a whole and the denotative expression to the denotative content. But very little of this seems to be true, considering the usual examples.

Since the expression plane of the connotational sign is a denotational sign, it will no doubt contain one part, which is at the same time the most directly given and the less thematized of the two relata; but while the connotational expression plane, considered as a whole, is more indirectly given, it is also less thematized; and the connotational content, which is the relatum least directly given, must be less thematized than the denotational content, though more so than the connotational expression (cf. the expected connotational language of fig. 38 a with the real one in fig. 38 c). The argument for this has already been given. But one might object that just as the aesthetic function thematizes plastic language, it is capable of thematizing the connotational part of the sign, so that it gets more semantic weight than the denotational part. It is arguable that the fact of "News" being printed in "Times" is more salient, in the "News" advertisement, than the content of the word "News" (Cf. II.3.4.). The answer to this is perhaps (as Prieto would have argued; cf. II.1.1.) that this is really a *picture of* a verbal sign realized in graphic substance, not the latter sign itself, so that the modification of theme will happen *inside* the content of another sign (which is not a metalanguage, as we shall see in a moment). But perhaps there *are* cases in which the connotational part of the sign is more thematized than the rest. However, if we consider the kind of examples encountered so far, it seems clear that this can only appear as a kind of deviation from what is felt to be the normal state of the connotational sign (cf. the argument about figurativity in I.4.6.).

Let us suppose, with the logicians, that a metalanguage is a language used for the introduction and the definition of terms used in another language; to this model may be assimilated the explication of difficult words employed in ordinary language, and the translation from one language to another (Cf. Jakobson 1963:217 f). In all these cases, inside the content plane of the metalanguage, two terms are related as an expression to a content. They may be related by stipulation, as in logic and many sciences, or as a result of analysis, as in linguistics and semiotics, which is, by the way, what interests Hjelmslev (1943:106) in metalanguage. But here, denotational language is treated in exactly the same way as any other object referred to: its expression and its content, or, more exactly, those parts of it that serve as expression and content when it is used

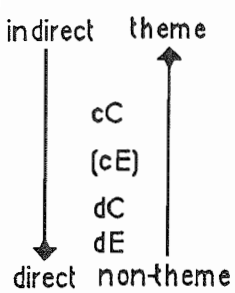


Fig. 36 a. Expected connotational language

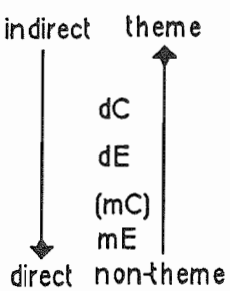


Fig. 36 b. Expected metalanguage

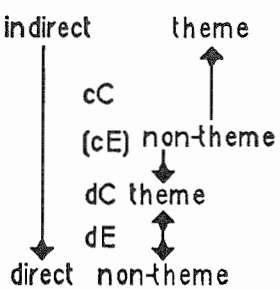


Fig. 36 c. Real connotational language

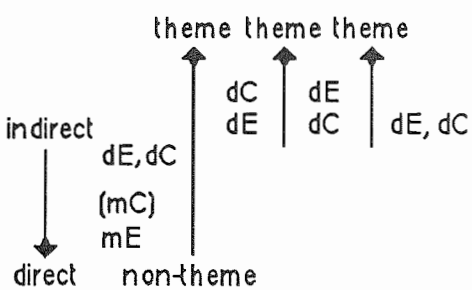


Fig. 36 d. Real metalanguages

as a sign, are located at the same level of indirectness, and which part of the denotative sign which is thematized will depend on the thematic organization of the sentence, just as in an ordinary linguistic utterance. For instance, in the sentence "It is 'b-o-y' that means 'boy'", it is the graphic realization of the expression plane that is treated as thematic! (cf. fig. 36 b and 36 d). In these cases, there is at least the semantic relation between expression and content, or between whole signs, which makes for the particularity of metalanguage. Even more trivial becomes the sense of the term "metalanguage", when the word "word" is said to be metalinguistic, just because its referents are linguistic in nature, or when, like Jakobson (1963:218), one wants to include sentences like "Do you understand what I said?". In spite of Russell's metaphysics, there is really no basis for distinguishing levels in cases like these.

More interesting are cases like Quine's (1953:159 ff) "'Cicero' contains six letters", and Récanati's (1979: 78 ff) "'Monsieur Auguste' est une expression servile". In fact, if these sentences can be said to relate any expression to its content, the expression and content must be those of connotational language. In Recanati's example "'Monsieur Auguste' est venu", where the quotation marks are supposed to correspond to some "metalinguistic" intonation, and where the employment of this particular title has already been criticized as being servile, the noun phrase must be taken to stand both for the person called Auguste and for the connotational content exemplified by the earlier use of the title. Here, then, there is really a connotational language, where the connotational content is found relatively high up in the thematic hierarchy.

Metz (1977:147 ff), it will be remembered, distinguishes metalanguage, which is *about* another language, from transcoding, where two expressions have a content, perhaps only its substance, in Hjelmslev's sense, in common (cf. II.2.2.). When we discussed plastic language, we touched on a very different case, in which two contents have the expression plane in common, or perhaps only its substance or matter (cf. I.3.1. and II.4.2.). While, according to Metz, transcoding must not be confused with metalanguage, we have already argued that the reunion of plastic language and iconic language, or even of many iconic languages, in one expression, is something different from connotational language. But there is a further case: the expression plane of one sign could be the content plane of another. According to Buyssens (1943; 1967; cf. Prieto 1968), who called this a *substitutive semiotical system* ("une sémie substitutive") a case in point is writing, which is the expression of a content consisting of the phonemes, which themselves are the expression of the content of a linguistic sign. This is perhaps untrue, or not quite correct (Cf. Hjelmslev 1958; Prieto 1968), but there may still be other cases of a semiotical system having the expression of another system as its content. For instance, when a picture shows another semiotical system, perhaps a self-presentation (cf. II.2.2.) or, let us suppose for simplicity's sake, one of those objects which themselves are signs or "symbols" of something, for example a cross, then this is not really a metalanguage, because nothing is said about the way an expression relates to a content, so perhaps it could be substitutive semiotics.

Nevertheless, this parallel does not seem to be valid. For instance, in Buyssens's hypothesis, "b-o-y" will be the expression of /bɔi/, which is thus its content but also the expression of [+human, -adult, -feminine, ...], which is the content of this later sign function. Thus, there is a scale of decreasing directness, correlated with another scale of increasing thematization, from the letters to the linguistic meaning (like in 36 b, if mC is simply identified with dE). But now consider a picture showing a cross, where the cross is known to stand for Christianity. First of all, the cross seems to remain the most thematized relatum, and we may attend to those features it has, which are of no importance for its signifying Christianity; it is difficult to attend similarly to "b-o-y". In the second place, it is much less clear which one, if any, of the relata is the most directly given. Maybe our terminology is as yet insufficient to tackle the pictorial case.

And this brings us to the point, where it is necessary to enter the discussion of iconicity.

In this section, we have tried to go beyond the mere interpretation of Hjelmslev's theory of connotation, to ask some more fundamental questions about connotation and its relation to metalanguage. We have seen that there are potentially infinite sign properties which may serve as a basis of connotational language so, in a given situation, certain of these properties must be picked out and transformed into signs on a secondary level. Connotational content was distinguished from the implications following from it, and it was also shown to be distinct from the properties of denotational language which it uses for its expression: often, we argued, the latter properties will only pseudo-exemplify the connotative content. Then we considered how Hjelmslev's definitions of metalanguage and connotational language will fare, if interpreted in terms of relative thematization and relative directness, and the result proved to be contradictory with the examples discussed above. Most notably, we concluded that the connotative content was not a content in the proper sense, because it was not the most thematized part of the sign. Different cases, which are usually considered to be metalinguistic, were discussed, and these were distinguished from, among other things, Buyssens's case of substitutive semiotics, as found in writing standing for phonemes. To end this section, the case of a picture showing objects which were in themselves signs was compared with a substitutive semiotical system, and was found to be different. And thus, the problem was passed on to our third part.

II.4.5. Summary and conclusions

When Metz said that the connotation was the *form* of the denotation, he was undoubtedly wrong, if he meant "form" to be taken in Hjelmslev's sense: the expression plane of a connotative sign, it is true, may be composed of the "form" or the "substance" of the denotative sign. At the end of this chapter, however, we can see that, in the vague, common sense meaning of the term, current in art history, connotation really depends on the "form" of the sign: its exterior trappings, whether that is taken to mean the thing character of the expression plane, or more generally the fluctuations of the variants in relation to the invariant.

In the introduction to this chapter, a few conceptual and terminological confusions were cleared up: the idea of there being different connotations from different strata of the sign was shown to be in contradiction to the definition of connotational language, and signals turned out to lie outside the domain of connotation. Then, Metz's different approaches to Hjelmslev's theory of connotation were discussed, including his criticism of Hjelmslev and Barthes, and of his own earlier interpretations. What Metz took to be two possible readings of Hjelmslev turned out to be two different kinds of connotation, so explicitly designated by Hjelmslev: *formal* and *substantial connotation.* Some residual confusion of the semiotic concept of connotation with the stylistic notion was apparent in Metz's reasoning, and his argument for an autonomous expression plane of the connotational sign, which depended on that confusion, turned out to be erroneous, but at the same time his claim must of course be true in a different sense, if there are such things as substantial connotations (II.4.1.).

In the following section, we probed deeper into the presuppositions of Hjelmslev's ideas about form, substance, and connotation, relating them to Bühler's model of the sign, to Schütz's different schemes and to the discussion about opaque contexts. Like plastic language, connotation seemed to have something to do with the thing character of the sign. However, not only can the form or the substance of the denotative sign serve as expression plane of the connotative sign; according to Hjelmslev, the connotative sign has its own form and substance, and the theory of connotation is primarily concerned with the former. Contrary to what Barthes thought, we discovered, ideology cannot be the form, but at most the substance of connotational language. Taking Hjelmslev's hint, we therefore analysed his list of connotators, not from the point of view of their meaning categories, but in their particular relationship to denotative language. Even so, the examples turned out to delimit a much smaller class of cases than the definition. We decided to follow the definition, and then discovered that, while the mere thing character of the sign is important to plastic language, connotation depends on something which is a sign being seen also as a thing (or more generally, as later sections showed, as something beyond the sign invariant) (II.4.2.).

The dialectics of the invariant and its variants was explored in the next section. Formal connotation was explained by showing it to result from the choice of a variant content for an invariant Lifeworld situation, but the connotation was distinguished from the additional denotative meaning resulting from the organization of the situation in the sign. Formal connotations on the sign level turned out to depend on expression and content together, since these are inseparable, but on the figurae level expression and content give rise to separate connotations; as for the substantial connotations, they were shown to result from the expression plane. Thus, connotation depends on the sign being asymmetrically organized, oriented from the referent, by way of the forms, to the expression substance (II.4.3.).

In the last section, Hjelmslev's theory of connotation was criticized and developed, confronting it with Goodman's theory of exemplification, such as it has been discussed in earlier chapters, and with the phenomenological theory of appresentation. We argued that connotational language must suppose some explicit reference to sign properties, for otherwise, a single denotative sign could give rise to innumerable connotational signs. At least some types of connotations were shown to pseudo-exemplify, rather than exemplify in the strict sense, the connotational contents. When we then proceeded to apply the phenomenological theory of appresentation to connotational language and metalanguage, we found that the content of the former cannot be a content in the strict sense, and that the latter, at least in its most typical examples, is not a double language structure in this sense. At the end of the section, we also took up for consideration Buyssens's substitutive semiotical systems, often equally treated as a kind of metalanguage, and asked if the picture is a substitute for the signs of the Lifeworld in this sense. This seemed doubtful, but we recognized that our problem could only be properly resolved in the context of our discussion of iconicity (II.4.4.).

In distinguishing denotation and connotation, but also connotation and plastic language, we have in fact isolated different principles of relevance applying to one and the same object; thus, in this last chapter of the second part, we have reached the conclusion of our treatise of relevance, which occupies the whole of this part. Nonetheless, our third part, concerned with iconicity, will lead to particular applications of these general themes.

Part II: Summary and preview

In this second part, the theoretical elaboration of a few central, semiotical concepts took its point of departure from the discussion of a number of more or less well-known pictorial analyses, notably Barthes's essay on the "Panzani" advertisement, as well as Floch's articles on Kandinsky's "Composition IV", and on the "News" advertisement. We were concerned, in particular, with the concepts of plastic language, of symbol systems and semi-symbolic systems, of connotation, exemplification, and self-identification.

After first approaching Barthes's analysis through a discussion of his critics, trying to take the criticism a little further (II.1.1.), we began the investigation of what seemed to be the theoretical core of the "Panzani" article, viz. the distinction between denotation and connotation. We showed that there were at least four different distinctions making use of these terms in the current literature (II.1.2.). However, Barthes himself claims to follow Hjelmslev, whose distinction we called the semiotical one; with this in mind, we demonstrated that this concept of connotation has nothing to do with Panofsky's iconological model, despite many claims to the contrary (II.1.3.). On the other hand, our detailed review of what Barthes calls "connotation" in the "Panzani" essay showed this term to cover a heterogeneous lot of phenomena, only a few of which would really be connotations in Hjelmslev's sense (II.1.4.).

But perhaps this negative result can be at least partly explained by the fact that Barthes is analysing the depicted world rather than the picture, treating the former as a sign system in its own right, which should thus also have its own connotations. Elsewhere, Barthes has been taken to argue that use is a kind of meaning, and other semioticians have clearly stated this opinion, or the reverse, that meaning is a kind of use. But none of these theories are actually held by Barthes, we claimed, showing at the same time that both versions are bound to run into problems (II.2.1.).

Next, we considered a more general conception, suggested by Greimas and Metz, according to which the Lifeworld is a language in a much stricter sense, in that there is something to perceive and something which is identified. Relying on the psychology of perception, and on Goodman's theory of exemplification, which we extended so as to include a number of variants, we argued that there were indeed sign functions, not in the Lifeworld as a whole, but in the depicted objects, which were similar in that respect to the display of objects in a show-window, or in the museum's show-case, at an exhibition, and so on. In particular, we defined the notion of self-presentation and found there to be many intermediate cases between it and Goodmanian exemplification (II.2.2.). To end the second chapter, we also had a brief look at a neglected aspect of the "Panzani" picture, its surface qualities, or, as we were later to call it, following Floch, its plastic language (II.2.3.).

In the third chapter, we first returned to the concept of connotation, in Hjelmslev's sense, suggesting it should not be confused with plastic language either, though being admittedly close to it (II.3.1.). Then, in the discussion of Floch's approach to Kandinsky's "Composition IV", we emphasized the interest of the *plastic reduction,* the effect of which is to treat an ordinary picture as if it had been "abstract", but we regretted that Floch took plastic language to be always redundant in relation to the iconic one (II.3.2.). In our review of Floch's "News" analysis, we discovered that the structure he claimed to have found was really a prototypical configuration (II.3.3.), and that what was treated as a parallel between plastic language and the iconic content was more of a pictorial metaphor (II.3.4.). Floch's and Greimas's notion of semi-symbolic systems was discussed in relation to Hjelmslev's contrast between languages and symbol systems, with complex results (II.3.5.). Finally, we relied on psychological findings to suggest that iconic language is not necessary redundant, but may express a meaning of its own (II.3.6.).

In our fourth and final chapter, we returned to Hjelmslev's concept of connotation, partly to justify what had already been said about it in earlier chapters, and partly to amplify our interpretation and to add a few critical reflections. We argued it was contradictory for each sign stratum to engender its proper connotations without the participation of other strata. What Metz took to be two possible interpretations of Hjelmslev, we showed to be two connotation types, explicitely distinguished by Hjelmslev: formal and substantial connotations (II.4.1.). Subsequently, connotation was suggested to depend, like plastic language, on the thing character of the sign. We also considered Hjelmslev's list of connotators from a formal point of view, finding it to include a much smaller range of phenomena in connotation than permitted by the definition (II.4.2.). But we opted for the definition, which seems to imply a dialectics of the invariant and its variants. If so, formal connotations require us to include the referent in this dialectics, but the result is something quite distinct from connotations in the sense of stylistics (II.4.3.). We also suggested a denotational language will only carry with it a connotational language when it includes an explicit reference to its own sign properties. And yet, it seemed, connotation is not exemplification, in Goodman's sense, but rather pseudo-exemplification. Besides that, connotational language is not really a double language structure, in the strict sense, because the connotative content is not the most thematized part; and it is not strictly the inversion of metalanguage (II.4.4.).

Both plastic language and connotational language are secondary languages, principles of relevance that may be applied to objects, whose dominance concept is

determined by another principle of relevance: in the third part of this study, we will now investigate the nature of iconicity, the principle of relevance that appears to specify the picture *as* a picture.

Part III.

Pictures as clouds and mirrors; or: variations on the law of Töpffer

"As the cartoonist Rodolphe Töpffer knew, nearly every variant of the human eye or the human mouth simply provides another *face that can be seen in the world; and by the same token, nearly every variation of a drawing from real objects finds some correspondence in the everyday world of the person".*

Gardner 1980:220

"Seuls les phénomènes discrets peuvent se répéter. Le continuum ne se répète pas.Il est toujours là."

Malmberg 1973:117

Many stories have been told about the origin of pictorial art, purporting to inform us about its nature: Narcissus discovered his own reflection in the water; somebody else tried to catch a shadow; yet others set out to imitate the imprints left on the rocky surfaces by their paint-dripping palms. To Alberti and Leonardo, the canvas should be like a window. A newly cleaned one, no doubt.

But the story has other variants as well. The same Leonardo discovered the motives of his paintings in the passing configurations of the clouds, or in the damp-stains left on the walls. Well before Rorschach, the painter's mind could be projected onto the outside world, then transposed to the canvas where, by means of a few additional details, the painter's interpretation was made the obligatory one also to other observers.

Töpffer's law, in Gombrich's (1960) version, tells us that no matter how the lines are drawn, they can always be seen as forming a face, having a particular facial expression. Those who have admired the infinite variety of countenances found in Töpffer's own cartoons, created from 1829 onwards, will hardly be surprised at this observation. When Gardner (1980:220) takes up this idea from Töpffer and Gombrich, it is in an extended sense: any combination of strokes may be seen as standing for an object of the world. In the following pages, we will be referring both to the original narrow sense of Töpffer's law, and to the wide sense given it by Gardner. As in the first part, many of our pictorial examples will be pictures of faces, but we will also admit a small extension, to the whole human body. However, it is not possible to forget that the human face is a very peculiar kind of object – to human beings!

One may well ask whether the law of Töpffer presupposes a mirror theory or a cloud theory of pictures. It certainly assumes that there is some kind of similarity, or an experience of similarity, which relates the picture to its object. So far, it is on the mirror side. But at the same time it makes this similarity, or this experience of similarity, so general that it no longer seems to be a sure foundation of the sign function. Thus, it is rather on the cloud side. Or there could be a third alternative. Anyhow, this brief consideration of Töpffer's law has already touched on many of the themes of our third part.

But which theory of pictures is then the received version, which we have to refute in order to demonstrate an appropriate radicalism? Both Eco, in semiotics, and Goodman, in philosophy, have attacked what they take to be the common prejudice, according to which pictures are pictures because they resemble that which they are pictures of, or because they have properties in common with it. But in the psychology of perception, Kennedy has launched an attack on what he considers to be everybody's view, according to which pictures are conventional signs, just like verbal language. So who is really taking the Copernican turn in pictorial semiotics?

No doubt Eco and Goodman aim their blow at the great majority of people, the common man, member of the ordinary Lifeworld and undisturbed by any scientific preoccupations. On the other hand, what Kennedy wants to call into question is a kind of secondary naïveté, the convictions of the readers of last century's ethnology, comparative psychology, and philosophy. Semiotics and philosophy, it seems, fall one Copernican blow behind.

But the errors of the secondary naïveté do not neces-

sarily prove the virtues of the primary one. Neither a mere mirror theory nor an outright cloud theory seems adequate. And perhaps they have never been held: Peirce, for instance, was certainly not as naïve as has been thought (Cf. III.1.). What we have to do now is to consider critically the views of both the critics and the defenders of *iconicity:* that relation of similarity which has been taken to justify, or *motivate,* the unity of expression and content (and/or referent) in pictures and certain other signs.

In part two, we started out from the consideration of a few particular *text analytical* approaches to pictures, which were then reviewed from a *system analytical* point of view. Here, the reverse procedure is the only appropriate one; iconicity has always been approached system analytically, or so it seems. This time therefore we shall have to add a number of text analytical examples of our own in order to put the traditional system analysis into perspective (Cf. I.1.).

The closest we can come to the primary naïveté in the semiotics of iconicity (which is not very close) is Perice's theory. In the first chapter of this part, we will be concerned with what Peirce had to say about signs in general, and icons in particular; we will confront his model with that of Saussure and Hjelmslev, and with those of a few earlier and later sign taxonomists (III.1.); and then, in the second chapter, Peirce's critics and other doubters of the primary naïvety will be taken up for discussion: notably Bierman, Greenlee, and Eco (III.2.). There then follows a third chapter, which considers the contributions made to our theme by different currents of perceptual psychology, and ends with the discussion of a few philosophers, who seem to go beyond both the primary and the secondary naïvety, initiating a quite new approach: Wollheim, Wittgenstein, and Husserl (III.3.). That completes the more historically oriented chapters of this part.

In the last three chapters of this part, we try to make a small contribution towards the resolution of the iconicity problem. First, we have to clarify some confused issues, for whose present condition Eco, in particular, must be held responsible. Thus we show that pictures have neither a first, nor a second articulation, in the linguistic sense, but are still built up of features; and that there is no third articulation in the cinema, or anywhere else. Instead, *resemanticization* is introduced to explain the peculiarity of pictures (III.4.). Further properties which are characteristic of pictures are then discussed (III.5.).

Our final chapter begins with a critical discussion of some aspects of Goodman's picture definition. Then the limits of iconicity are taken up for discussion, arguments for the asymmetry of the iconic relation are presented, and pictures are distinguished from metaphors, symbols, and other iconical signs (III.6.). And there, we will be content to leave the problem of iconicity for the time being.

Chapter III.1.
Mirrors – The theory of iconical signs

"Le dessin est en quelque sorte la philosophie des sens."
Degérando 1800, II:394 f

Signs have long been distinguished into types. At least since Plato and Aristotle, those doing research into the nature of verbal language have opposed conventional signs to natural ones. And at least since Dubos, Breitinger, and Lessing, the means employed by pictorial art are said to be "natural signs", whereas poetry must be content to use "artificial" or "arbitrary signs". Saussure still has this simple distinction of two sign types: symbols which are "motivated", and signs properly speaking which are arbitrary, like those of verbal language. In the linguistic discussion, it was Jouffroy who, according to Coseriu (1977 b:35 f), observed in 1842 that if only those signs which are similar to what they represent are "natural signs", then many signs given by nature are not "natural": the relation between the pain felt and the scream it provokes is quite arbitrary in this sense. Thus, some signs are arbitrary in their origin, but not in their characteristics; others are motivated by their origin, but their characteristics are arbitrary; and then there are those which are arbitrary in both ways. Maybe this is Peirce's triad: icons, indices, and symbols.

But we do not have to go so far. It seems that early on, Leibniz distinguished signs based on arbitrary coexistence, similarity, simple conjunction (such as part and whole, i. e. synecdoche), and connexion (such as cause and effect, i. e. metonymy; cf. Dascal 1978:103 ff). Similar distinctions are also found in the work of Lambert, Bolzano, and Husserl (Cf. Holenstein 1976:148 ff), and, together with many more types, in a book by the ideologue Degérando (1800; cf. also Dascal 1983 a). Recently, this tradition of sign classification has been continued, notably by the mathematician René Thom (1973), and by Sebeok (1976:41 f, 117 ff), but Thom does not modify Peirce's categories, and Sebeok extends the taxonomy, using quite different criteria (Cf. Delledale 1979:195). In fact, whatever the status of proper names, signals, and symptoms, they do not seem to differ as to the *kind* of motivation relating the different parts of the sign. Peirce's originality is limited, no doubt, in relation to earlier classifications; but he seems to have fixed the definite state of the doctrine. Therefore Peirce's taxonomy is a natural point of departure.

No complete presentation of Peirce's theory will be given here (Cf. Bruss 1978; Burks 1949; Deledalle 1979; Greenlee 1973; Savan 1976; Sebeok 1976, 1979; Walther 1974; etc.). As for the indices, they have already been thoroughly discussed in our first part (I.2.). First, we will try to probe deeper into the notion of sign

motivation, by means of a confrontation of Peirce's sign model, and that of linguistic structuralism (III.1.1.). Then, icons will be discussed in relation to conventional signs, which Peirce calls "symbols", and we will try to get a little more than usual out of the subtypes of iconicity, with a little help from one of Peirce's predecessors, Degérando (III.1.2.). After that, the importance of the referent to the sign will be put into perspective – Rembrandt's perspective on Bathsheba through Hendrickje, to be precise (III.1.3.). Finally, we will have a few observations to make about similarity as a result, rather than a reason for iconicity, and about the possibility of there being also other kinds of motivational relations (III.1.4.). And that should have prepared us for the critique of iconicity, reviewed in our second chapter.

III.1.1. The Peircean and the Saussurean sign – from the point of view of iconicity

According to Peirce, a sign is always a *triad,* i. e. it is composed of three units, which are related in such a way that the relation between them cannot be dissolved into a bundle or relations between each pair separately. The three units are called *representamen, object,* and *interpretant;* and in spite of many protestations to the contrary inside the bounds of Peirce exegesis (notably by Deledalle 1979 and Walther 1974), these units have often, and rather successfully, been identified with the *expression,* the *content,* and the *referent* (or the "content substance") of the common linguistic model (Cf. II.4.). It will be convenient to use the more handy terms "expression" and "referent" for what Peirce calls "representamen" and "object"; the case of the "interpretant" is, I think, more complex (Cf. III.1.2.). Even so, there is one fundamental difference between Peirce's concept of the sign, and that emerging from the structuralist tradition: in Peirce's view, it is the representamen and the object, i. e. the expression and the referent, which are most directly related, while the interpretant, which is perhaps the content, comes third; but in the Saussure/Hjelmslev-tradition, expression and content are intimately connected, with the referent having a much looser relationship to both. The latter is repeatedly affirmed in an explicit way by both Saussure and Hjelmslev (Cf. II.4.2–3.). As for Peirce's conception, it becomes clear at least from the fact that various relations between the representamen and the object are considered, while the interpretant is only determined in relation to the representamen and the object together. Since at least in Peirce's view, iconicity is one of these possible relationships between expression and referent, and since in the Saussure-tradition no direct relationship between the two is posited, there seems to be no way of formulating the iconicity problem in terms of the Saussurean sign. This is not true, as we shall see. But first it will be necessary to take a closer look at Peirce's cross-classification of signs.

Peirce makes three threefold distinctions of sign types (we shall ignore his later, more complex taxonomy), first according to the manner of existence of the expression, then according to the relation between the expression and the referent, and last on account of the three-term relation itself. All these distinctions are based on Peirce's metaphysical categories: "Firstness", "Secondness", and "Thirdness", which are highly idiosyncratic and which, at least to me, seem impossible to grasp intellectually (but cf. Greenlee 1973:33 ff and Savan 1976:6 ff); perhaps they can be justified on the figurative level (Cf. I.4.). The first division, according to the nature of the expression, gives rise to *qualisigns, sinsigns* and *legisigns* (also termed *tone, token,* and *type*). In the first case, it is a quality as such, abstracted from any particular occurrence, which is the sign: the colour of the colour chip, for instance. The sinsign, on the other hand, is an actual existing thing, a singular object of the spatio-temporal world, and the legisign embodies a general rule or principle or, as Peirce also says, a "general". (2.243–246).[1] Thus both the qualisign and the legisign are abstract beings, but perhaps the first would correspond to global attributes, while the second, which is Peirce's third, would be the kind of property derived by generalization or formalization (Cf. I.4.4.).

According to the second division, which depends on the nature of the relation between expression and referent, there are *icons,* whose nature is Firstness, which in this case means similarity, and *indices,* which manifest Secondness, in this case contiguity, etc. (Cf. I.2.), and *symbols,* whose nature is Thirdness, or convention. This is certainly Peirce's most renowned and least original distinction, but it is the only one of interest to us here. Then there is also a third division, which distinguishes the *rhema,* the *dicent,* and the *argument.* Roughly speaking, the first is a predicate, or a propositional function; the second is a statement; and an argument comprises premisses and a conclusion.

There is much to be said about these divisions. First, one may wonder why only the expressions, not the contents and the referents, are classified according to their own particular nature, alongside the classification of their interrelations; but in fact Peirce was later to introduce a classification (in many variants) of both the "object" and the "interpretants" that seems to be of this kind (as "immediate", "dynamical", and so on; cf. Savan 1976 and Deledalle 1979). More important is that Peirce completely ignores all other possible interrelations between the relata of the sign, notably that between expression and content, which is fundamental to the sign as conceived in linguistic structuralism. It is no doubt the division into icons, indices, and symbols, which is the most intelligible, and intuitively one can even to some extent see the point of attributing these sign types to Firstness, Secondness, and Thirdness re-

spectively. Two items which are similar almost appear to be one and the same, but a contiguity or a causality takes at least two items to come into being. It is more difficult to see why the law, or the convention, should be a Thirdness: Peirce will tell us the law is a sign, and thus a third, but then to argue that the sign is a third because it is a law, would seem to get us into a vicious circle. Anyhow, whereas Peirce's second division may be understood as a determination of the modalities of variation in the relation between the first two relata of the sign, it is difficult to see in what way the third division tells us anything about the nature of the relationship between all three relata. In fact the rhema, the dicent, and the argument seem to be more or less complete and/or independent combinations of signs, which means they are units determined according to syntactical properties, and perhaps also semantic ones, but in no way dependent upon the particular relationship between the expression, the content, and the referent, in the sign. These perplexities will no doubt seem silly to all serious representatives of Peircean exegetics, but they are nowhere satisfied in the published part of Peirce's work, nor in that of his commentators.

Thus there is a relation between the expression and the referent, and another one between the expression, the content, and the referent. There seem to be two ways of conceiving the coexistence of these relations in the sign: either we have: S(R(E, Rt), C), i. e. the sign is a relation between *the relation between* the expression and the referent, and the content; or else: S = R(E, Rt) & S' (E, Rt, C), i. e. the sign is the conjunction (which is no relation, or perhaps we should say: an additive one) of the relation between the expression and the referent, and another relation between the expression, the referent, and the content. Walther (1974:63) is clearly presupposing the first of these interpretations when she rejects Eco's criticism of iconicity, because the interpretant must introduce an element of conventionality in the similarity between expression and referent; it is otherwise difficult to see how the interpetant is to modify the relation between the other two relata. In fact Bense, that Peircean apostle who Walther likes to follow, transcribes the relation "ZR ⋗ ((M ⋗ O) ⋗ I)" (quoted in Walther 1974:48) and this can perhaps be taken in the first sense. But Peirce's own affirmations seem to favour the second interpretation: he tells us some triadic relations may be resolved into various dyadic ones (e. g. "a moved from b to c" is the same as "a left b" and "a arrived at c"; cf. 1.186 ff), but genuine thirds, such as the sign, cannot be so resolved. This fits the second formula, where the three-term relation is left intact in spite of the presence of a dyadic relation. But in the first formula, the sign *is* resolved into two dyadic relations: one between the referent and the expression, and another between their relationship and the content. We could have used two separate formulae, the second having, as Peirce says, "one blank place", for the first. But in either case,we are really left with almost no information about this triadic relation; what Peirce has to say about the interpretant – and he has a lot to say about it – in no way elucidates its relational nature.

Saussure always insists that the expression and the content of a sign form an inextricable unity, like the two sides of a sheet of paper; and Hjelmslev always tells us about the mutual implication between the forms of expression and content (Cf. II.4.); so there can be no doubt that to the structuralists, the relation between expression and content precedes that of either to the referent. It would therefore seem to be the totality formed by the expression and the content that must be related to the referent. However, neither this whole, nor the relation which unites it, the sign function, can be similar or dissimilar to the referent in any interesting way. Again, it seems that structuralism has nothing to tell us about iconicity. While it is true that the problem of iconicity has been ignored by Saussure and his followers, the reverse of iconicity, which is arbitrarity, is one of the traditional themes of Saussurean exegetics. In resuming the Post-saussurean debate about the arbitrarity of the linguistic sign, Malmberg (1977:131 ff; 1979 b) has often insisted on the double sense which must be given to this notion in work of Saussure: first, and rather trivially, the sound used to express a particular content is not (usually) similar to the content itself; and the way in which the signs of a particular language analyse the world is not identical with the way the world itself is partitioned (if there is any). As an example of the first, neither /bul/ nor /bøf/ is in any way similar to the bull itself; and to illustrate the second, neither having one term for the phenomenon "wood", as in English, or having two, "bois" and "forêt", depending on whether it is more or less extensive as in French (Cf. I.3.2.), is a way of reproducing the organization of reality itself. In the first case, it is the internal relation between expression and content which is arbitrary, while in the second case it is the sign as a whole, which is arbitrarily related to the referent.

But this is perhaps not the whole story. First of all, to anticipate the discussion of the next section (III.1.2.), similarity and its reverse may pertain to simple qualities or to relations between qualities, i. e. they can be "sensuous" or "logical", as Degérando puts it. Of course, the expression /bul/ can have no qualities in common with the content "bull", but neither can it share any qualities with a particular bull found in the world of reference. It is an intriguing question as to whether the content and the referent can have properties in common: however, if we take "properties" to mean "attributes", Hjelmslev's conception of the "content substance" obviously implies that the attributes of the content must be a subclass of those found in the referent (Cf. II.4.3.). But there is no "logical analogy" or "diagram", to choose Peirce's term, between the content and the referent, for the same phenomenen may segmented into different categories in different languages, as we saw above (and in I.3.2.).

However, by definition, there is always a "logical analogy" between the expression and the content of the sign, so the expression must have the same relation to the referent as the content. In the case of verbal language, therefore, the logical analogy between expression and content leads to both the expression and the content lacking any logical analogy with the referent.

Yet this is only true on the sign level. Hjelmslev's symbol systems are opposed to language system because in the former, expression and content are conformous or, in another terminology, isomorphous – that is to say, diagrammatically similar also on the figurae level (cf. I.3.5.). If this similarity is also taken to include qualitative aspects, the result may be of the kind found in the "maluma/takete" case if divorced from diagrammatic similarity; and perhaps the onomatope, for instance the sound of the cock, gives an example of the conjunction of both qualitative and diagrammatic similarity, at least to a limited extent (Cf. I.3.5.). Or perhaps the similarity is here really between the expression and the referent: at least this must be the case when, as Jakobson (1965:27) describes, the temporal order of the enunciation tends to reflect that of the statement: for instance, that which comes first will usually be enunciated first, the premisses will precede the conclusion, and so on. In the case of verbal language, therefore, we should arrive at the following combinations:

similarities:	diagrammatic		qualitative
	signs	figurae	
E/C	always	never	no (except onomatopes)
E/Rt	no	no (except onomatopes)	no (except onomatopes)
C/Rt	no	no (except onomatopes)	C part of Rt

Table XV. Relations between sign relata.

Instead of just one question of iconicity, we are left with at least nine; and there is no reason to suspect that if pictures are different from verbal language in one of these respects, they must also be so in all the others. It is true that we will need some other criteria for discovering figurae than those of Hjelmslev, if we really are to compare the figurae of expression with those of the content and, in particular, of the referent; and at least in the case of pictures, it also seems necessary to take into account different modes of decomposition, at least those into attributes, proper parts, and perceptual parts (Cf. I.2.4.). But if the sign has three relata, there is undoubtedly more than one relation which may be studied from the point of view of its motivation.

We have found that Peirce's conception of the sign brutally simplifies the problem of iconicity. And while in the sign, as conceived in the structuralist tradition, only expression and content form an indissociable whole, the questions about the way all the interrelations of the sign relata are motivated have in fact been posed, though in different terms. Hence, we now discover a new abundance of questions about iconicity. All of them seem relevant for the understanding of the particularities of pictorial signs. So far, however, only the Peircean question, about the relation between the expression and the referent, has been clearly formulated. To begin with, it is also this question which we shall have to scrutinize.

III.1.2. Convention and the different species of iconicity

> *"Rumford and Franklin resembled each other by virtue of being both Americans; but either would have been just as much American if the other had never lived. On the other hand, the fact that Cain killed Abel cannot be stated as a mere aggregate of two facts, one concerning Cain and the other concerning Abel."*
>
> *Peirce 1931, I.190*

Three kinds of relations can, in Peirce's view, obtain between the expression and the referent of a sign: similarity in the case of the *icon,* contiguity in the case of the *index,* and convention in the case of that sign which Peirce calls the *symbol* (which is not the symbol of the European tradition referred to by Hjelmslev; cf. II.3.5. and below). We have argued that the same kinds of relations are to be found between the other relata of the sign (see III.1.1.), and this has already been shown to be a fact in the case of indices (cf. I.2.). Since a lot has been said about the index in earlier chapters, we shall now concentrate upon the distinction between the icon and the so-called symbol.

But first we will consider the symbol definition from the point of view of the general concept of the sign. The symbol, Peirce says, is "a sign which refers to the object that it denotes by virtue of a law, usually an association of general ideas, which operates to cause the symbol to be interpreted as referring to that object" (2:249). Suppose the short phrase "interpreted as referring" describes the process that is named by the term "interpretant"; in that case, the third unit in Peirce's triad would not be a unit at all, but the relation between the first two units. Then, the interpretant could perhaps be that which seizes on the "ground" of the relata to transform them into a sign: for the sign, Peirce's general sign definition tells us, is something which "stands for that object not in all respects, but in reference to a sort of idea, which I sometimes called the *ground* of representation" (2:228). It is remarkable that the interpretant goes unmentioned in this definition, unless it is somehow represented by the "ground"; and that the "ground" is said to be an idea, which seems to make it a Third, like the interpretant (Cf. 1:171). That the last identification cannot be strictly true, we shall see shortly. However, if the interpretant is not the content, but a rela-

tion between the expression and the referent, we can see why Peirce does not bother to discuss other possible relationships between what we thought were three different units (Cf. III.1.1.). The adequate formula would now indeed be something like S = Int(E, Rt), rather than S (R(E, RE), C), etc.

But there is much to contradict our interpretation. To begin with, a relation and its two relata could hardly be called a triad, or a triadic relation, which is unresolvable into dyads (Cf. 1:177 f, 188 ff). On the other hand, what else is "Cain killed Abel" but the predicate "kill" relating "Cain" and "Abel" (cf. 1:190)? But there is more: when Peirce claims that the icon represents its object by virtue of properties it possesses if the object exists or not (2:247), and that the index is a sign that should immediately lose its sign character, if its object, but not if its interpretant, were taken away (2:304), this is hardly compatible with the present reading, as it stands. But we still have to probe deeper into Peirce's thinking.

Greenlee (1975:64) takes the "ground" to be the aspect of the referent which the expression signifies: so, for instance, the weathercock only informs us about the direction of the wind and not, for example, about the temperature of the air, the height of the current above the ground, its velocity and so on. Peirce himself identifies the "ground" with an "abstraction", for instance the blackness of two black things (1.293). If so, it seems that the ground is something which must be picked out from the object serving as a referent for it to participate in a sign function. Savan (1976:10 f), however, rather appears to think that it is from the object serving as expression that some features must be picked out. Fortunately we can have it both ways, and it will accord with our precedent interpretation. Similarity, contiguity, and convention could be the three principles according to which the features are selected from the two objects which are to be related by the sign function. If the interpretant *is* this principle of relevance, it is true that it *determines,* or seizes upon, the ground, as we said above. And in that case, the interpretant is a relation, or a principle determining a relation, rather than a unit. It is the interpretant determining the ground, not the ground itself, which is an idea and therefore a third.

There are also independent reasons for thinking that the interpretant cannot be the content. The distinction usually made between the referent and the content appears in Peirce's work as a division of the "object" into kinds. In fact the "object" is to Peirce simply that with which the sign presupposes an acquaintance (quoted in Deledalle 1979:67 and Savan 1976:15). The *dynamical object* is that phenomenon of reality that must be known beforehand, in order for the sign to convey something. But the *immediate object* is that part of the real world phenomenon which is directly present in the sign. If two men look at the same part of the sea while one of them pronounces the sentence, "That vessel carries no freight at all", they will have the same dynamical object, but if the listener does not see any vessel, their immediate objects are different (cf. Savan 1976:21). This is clearly akin to Frege's *Sinn/Bedeutung* distinction (Cf. II.1.2.). But even in the case where there is no real world phenomenon, for example in the case of the term "Hamlet" (cf. Deledalle 1979:68), the object category takes care of it: Peirce recognizes "fictive objects". Thus, the interpretant does not seem to be needed for the job usually done by the notion of content. Our earlier argument (in III.1.1.) would have to be restated for different kinds of "objects". On this account, Greenlee (1975:85) is wrong in thinking that Peirce's index definition (2:304 quoted above) is contradicted by the fact of wrongly referring indices having meaning (In 1:171, "meaning" is distinguished from both "object" and "interpretant"!).

We can now explain the above-mentioned definitions of the icon, the index, and the symbol in a way which is compatible with our interpretation. Those properties which are selected to serve as the ground of an iconic relation must be chosen from those properties the expression possesses as a thing in itself; those properties which are picked out to serve as the ground of an indexical relation can only be taken from properties the expression has because of its relation to something else; but there is no particular exigence for the choice of those properties which may be employed as the ground of a conventional relation. Contrary to what Greenlee (1975:85 f) thinks, there is no contradiction between the presently considered index definition (2:304) and another one (2:305), where the index is said to be in a dynamic relation to both the object and the interpretant. It has never been the question of removing the interpretant from the index in a real sense, for this would deprive it of its sign character; rather, Peirce is making a free variation in imagination, to determine the nature of the ground which is susceptible of entering into an index sign (Cf. I.1.3.). Since this was first written, I have discovered that Bruss (1978:87) arrives at the same conclusion in a somewhat different way: Peirce is considering the "potential sign-vehicles" to investigate their "capacity to serve as signs". Thus, it also seems that Savan (1976:24) must be wrong in arguing that a shadow and a foot-print cannot be icons, but only indices, while the man and the foot producing them are icons. For while it is true that the shadow and the foot-print are caused by a *second thing,* we do not have to refer to this relation to see them as likenesses; and to the extent that these relations are taken to be part of the ground of the signs, the latter now stand for something more than the noematic parts they render, the shadow for the presence of a human being here and now, and the foot-print for his presence in the same place at some earlier moment (Cf. I.2.5.). As so often in the case of Peirce, what at first seems only confused turns out to be a profound observation.

If we are right so far, then the Peircean interpretant is

similar to the principle of relevance, as Schütz would have called it, and the mutual implication of the two forms, in Hjelmslev's parlance. As for the grounds determined by the interpretant, they are the forms themselves. As Greenlee said, the wind has a lot of properties, which are not conveyed by the weathercock: its temperature, velocity, etc. Thus, on the side of content, only the direction of the wind is the form, or the ground (or the immediate object, as Peirce himself would perhaps prefer to say). If the weathercock has the typical shape of a cock made out of iron, then these properties are not relevant for its representing the direction of the wind: they do not form part of the form, or the ground, of the expression. Indeed, in Savan's view, the ground is a part of the "representamen", not of the "object". Unless we have been quite mistaken so far, then a Peircean model of the sign should be closer to the following figure (fig. 37) than to the famous triangle of Ogden & Richards:

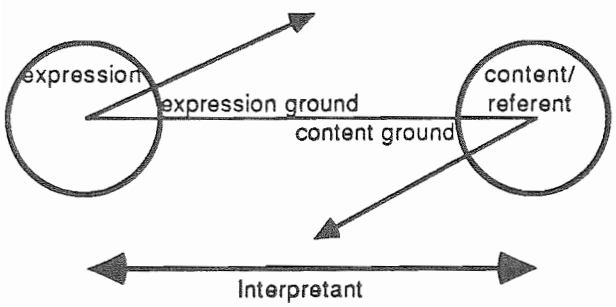


Fig. 37. Peirce's concept of sign?

Unfortunately, all this seems incompatible with a lot of the things Peirce says about interpretants, notably his classifications of them, which seem to suppose that they are units. Perhaps all we can claim is that the idea of conceiving the interpretant as the relation between the expression and the referent must at some moment have occurred to Peirce; or that our explication at least covers some of the particularities of the Peircean interpretant. And yet there is perhaps a way of getting somewhat closer to what Peirce may have meant. Let us return to the potential sign vehicles.

How is it, we should ask, that the icon is a First, the index a Second, and the symbol a Third, and that yet, as signs, they are all Thirds? The former is true of the potential signs, the latter of the signs once they are constituted. It seems natural to think that the sign relation will reproduce and extend the relations which exist in "the things themselves", in the case of the icon and the index, but that in the case of the symbol there is simply no other relation, so that the sign function is created *ex nihilo*. But this will not do. To begin with, the potential icon or, as I would prefer to say, the *iconic ground,* is no relation: in our terms it is simply an attribute, or a complex of attributes, viz. a First. "American", for instance, is an iconic ground found in Franklin, Rumford, and Peirce himself (cf. 1:190). In the second place, it seems that an index must involve three elements: two units and a contiguity. It will only be a Second if we treat it as composed of one single element and a once-place predicate incorporating another element: for instance "weathercock" and "close-to-the-wind" (or perhaps "weathercock-close-to-something" and "something-close-to-the-wind"). Thus the *indexical ground* would be a one-place predicate with one element incorporated, i. e. both a unit and a relation. In the same way, the conventional sign, and in fact any sign as such, supposes the absorption of two elements into a two-place predicate that has one element incorporated (and so does "Cain killed Abel"). The incorporated element is a rule which is a statement of a convention. Since the two-place predicate is the interpretant, it will also be both a unit and a relation.

It is not certain that this resolves every difficulty. But it will have to suffice for the present. It is important to note that, on this account, there is no resemblance in the iconic ground: this will result only when two grounds are correlated by the interpretant in the sign. Both Rumford and Franklin happen to be American, but there is no particular relation between them: only when we decide to let one of them stand for the other will there be resemblance! Unfortunately, Peirce (3.382) expresses himself elsewhere in a different way: the icon "stands for something merely because it resembles it". Most of the debate we will have to pursue in the next chapter is concerned with the little word "merely".

In the end, then, Walther turned out to be right about the conventional nature of the Peircean icon (cf. III.1.1.). On the other hand, she is undoubtedly wrong about Peirce's symbol when she says it is the same as that found in the European tradition since Romanticism (1974:65), arguing that it is only by convention that the pigeon has come to stand for a gentle peace lover. While it is probably true that the pigeon of zoology is far from gentle, its namesake in the traditional Lifeworld certainly is. And of course we must analyze the sign as the sign user takes it (Cf. I.1.4.). In Peirce's terms, the symbol of the European tradition is an icon, but I think it is not just that (cf. III.6.5.). Since we wish to reserve the term "symbol" for its European sense, Peirce's "symbol" will from now on be called "conventional sign" or just "sign".

We have seen that it is not in the trichotomy "icon, index, conventional sign", that Peirce's originality resides, and yet it is for this that he has become known (cf. the introduction to this chapter). Instead, Peirce's essential achievement is to be found in his characterization of these sign types (as described above), together with his insight into the conventional nature of icons, and his subcategorization of the icons. In fact Peirce (1:157) states that real icons can only appear in thinking, and

perhaps not even there. But *hypo-icons,* like paintings, he goes on to say, are largely conventional. This seems to be the same observation as that which Greenlee (1973:77 ff) uses as an objection to Peirce's theory! Thus, Peirce really anticipated his own critics.

Peirce's subcategorization of iconical signs, or hypoicons, has been largely ignored, even by Deledalle (1979:20,132) who mentions it in passing. There are three types:

> "Those which partake of simple qualities, or First Firstness, are *images;* those which represent the relations, mainly dyadic, or so regarded, of the parts of one thing by analogous relations in their parts, are *diagrams;* those which represent the representative character of a representation by representing a parallelism in something else, are *metaphors.*"

It would be natural to think that pictures are "images", though that is no doubt too simple. An ordinary diagram is an example of what Peirce calls a "diagram": the population curve will rise in accordance with population growth. It is more difficult to understand what a "metaphor" is, and whether it would include what we normally call metaphors. Perhaps it is something similar to the Lévi-Straussian proportionality which Worth (1981), quite independently, takes to be the formula of metaphor. Or perhaps what Peirce wants to say is, as Shapiro (1974:34 f) transcribes it, that the metaphor describes the icon rather than showing it (Cf. III.6.6.). In the following paragraphs we will concentrate upon the distinction between "images" and "diagrams".

Peirce's contribution is, also in this case, only comparatively original. In fact the ideologue Degérando (1800, I, 153 ff) made the same distinction well before Peirce, using the terms "sensuous" and "logical analogy", and his investigations are apparently both more complete and illuminating.

The choice of particular word desinences, Degérando (1800, I, 153 ff) says, is in itself arbitrary, but the recurrence of the same sounds for the same ideas creates a correspondence between language and thinking: words ending in -té, -tion, -ment, -eur, etc., have certain common features. This should be reminiscent both of Lee Whorf's "covert categories" and of Saussure's "relative motivation". Whereas *sensuous analogy* requires some kind of similarity between the ideas and the expressions, *logical analogy* only calls for a correspondence between the laws regulating the expressions and the contents; therefore, Degérando adds, sensuous analogy pertains to each sign individually, but logical analogy must be a property of a sign system (an example would be the conformity of the planes, according to Hjelmslev). Peirce points to a similar example from mathematics: in for instance, "a1x + b1y = n1; a2x + b2y = n2", "we put resembling letters for corresponding coefficients" (2:282).

Degérando (1800, I:262 ff) also provides numerous mathematical examples. Even as contents, the series 1, 2, 3, etc., 10, 20, 30, etc., and 100, 200, 300, etc., are logically analogous, for each time the same number of operations are added, although applied to different units. In Arabic numerals this analogy is also rendered in a logically analogous way in the expression, as can be seen above. This is of course the same as to say that the Arabic numerals form a conformous or isomorphic semiotic system; in fact, Prieto (1966:101 ff) independently arrived at this result, when he claimed the decimal numeration system had the first articulation (Cf. II.3.5.). Interestingly, Degérando (1800, I:283) observes that the Roman numeral system, though using comparatively less logical analogy, is not devoid of it: at each new level of combination, a new expression, viz. I, X, C, M, etc., is introduced, whereas intermediate numbers must be expressed by combinations such as II, XIII, etc. It is obvious that Degérando neglects the expression V, which does not correspond to any new content level in the decimal system. But this remark itself is based on the use of Degérando's implicit criterion: he finds a covert category in all those Roman numerals which have the global property of being continuous in Hoffmann's sense (Cf. II.3.6.).

Another logical analogy between the expression and the content in Arabic numerals, which is mentioned by Degérando, is the use of direction from left to right to add larger numbers to smaller ones. This analogy is not found in Roman numerals; nor, it might be added, in some parts of German and Danish (e.g. "zweiundzwanzig"). Later (in III.5.1.), we shall probe deeper into the parallels between expression and content in what Degérando calls "complex ideas" and which we have characterized as intensional hierarchies (cf. I.3.2.), but there is no reason to detain ourselves lorger in the discussion of Degérando's "simple modus".

Sensuous analogy, Degérando (1800, II.302 ff) thinks, is good for the imagination because the signs containing it force us to revive our sensations; but logical analogy is better for the attention because it reminds us of the operations executed on the sensations. We would naturally expect Degérando to think pictures are exclusively based on sensuous analogy, and that is indeed what he seems to say in one passage (1800, II:406), but he also tells us that painting, sculpture, music, and architecture, will reach their highest effects when combining both types of analogy. Poetry, however, can only use sensuous analogy in a few details, for essentially it must employ arbitrary signs (1800, II.308 f). That verbal art may also make use of logical analogy is nowhere affirmed by Degérando, but seems obvious if we accept Jakobson's (1965 b) analyses of the "poetry of grammar" alongside the "grammar of poetry".

Now, it should be noted that that particular kind of iconic ground or potential icon, which Peirce calls diagrammatic, will consist of a relation, just like the indexical ground. Of course, in an indexical sign only one part of the relation will be found in the expression, the

other part in the content or referent, whereas both relata of the iconic sign should contain the relation. But how is this difference represented in the *potential* signs? In fact it is not clear how grounds may be distinguished before they are part of signs. So perhaps it is true, in the end, that the Peircean icon presupposes the relation of resemblance!

In this section, we suggested that the Peircean interpretant was not just a unit but a relation between the expression and the content; however, since it must also be a unit, we argued it was really a two-place predicate with one element incorporated. As for the distinction between the content and the referent, we thought it could be found inside Peirce's category of "objects". The interpretant, we argued, picks out the elements of two correlated objects which are the "grounds" of the sign. In this sense, the distinction between the icon, the index, and the symbol, is really a taxonomy of grounds (just as Savan 1976:10f thought about the distinction between the qualisign, the sinsign, and the legisign; cf. III.1.1.). And yet, after our discussion of two kinds of icons, the image and the diagram, analyzed by Degérando well before Peirce, we found that diagrammatic grounds and iconic grounds would be indistinguishable, or so it seemed, if they were not already conceived in their relation to the other relatum of the sign. If so, the taxonomy *does* concern the expressions in their relation to the referents, and the relation of resemblance *is* presupposed in the notion of icons. Thus, we have to return to the problem of the referent in the following section (III.1.3.).

III.1.3. Hendrickje causing Bathsheba. On the ambiguities of reference

In order to explain the Peircean meaning of "ground", Greenlee (1975:64) cites the example of the weathercock which, among the numerous properties of the wind, picks out only one, direction, as its ground (Cf. III.1.2.). What Greenlee fails to note is, as we pointed out above, that the same operation will also isolate the ground of the expression: in this case, the direction of the weathercock. Now, the weathercock is one of Peirce's often repeated examples of an indexical sign, a sign depending for its meaning on contiguity. But to the extent that the weathercock is a sign for direction, it is obviously an *iconical* sign, for it represents the direction of the wind by virtue of having itself the same direction. If direction is described as a vector in a coordinate system, the weathercock will depend for its effect on a "logical analogy"; this is a relation, but it is no doubt an iconical ground, since it is entirely represented. But does this mean that the weathercock is no index?

In the manner it is ordinarily taken, the weathercock is indeed an indexical sign, and in a double sense: both a *performative* and an *abductive index* (Cf. case IIa–b, in I.2.5.). This is so because the content ground of the weathercock is not only "direction-so-and-so", but something like "direction-so-and-so-of-the-wind-here-and-now". Unlike a map, for instance, the weathercock does not transpose the direction it represents from one objective space to another: it shows it to be located here and now. This is a performative index: it is to no avail that, in this case, it is the wind, and not a human being, that is doing the performing. But this direction located in the here-and-now is also taken to be the direction of the *wind,* not just any direction. Between the weathercock and the wind as a complex object, there is a contiguity – but how do we know? How do we know that, in place of the wind, there are not a couple of ghosts or a band of Martians out flying? The anser is that we cannot know – we can only guess, in accordance with the regularities of our Lifeworld, the "typical ways the things have of behaving", as Husserl put it (cf. I.2.1.). We have to make an *abduction* from known circumstances, which also takes account of the fact that weathercocks are *conventionally* intended to inform us about the direction of the wind. And of course there may be other aspects of the landscape around the weathercock which serve as signs, if not of the direction, then at least of the presence of the wind: the movement of the trees, the airstream against one's body, etc.

If we take account only of the iconic ground, that in which the weathercock is similar to what it stands for, it will be a sign for a direction; if we extend the ground, so as to be indexical in relation to the situation, the weathercock will also be a sign of the direction-here-and-now; and if we extend it further, again in an indexical sense, but with the help of Lifeworld regularities, the weathercock will be a sign of the direction-of-the-wind-here-and-now. Thus with each extension of the expression ground, there goes a new content ground. However, one may wonder at what point we will leave the sign content for reality, that is, for the referent?

One peculiarity of the weathercock as a sign should be noted before we go on to answer this question. It is true, as Greenlee implies, that it really is about *direction,* not about the wind. Thus, the different principles of relevance which we applied to the weathercock above do not have the same status. While the weathercock is *about* the direction, a disembodied direction is of no interest, and so the wind must be tacitly understood. It seems therefore that, at least on the content plane, those features which serve as ground are not cut off from the rest, but only *thematized,* like the thematic centre of a Husserlean noema (cf. I.2.2.; also see fig. 37). But in that case there is a continuity between the wind and its direction, and we can hardly consider one of them to be a referent and the other a content. It remains to be seen, of course, if this is really a peculiarity of weathercocks.

Peirce, it will be remembered (cf. III.1.2.), distinguishes the *immediate object* and the *dynamic object,* which seem to be roughly equivalent to the content and the referent. From the examples, it seems that it is par-

ticularly the dynamic object, which corresponds to the description of the object as that with the sign "presupposes an acquaintance in order to convey some further information about it" (quoted in Savan 1976.15). So far, this agrees well with our description of the importance of the wind to the weathercock. But we also learn that the immediate object is "within the sign", while the dynamic object is external to it (quoted in Savan 1976.22). Instead of the continuity between each noematic aspect and the whole noematic matrix, we get two separate objects, one placed in the mind, the other in physical reality. It should not be forgotten that the wind is also the causal agent, responsible for the performative index mentioned above. In the same way the photograph is said by Peirce to be indexically, and in fact causally, related to what it represents (cf. I.2.6.).

Without referring to Peirce, Black (1972:101 ff) has rejected what he calls "the causal history" approach to pictorial meaning, because a picture has many other causes besides its meaning. The same thing is of course true about the weathercock – in fact, the argument could have been an application of Weber's general analysis of causality in history (Aron 1938 a, b; cf. I.1.1.). The causal theory is then taken up again by Danto (1974), but in a much wider sense, which could perhaps better be called the motivational theory, because he admits that a child and an impersonator are related to a person through different causal histories (see the definition of the "mimeme", 1974:143). In the case of the impersonator, as in the case of most pictures, there is of course no direct contact, no "abrasion" with the motive (cf. I.2.6.). In the case of the weathercock, and the photograph, there is one. Black's arguments are ruinous to the causal theory only if causality is taken to be the *only* criterion of the motive, not if it is used in conjunction with another criterion, as for example resemblance: if "cause" is reinterpreted in this stricter sense, this is exactly what Danto's definition says. Thus, at least in the case of the photograph and the weathercock (which is of course not a picture; see III.1.4.), there would be a referent which could be clearly distinguished on the criterion of causality from the content of the sign.

On the other hand, we could say that signs will only lead on to other signs. This is something which Peirce seems to be saying in many places but since, at least sometimes, everything seems to be a sign to Peirce, it is not clear what this can mean. Eco (1968; 1976), however, explicitly rejects the referent. To him, it will be remembered, connotations are the translations of a sign into other signs (cf. II.1.2.). According to Greimas, the referent is just a unit in another semiotic system (cf. II.2.2.). In the present case, the wind could hardly be said to be another sign, let alone a unit in another semiotic system, but it could perhaps be identified with the common denominator of the weathercock and a number of other signs, for instance the moving trees, the airstream, etc. Again, it would simply be the zone of coincidence of the different noemata in the noematic matrix, just as Gurwitsch (1957) claims about the object of perception (Cf. I.2.2.). Let us now try out this idea for a moment, before returning to the causal theory, or its family of theories.



Pl. XX. Rembrandt: Bathsheba (1654).

We have already argued for this theory in the case of pictures (cf. I.3.2.): against Goodman, we pointed out that both the-Duke-of-Wellington and the-Duke-as-a-soldier, and in fact a lot of other entities, are signs, at different intensional levels in the picture, rather than something external to it. There is a sense in which nothing would be changed if the Duke turned out to be just as imaginary as the unicorn. In the same way, when Rembrandt paints Bathsheba holding David's letter in her hand, both Bathsheba in general, and Bathsheba-holding-David's-letter-in-her-hand, are intensional units of the picture, quite independently of Bathsheba having existed in history (pl. XX). And of course, there are other portraits of Bathsheba with which Rembrandt's version may be compared, just as there are other signs, apart from the weathercock, of the presence of the wind. What is more: someone may one day have the privilege of meeting the Duke of Wellington, dressed as a soldier, or in some other way. Then, will the Duke be just another sign of himself, or of his portrait – just as, according to Sebeok (1976:130), the Pope will be a sign of his photographs, to those visitors to the Vatican who have seen the photographs before? Or would the Duke, as well as the Pope, be more resistant to our efforts, as Maine de Biran could have said, than ordinary signs should be? To this odd philosophical question, we shall have to return at the end of this section.

Goffman (1979:13) observes that a painter who wants to execute a painting of a historical person may have a different, contemporary person to sit for it: the *model* is distinct from the *subject*. On the other hand, he adds, in a photograph the subject and the model can scarcely be distinguished. If, to begin with, we restrict our attention to chirographic pictures (cf. I.2.6.), it appears that we should be left with two referents, in the sense of two phenomena, which are external to the sign and which the sign may be taken to point to. If we observe that in many cases the sitter is unknown, or not intended to be recognized, we may prefer to say that the model is to be found outside the picture, as its "cause", in Danto's wide sense, but is not part of what the pictorial sign means, whereas the subject, which is the intended meaning of the picture, must rather be located inside the pictorial sign, as its content, since no real resemblance must necessarily obtain to the historical person bearing the same name. Thus Danto's "mimeme" will be torn apart, yielding a "cause" external to the sign, and an iconic content.

And yet it is true that both model and subject are phenomena going beyond their instantiation in the picture. There are other pictures of Bathsheba and of the Duke of Wellington, and other experiences of the wind than that conveyed by the weathercock. *In the sign itself,* they are experienced as being *something more than they are in the sign.* The noematic theme carries with it horizons which anticipate what is later filled in by other pictures. (cf. I.2.2.) Bathsheba, the Duke, and the wind are intertextual beings, common denominators or conjunctions of many "texts", whatever else they may be. The argument so often used about the author is also valid for his subject. Searle (1969) pointed out that if the attribution of many of the works of which Aristotle is considered the author were to change, the meaning of the proper name "Aristotle" would no longer be the same. To Foucault (1969; 1971), the author is only the label for a number of discourses. And it is certainly true that not much would change in our idea of Shakespeare if his works turned out to have been written by the famous Mr. W. H.; a little more would be different if they were written by Bacon, because they would then have to be integrated with another conjunction or works, the known writings of Bacon; but it would be more serious, if, like the Homerean epos, we had to distribute them among an anonymous mass of contributors. There are of course other facts which are relevant to our idea of Shakespeare; but if he was not born in Stratford-upon-Avon, and never married to Anna Hathaway, the meaning of the label "Shakespeare" would change very little. If he did not look like his picture in the first folio, or like his tombstone in Holy Trinity Church, that would be of greater consequence, but certainly less than a change in the attribution of his works. The reason for all this is of course that Shakespeare is, in our culture, an ideal object, in whose definition the written works occupy the apex of the dominance hierarchy (cf. I.3.1.).

Bathsheba's is a very different case. She is not much more than the pictures referring to her. Of course, as an iconologist would point out, she is also some passages in the Bible, which historically precede the pictures, but it is not certain that these are synchronically more important. The model for Rembrandt's painting of Bathsheba, now in the Louvre, was his late wife, Hendrickje (Clark 1978:106 ff). It should be noted that to us, who know a little about Rembrandt's life, both Bathsheba and Hendrickje are present *in the picture,* beyond the base level, where they are both reduced to the common denominator "female body". That is, they are found at the same intensional level, but in alternative hierarchies ending in the same base level (cf. I.3.2.). Thus, Hendrickje and Bathsheba appear together in the same picture, like the cat and the coffee pot, in a picture analyzed by Groupe μ (cf. I.2.5.), and like these, they each have their specific features, while there is also a large, indeterminate zone of properties, which are difficult, or impossible, to distribute among them. Unlike the cat and the coffee pot, Bathsheba and Hendrickje coincide at the base level: both are women. As always, our identification of this particular intensional level must depend on features which lie outside the level identified itself (cf. I.3.2.). In the case of Bathsheba, these features must be derived from the outer context, the situation as it can be recognized from the Bible, from the title, and from other pictures of Bathsheba. In Hendrickje's case, on the other hand, the necessary details must be taken from the inner context: the particular features of her body, as they may be found also in other pictures, where there is reason to believe the model was also Hendrickje. Instead of a subject and a model, we seem to end up with two subjects. Both Bathsheba and Hendrickje are to us intertextualities defined by other pictures, in one case the genre called "Bathsheba pictures", in the other case the less well-known genre which we shall christen "Hendrickje pictures". Thus, we can do without Hendrickje herself, though Rembrandt would certainly not agree.

In another picture of Rembrandt's, whose subject is Pallas Athene, Clark (1978:114 f) recognizes Rembrandt's son Titus as the model. Here the shield and the helmet determine the content "Pallas Athene" in the traditional, iconographic way: in our terms, this is an outer context. There may be subtler indications of the subject, however, the gaze perhaps, and the position of the body relative to the viewer. But the iconic ground for Titus must be something quite different: the facial features should be the same as in other "Titus pictures". Of the facial features of Pallas Athene there is no record, apart from other pictures, notably statues and vase paintings; but we should expect her origin to determine a global property: her "Greek" features. Interestingly, the common denominator of Titus and Pallas Athene is not "man" or "woman", but "human being", which is prob-

ably over the base level in ordinary perception. It seems impossible to determine exactly at what point the Titus properties give way to the Pallas Athene properties. Again, given the present biographical approach to art history, it would be fair to say that the picture has two subjects: Pallas Athene and Titus.

But why should Goffman think that photographs, contrary to pointings, do not admit of any distinction between the subject and the model? As Goffman observes, it is of course possible to dress an actor up as Napoleon and have him sit for a photograph. But in this case, the photograph becomes a sign of another sign, in which the actor is the expression and Napoleon the content. It is true that even the painter may have his model dressed up, as in the example of having Titus disguised as Pallas Athene. But the resulting picture may well display Pallas Athene properties which are not part of the disguise. There are properties characteristic of Titus, others which are characteristic of Pallas Athene, and a zone of indifference. In a photograph, however, the Napoleon properties must be a subclass of the properties of the actor such as he appears in his part. A convention is thus needed in order to make us disregard those properties of the complement class to the Napoleon properties which are also properties of the actor in his part – and perhaps "anchorage", in Barthes's sense, must be employed to fix the convention (cf. II.1.1. and also Wollheim 1980:208 ff). In other words, the similarity to the actor obtains between the expression and the model, but the similarity to Napoleon is a relation between the content and the subject. At any moment it is possible to change the principle of relevance employed, transforming a photograph of Napoleon into a photograph of an actor – a process which is often accomplished by history itself, as when the actor becomes more famous than his rôle figure. Even when the scene has been staged for the occasion, as in Julia Margeret Cameron's pictures, it is really difficult to see, for instance King Lear rather than a gentleman of Mrs. Cameron's acquaintance masquerading as the king. It would therefore seem that in the photograph, contrary to the painting, the model is directly given while the subject is accessible, thanks to a convention, through the intermediary of the model – or rather, the foremost subject is always the model.

Up to this point, we have done our best to defend Goffman's position, but we shall now see that there are cases which directly contradict this contention. Bondesson (1981; 1983) observes that in order to have the girls in advertisements and fashion photographs appear very thin, as fashion prescribes, it is necessary to use girls who are even thinner as models (He goes on to note that, since these girls have a life also outside the photographs and are seen in this rôle, and since it takes even thinner girls to make the impression they make in reality in a photograph, ideal thinness tends to get more extreme each day). If a wall is to be shown not as it has been photographed, but after "magnification", and if we want it to look straight, the wall used as a model must be slanted (cf. Lumsden 1980:91 ff).

The photographer Andreas Feininger (1973) has pointed to a number of cases in which the differences between "photographic seeing" and ordinary "human seeing" make it necessary to use models whose properties are very different from those of the subject. But there are more extreme cases, in which the properties of the subject are such that they could never be properties of any possible model. Not only drawings, but also photographs can be made of so-called impossible objects but, by definition, they cannot exist in the ordinary perceptual world. The angles of a figure on a two-dimensional surface may be organized in such a way that they give the impression of representing a three-dimensional object: on close inspection, however, it appears that one of the angles must be taken to be both concave and convex, both in front and behind, etc., in order for a three-dimensional reading to be possible. This effect is well-known from the graphic work of Escher (1967) and from the drawings of Reutersvärd (cf. Bresti 1985; Kulpa 1982). But it is also possible to construct objects which, photographed from a particular angle of vision, give the same curious impression (cf. Gregory 1973; 1966). There is no doubt that in this case the impossible object is the most immediately given subject of the photograph. Of course, it is impossible for it also to be the model. But this difference exists in any photograph, although most of the time it is so small as to be negligible. Therefore, while the primary subject of the Napoleon photograph is really actor-such-and-such-dressed-up-as-Napoleon, this is something distinct form the corresponding model.

Should we then conclude that in the analysis of pictures it is possible to sojourn for ever in the world of signs without ever touching the real world, or treating it as just another system of signs? I think not. First, when a picture is used by a spy to discover military constructions, or when it it employed to find the runner who won the competition, and in all similar cases, the meaning relation of the picture is clearly taken to extend beyond the content to include the referent, a particular thing localized in the world of experience (cf. I.2.6.). Even drawings of impossible objects have been taken to tell us something about a world having more than three dimensions (cf. Bresti 1985). In the second place when, in the signs in which they appear, the Duke of Wellington, Bathsheba and Hendrickje, Pallas Athene and Titus, Napoleon and the actor, and so on, are experienced as being something more than what they represent in the signs, it is not primary to other signs that the horizons of these experiences point, but to the confrontation with "the things themselves". In the case under study, it is of course impossible ever to encounter these persons, either because they have never existed, or because they are long since dead; but the general category of

persons is known to us from our encounters with other persons, and because of our familiarity with the signs referring to the persons mentioned, we can begin to specify the properties of these particular instantiations of the category. Imaginarily, even the unicorn exists in the Lifeworld, and so does the impossible object, for the Lifeworld is the ultimate layer of all experience (cf. I.2.1.; only the prisoners of Plato's cave could possibly think otherwise). In the presence of the real thing, a fuller experience, affording more aspects and attributes of the object, more "invariants" in Gibson's parlance, is at least potentially given; this is, if I am not mistaken, what Husserl terms *Erfüllung,* the fulfilment of all precedent horizons. Such an experience may be mythical; none the less it is part of the meaning of all partial views and approximations. In folk ontology, Hendrickje has a denser ontological status than her picture.

And so has the Pope. In a sense, however, the Pope is a sign, though not of his picture: a self-presentation (cf. II.2.2.). This is because he participates in what Habermas (1962) has called a "repräsentative Offentlichkeit", where his rôle is to display himself to the public: he stands for himself through a restricted class of properties, the criterial features of Papacy. It is not sufficient to have seen the picture before the Pope, or the official Pope before the man holding the office, to see the latter in each case as the sign of the former rather than the reverse: it is as general Lifeworld categories that the man precedes the office, and the office the picture (here, the Platonic cave man might disagree). Perhaps that which possesses a poorer, more restricted range of properties, is also that which has the comparatively lowest ontological status.

Both Hendrickje and Bathsheba exceed Rembrandt's picture, as they exceed any picture. There are many things David knew about Bathsheba, and Rembrandt about Hendrickje, which we cannot know about, but which we know we do not know. The picture is rich also with this knowledge. In the picture, Hendrickje is of course a self-presentation, viz. of Hendrickje-sitting-for-Rembrandt's-portrait-of-Bathsheba-on-a-series-of-occasions; and also a metaphor for Bathsheba, which presents the latter in a more Hendrickje-like state (cf. III.6.6.). Outside the picture, however, Hendrickje is no sign. It is true that her body, as any body, is a field of expressions, an *Ausdrücksfeld* as Dilthey (1958) calls it – but these are subordinated to her reality as a body and a person. And she is certainly no sign for Rembrandt's picture of her. But neither is she the complete fulfilment of the horizons awakened by the picture; as Husserl (1980:154 f) himself was intrigued to note, there is a sense in which the real object could not satisfy the interest provoked by the picture. In a more obvious sense, this is true about such models as do not even share the properties of the subject as, for example that object which, if photographed from a particular angle, gives rise to an impossible object depiction. And yet what Rembrandt's painting as well as the impossible object photograph, make us expect, is of the general type of Lifeworld objects. Hendrickje, however, just makes us expect more, and more delightful aspects, of Hendrickje.

This section has served to show that the content of a picture and its referent cannot be identified, but that both instances are important for the understanding of what the picture is a picture of. The purpose was not to analyze fully the intricate relationship of content and referent, and of subject and model (not to mention the relations of the two couples with one another), nor to determine the part of causes, in the strict sense, and of motivations. We now know that the wind is more than what blows the weathercock round, but it is that too – and unlike expression and content, the two instances seem continuous – unless the anticipated referent is impossible in the Lifeworld. Thus, it certainly seems meaningful to pose the question about motivation, not only for the relation between expression and referent, but also for the relations between expression and content, and content and referent (cf. III.1.1.). In the next section, we will have more to say about the nature of motivation itself.

III.1.4. Motivation and effect; also a defence of Magritte's pipe

Peirce could be taken to mean (for instance in 2:249, quoted in III.1.2.) that convention, contiguity, and similarity are the three possible causes, or as we would prefer to say, reasons or motivations, for interpreting a given expression to stand for a particular referent or content. Hence convention, contiguity, and similarity would be necessary, but perhaps not sufficient conditions for the apprehension of a sign function, the link connecting the expression with the other relata of the sign. Peirce could admit, it seems, that a given phenomenon would be a symbol, an icon, and an index, or any two of these, at the same time. On the other hand he seems to think that there could never be any further kinds of motivation. Thus, anything which is a sign, must be either an icon or an index or a symbol, or some combination of these. We are faced with a double problem: must convention, contiguity, and similarity, be motivations? And is it really impossible to conceive of any further kind of motivation?

Jakobson (1979:16) daringly reduces Peirce's famous trichotomy to a double dichotomy: both icon and index are motivated, while the symbol is arbitrary; and the symbol as well as the index are based on contiguity. Hence, we have:

	icon	index	symbol	?
actual/imputed:	+	+	-	-
contiguity/similarity	-	+	+	-

Table XVI. Jakobson's sign dichotomies.

To orthodox Peirceans like Deledalle and Walter, the reduction of trichotomies to dichotomies is a metaphysical mistake; but metaphysics is not our business. Nevertheless, we must note a peculiarity of Jakobson's reduction. It is possible to say that is is *because of* its similarity motivation that the relata of the iconic sign are connected; and that it is *because of* its contiguity motivation, that the relata of the indexicalsign stay together; and also that it is *because of* the existence of a convention, that the relata of the conventional sign may still be associated. What about the contiguity in the latter case? If anything, it is a *result* or an effect of the sign function, itself due to the convention. But the icon and the index, it appears, present the opposite case: it is because their relata are similar or contiguous in reality that they are motivated. Relatively speaking, it is the motivation which is a result. The combination of two dichotomies yields a fourth possibility, and Jakobson wants to claim it for poetry: here it is similarity, not contiguity which is imputed (cf. the case of Floch's semi-symbolic system, in II.3.5.). But this is curious: things which are not found together in nature may be associated by convention, yet it is not clear how similarity could ever be brought about by imposition. Perhaps what Jakobson wanted to say is that by conventional means an *impression* or an *experience* of similarity is produced. But this does not seem to correspond to the cases of "poetry" he has described elsewhere (1963; 1965 a, b); rather, as in Floch's semi-symbolic system, a small amount of similarity is exchanged for a greater one, or a diagrammatic similarity for a qualitative one.

But what can it mean, that conventional signs are characterized by an imputed contiguity? It will be remembered that, in analyzing indexical signs (in I.2.5.), we introduced a distinction between *performative* and *abductive indices.* In the case of the abductive index, it seems to be true, as Peirce suggests, that it is the contiguity (along with other features) that causes the expression to refer to the content. Since we have suggested that, in the case of a performative index, both the contiguity and the content are somehow *created* by the sign, one may wonder if it would not, more successfully than Jakobson's symbol, correspond to the imputed variant of contiguity. But that contiguity is not created by the sign: it is created by the expression, which in its turn constitutes the sign. Having formed part of the expression plane, contiguity seems to be transferred to the content: accessorily, the hand pointing to the nearby object means it is close at hand, or at least visible from here.

But the contiguity imputed to conventional signs must be a contiguity in the sign system itself. Thus it simply follows from the convention putting expression and content together, and the relata of the sign are in no way changed by sharing in it. Unlike what happens in a performative index, this contiguity does not take place in real space, and unlike the case of the abductive index, it does not concern the features possessed by the objects serving as expression and content to the sign. But a contiguity in this loose sense must be found in any sign for, by definition, two or more relata are joined by the sign function. Therefore, imputed contiguity will also be found in the icon and the index, apart from the motivated relations. And it will also be found in what Jakobson calls "poetry", along with the imputed similarity, whatever that may be. This should make us suspect that the imputed similarity is quite incommensurable with the imputed contiguity. Like the abductive index, the imputed similarity must depend on the features of the objects serving as expression and content. And while the imputed contiguity is imputed only in the sense of not existing in Nature, outside the sign system where man has given it a real existence, the imputed similarity is simply unreal, an illusion, a mere impression – or so it seems.

That similarity is unreal is certainly suggested by the term "contrat iconique", which Floch and Greimas use about pictures (cf. II.3.4.). No convention can make two things similar; it can only make them appear so. Of course it is possible that all similarity is really only appearance, and that is the tenor of Greimas's theory; and the same conception is probably implied by the criticism directed at iconicity by Bierman, Greenlee, Goodman, and Eco (cf. III.2.). If we do not want to conclude with Bierman, that there *are* no iconic signs (cf. III.2.1.), then perhaps we ought to say that they should be defined by their *effect,* the illusion of similarity, rather than by their motivation which, under this hypothesis, is the same as that of any other signs, viz. convention. But this leaves the problem unresolved: either, like a second Adam, we have to designate one by one the objects represented by each given picture, or there must be some other property relating the expression and the content of all those signs we consider to be iconical, and no others, and which serves as releaser of the similarity effect. The first theory is not only implausible; it is false (cf. III.3.1.). The second theory is really no theory: it is the statement of a new problem. We have to find a property possessed in common by all those phenomena we would like to call iconical signs, and which is not similarity.

Before we proceed, one point should be noted. Not all iconical signs are pictures. Some of them, like the onomatopes, are not visual, which leaves them outside present considerations (cf. II.3.5.). But not all visual icons are pictures either. Contrary to Peirce, most of his critics have been concerned with pictures. Also to us, the picture will be the central example. However, in our last chapter (II.6.), a few other types of iconical signs will be briefly considered.

The question in that case is: could there be some other property, instead of similarity, which is common to all pictorial signs? Or, more generally: are there any more possible kinds of motivation, besides similarity and contiguity? Goodman could be taken to suggest that indeed there are such properties, "density" and "re-

pleteness", but he would not consider them to be motivations (cf. III.2.). We will be concerned in the following paragraphs with a few other properties of signs, which are clearly properties of the sign function, not of the expression alone, and which might therefore be taken to motivate pictorial signs. These properties will be briefly reviewed so that we may return to them in the course of following chapters.

It seems natural enough to call "natural sign" any sign whose relata are connected in a *motivated* way, i. e. by virtue of the properties, including the relational properties, of the relata themselves (cf. III.1.1–2). When he first introduces this term, Degérando (1800, I:115) applies it to such actions as are now used intentionally to convey a particular meaning, because of their having been so understood when spontaneously executed. For example, if someone's flight informs other people of the presence of something dangerous, he can later use the same action to transmit the message "danger", even though he is not himself afraid this time, or there is in fact no danger present. Unlike imitative signs, Degérando (1800, I:203f) says, natural signs are not based on similarity, but on a habit more ancient than that of arbitrary signs. It is true that the flight is in no way similar to the danger; but the intentional repetition of flight behaviour maintains with the spontaneous flight a relation of motivation, which is not exactly a similarity, but an *identity.* It is an identity as to type, not as to occurrence; and yet, the intentionally repeated flight is not just another occurence of the flight type, but refers to the spontaneous flight. The identity in question is not absolute (supposing this to have a sense), but relative to a principle of relevance: processes like this one, described in ethology since Darwin and termed "ritualizations" by Huxley (cf. Eibl-Eibesfeldt 1979), are known to exaggerate, and in other respects modify, spontaneous behaviour. In circus semiotics there is a similar operation, termed "iconizing" by Bouissac (1977:148), which serves to make the performing tiger appear more true to life than life itself, employing redundant cues and the occultation of all features which counter-indicate the tiger prototype.

But later Degérando (1800, II, 208 ff) seems to use the term "natural sign" in a different way: the tears and the cries signifying distress, the emotional tone of the voice, etc. are now prominent examples. But these will be comparable to the flight standing for danger only if the flight in question is real, and not a conscious imitation. It is the same kind of "natural sign" as Jouffroy was later to observe (see the introduction to this chapter), and no doubt Dascal (1983 a:179) is right in thinking that it would be an index to Peirce. And yet there is something misleading about such a classification. An actor, following the precepts of Diderot and Brecht rather than those of Stanislavski, would be using the tears as an identity sign, which in turn is an abductive index for grief, supposing the tears to be contiguous to, or rather a part of, the sentiment. In most cases we would have a proto-index, since the actor would normally intend to signify, not the grief alone, but grief-to-the-point-of-producing-tears (cf. I.2.5.). Even as an identity sign, such an index will only be possible if real tears actually occur in a relation of contiguity or factorality to the sentiment, but it does not follow that the spontaneous tear sign must be based on this indexical ground (cf. III.1.2.). Even if there is a position from which such a contiguity or factorality may be perceived, it seems to be subsequent to the constitution of the sign, its result rather than its cause. Recent research on the interpretation of facial displays demonstrates that even small children are able to discover different degrees of pleasure and arousal in the countenance. Thus, interpretation must depend on "pancultural, biologically-based mechanisms" (Bullock & Russel 1985:17). But in that case, the equivalence is given by the organism, and it is not contiguity, factorality, or perceived causality, which "operate to cause" the facial expression to stand for the sentiment. It is true that the development of increasingly narrow categories of emotional identification with age could be due to such factors.

In this sense, Merleau-Ponty (1945; 1964) was right in claiming that bodily expression *is,* rather than just has, a meaning. At some level, tears *are* distress. In this context, the observations of modern ethology should be of some help. As early as 1956, Uexküll observed that different animal species live in different *Umwelten,* the criteria of identity in each particular world being defined by the organism. A later very famous example is that of the male stickleback that will fight any object with a red spot as if it were another male intruding on his territory. But now it is seen that what the organism does is to define the principle of relevance according to which something counts as identical. Of course, tears and distress are not experienced as identical in the same way as the red spot and the stickleback. At the end of this section we shall see that it is this latter case which could perhaps apply to pictures. But first we must return to the mere identity sign.

The staged flight which stands for the real one, is in some respects similar to some particular uses of objects: those things carried around by Swift's sages to use in their conversations; the meals and foodstuff displayed in the show-windows of Greek restaurants (to be distinguished from the plastic imitations employed in the show-windows of Japanese restaurants); the circus artistes parading through the city or outside the tent; the prehistoric remnants in the museum show-case. As noted above (in II.2.2.), cases like these are similar to those Goodman calls *exemplification:* just like the tailor's swatch has some properties to which it also refers, the events and objects here considered have a particular identity, but also refer to it. The difference between exemplification and self-identification is by no means clear-cut, for just as an object will exemplify only

some of the properties it possesses (cf. Goodman 1977:13 ff), so identity must be characterized relative to a principle of relevance. The flight, the Swiftian objects, and the Greek foodstuff, are identical only as types, but the circus artistes and the prehistoric remnants are identical as individual occurrences. Only criterial or prototypical attributes, or the intensive infinity of attributes in Rickert's term, may be relevant for the definition of the identity; the latter case is perhaps that of a picture at an exhibition. Thus, it seems, we could equally well say that Rumford and Franklin, who have in common the property of being American (cf. Peirce I:190), may serve to exemplify each other, and that one will self-identify the other, if the principle of relevance is the category "American". And yet, there seems to remain a nuance: the first is the point of view a third American would take on the issue, the latter is the stance which could be adopted by a Frenchman or a Mexican. For if Franklin is taken to exemplify the property of being American also found in Rumford, it is implied that he is essentially something more and different, just as the tailor's swatch is primarily a piece of cloth; but if Franklin is considered to self-identify Rumford, then they are negligible variations of the fundamental Gringo invariant. There is a difference of point of departure.

To summarize, then, exemplification and self-identification are similar in many ways: both depend on there being a classification of the things of the Lifeworld into categories (cf. I.3.1–1.), but they are distinct from the mere instantiation of the category. In spite of Goodman's claim to the contrary, these categories cannot be labels, at least not in any ordinary sense. Suppose we are presented with a swatch, which is rather small, round, made of wool, and spotted. By convention, the size and shape are known to be irrelevant, but it would be wrong to think that it is just the fact of being made out of wool and covered with spots which is being exemplified; it is the *particular* pattern of spots and the *particular* quality of the wool, and these can hardly be described in any other way than by showing the swatch or the cloth itself. This is more obviously true in the case of self-identification, in particular if the object identified is the picture at an exhibition, for here the sign function seems to depend on a potential infinity.

So much for the categories; now consider the sign function, as distinct from instantiation. As Eco (1976: 307) rightly observes, two Fiat 124s of the same colour are not "icons" for each other, but simply "doubles"; and, although Peirce would probably not agree, Franklin and Rumford are, as such, only instances of the same category, Americans, and not signs of each other. Nevertheless, if the Fiat is placed at a car exhibition, it may well be taken to stand for the class of cars being identical to it given a particular principle of relevance; and there may even be some curious situation in which Franklin may signify the property of being an American found also, in particular, in Rumford. Cases like Goodman's exemplifications are called "ostensions" by Eco (1976:373 ff), who claims their expressions are distinct from their referents, but made of the same material; but this is inadmissible in many cases (cf. II.2.2.); besides, if "matter" has any precise meaning here, it must be that of Hjelmslev's theory, and in that case, Eco's characterization amounts to the affirmation that the expression and the referent are identical in that which has no identity, because it is irrelevant to the system (cf. II.4.2.).

In other ways, exemplification and self-identification are different. That which serves to exemplify is as a "self", in Schütz's sense (cf. Ii.4.2.), an object in whose dominance hierarchy other properties than those exemplified occupy the apex. In the case of self-identification, on the other hand, attributes high up in the dominance hierarchy, characterizing the object as such, are used in the sign function. It will be noted that unless we consider "newly-baked" to be an absolutely essential attribute of cakes, Goodman's cupcake would function as a self-identification in the extended sense (cf. case I b and III a in II.2.2.). Both cases should be distinguished from the dummy, for instance the artificial foodstuff employed in the show-window of the Japanese restaurant, or the dummy found in the show-windows of clothing shops (cf. case III d. of II.2.2.). Here, it seems all *visual* attributes high up in the dominance hierarchy of the content are reproduced in the expression, but since the Lifeworld concepts of, for instance, food and human beings, are not primarily characterized by visual attributes, this is not enough for the dummy to be a self-identification. Even lower-order visual attributes are in fact different, as at least a close examination of the dummy will disclose. The possibility of the *Olympia fallacy* hinges on this constitution (cf. II.3.5.).

We shall call *iconic signs* all those signs whose motivation stems from properties of the sign relata themselves, excluding relations spanning both relata, i. e. from the *iconic ground* (cf. III.1.2.). Thus, both signs founded on similarity and signs founded on identity (supposing this to be something different), are iconic signs. But perhaps there are no signs founded on similarity; the alternative is then not necessarily convention (cf. III.2.), but identity. Surprisingly, and contrary to what I though when I first conceived this alternative, the identity theory of pictorial meaning has already been defended in a number of versions by different thinkers.

It will be useful to approach our problem from another angle. The privileged domain of identity signs would seem to be the theatre. Impressed by Eco's critique of iconicity (cf. III.2.6–7), Ubersfeld (1981:39 f) exclaims that, in the theatre at least, there really are iconical signs, for there a man represents a man, and a chair represents a chair. In fact it would be more reasonable to claim, that in that kind of *avant-garde* theatre in which it is the chair which represents a man, and the man which represents a chair, iconical signs are used: the crouching actor is really trying to make a similarity to the

chair appear against the background of a basic dissimilarity. In the case envisaged by Ubersfeld, on the other hand, the chair *is* a chair, and the man *is* a man, but it is not very probable that, in the theatrical situation, these properties will also be referred to. Rather, the man will signify an other particular man, distinct from himself, for instance King Lear, and the chair will stand for an other particular chair, perhaps Lear's throne. Other properties than being a man and being a chair are made relevant by the context, and conveyed either conventionally or by means of some of the variants of exemplification and self-identification. Eco (1975) has observed that the elementary theatrical situation is realized already when members of the Salvation Army, finding a drunkard sleeping on a bench, place a banderole above him, which refers to the misery occasioned by alcoholism. This is so, of course, because a structure is created, in which one of the properties of the drunkard, his drunkenness, is singled out for exemplification (cf. II.2.2.). Though the drunkard is also a man, this property is not referred to, and so not exemplified, which means no iconical sign for this fact is produced. Nevertheless, Fischer-Lichte (1983, I:28) also suggests that all theatrical signs must be iconical, being often, in Bogatyrev's phrase, "signs of signs" (cf. op. cit., I:180 ff: and Matejka & Titunik, eds. 1976). In particular, the linguistic and mimic signs of the actor are icons of the corresponding signs of the personage, she says. This certainly sounds plausible. But at least in the case of linguistic signs, there is an obvious problem: the play we are watching may have been translated, or it may be a French or German play, purporting to show events taking place in Roman or Greek Antiguity, in which case there is no similarity between the two expression planes. There could still be an identity of gist, of course, but that is a vague criterion of iconicity. To some extent this is also true about bodily expression.

More importantly, as Fischer-Lichte herself observes, what on the expression plane of the theatrical sign is the words and phrases of the actor, is on the content plane of this same sign the wordings of the personage, and the relation between actor and personage is conventional. Now, it is true that costumes and other details can be similar or even identical to what they stand for in the play; thus, they are iconical signs. Indexically, the meaning they engender is transferred to the personage, so that a man wearing XVIth century costume is, by derivation, a man of the XVIth century. There may also be iconical traits in the personage configured by the author, but essentially this is a conventional sign. Of course, if an actor plays himself, or his twin brother iconicity in the sense of identity, gains the upper hand. And if the actor has to signify a chair, or something of the sort, his "personage" sign is essentially iconical, in the sense of similarity.

The most obvious manifestation of the function which Eco attributes to the Salvation Army banderole in the example above, is the proscenium arch, which sets the world of theatre apart from common reality, making it, in Schütz's parlance, another "finite province of meaning". Sometimes, as in "guerrilla theatre", this function must be realized in some more oblique way (cf. Gross & Worth, in Worth 1981:134–147). Among the numerous functions of the picture frame is also that of setting the picture, and the pictured world, apart (cf. Marin 1979). Of course, there are also pictures which must accomplish this function more indirectly. Typically, however, the frame as well as the proscenium arch tell us that the part of the world which they circumscribe shall not be taken as what it is in itself, a world of things, but as signs of other things. Unlike the Salvation Army banderole, the proscenium arch and the frame do not point to the particular properties exemplified or self-identified; rather, they denote what would normally be connoted, the specific sign character of the sign, their being exemplificational and/or self-identificational displays (cf. II.1.2.; II.2.2.; II.4.).

If this analogy holds, Eco (1976:350 f) must be wrong in thinking that the red colour in a drawing of a flag is simply a "double" of the red colour found in the flag itself; not only are there other limits of identity for redness in the picture than in the flag, but there can be no doubt that the red of the canvas is felt to be different from the red of the painted wall, where the colour is really only an instance of a type. The red of the canvas refers to its type, and in fact to the particularization of its type: to its own particular redness. It is possible, but not very common and usually not very profitable, to look at the wall in the same way. Could not the red of our flag painting also be made to exemplify the red of the flag? After all, only convention candecide what kind of properties are relevant: under the same proscenium arch the members of a ballet troupe will exemplify corporal shapes and movements, but the actors of a play will stand for ordinary human beings, etc. Could not iconic language, just like plastic language, be a kind of exemplification, following other conventions?

Dissatisfied with Goodman's explanation of pictures (cf. III.2.), Janlert (1985:224 ff) comes up with a rather explicit version of the identity theory of pictorial meaning. He starts out with a reinterpretation of Goodman's notion of exemplification, observing quite rightly that what the tailor's swatch stands for is not a particular colour as such, but "the colour of the bolt" (cf. our argument in I.2.4. and II.2.2.). But he fails to note that this will only explain what we have called *extended exemplification;* the swatch is unfortunately not a very good example of exemplification, as Goodman defines it. In the same way, Janlert thinks, a Churchill-picture exemplifies certain Churchill-descriptions that also apply to Churchill (p 226) – apparently in a more fundamental way, for he goes on to suggest that the picture is a model for something of which the real thing is a standard model, or more strictly: "X is a model of description D that has

Y as its standard model" (p 228). Curiously, Groupe μ (1985), who ignores both Goodman and Janlert, comes up with a very similar theory, relating "le signifiant", "le type", and "le referent"; on their account, however, the cat may be an icon of its photograph, though that is not commonly noticed (p 456). Thanks to his notion of a standard model, Janlert clearly points to the asymmetry existing between the relata of an exemplification, as in any sign function, which distinguishes it from the instantiation of an identical type (cf. III.6.2.).

Somehow Janlert must also be conscious of the fact that exemplification is related to identification; the title page of his book is a paraphrase on Magritte's famous pipe picture, which however changes the inscription to the opposite of Magritte's: "ceci est une pipe, même!". Unfortunately, it seems that we must side with Magritte on this question: the picture *is* essentially different from the pipe! Considered as a whole the picture manifests a quite different Lifeworld category than the pipe. Differently put, the dominant features of the respective feature hierarchies are quite distinct, and this is true both generally, and in what pertains to visual features. It is also true of the picture both as a "self", in this case a piece of paper, or something of the sort, and of the picture as a sign, that is as a picture. It is to the latter case that Goodman's (1968:5) argument applies, according to which a painting is more similar to another painting than to what it represents. But it could be added that, as a canvas, the painting is also more similar to another canvas. In fact in both cases their is type identity, and there could be none, except in a few rare cases, between the picture and its referent.

But it might be argued that the identity is found on another level, in the "parts", in the widest sense, of the picture and its referent (if we ignore for the moment the problem of the content). There can hardly be any identity of perceptual parts (cf. I.2.4/6), even if Eco may think so (cf. III.2.6–7.). Although a picture will usually depend on one or a few perceptual noemata of the object, it cannot be identical to it, or them, in experience; and while it is true that a picture may be confused with reality, when it is viewed through a peep-hole, without possibility of eye movement or other movements, i. e. in a single perceptual noema, this is not only an extremely unnatural situation, as Gibson and Husserl have insisted, but a situation in which the picture is no longer experienced as a picture, and thus is no sign. Nor does it seem very plausible that a picture and its referent could have identical proper parts, or the same elementary attributes. In the Middle Ages, gold was often incorporated into pictures to stand for itself (cf. Gombrich 1963:12 ff); thus, it appears that certain proper parts of the picture and the referent can be identical, at least in one of their attributes: here, for example, in being made out of gold. But not only did gold stand for other things besides golden objects; the rules for its use in pictures were different from those applied in reality, and there were other substitution possibilities (cf. Baxandall 1972:11 ff). Therefore, the gold in the picture cannot simply be identified with that of the object.

On the other hand, this is certainly not what we would call a typical case of a picture. According to Hermerén (1972:132) a picture of a violin has some of the visual properties of a violin while lacking others, for instance that of being made of wood. In fact, however, a violin picture could easily be painted on a piece of wood; but if the whole picture is made of wood, and the violin occupies a small part of the surface, the fact that they share a property is felt to be a coincidence; and if only the part which stands for the violin is made of wood, we would have something similar to a Cubist collage, which is only a limiting case of a picture. Now, it is not clear in which sense the picture and the object share properties, let alone visual ones.

But perhaps there are some particular properties, or some properties having a particular status, which are identical in the picture and in the object. Eco (1968:192) suggests the picture and the referent have the same "form of expression", but that obviously begs the question: what *is* the "form of expression" of the object (cf. II.2.2.)? Hochberg (1979; 1980) has experimentally demonstrated that a child, 19 months of age, who has never before been confronted with pictures, is able to recognize the objects depicted in outline drawings. Kennedy (1974 a, b; 1980) shows in his review of the research literature, that "primitive peoples" unacquainted with pictures have no trouble understanding them, and has himself demonstrated that even congenitally blind persons can interpret outline drawings, if the lines are transformed into raised dots. It follows that there must be some property that the objects and the lines have in common.

Many authors have repeatedly stated that there are no lines in Nature (see, for instance, San Lazarro 1957:58; Zemsz 1967:43; Eco 1968:192; 1976:328 f); not surprisingly, Gombrich (1982:200), commenting on Kennedy's work, concludes that there are. Strictly speaking, this does not follow: there must be something in nature which has properties in common with lines on paper, as well as with raised dots. The physiologist Blackmore (1973:29) thinks it is because of the decoding devices in our eyes, which react to certain shapes in particular orientations, that lines can be identified with things of the real world; but this fails to explain why the world itself is not seen as an outline drawing. It also leaves us wondering why things are not seen as signs of outline drawings, as well as the converse. It is clear, however, that it is only according to a particular *principle of relevance* that there is an identity of things and outline drawings; but there is some indication that this principle of relevance may be embodied in our biological organism, just like the interpretational rules of facial displays (cf. above). In this, we differ from certain animals: Cabe (1980) found pigeons would react to pictures in the

same way as to the pictured objects, but not in the case of outline drawings. Often, we do not know if the animals simply identify the object and its picture, but Cabe claims this is not the case with his pigeons. Humans at any rate, distinguish pictures from their referents in two ways: they note properties of the picture which are not properties of the referent; and they see the picture as standing for the referent, but not the reverse. Here then, identity, even at the level of properties, appears as a condition of a sign relation, not simply as an identity (cf. III.2.).

The property held in common by a line and, for instance, the edge of some real-world object, must be global – perhaps whatthe Gibsons would call an *invariant* (cf. E. Gibson 1969; J. Gibson 1971, 1978). Thus, it is not an elementary property, but a higher-level one. It is not a configuration: these are rarely identical in the picture to how they are in reality, as is well-known from the case of the circle rendered as an oval. We should expect the picture to be identical to the referent, then, in having the same holistic, non-configurational properties (cf. I.3.4.). And yet this cannot be the entire truth; for when Hoffmann's experimental subjects made configurations quite different from those which they were to copy, although they held more or less the same global properties, the results could hardly be called pictures, or at least not prototypical instances of the category (cf. II.3.6.); it is true that the referents were also two-dimensional. Not just any global properties will do; those which have to do with the spatial layout of the world are of particular importance. Or at least so it seems for the moment.

The picture is not identical to the pipe, nor are any properties characteristic of pipes found in the picture, not even visual ones. Rather, it is through the properties of their properties, that the picture and the pipe might be found to communicate.

In this section, it was pointed out that similarity could be a result of, rather than a motivation for, the sign relation found in pictures; but, that being so, some other property must be present in all pictorial signs if each sign is not assigned a meaning independently. If the property in question is a property of the sign relation, it could be *organic connection* or *identity,* but the former turned out to be just one possible condition of the latter. The so-called iconic signs of the theatre were discussed, but we argued against any simple analogy with pictures. There can be not identity between the picture and its referents as types, except in exceptional cases; no perceptual parts, proper parts, or elementary properties can be identical as a general case; but there seemed to be more hope of discovering an identity at the level of global properties.

III.1.5. Summary and conclusions

The object of this chapter has been to discuss Peirce's theory of iconical signs in relation to his general sign theory, and to our particular interest in pictures. We began with a comparison of Peirce's conception of the sign, in particular in what pertains to its motivation, and of the sign model emerging from the structuralist tradition: the question of *iconicity* will have to be posed, we concluded, for three different relations between the expression and the content, the expression and the referent, and the content and the referent (III.1.1.). Leaving this problem aside for later chapters, we proceeded to investigate the nature of the "interpretant" and the "ground" in Peirce's model, suggesting the essential function of the former was to determine the latter in the two objects related by the sign function. As for the distinction between content and referent, it is really found inside Peirce's category of "objects". The distinction between icons and indices, we suggested, really concerns the nature of the properties of expression used in the sign function; nevertheless, it later emerged that the relation between the expression and the referent must also be taken into account, if one of the subtypes of iconical grounds shall not be identical with the indexical ground (III.1.2.). Thus, it appears that Peirce was aware of the conventional nature of iconical signs, such as pictures, but that he thought they involved the relation of similarity in an essential way.

This brought us to a consideration of the referent as distinct from the content. The referent, we concluded, cannot be reduced away in return for a network of sign intertextualities: it must be present, at least as an anticipation of a potential Lifeworld object. But the sign content cannot be ignored either, because even in a picture it can be very different from the real-world referent, sometimes having properties which the latter can never have. Therefore, it is necessary, even in the case of pictures, to keep apart the three relata of the sign: expression, content, and referent (III.1.3.). However, before we can ask any questions about the nature of the relations between these elements, two things need to be made clear: first, perhaps similarity, contiguity, and convention are *results* rather than *conditions,* effects rather than motivations, of sign relations. Second, perhaps there are other possible motivational instances besides the three mentioned by Peirce. While contiguity between the relata of the sign is necessarily brought about in the sign system, and may even in some cases be imposed on reality itself by the sign, similarity cannot be created, merely impressions of similarity; but perhaps there is no other similarity, as some critics of iconicity seem to mean.

If iconical signs have to be defined by their effect, then we must look for another motivational instance, which could perhaps be *identity.* Curiously, in that case identity must be able to appear as an *asymmetric* rela-

tion, or at least to determine an asymmetric experience, for the relation between the picture and the content or referent is not reversible. Unlike the foodstuff displayed in the show-window of a Greek restaurant, the conversational objects of Swift's sages, and many signs of the theatre, pictures as types are not identical to what they stand for. Nor are some perceptual parts, proper parts, or elementary attributes identical – that would rather be the case of the dummy. Recent findings in the psychology of perception permit us to suggest that there could be an identity of global properties – but not just any global properties (III.1.4.). This sets the background of the discussion to follow in later chapters.

The mirror retreats into the background. Not even Narcissus would recognize himself.

Chapter III.2.
Clouds – The critique of iconicity

> *"Une langue est moins une somme de signes (mots et formes grammaticales et syntaxique) qu'un moyen méthodique de discriminer des signes les uns des autres, et de construire ainsi un univers de langage, dont nous disons par après /. . ./ qu'il exprime un univers de pensée, alors qu'il lui donne l'existence dans le monde."*
>
> *Merleau-Ponty 1969:45*

In this chapter we shall review critically the critique of iconicity. So far we have gained the conviction that the notion of iconical signs cannot be simply wrong; paradoxically, the same thing may be true about the critique which has been directed at this notion. We shall discuss the ideas of Burks, Bierman, Greenlee, and Eco, who have been directly concerned with showing that Peirce's theory, or what they take to be Peirce's theory, is wrong; but we shall also consider Goodman's critique, which is directed at the common-sense notion of pictures. The difference is not so important, as we shall see, for the latter group of authors seems to think that iconical signs are pictures, and they tend to attribute to Peirce the idea of a picture held by common sense. That this attribution is not really justified was seen in the last chapter (III.1.): curiously, we will find Peirce's critics repeating his own arguments. And yet, new aspects of the pictorial sign come to the fore in this criticism.

Our purpose is not to defend Peirce's theory; rather, we want to know what kind of a sign a picture is. In our discussion of the critique directed at iconicity, we will bring to bear psychological results as well as phenomenological investigations; and, notably in the case of Goodman, we shall confront language metaphysics with the findings of linguistic theory. This is problematical: if there can be a scientific objection to a philosophical argument, the persistence of the doctrine of the double truth becomes really strange. There is a double answer to this. First, while Goodman is in his full right to invent the language system that serves his purpose, such a construction will not permit him to draw *any* conclusions about the similarities and dissimilarities between natural language and pictures – and clearly, the logician's conception of language is very far from the language that we speak.

But, in the second place, the structure of language is not really a finding of linguistic theory, in the strict sense. In their rather private kinds of micro-experiments, commutations tests and similar procedures, linguists find out particular facts about language. Most linguists would argue that the language system as such is simply a hypothetical construct, into which the findings made until now happen to fit. Hjelmslev would even claim that the system is arbitrary. But not only are linguists speakers of their language, having some antecedent intuitions about it, which are derived from their activities of speaking (cf. also Coseriu 1958); they also live in a very peculiar Lifeworld, in which most of the objects operated upon are linguistic objects (cf. I.1.3.); and it is reasonable to suppose that, just as with the activities of speaking, these operations on language may be thematized in turn, giving rise to *formalizations* and *proto-formalizations,* which are hardly accessible to people less assiduously concerned with the workings of language (cf. I.4.4.). Poets and fiction writers, because of their different dealings with language, have complementary insights; and artists, as well as art historians, might be expected to have similar but even more implicit intuitions about pictorial sign systems. Philosophers, however, do not apply any particular operations to language. Paradoxically, this is particularly true about linguistic philosophers, or at least of that brand which invents languages, rather than considers the extant ones. Thus, we can take the insights of linguists as a base, in order to go further in our phenomenological clarification. As in other chapters, however, the principal method used is the discussion of existing theories.

III.2.1. Bierman on there being no iconic signs; an investigation of the Blueprint Murder

The first to make critical observations on the notion of icons was probably Burks (1949:676) in his well-known presentation of the Peircean trichotomy: he thinks that Peirce failed to recognize that, since any expression possesses many properties, some conventional means is required in order to tell us that a particular sign is to be taken as an icon, and in what respect it is iconic. Interestingly, Burks here distinguishes two tasks of the conventional sign function: to inform us that something which is a sign, is an iconical sign; and to pick out the properties of the expression which are relevant for this

sign function. This of course supposes, that the icon is first of all identified as a sign. We will have reason to return to this idea. Burks, at any rate, concludes that there can be no *pure* icons. As we know, Peirce would not really disagree (cf. III.1.2.).

More radical, at least in his formulation, is Arthur Bierman (1963): in his view, there can be no iconic signs whatsoever. To show this, Bierman proposes eight arguments and a parable. The arguments are not directly aimed at Peirce's theory, but at Morris's translation of this theory into the terms of extensionalist logic and behaviourist psychology. Since many arguments seem to hinge on the peculiar postulates of these conceptions, only those which are also obviously relevant to Peirce's theory will be chosen for discussion here. On account of what has been said in earlier parts and chapters, it should be obvious that we could never agree with many of Morris's postulates. A more thorough discussion of Morris's conception must be dispensed with in the present context.

It is a truism, in Bierman's view, that there are similarities between an expression and what it stands for, but it does not follow that these similarities motivate the sign function. According to Bierman's first argument, since all things in the world may be classified into a number of very general metaphysical categories, everything in the universe will iconically denote, and be denoted by, everything else. If so, all things are signs, and, since everything is similar to itself, and included in its own denotation, everything will have the same denotation (i. e. the same extension, cf. II.1.2.). Bierman's "metaphysical argument" is renamed the *argument of regression* by Sebeok (1976:128). Pierce himself would probably not be in the least impressed by these consequences: he certainly seems to think that Rumford can be an icon of Franklin since they share the property of being American, which is, if not a metaphysical property, at least a very general one (cf. III.1.2.). Nor would Giordono Bruno, or other thinkers of the Middle Ages and the Renaissance be shocked (cf. Yates 1966; Gómes de Liano 1982; Dascal 1978; Gombrich 1972 a; etc.); neither would the *Naturphilosophen* of German Romanticism (cf. Gusdorf 1982 ff), or Baudelaire and other believers in the theory of "correspondances". Hence, iconical signs of this kind are not only conceivable; they have been conceived throughout the greater part of human history. And yet it is true that these are not typical signs, let alone typical iconical signs; and pictures are most certainly not of this kind.

Bierman observes that undesirable consequences can be avoided if we introduce the provision that no icon should contain universal characteristics as part of its meaning. Thus, it seems, Bierman is satisfied, but it is obvious that such a provision must be problematical, in particular because it is not clear how we shall establish the limit beyond which characteristics become too general to be included in the meaning of iconical signs. It would also seem that, even apart from the "correspondances", there are cases in which iconical signs have very general features in their contents, at least if metaphors and symbols in the European sense, are considered to be iconical (cf. III.6.). It is arguable, that some pictograms stand for relatively universal features, in particular if based on synaesthesia. Such as it stands, the provision is scarcely acceptable.

To solve this problem, it will be useful to return to consider what might be meant by stating that there are three kinds of signs: icons, indices, and conventional signs. Apart from their specified differences, there must be one property which these signs have in common: that of being signs. It is possible that this property is a *result,* which may be produced by three different causes, in the widest sense (cf. III.1.3.), viz. by similarity, contiguity, or convention. Or there may be a further *condition* for something being a sign which must be present, in addition to similarity, contiguity, or convention, in order for icons, indices, or conventional signs to result. In the latter case, one possibility is that this condition is a conventionally defined sign function, which overdetermines the relations of similarity and contiguity, and coincides with the ordinary convention. This is not only what Burks proposes and what Bierman must be thinking of (in his arguments four and five); it also seems to be the option taken by Peirce himself (cf. III.1.2.). Since the sign function obtains between specified relata, the argument of regression is avoided; and so is the "symmetricality argument" (p 247 f), or the *problem of symmetry,* as Sebeok (1976:128) calls it, which states that expression and content must be interchangeable if defined by similarity, which is a symmetrical relation, for the sign function is an oriented relation. But it is erroneous to conclude, as the critics of iconicity seem to imply, that similarity (and contiguity) therefore can be dispensed with altogether: even if it is not sufficient to define something as a sign, it is sufficient to characterize something which is a sign as an iconical sign; and it is necessary, but certainly not sufficient, to define a sign as a picture.

Yet there is something wrong with this description: it is not true that something is seen, in the prototypical case, as a sign and *then* as a picture, another type of iconical sign, and so on. Rather, it is immediately seen as a picture, and this then implies that it is a sign. So perhaps what is needed, in addition to similarity, is some further property of the expression plane. We have already argued (in I.2.5. and I.4.2.) that, in a prototypical sign, the relata are felt to be different in nature, i. e. they manifest essentially different categories (supposing this to apply also to the referent). Thus, it seems that a sign can be apprehended as being similar to what it stands for, only to the extent that is has been recognized as being different from it. *Iconicity is similarity on the background of dissimilarity* (cf. III.1.4.). But in a self-presentation, expression and content are identical, often not

only as types, but as occurrences. There is a decrease in identity between the sign relata, starting with the self-presentation, via the dummy to the picture, in the sense that the features being identical, if any, are found ever lower in the dominance hierarchy defining the categories of the relata involved. Interestingly, the closer to the apex of the respective dominance hierarchies the identities are found, the more an explicit sign convention is needed if the relata shall appear to form a sign. For instance, someone's twin brother may be a sign of him (as in Kurosawa's Kagamushi), but such a sign relation must be instituted; and a car may well stand for identical cars, but the context must give the indication, as it does in a car exhibition. Accordingly, it is perhaps only when the "similarity" between the sign relata goes too far, that a conventional sign relation is also needed.

Unfortunately, it is only once we know that an expression stands for a particular content or referent, i. e. when we have recognized the sign function, that we are able to compare the loci of the identities in the respective dominance hiearchies. What we need is a property which can be directly picked up from the expression plane itself, which tells us that we are in the presence of a sign, in which identities are to be expected between the non-dominant features of the sign relata. Such a property is, I submit, the fact that the properties occupying a dominant position in the feature hierarchy of the expression, considered as a thing, are themselves low-ranked in the prototypicality hierarchy of the Lifeworld (cf. I.3.1.). Thus, we need an ordering of the elementary categories of experience according to whether they are more or less prototypical in their capacity as things of the Lifeworld. It is difficult, perhaps impossible, to come up with such an ordering, but the extreme cases are sufficiently clear: the three-dimensional object, which is given to perception, and which may be handled, is close to the prototypical core; and markings on a surface are rather remote at the other end.

This will take care of the problems of regression and of symmetry, which are the most urgent ones, according to Sebeok (ibid.). That there *are* orderings of the kind suggested in the Lifeworld is not only intuitively plausible; on a different level, it has been confirmed experimentally by Rosch and Tversky (cf. III.6.). That simple exemplification depends on the reversal of this ordering is no problem; as we know (cf. II.2.2.), exemplification requires some convention.

Although it appears at the conclusion of the article, this is the moment to consider Bierman's parable, which is instructive in a different way from what he intended. A man receives a parcel in the post which turns out to contain something the man takes to be a blueprint. Using metal pieces, he sets about constructing a machine according to the blueprint, but when he switches it on, he is electrocuted. The next morning, his widow receives a letter, explaining that the figures marked on the paper have to be cut out and put together, to obtain a paper machine (Bierman 1963:249). But is the moral or this story really that there are no iconic signs?

I think not. Like all activities taking place in the Lifeworld, the interpretation of pictures depend on certain things being taken for granted, but not necessarily on any particular conventions: "normal" conditions are though to obtain (cf. I.2.1.). When a sign differs from what might be expected, it is indeed necessary to have it "anchored" (cf. II.1.). On opening the parcel, the man will note a number of things: it contains iconical signs, rather than writing or scribbles, etc.; the particular style of the pictures connotes "blueprint"; and the shapes given to the figures suggest they depict machine parts. These observations determine the use to which the man puts the gift: since it appears to be a blueprint, he sets about constructing something; since the shapes of the pictures suggest machine parts, and since machine parts are usually made of some sort of metal, he makes his construction out of metal pieces. Apparently, there must also be some kinds of sign, probably iconic or indexical, which tell the man *how* to relate the different pieces to each other. But Bierman has been pulling the man on. What seems to be a blueprint is really a cut-out sheet; instead of being pictures, the figures are self-presentations; and what seems to be their borders are really indexical signs for where one has to cut. The murderer is not the butler, this time, but Bierman!

Interestingly, while instructions would be needed to discover that the sheet of paper could be seen as a self-presentation, none was necessary for the man to take it for a picture. If the sheet, considered as an expression, is ambiguous between two readings then one of them, which happens to be incorrect here, would seem to suggest itself more readily. It should also be noted, that there is no hint in the story that the man put the pieces together incorrectly: thus, something was apparently read off from the picture iconically.

Another argument of Bierman's says that if something is iconical only with respect to some of its properties, it is necessary to stipulate that only these properties count in the determination of the sign function (p 246 f). This seems to be Peirce's iconical ground (cf. III.1.2.). It is possible, however, that there is some Lifeworld ordering which takes care of this issue too. Yet another argument claims that even apart from universal and unique properties (self-reference, according to argument 2–3) the sign may be similar to various other things, and so be ambiguous, in which case it is necessary to have a convention to decide its meaning (p 247).

There is one kind of picture which is really a limiting case, the "droodle", i. e. a picture which needs a key, as Carraci's mason behind a wall (cf. Wittkover in Kaemmerling 1979:235; also cf. Baxandall 1972:29 ff; Hermerén 1969:34 f; 1983:101; Hochberg 1972). In one droodle, which we borrow from Arnheim (1969:92 f), an ambiguity is noted immediately in the title: "Olive dropping into martini glass or Close-up of girl in scanty bath-

ing suit" (fig. 38 a). While both scenes are possible to discover in the drawing, both are clearly underdetermined by it. There are two ways in which we can try to avoid such an ambiguity. One is to fill in the details, in particular the details which are characteristically different in an olive and a navel, in the air and a pair of thighs, etc. At some point the droodle will then turn into a genuine picture. The other possibility, which is the only one considered by Burks and Bierman, is to introduce an explicit convention, such as Carraci's key. According to Hermerén (1983:101), it is only because of "the limitations of human imagination" that we see fig. 38 b as a human face, for it can equally well be perceived as "a jar from above, with some pebbles and broken matches on the bottom, and a stick placed across the opening". Thus, it should be ambiguous in Bierman's sence. It all depends on what is meant by the limits of human imagination here: Gestalt principles, the face as a privileged perceptual object (cf. E. Gibson 1969:347 ff), and so on, all conspire to make one of the readings determinate. While it is possible to find the elements Hermerén suggests should be there in the picture, it is impossible to see the interpretation as a whole without being disturbed by the other reading. Thus, it seems that when an expression has similarities to different contents or referents, one may be favoured because of properties of the expression itself, and is not overridden by convention.

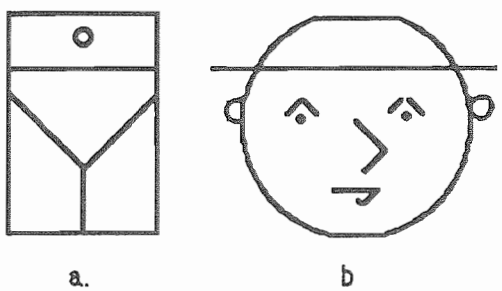


Fig. 38. Ambiguities

Consider one last argument of Bierman's: if the whole world but the sign changes, the properties C1 and C2 of the expression are no longer shared with the object X, but instead, the properties C3 and C4 are common to the expression and the object Y, so the sign has changed meaning (Bierman 1963:248 f). This is of course difficult to imagine: but nothing in the argument would be modified, I presume, if we just supposed that those parts of the world directly relevant to the sign have changed. Then there is nothing implausible about the idea: the same pictogram used today to mark the location of the women's toilet appears on Carthaginian tombs to represent the god Baal. At least that which now appears to be similar to the woman's frock must once have had a resemblance to something else. This means pictures can change their meaning. Of course, it would be pointless to argue that because such a sign means a woman today (cf. II.4.3.), it must also have meant that to the Carthaginians; just as pointless as when von Däniken (1973) maintains that spacecrafts can be seen on Mayan inscriptions, or that there are astronaut's helmets, wrist-watches, etc., which are depicted on ancient rock paintings. It is true that the world has changed: nimbi are no longer around, but astronaut's helmets are. It must be granted to von Däniken that a contemporary boy could very well make a drawing which is identical to the rock paintings, and which *is* a picture of an astronaut's helmet. Von Dänken is wrong because he ignores what is known, or what can plausibly be supposed, about the conventions, and the things taken for granted in the cultures to which his pictures can indexically be attributed. He is wrong, not about the sign types, but about the pictures as particular occurrences. This is because his pictures are at the level of droodles. In the case of such a detailed picture as that of the Mayan sarcophagus cover, however, the picture itself is enough to prove von Dänken wrong (cf. Story 1976). At least, if we do not suppose that most of the details of the cover are due to plastic language (cf. II.3–4.). But in that case, the space-gods would have landed only to serve as an artistic pretext.

We come out of the Biermanian critique more favourable to iconicity than when we started. We have argued that the "normal conditions" of the Lifeworld make pictures interpretable, without conventions of the kind Bierman imagines. However, in the case of iconical signs, whose relata are too close to each other as types, conventions are indeed necessary. But there appears to be no problem in seeing that a particular sign is an iconical sign, at least if that sign is a picture. When it comes to Burks's second reason for postulating a conventionality of iconic signs, however, our account seems as yet incomplete: it was suggested that there may be other than purely conventional reasons for choosing some features and some identities, present in the expression, to stand for the meaning. Other aspects of this last question will be considered in the following section.

III.2.2. On conventions; or: the Elephant reviewed by his blind men, even

When we talk about iconical signs, even when we deny that they are based on similarity, this appears to suggest that there is a procedure for deciding if something is or is not an iconical sign. If so, there must be at least one property which all iconical signs have in common. Similarity, it is true, may simply be a *result,* not the motivational instance, of the sign relation (cf. III.1.4.). But since not all signs produce this effect, those that do must have some other property in common, responsible for the effect. It is true that there could be various properties producing this effect, but not infinitely many. Even

if there is just one property, this could be the property of having been assigned to the category of signs producing an experience of similarity. If so, each particular expression of an iconical sign must have been correlated with a given meaning separately. Something like that is suggested by the Greimas school's term "contrat iconique". In this case, there is of course no procedure for deciding if something is an iconical sign. There would be no *iconical competence.* On another interpretation, however, the presence of an iconical competence is not incompatible with a certain conventionality of iconical signs.

Just like Bierman, Greenlee (1973:73 ff) observes that each object is similar to each other object in some way or other; he adds that this was an essential point of other parts of Peirce's philosophy. We have seen that, contrary to what Greenlee supposes, Peirce was not ignorant of this fact in his sign theory either (cf. III.1.2.). But Greenlee thinks that we do not attend to all these similarities; and not all similar objects are the icons of each other. Thus, he concludes that the sign "must have been *appointed*"; there must be a convention which "establishes the ground of the representation (and accordingly signification) of the icon" (Greenlee 1973:77 f). Again, it seems that there is only *too much* similarity; like the profusion of meaning in Barthes's picture (cf. II.1.1.), the similarities have to be "anchored". Thus, it is in Burks's second function, to choose among the similarities, that Greenlee feels he needs the sign function. But while the first formulation suggests that each iconical expression must be assigned separately to the corresponding content or referent, the second formulation seems compatible with the existence of some more general principle or "rule of interpretation", as Greenlee (ibid.) himself calls it. The latter could be a *principle of relevance,* which could still be conventional, in a broad sense.

In the extreme case of an appointed icon, the similarity will only become apparent once we are informed about the correlation of the sign relata. This is the case of the droodles generally (cf. III.2.1.). From this point of view, the perfect droodle is perhaps when the cartoonist Roger Price called a straight black line "side view of a naughty French postcard" (Arnheim 1969:95). Perhaps this is similar to the onomatopes of verbal language (cf. II.3.5–6.). The more common kind of droodle is closer to ordinary pictures, at least in that the details of the subject may be projected onto the details of the drawing. Because of the number of details, there is some basis for hazarding a guess. But essentially it seems that the iconic motivation of the sign is only to be discovered once the conventional sign function has directed our attention to the appropriate meaning. Whatever iconicity is, it is then not the motivation of the sign (cf. III.1.4.).

This can hardly be true about all iconical signs, however, let alone about pictures in the most straightforward sense. It has been observed by Gubern (1974:127 ff; cf. Yllera 1979:G 21) that the richness of the "iconic code" is infinite, because it is at least coexistensive with the things and beings of the universe. But it is obviously impossible to point individually to each one of these meanings. On the present account there are authentic similarities between iconic signs and their meanings, but they are so general, and so universally distributed, that they become functional, only after a conventional meaning has been imposed. For the reason noted above, this theory is unacceptable as a general explanation of pictures, but perhaps it can be extended beyond mere droodles. The psychologist Deregowski (1970; 1973: 183 ff) thinks pictures can either be used as labels, which should be easy to remember and easy to distinguish from other labels, or they may be intended to "convey" *what an object actually looks like*" (a similar distinction is made by Husserl 1980:34 ff). The second function is manifested in pictures using the Occidental perspective; the first function survives in our culture in blueprints and heraldic signs, but it is the dominant function in many other cultures.

An example of the latter is the so-called "split representation", where an object is seen from many sides at the same time, i. e. as Deregowski (1970:21) puts it, "the attempt made by the artist to represent on the flat surface more of the depicted object than would be visible from any point of view". An elephant, for instance, would be pictured from above with its legs spread out to the side (cf. I.2.4.). Boas thought this style could be explained from an earlier practice of decorating solid objects on all sides; Lévi-Strauss suggested it was due to a schizoid basic personality in the culture; but these hypotheses are too particular, in Deregowski's view, to account for a phenomenon found on all continents and in all periods of time, from prehistory onwards. Instead, Deregowski claims that "split representation" is typical of cultures in which the function of pictures is to serve as labels and identification marks. Symmetry is a useful factor in making these labels distinct and easy to remember (cf. in particular Deregowski 1973:184 ff). Thus, our pictures would be iconic, but those of other cultures are thought to be more on the conventional side.

It is not necessary to think, with Panofsky and Goodman, that Occidental perspective is purely conventional to find this view ethnocentric. For what does it mean to see the object as it "actually looks like"? It is true that we are not used to seeing all the perceptual parts of an object spread out alongside each other; but nor will we ever see an object of direct perception in a single, stationary view. Gibson (1978) has insisted on the fact that real perspective is different from that of optics, being made up of a continuous family or views; and Husserl (1928; 1939; 1973) made that observation long before him (also cf. Gurwitsch 1957; and Hagen 1979; 1980 b). Deregowski's Africans thought that the elephant shown in perspectival foreshortening looked dead, preferring a view from above with the legs spread out to the sides,

"in spite of the fact that it was perceptually impossible" (1970:22 f). But in the perceptual experience of the Lifeworld, the single perspectival view is equally impossible!

Deregowski showed experimentally that in particular uneducated Africans, while preferring the "split-representation" type of drawing, found it easier to correlate a perspective picture with the correct model. He also cites some other evidence, according to which engineering draughtsmen have difficulties interpeting "third angle projection", which is what they commonly use. Thus, it seems, "split representation" is "less" motivated than perspective drawings. Yet Deregowski admits that split-type drawings are adequate "where detailed information is important and no apparently obvious assumptions can be made", which must imply that, in a sense, these convey *more information* about "what an object actually looks like". Not only are blueprints used to describe things, rather than to label them, but maps, which often incorporate features of split representation (cf. Gombrich 1982:184 ff), are more useful in finding the way than photographs. It therefore seems safer to conclude that both perspective pictures and split representations are comparatively motivated types of signs. The choice of one over the other is of course conventional, in the sense of being determined by traditions or specific purposes of the representation: for instance, perhaps the split-type picture would have been more informative if, in Deregowski's experiment, the task had been to find particular features of the objects instead of whole objects. But in these cases, it is not necessary to know about the convention to find the similarity.

So far we have encountered two ways in which a sign may be motivated and yet its very "form" be conventional: in the droodles, the conventional sign relation is a prerequisite for identifying the motivational features; but both the perspectival picture and the split representation appear to be readily interpretable without any prior knowledge about the sign function, and it is only when they are compared, that both can be seen to be reductive schemes, formalizing different orders of the full, perceptual experience (cf. I.4.4.). A contemporary of Peirce, Garrick Mallery, was probably the first to do what he called a "semiotic" study of iconical signs, notably of American Indian rock paintings and manual gestures. Mallery (1881:94 f) concluded that many of the manual signs were "reasonable", because the similarity between the sign relata could be seen by a person acquainted with the culture, or if the sign had been explained to him (cf. Kroeber's introduction, p xxiv). For instance, there are many different manual signs signifying "woman" or "female" (see the dictionary in Mallery 1880–81): imitations of the breasts; or of the female sexual organs; of the undulating contours of the female body; of small size; of long hair; or of the particular hairdo of the Indian woman, with braids to the sides.

These signs depend on factoralities (and perhaps on contiguities); that of height is diagrammatic; but they all render features which are so general as to be icons of extended classes of things. Thus, it seems that, as in the case of the droodles, their motivation is only apparent once the convention is known. It is arguable, however, that more general conventions than the attribution of a particular meaning to a particular expression determines these signs. The division of the sexes is probably such a general fact of all human cultures that "man" and "woman" are among the first meanings which we should expect to find included in any sign system. The imitation of the woman's braids is perhaps such a prominent fact of Indian culture that the culture members decode it immediately. As for the female bodily contours, they are well-known to us from our own toilet graffiti: perhaps we interpret them so readily because, in the ideology of our culture, the particular shape of the female body is prominent in itself (On the other hand, it could also be an "innate releaser", like that for "babyness", as Schuster & Beisl 1978 suggest). According to Freudian hermeneutics, any round shape will suggest the female sexual organ, in spite of the enormous number of round objects in our experience; and the manual sign of the American Indians is much more explicit than that. Thus, iconicity is largely parasitic on common sense. Its options are those of the particular Lifeworld.

This, then, is more like a general principle of relevance, in that the meaning of each sign does not have to be appointed individually; yet it is not a conventionality of iconical signs, but of the Lifeworld itself. But perhaps our approach to the problem has been mistaken: while each picture cannot be separately correlated with its meaning, it is perhaps made up of elements that can be so correlated. In fact, we have argued that the things of the Lifeworld are distributed into categories (cf. I.2.1. and I.3.1.). Gubern, while claiming that there are infinitely many things in the world, observed that they are in practice rendered by stereotypes. Gombrich's "scheme", different from ours, is probably a stereotype in this sense. In a German woodcut from 1557, the Castel Sant' Angelo has been rendered as "a German *Burg* with its timber stucture and high-pitched roof" (1960:61) with a few details peculiar to the Roman building added. This was the same technique with which Le Bry depicted the Indians, according to Bucher (cf. I.3.1.). In fact, Gombrich's "scheme and correction" appears to be a prototype corrected for the deviation from prototypicality. But this is a very derivative kind of conventionality: if the German woodcutter's fortress does not resemble the Castel Sant' Angelo, at least it must resemble a German fortress; and the added details must somehow resemble features of the Castel Sant' Angelo. So the problem of iconicity remains in its entirety. For on an appointment theory, it is not sufficient for all stereotypes to be correlated with the prototypical instances of the category they represent; each one of the added details would have to be so appointed.

Regardless of whether the sign is identified with the

entire picture or with a portion of the picture corresponding to a Lifeworld category, no correlation of each expression with its particular meaning is possible. But perhaps, as Hjelmslev argued in semantics, infinite classes may be reduced to finite ones at the level of features. We will return to this possibility in our discussion of the contributions of Goodman, Eco, Gibson, and Kennedy. For the time being, if we except the limiting case of the droodles, in which the convention is a condition of possibility of the motivation, we are left with a conventionality of pictures in a triple but trivial sense. First, as in Mallery's manual sign system, iconicity is parasitic on common sense, as it is conventionally elaborated in the particular Lifeworld (including the "conventionality" of organic links; cf. III.1.4. and the introduction to III.1.). In the second place, in accordance with the general phenomenological principle, that all experience of an object is experience of this object *from a particular point of view* (cf. I.2.1.), each iconical sign operates a choice between the different *schemes* that may be formalized from the superabundance of visual reality: between the schemes of perspective rendering and of split representation, for example (cf. I.2.1. and I.4.4.). And finally, in visual thinking, as in all thinking, prototypical instances may be used to think about more deviant examples, as in the case of the German woodcutter's fortress, and in that of Le Bry's classical Indians (cf. I.3.1.). But all these conventionalities would seem to presuppose a basic motivation.

III.2.3. Goodman against similarity; also, a philosophy of the scribble

Goodman does not aim his criticism at Peirce's theory of iconicity, but at the common man's naive conception of pictures, which he also discovers in the psychology of perception, notably in the work of Gibson (cf. III.3.). And yet, most of his arguments are such as we have encountered already, in discussing Burks, Bierman, and Greenlee. These arguments will be briefly reviewed in this section, before we pass on to an appraisal of Goodman's alternative theory (in III.2.4–5.). Initially it seems, Goodman (1968:39) only wanted to throw some doubt on the value of "judgments of complex overall resemblance" without intending to question the objectivity of the corresponding simple judgments; later, however, he launched an attack on the use of similarity as a criterion in a number of contexts (cf. Goodman 1970). Part of the latter arguments will have to await discussion until the next section (in III.2.4.). However, if the complex overall resemblance is due to global traits, there seems to be every reason to think that it is more accessible to intersubjective judgment than any piecemeal evaluation (cf. I.2.4. and I.3.4.).

Similarity, but not depiction, Goodman (1968:4) claims, is reflexive and symmetrical. Any object is maximally similar to itself but it rarely depicts itself. And whereas two objects must be mutually similar, a picture may depict the Duke of Wellington without the reverse being true. Just like Bierman (cf. III.2.1.), Goodman here identifies the ordinary notion of resemblance with the equivalence relation found in logic, but this is to confuse different ways "the world is", to use Goodman's (1960) terms; more precisely, it confuses the scientific "cloth of ideas" with the Lifeworld notion (cf. I.2.1.). Outside logic, nothing can be similar to itself, only *identical* (cf. III.1.4.; of course, an object may be similar to itself from moment to moment, or from part to part). Unlike identity, similarity would seem to presuppose a fundamental dissimilarity. So much for reflexivity; the consequences for symmetry follow immediately. If dissimilarity is the basic condition of similarity, there can be no symmetry. We should not try to compromise, arguing, as Black (1972) did, that some English expressions of similarity are symmetric, others asymmetric. The psychological investigations of Rosch (1975 b) and Tversky (1977) unambiguously establish similarity to be asymmetric, even outside sign relationships. Here, then, phenomenology and psychology agree.

Two very similar objects, Goodman says, do not necessarily depict each other: so, for instance, two cars on the same assembly line, two twin brothers (Goodman 1968:4; the latter comparison also in Husserl 1980: 141), two dimes, two tokens of the same wordtype, or two photographs of the same scene, even if taken from the same negative (Goodman 1970:19). Here we are of course really concerned with identities according to some principle of relevance; they will be signs if taken to be self-presentations (cf. III.1.4.). But it seems plausible, that the argument could be restated for genuine similarity, as distinct from identity: not every similarity, based on a fundamental dissimilarity, is a sign. Of course it is true, as Goodman observes, that it is insufficent to require that, besides the relata being similar, one of them should be a picture; in any case, that would be to go round in circles, since this is the task from which we started. It would be more natural to require the relata of the resemblance relation also to form a sign, as Burks and Greenlee, and perhaps Peirce himself did; but, as we shall see at the end of this section, Goodman finds problems with this option too. It is hardly fair to Goodman to claim, with Cameron (1979:750), that he fails to understand, that in addition to similarity, there is also "the system of pictorial reference"; the difference between Goodman and Bierman, on one hand, and Burks, Greenlee, and perhaps Cameron on the other, is that the former think a pictorial reference system makes similarity dispensable, while the latter want to combine similarity with a reference system which restricts its application (cf. III.2.4–5.). But Cameron (p 749) also observes that in a picture the image is seen as being "generated by painting materials"; and this could bring us back to the relative categories of Lifeworld ontology, and

yield a characterization of "picture" which is no longer circular; but first we have to consider Goodman's other arguments.

To bring home the fact that similarity is insufficient, Goodman points out, quite rightly, that Constable's painting of Marlborough Castle is more similar to other paintings, than to the castle it depicts. To add the requirement that what something resembles should not be another picture, is "desperate and futile", for a picture may well depict another picture, and the once popular paintings of art galleries depict many others (Goodman 1968:5). This accords perfectly with our observation that the relata of pictorial signs, as the relata of all other signs, instantiate heterogeneous categories (cf. I.2.5. and I.4.2.). Even a picture depicting another picture comprises two heterogeneous categories: only the first picture is given *as* a picture. But Goodman's example is curious in many ways. To begin with, a gallery picture shows many pictures *and* their environment, at least their frames; thus we could require the second relatum to be not *just* another picture. In fact, a picture showing another picture, which in its turn shows a certain scenery, is indistinguishable from the picture showing the scenery; it would therefore rather be a reproduction, which depends on an identity according to a principle of relevance. One could make a picture of a famous picture, such as Mona Lisa, but in order not to make a reproduction, or a forgery, something must be added: a moustache, for instance, and so the picture will show something *more* than another picture. Even if the painter chooses to imitate a fragment of Mona Lisa, which he enlarges so that the cracks and crevices of the paint become salient, something more than just Mona Lisa has been rendered: traces of its history, notably. And the choice made by the second painter from the first painter's work.

More importantly, perhaps, Goodman's argument is curious in another way: the similarity which a picture has to another picture that it depicts, being a similarity between two particular pictures, is not the same kind of similarity that a picture has to all other pictures. The latter similarity, which to us is an identity according to a principle of relevance, can become the ground of a sign function: in the show-window of an art gallery, for instance, where a painting may represent art in general, or the paintings of a particular artist and, in the Middle Ages, as the signboard of the artist, to represent the kind of work he is able to execute. But these are of course exemplifications and self-identifications (cf. II.2.2. and III.1.4.). The difference between these two "similarities", in Goodman's parlance, is of course exactly what is at stake here. But the fact that one of these "similarities" is a two-place relation, and the other a relation with an infinite number of places (!), should be sufficient to point to a difference. Thus, to state that what a picture resembles may not be *just* another picture, is not desperate and futile; but it is irrelevant. What should be made clear is that we are not concerned with the "similarity", which is really an identity, of the painting to all other paintings, that is, to members of the same primary category. For, if identical features are found higher up in the semantic hierarchy, we will have a self-identification or a dummy instead of a picture.

Not only is similarity insufficient to define pictures, Goodman claims, but it is not even necessary. Now, it is true that there are signs which are not based on similarity; but to the extent that the sign does not involve any *impression* of similarity, it will not be called a picture. Similarity, at least as an impression, is certainly necessary, not for something to be a sign, but for it to be an iconical sign, for instance, a picture.

The fact that we can estimate the degree of realism in a unicorn picture, shows, in Goodman's (1970:19) opinion, that no similarity is involved, for there is nothing which the picture can be compared to. In the same way, Goodman (1968:26) claims that most persons in a painting have zero-denotation, as in the case of the hunter in a landscape by Rembrandt. In fact, however, the realism of a unicorn picture must be a relative business: it is relative to the realism of pictures of horses and horned animals. It is true, as Goodman says, that realism may also be judged on the style; but then we are only referred to similarities on another level. For instance, the outline may be drawn in such a way that it does not, or does so only to a feeble degree, share those properties which it has in common with the borders of light coming from real-world objects. The case of the hunter is somewhat different: he may never have existed as a particular person, but categories like "man", "hunter", "Dutchman", "17th century person", and so on, have often been instantiated. Now, it is true that the hunter, like the guard at Toussaud's (according to Gombrich 1963:2 f), is an individual person: and as such, he may never have existed for, even if he was drawn from a model, that model may not have manifested all the depicted categories, for instance, he may not have been a hunter (cf. III.1.3.). Thus, in the end, the case of the hunter is not so different from that of the unicorn: both may resemble only as they instantiate a conjunction of categories.

Again, Goodman (1968:6) thinks there is a problem of *what* to copy: the object before us may be described as a man, a swarn of atoms, a complex of cells, a fiddler, a friend, and so on. To the extent that it would be possible to copy them all, the picture that resulted would be particularly unrealistic (Hermerén 1983:119 has a similar argument about "das Ding-an-sich"). But this confuses two very different questions: there is no problem whatsoever in depicting someone as both a man, a fiddler, and a friend, and to the extent that more such *intensional levels,* as we have called them (cf. I.3.2.), are included, the picture will be more realistic. Of course, not just any combination will do: there is piecemeal realism, but not realism of the whole, when a man is seen as be-

ing simultaneously a heap of vegetables. Categories which are not related in the Lifeworld are here confused. More serious is the confusion of the different "ways the world is": a man who is also a swarm of atoms will be surrealist, because the first is a category of the Lifeworld, and the second is a scientific construct, which can never meet the eye. The typical picture depicts the objects of the Lifeworld; but there are also pictures of complexes of cells and swarms of atoms, notably in the textbooks of biology and physics; and the similarities of the latter in particular are certainly doubtful, as they are based on such a limited knowledge of their objects, and are transposed to a mode of existence, visibility, which they cannot have in themselves. Most pictures will show the Lifeworld, because that is the world in which we live, of which we have the richest experience; but the eye is not innocent, neither in opting for the Lifeworld, nor in choosing its particular version of it. Le Bry, for example, reviews the culinary practices of the Indians in the light of European ones, if Bucher (1977; 1979) is right; and Chinese draughtsmen translate Western blueprints for the construction of machines into the miraculous apparitions of their familar Lifeworld, as Edgerton (1980) has shown. Contrary to what Goodman thinks, there are limits to the innocence the eye may lose: after having sung all the songs of experience, one will remain unable to see, in the proper sense of the term, a man as a swarm of atoms.

More interesting is another argument, which Goodman (1970:19) advances against the interpretation of the picture as a combination of denotation and similarity. He asks us to consider a page of print that begins with "the final seven words on this page" and ends with the same seven words repeated. Here, the first occurrence refers to the second, and is as similar to it as can be, and yet, we would not call this a picture. But the interesting question, which Goodman does not pursue, is what this example lacks in order to be a picture. So let us take a closer look at the point at issue.

Just like anaphoric reference, the cataphoric one is not a prototypical case of a sign relation, for the relata are not clearly felt to be heterogeneous in nature and, if not directly continuous, one relatum may be reached in a few steps beginning from the other (cf. I.4.2.). There seems to be no pictorial anaphora or cataphora, so it is difficult to compare the cases. In the second place, the relata of the sign function considered are, as types, *identical,* and not just similar: they are instances of the same type. Thus, it seems, they would rather form a self-identification than a picture. But two tokens of the same type do not always refer to each other. Repetition may be a rhetorical figure (as in Finnegan's Wake), but then each instance will have its own content, and the fact of the repetition will also engender a connotation (cf. II.4.). In the present case, however, the primary content of the first instance *is* the second instance. This is possible because the second instance refers to itself not, like the picture at the exhibition, because of a general convention, but because of the contents of the words which compose it, and because of the localization of the expressions of these words on the page. The second instance, then, is different from the first, when considered as to its indexical ground, which comprises but exceeds the conventional ground it shares with the first instance (cf. III.1.2.). That is to say: the first instance is cataphoric; the second is a performative index (cf. I.2.5.).[1] And on this level, the possibility of the reference depends on the two instances being somewhat different.

However, we have argued that there is no primary identity in the case of pictures; instead, similarity only appears on the background of dissimilarity. In order to get closer to the pictorial sign, one may think of translating the second instance into another language, e. g. French: "les septs derniers mots de cette page". We will no longer have two instances of the same type, but we are left with very little similarity: logical analogy, because both languages happen to use seven words, and of course the gist of the message (cf. III.1.2.). Nor will we get any closer to a picture if we exchange the second instance for "the final seven words on page two", supposing this to be written on page two: rather than similarity, we get partial identities, combined with differences which are completely separate from them. The same is true if the second instance, but not the first, is "the final eight words on this page": then the first instance will differ in different ways from the expression and the content of the second instance, and yet there is nothing which suggests a picture.

We could of course use different printing types for the two instances, but this is to no avail, since the principle of relevance embodied in the word "word" makes such differences irrelevant. Suppose instead that we exchange "word" for "scribble", and then put the second instance down in scrawly writing; identity will cease, but reference remain. So both instances must be scribbles, it seems. However, there is perhaps no principle of identity valid for scribbles, although they may be felt to be similar. It is arguable then that we may end up with a picture, albeit not a very typical one: just like a picture of a picture of a scenery is undistinguishable from a picture of the scenery, a scribble which represents another scribble is scarcely distinct from it. But *if* we take this to be a picture, then it must be noted that it is one for reasons quite *independent of* the original *reference* relation. More precisely, if the scribbles are to be read also as forming the same words, an identity on the linguistic level must be presupposed: but it is not necessary for the first instance to contain anything which refers to the second instance; any repeated phrase will do.

Ignoring this last result for the moment, it may be suggested, on the analogy with speech act theory (cf. Searle 1969; Sonesson 1979 b), that in the case of a pictorial sign, similarity should at least be a partial reason for considering one relatum of the sign function to

refer to the other; in Goodman's example, on the other hand, reference and similarity (in fact, identity) are separate facts that simply happen to coincide. But if the point is that the relationship between the similarity and the sign function should be to some degree intrinsic, without simply being the same relation, then there is a second possibility, viz. that it is the sign function which is a partial reason for the similarity or, more precisely, the experience of similarity (cf. III.1.4.). This, it appears, is the case of the droodle, in particular in extreme cases like the line standing for a sideview of a naughty French postcard (cf. III.2.2.). But in that case, what we need to know, before discovering the similarity, is the particular content of the sign relation; it might be argued, however, that it is a more general condition for discovering similarity, that we know that we are faced with a sign – and perhaps even with the kind of sign which is normally based on similarity!

In our modification of Goodman's example above, we saw that one scribble will refer to the other, quite independently of there being an explicit reference relation between them. Thus, it is not the presence of a particular reference relation that conditions similarity. But neither is the similarity sufficient to condition the sign function, and this is exactly why the scribbles do not form a prototypical sign: the categories of the two items are simply too homogeneous in nature. In particular, it seems that the category of the expression must be lower on the folkontological scale (cf. III.2.1.). First, it seems, we must discover that the expression is of the kind of stuff of which signs are made; then we must use this as a reason for finding the similarities; and finally the similarities should be used to ascertain the precise sign function.

This brings us to a last argument of Goodman's, which he tells us is the fundamental one, underlying all the rest: all things have properties in common. Once again, we recognize an argument also proposed by Bierman and Greenlee (cf. III.1.1–2.). Goodman (1970:25f) adds that the quantity of properties possessed in common will not do either for, if there are only three things in the world, these will have exactly two properties in common, viz. that of being members of the class of two things, and that of being members of the class of three things. Of course, such properties cannot be exploited iconically, but perhaps indexically (cf. III.1.2.). Goodman then considers the possibility that only "important" properties count, but rejects the criterion as being to imprecise. In fact, however, it is exactly as to their important properties that the picture and what it represents are different! Gombrich (1982:286) is of course right in observing, in his reply to Goodman, that "the fish which snaps at the artificial fly does not ask the logician in what respect it is like a fly and in what unlike". So the real fly and the artificial fly do have their "important" properties in common, from the point of view of the fish. To man, however, it is exactly in "important" respects, that the painted fly differs from the real one.

"Circumstances alter similarities", Goodman (1970: 28) continues: of the three glasses before us, two contain a colourless liquid, and one a light red one. But the first is water, the second is hydrochloric acid, and the third is a kind of vegetable dye – and Goodman is thirsty. We are immediately reminded of another series of glasses, those which Piaget used to employ in his tests of conservation: the child is to pour a liquid from a wide glass into a narrow one, and then to judge if the amount is the same. When the preoperational child answers no, it is because the difference here completely overpowers the similarity, and the operational child must learn to discover this similarity in spite of it being comparatively unconspicuous. Without himself realizing it, Goodman, like the child, begins from the most obvious similarities: first visual appearance, then drinkability, and so on. Piaget thinks the child must discover a formal scheme, in order to see that the water in the two glasses is the same amount, but Arnheim argues that only a higher degree of visual thinking is necessary (cf. I.2.1.). On both interpretations, some types of properties are more obvious than others. In the case of liquids, both visual appearance and drinkability are rather salient characteristics, but the first pertains to all things of the Lifeworld, and the second only to liquids. Thus, it seems that Goodman is doing his thinking well inside the Lifeworld, without realizing it.

Similarity judgments, Goodman (1970:29) admits, are still "serviceable in the streets". But that is where the pictures are. So we have to start from street wisdom.

Goodman's arguments, like those of Greenlee and Bierman, fail to establish what they purport, but in discussing them we have discovered some curious properties of pictures. Unlike identity, similarity is neither symmetrical nor reflexive; it is based on a fundamental dissimilarity which is the first condition of the constitution of a pictorial sign. In fact, pictures are identical, according to a principle of relevance, to all other pictures, not to what they stand for. Typical pictures stand for things as they are in the Lifeworld, but other interpretations are possible; nevertheless, the mixing of these viewpoints gives rise to a surrealist picture. This is quite the opposite of what happens when different intensional levels are included. Because something is seen as being susceptible of being a sign, and a pictorial sign, similarities are searched for beyond fundamental differences of category; and because these similarities are established, the sign function can be defined to a particular content. Of some help is also the priorities given in the Lifeworld to particular kinds of properties. But what then is it that something susceptible of being a pictorial sign? Curiously, Goodman seems to have an answer to propose (cf. III.2.4.).

III.2.4. Goodman's counter-proposal; the expression scheme. Approaches to Mt. Fujiyama

Pictures, Goodman claims, are members of "symbol systems", just like verbal signs and many other kinds of signs. We have no quarrel with that; for it appears that "symbol" means to Goodman, as to Cassirer and Langer, what "sign" means to us (cf. I.4.2.). This analogy with language has been rejected by Scruton (1974: 189 ff, 221 ff), notably on the grounds that works of art have no truth value; but it is clear that Scruton here is talking about the logician's language, not that of the ordinary man, which contains many constituents to which the concept of truth value does not apply in any strict sense. It is plausible, of course, and we will later see that it is a fact, that Goodman's language is also that of the logician, but he does not seem to be concerned with the question of truth value, and it will be sufficient to admit that there is a concept of language which does not imply anything in particular about truth values. As we proceed, we will discover what more, if anything, is meant by the term "symbol system" (henceforth translated into "sign system"). We already know that to Goodman pictures are not signs whose particularity it is to be similar to what they stand for; so if they are, like so many other things, members of sign systems, we would like to know in what respect they are particular (cf. III.2.3.).

All sign systems correlate an *expression scheme* with a "field of reference" which, in our terminology, is also a *scheme,* but so far it is not clear if it is the *scheme of reference,* or the *content scheme* (cf. II.4.2.; III.1.3. and III.2.5.). Sign systems are different because of the way marks or inscriptions are assigned to the units of the expression sceheme, called "characters", and because of the way in which the schemes themselves are correlated. The different systems are characterized in relation to the *notational system,* which Goodman uses as a prototype, or perhaps really as an idealtype (cf. I.3.1.): the musical score, on one interpretation, could be an example, verbal language is in some respects close to it, but pictures are found at the other extreme. Simply put, the notational system is made up of a series of separate, discontinuous characters, which are correlated with a field of reference, equally segregated, in such a way that each character in the system isolates the object(s) to which it corresponds and, inversely, so that each object isolates the characters correlated with it. The pictorial system, on the other hand, is continuous, and non-segregated, and no alphabet of segregated characters exists for it (cf. Goodman 1968:127 ff; Gardner, Howard & Perkins 1974:30; Elgin 1983:97 ff).[2]

In the present section, we will be concerned with what Goodman qualifies as *syntax,* i. e. the relationship of the marks to the characters, and only in the next section (in III.2.5.) will we turn to what he calls *semantics.* But it should be noted rightaway that Goodman's syntax is not quite that of the Morris/Carnap tradition: exactly as Carnap (1958:79) stipulates, it does not make any reference to meaning, nor to the language user, but it is not concerned with "the ways expressions are constructed out of signs in determinate order". This latter question which, if viewed from the end of the "text" rather than that of the "system", is the problem of *segmentation,* is, as we shall see, simply ignored by Goodman (cf. I.1.3.). In its general style, Goodman's problem is in fact semantical: the reduction of variants to invariants, or the distilling of "form" out of "substance" (cf. II.4.2.).

A *notational scheme* (which is not necessarily a notational *system;* cf. III.2.5.) must be *syntactically disjoint,* i. e. none of its marks may belong to more than one character; and it must be *finitely differentiated* from the syntactical point of view, i. e. it should be theoretically possible, in the case of every two characters of the scheme, and of every one of its marks which does not belong to both characters, to determine to which one of the characters it does not belong. (Cf. Goodman 1968:130 ff). Our familiar alphabet, the Arabic numerals, the binary, telegraphic, and basic musical notations meet these requirements; pictures, on the other hand, do not. They are *syntactically nondisjoint* and *dense through-out* (according to Elgin 1983:100; to Goodman 1968:229, Hokusai's drawing of Mt. Fujiyama is "dense (and assumed disjoint)"!).

Thus, a single mark may belong to several characters, and between any two characters of the system a third can be introduced. In fact, a scheme is syntactically dense "if it provides for infinitely many characters so ordered that between each two there is a third" (Goodman 1968:136), and it does so, Elgin (1983:99) adds, if its "formation rules allow for the construction of infinitely many syntactically significant marks any two of which belong to distinct characters". If one character corresponds to all rational numbers smaller than 1, and another to all rational numbers not smaller than 2, the scheme is dense, but it will be sufficient to introduce a character corresponding to 1 to destroy density. If no insertion of other characters "in their normal position" can destroy density, Goodman (1968:136) says that it is dense throughout (cf. Janlert's 1985:177 criticism and III.2.5.). It should be helpful to visualize Goodman's requirements in the following way (fig. 39):

The two requirements for a notational scheme are independent: thus, a scheme in which every difference of length, however small, of straight marks counts as a difference of character is disjoint but nut finitely differentiated (a+d in fig. 39); and in every scheme in which all marks are conspicuously different, but some two character have at least one inscription in common, there will be finite differentiation but no disjointness (c+b in fig. 39). In the first case, it would be sufficient to have a rule stipulating that differences beyond a certain limit (in cm, mm, etc.) can be ignored for the system to become

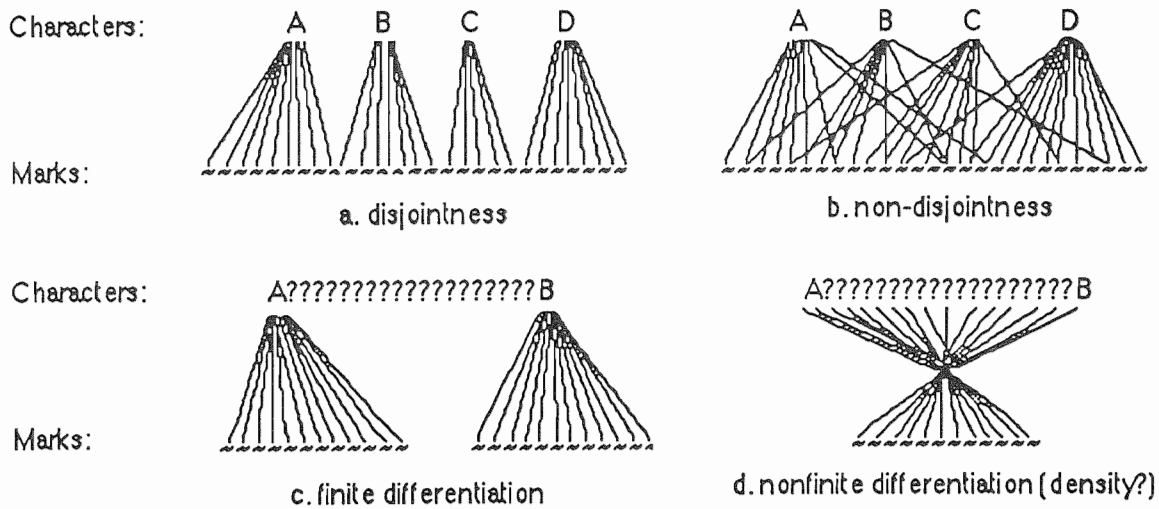


Fig. 39. Goodman's syntactic requirements

finitely differentiated, and so notational (cf. Goodman 1968:137 f). There is no mutual implication between finite differentiation and a finite number of characters. Arabic fractional notation is differentiated. Goodman (1968:136) maintains, even though its characters are infinite in number. And a scheme consisting of just two characters, one of which stands for all marks exactly 3 cm in length, while the other comprehends all marks whose length is not 3 cm, lacks finite differentiation as long as no limit of measurement has been specified for, no matter how precise our measuring techniques, it will be impossible to tell if some marks are exactly 3 cm or just a little longer or shorter.

"Discoursive languages" have expression schemes which are disjoint and finitely differentiated (Goodman 1968:178 f); pictures, in contrast, are nondisjoint and dense throughout. Thus, the comparison of verbal language and pictures in the end only serves to make the difference stand out, just as occurs in the work of Metz, Damisch, and Barthes (cf. I.1.2. and II.1.); and just as in the latter cases, everything hinges on the validity of the model of verbal language employed. So we will have to begin with an appraisal of Goodman's conception of verbal language.

The expression scheme is made up of the characters integrating the sign system, with no regard to their references. Formally, a character is defined by the class of all inscriptions or utterances corresponding to it: thus, a, A, and α, are all a-inscriptions, or belong to the character A. In his general attack on similarity (cf. III.2.3.), Goodman (1970:21; cf. 1968:131, 137 f) claims this property cannot be used to relate all its inscriptions to a character. Not even topological similarity is required: of two a-inscriptions (see fig. 40 a), one may be closed and the other open. And topological similarity can exist between inscriptions which do not belong to the same character (the middle one and the rightmost in fig. 40 b). Thus, it appears that the only way of defining a character is by enumeration of its marks. In practice, both Goodman and Elgin start from a given "alphabet": but even so, the study of disjointness and finite differentiation supposes the inscriptions to be listed.

Now, this is a language of Goodman's invention. It is, as far as I understand, incompatible with the findings of contemporary linguistics (in the sense of the introduction to this chapter). To begin with, no matter how we define the notion of inscriptions, no listing of them is feasible, for they are infinite in number. In the second place, the characters forming the expression plane cannot be conceived independently of whatever serves as meaning, for the former are alter-functionally defined in relation to the latter (cf. I.1.2–3.). Thirdly, in real languages the "alphabet", i. e. the repertory of elementary signs, which is part of the "system", in the sense of structuralist linguistics, is not given beforehand, but must be recovered from the "texts"; thus, *segmentation* must precede, or coincide with, the classification of inscriptions in relation to characters. And fourthly, at least on some interpretations of the notion of inscription, verbal language is syntactically non-disjoint, in Goodman's terms. Of course, the case is very different with the logician's constructed language, but Goodman clearly intends to compare pictures to spontaneously evolved language; and since the pictorial sign system is also spontaneously evolved, this seems the only reasonable comparison. Let us now look more closely at these four objections.

There can be no listing of the inscriptions, for they are (at least potentially) infinite in number. The realization of a given phoneme is somewhat different for each individual, as well as each time the same individual pronounces it. Even if we stay with the "inscriptions" in the literal sense, the same observation holds true: handwriting differs for each person, and so does the same handwriting from one moment to another. This explains

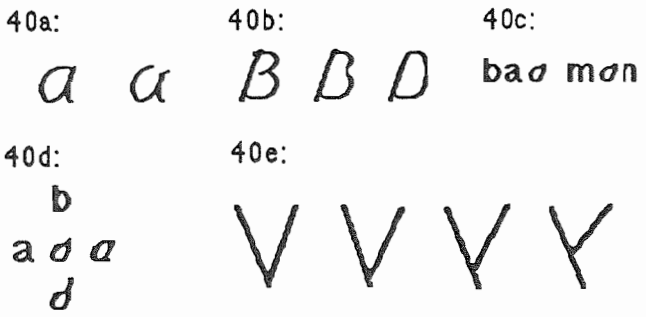


Fig. 40. Inscriptions

why computers, in spite of all the remarkable feats of which they are capabe, do not succeed in deciphering different handwriting, or decoding different voices (cf. Boden 1977; Guibert 1979): all the variants cannot be listed. It may seem that the number of printing types must be finite: but, first, new printing-types are always invented, and are immediately comprehensible; and secondly, using Goodman's own kind of argument, it is "theoretically possible" (and even practically, given adequate observation techniques) to find differences between every two instances of printed letters. Therefore, in order to accomplish the listing of the inscriptions, Goodman would first have to reduce the tokens to types; but it is exactly in order to do this that he needed the listing. Thus far, then, language does not appear to be so very different from pictures.

If no listing of inscriptions is possible, there must be a *principle of relevance* determining when a mark belongs to a particular character. Consider the case of the ordinary alphabet, which has been studied by linguists (e. g. Hjelmslev 1958; Mounin 1970:135 ff; Eden 1961) and psychologists (E. J. Gibson 1969; Neisser 1967:101). In spite of Goodman's contention to the contrary, inscriptions of the same letter certainly give the *impression* of being similar, and this impression seems to be based on the presence of *identical* traits (cf. III.1.4.). That certain topological features are not constant across instances, does not demonstrate that other similarities or identities are not important: of course, not *just any* "similarity" will do. What the above-mentioned linguists and psychologists have shown is that the graphic expression scheme, just like the phonic one, is *structural:* the similarities, or *identities,* of the inscriptions, are relative to the differences, or *oppositions,* of the characters (cf. I.3.3.; Krampen 1983 b seems to be wrong in attributing an oppositional structure to Goodman's system). Mounin's analysis being the simplest, though probably not the most adequate of the studies mentioned, we will use it for illustration. According to Mounin, the letter "d" is made up of the feature "l", which it shares with the letters "b, f, h, j, k, l, t, p, q", and the feature "o", which it shares with the letters "a, b, c, e, g, o, p, q". The letter "a" also has the feature "o", and then the feature "i", which is also found in "i, m, n, r, u". In order to avoid ambiguities, additional features of position, order, and quantity must be included, as Mounin (1970:141) recognizes. Now, it might be conluded, that Goodman is simply wrong in taking the ordinary alphabet to be the elementary repertory of characters in verbal language; instead, it could be argued, the features which build up the letters must be that repertory. But this will not do either, for there are infinite variations in the way these strokes, circles, points, and other letter parts may be realized. What we need, in the case of each letter, is a *prototype,* and a rule stating how far deviation from the prototype is permitted to go. Consider Goodman's example, reproduced above, of a "B", which is similar to an "O" (fig. 40 b): what we have here are two prototypical cases, one of a "B", and another of an "O", and a third case close to the limit (cf. I.3.1.). In terms of letter parts, this was demonstrated experimentally for the letter pairs "V/Y", "C/F", and "U/H", by Naus & Shillman (1976): between "V" and "Y", for instance, there is a "trajectory", passing over a determined point of transition. Thus, a character must be defined by a prototype, and a rule fixing its range of variation (cf. fig. 40 e.).[3]

But the "similarities" of the letters, just like those of the phonemes, are not only relative to their oppositions to other letters; it is not only a question of not confusing "Y" with "V". Rather, the differences that matter are those that make for a difference of meaning: both "a" and "ɑ" belong to the character "A" because, if exchanged in a word, no new meaning will result. Thus, characters should be defined *alter-functionally.*

No verbal language was a language in Goodman's sense from its beginning, and many still are not, for an explicit repertory of elementary constituents can only be worked out long after the language has evolved. It supposes the comparison of "inscriptions" in many "texts", to see if their exchange for each other produces a modification of the meaning. It is not easy to know where one mark ends and another begins, even when such a repertory is already constituted: in the case of spoken words there simply is no point where, from the physical point of view, the realization of one phoneme ends without the realization of the next having already begun (cf. Malmberg 1966; Guibert 1979). In ordinary handwriting, the limits between the "inscriptions" of the different letters are at least unclear. Of course, if, like Goodman, we only take account of block letters, the problem seems to disappear. But block letters must be considered a fundamentally derivative expression scheme of verbal language, at least historically, and its properties cannot be generalized to the whole of language. Just like pictures, verbal language requires at some point a *segmentation,* and just like the classification of the inscriptions as belonging to a character, this segmentation depends, in the last analysis, on *alter-functionality.* Once again, verbal language begins to appear less dissimilar to pictures.

But what about the disjointness of the verbal expression scheme? That depends. It is unclear whether the mark or the inscription is always to be taken as a unique space-time occurrence, or whether it is sometimes rather the expression as a "self": for instance, "a", "ɑ", and "A" are different as "selves", but identical as a character, and each one of them may be realized in an infinite number of occurrences. Goodman (1968:137 f), it is true, tells us that two inscriptions which look alike, may, because of the context, be determined to be at one time a "d", at another an "a" (fig. 40 c), but he seems to think, that if it is the same occurrence which must be taken in two ways, it belongs to "a third character" (fig. 40 d). It should be noted that, as long as the notion of context has not been specified, it is not to be seen why it should not be capable of dissolving all cases of nondisjointness, not only that of the letter cross (where the "time-slice", in terms of reading time, is unequivocal) but also that of pictures.

For the moment, however, let us consider what Elgin does in "the authorized version": on one hand, she affirms that no single mark "may belong to several characters *at once*" (1983:100; my italics), but on the other hand, she claims that, if A is substitutable for "A", and for "H", but "A" is not substitutable for "H", the system is not syntactically disjoint (1983:98 f). Here, clearly, A cannot be a mere "time-slice", for how should then substitution take place: it must be a subtype. But in that case, the situation described by Elgin happens all the time in verbal language, at least in its phonic realization: it is known as "neutralization". But also this nondisjointness will be taken care of by "context".

It should be more rewarding to consider what happens if inscriptions are taken to be unique time-space occurrences. Each segment of spoken language, which realizes a phoneme, will obviously at the same time realize some fragment of the intonation contour, along with a number of expressive values, and other paralinguistic features. The same goes for handwriting. Even a printed letter manifests, at the same time as a particular letter type from the ordinary alphabet, whatever is conveyed by its particular typographic style, and perhaps also indexical information about the state of the printing press and of the printing type. But this means that ordinary alphabetical inscriptions are *nondisjoint,* each occurrence being a member of a number of characters. And this time, context will be of no help: even if reading order is taken into account, the same "time slice" must be multiply-classified, unlike what happens in Goodman's example (fig. 40 d). Of course, we could suppose the real alphabet to consist of letter parts rather than entire letters, as these are commonly known, so that different parts of what is usually considered a letter inscription have to be distributed among a number of characters. It was argued above that the elements that build up letters are not parts in any simple sense; rather, they are different approximations to some prototypical shape. If so, the very degree of approximation that an element has to a particular prototypical shape may make it "belong" to another character. The more holistic properties become essential, the less disjointness seems feasible.

The obvious objection to all this is that the characters to which one and the same occurrence belongs are themselves members of different sign systems or, in some cases, of different parts of the same sign system. The stylistic values of typography, for instance, belong to a sign system, the content scheme, if not the expression scheme, of which appears to be fairly different from the ordinary alphabet. In the case of spoken language, paralinguistic features are usually thought to form a system independent of that of the phonemes, whereas intonation is considered a part of language proper (cf. Trubetzkoy 1939); in the latter case, then, inscriptions would be nondisjoint inside language as a whole, but disjoint, once an adequate partition of language has been made. The distinction between sign systems and parts of the same sign system is by no means straightforward: both the features of expression, and the features of content ("question", "statement", etc.) found in intonation as it appears in Indoeuropean languages, are put to other uses in other languages. Rather, starting from the phonemes, we also need to include intonation to make a coherent whole of the sign system, but paralinguistic features seem to be more dispensable. The problem should not be supposed to be resolved beforehand by the existence of explicit listings of letters and phonemes for the most well-known languages: many languages do not have any, others have died out without ever having any, and often when such repertories have been designed by some Western linguist, they remain unknown to most speakers of the language. Thus, there is a real problem of establishing the limits between different sign systems, and between different parts of the same sign system. Disjointness is relative to a particular way of construing the sign system. Again, verbal language appears to be less different from pictures than what Goodman claims. For, perhaps instead of being irreducibly nondisjoint the picture will only realize characters from *more* sign systems, and system parts, than verbal language.

But here it might appear that we are really arriving at a conclusion already drawn by Goodman (1968:193 ff; cf. Elgin 1983:98): that we are free to invent new sign systems, in which the same inscriptions that were nondisjoint and nonfinitely differentiated, become just the reverse. And the same thing is true about the referent scheme (cf. III.2.5.). But, taking a curiously hermeneutic turn, Goodman adds that the usefulness of such systems depends on the antecedent conceptions handed down by tradition, which can only be modified up to a point. For instance, a library-like decimal system assigning a numeral to each painting according to time and place of production could be conceived, and would meet

all five requirements for a notational system (cf. III.2.5.); but unlike the musical score, such a notational system fails to capture the existing practices for identifying paintings, as does any notational system. Music and literature are *allographic* arts, because the identity of a work only requires "sameness of spelling", and thus they cannot be forged; but painting is *autographic,* for even an identical copy of "Mona Lisa", lacking the same history of production, is not the same work (Goodman 1968:113 ff; Elgin 1983:113 ff). So far, this seems reasonable: "causal history" is important for the identity of paintings (cf. III.1.3.), though perhaps not for all pictures (cf. III.6.1.). But this does not seem to be the same question from which we – and Goodman – started, the problem of how the sign function of the pictorial sign is motivated (cf. III.1.4.): for while there cannot be another painting which is "/Leonardo's/ Mona Lisa", there can certainly be other paintings-of-Mona-Lisa. And just as there are antecedent practices for *identifying* a painting from "causal history" as an object in its own right, there would seem to be a tradition for relating those pictures which have the same subject matter (at one or other intensional and extensional level) as signs for the same thing. Contrary to philosophy, semiotics cannot modify in the least those existing practices; it only has to find them out.

Considered as an exemplificational sign, the picture may of course turn out to stand for exactly the same properties that serve to identify it. To establish that something is really a particular painting and not a forgery, any conceivable property may be called upon (cf. Goodman 1968:99 ff). So all properties of the picture are relevant. But not all properties possessed are exemplified, for not all of them must necessarily be referred to (cf. II.2.2.). According to a common conception of the aesthetic function, all the properties of the work to which the function applies are – or may become – relevant. Elgin (1983:74 f, 81 ff) suggests that the "nonverbal label" which the work exemplifies could be the work itself. Thus, the properties scrutinized in order to establish the identity of the work of art, and those which it aesthetically exemplifies, would make up the same "intensive infinity", in Rickert's sense (cf. Aron 1938 a). But this is only true if the picture is a work of art, and most pictures are not, or are not so considered: in the case of any other picture, to the extent that we were interested in proving its identity as such (as Sherlock Holmes and his colleagues might be), we would be faced with an equally infinite task, but the number of properties exemplified must be comparatively small in number. If we make works of art an exception, there is then no reason to suppose that pictures are recognized as particular instances in space and time, according to the same system as determines exemplification.

So far, the case may seem overstated. Both Goodman (1968:230) and, more explicitly Elgin (1983:101) introduce restrictions on the density of pictures. That the painting weighs ten pounds, that it is located in a particular building and so on, are properties which are "plainly contingent" to it; but, unlike what happens in verbal language and other notational schemes, Elgin claims there is no general criterion for determining the relevant properties, so that this must be done separately for each particular case. Elgin's contention seems somewhat contradicted by her own observation that certain properties are "plainly contingent". In fact, then, there seem to be more general principles, which are only overridden when there is a deviation from the normal case: the paper on which the map is printed becoming relevant, for instance,if it is not ordinary printing paper. And here, it also appears that these general principles may be different for aesthetic exemplification and when it comes to the recognition of the work: it is difficult to imagine how the weight of the painting maight become aesthetically relevant, but it could well be the decisive factor to Sherlock Holmes.

While there is some plausibility in supposing the picture as an exemplificational sign to have the same properties as those by which it is recognized as a particular instance in space and time, the same thing is not true about the picture as an *iconic* sign or, as Goodman says, as a denotational sign. Nevertheless, Goodman 81968:233) tells us that the units of the expression scheme are the same for exemplification and "denotation"; and Elgin (1983:121 f), who is more prolific in her considerations on "exemplificational systems", takes such an identity for granted when she tells us the issue of exemplificational syntax is straightforward in the case of traditional sign systems. As a general statement this is completely arbitrary, and it is easily contradicted in this specific case. Both plastic language and connotational language are instances of exemplification, or pseudo-exemplification, and it is well-known in semiotic theory that their expression planes do not normally coincide with that of the denotational language on which they are parasitic (cf. II.4.). Thus the density of iconic language, if there is any, will have to be demonstrated separately.

Again, if the iconic sign function is dense, the selection of those properties which are relevant must be made on a case-by-case basis. Thus, like Greenlee (cf. III.2.2.), Goodman must think that each picture has to be "appointed" to be a picture of a given subject matter. But this is incompatible with what we know about how pictures are interpreted (cf. III.3.1.). None the less, let us now consider the only example of a picture ever adduced by Goodman (1968:229 ff), that "black wiggly line" on a white background which may be a Hokusai drawing of Mt. Fujiyama, or a momentary electrocardiogram.[4] In the first case, we have a picture in the strict sense, in the second case a diagram; but both are examples of *dense* sign systems in Goodman's view. And yet they are different, we are told, for the picture is also *replete.* In order to clarify this issue, we will have re-

course to a little "visual thinking": we will take the contour of Mt. Fujiyama, as drawn by Hokusai in "The Wave", and we will project it onto different types of diagrams (fig. 41):

The wiggly line may represent Mt. Fujiyama in "The Wave" (fig. 41 a). Or it may be a diagram, and then there are different possibilities. If, for instance, the numbers are the minutes which an experiment lasts, and the letters are the level of performance, then it will be possible to read off, between 2 and 3, the level of performance after 2 1/2 minutes, and so on (type b); but if the numbers stand for different years, while the letters are the number of cars sold, the tracing of the line between the different letters, and the different numbers, carries no information (type c); the latter type of content could be more unambiguously rendered by another kind of diagram (type d). When Goodman says that diagrams too are dense, he is obviously thinking about the first type of diagram (type b; cf. Goodman 1968:170): every variation of the line in relation to the ordinate and the abscissa is relevant here, but not in types c and d, as we noted above (In two inscriptions of a type c diagram, the tracings between the points where the ordinate and the abscissa meet may be arbitrarily different; indeed, given the same number of units, a type c and type d diagram may be inscriptions of the same characters). However, it is Goodman's (1968:229 f) contention that the wiggly line, considered as a picture of Mt. Fujiyama, is not only dense, but *replete;* that is, whereas in a dense diagram, only modifications along one dimension, i. e. the spatial coordinates, are relevant, in a picture, variations in the thickness of the line, its colour and intensivity, its absolute size and so on, all count. The picture is like a multidimensional diagram!

Jacques Bertin (1973; 1977; cf. discussion by Metz 1977:69-107) has developed a semiotics of graphic displays, introducing a few useful distinctions. The information, he says, is composed of an invariant part, often conveyed in some other code, in diagram c the years and the object category "cars", and a part which varies, which is the specific content of the graphic code: in diagram c, the particular years and quantities. To the variable part of the content, there corresponds a graphic expression, which is also variable: here, the black wiggly line. Both expression and content may be resolved into discrete, discontinuous degrees, some of which are ordered in themselves (as temperature, military titles, etc.), while others are ordered by the diagram (enterprise of type 1, type 2, etc.). The pertinent unit of diagrams and other graphic displays, like maps, is, according to Bertin, the *spot,* which is susceptible of variation along 8 nonbinary dimensions: location more or less above or below; location more or less to the left or right; shape (rectangle, circle, etc.); size; colour; clarity; coarseness; orientation. Our simple diagrams only make use of the first two axes.

The first thing to note is that the diagrams differ from the picture in having their system of pertinence explicitly expressed: the invariant part of the information, as Bertin says, is partly contained in the vertical and the horizontal forming a right angle on the paper, and partly in other codes, such as the numbers and the letters, and the written designations for the two dimensions ("years", "cars", etc.). In the picture, on the other hand, the invariant and the variable information will normally be given together: we see it is a mountain, and at once that it is more extended than it is high. Of course, when, as here, the contour has been isolated from its pictorial context, it functions like a droodle: we can estimate the relative height of the mountain only when we know it is a mountain (fig. 41 a), just as we can find the girl's bathing suit scanty only after we have recognized the bathing suit and the girl as such (fig. 38 a). But the case is plainly different in the original picture: the invariant and the variable parts of the information are conveyed together, or at least in the same code, though not in an explicit way. Exactly what this means is something we will see in a later chapter (cf. III.4.).

The second thing we must observe it that, whereas Goodman claims diagrams are dense, i. e. nonfinitely differentiated, Bertin thinks they are discrete and discontinuous, i. e. in Goodman's terms (p 159 ff) differentiated throughout. But since Goodman is really thinking about what we have called a type b diagram, it seems plausible to argue that Bertin must intend a type c or a type d diagram. The latter types are clearly syntactically disjoint and finitely differentiated: only the spots found where a line extended from a number meet

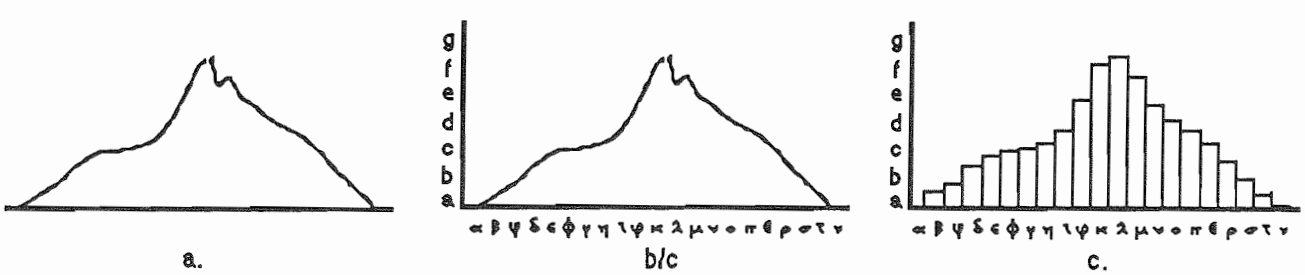


Fig. 41. Mt. Fujiyama and the diagrams

a line extended from a letter are inscriptions of the system, i. e. its form of expression; each one of the spots is easily assigned to the corresponding character (1, a; 2, b; etc.) and is seen to belong to no other. In fact, it would be pointless to introduce further characters between those given, for there is nothing in the inscriptions which could correspond to them (cf. the definitions at the beginning of this section!). Also in a type d diagram, only the points where the lines from the letters intersect those from the numbers are relevant; all the rest is substance of expression (cf. II.4.), and its modifications are devoid of meaning. The difference between a type c and a type d diagram is somewhat similar to that between handwriting and block letters; in each case, the limits between the units are more explicit in the second member of the pair. But the units are the same.

However, the type b diagram appears to be different: here, there are a number of points on the line between (1, a) and (2, b), for which new characters could be introduced. But it does not seem to be true that we could go on indefinitely introducing ever new characters between those already given. To begin with, there is a point beyond which we could no longer perceive the difference; and while it is true, as Goodman points out in another context, that we could use microscopes and other optical instruments, diagrams are not ordinarily made to be read in that way. More importantly, diagrams are normally based on measurements made on a limited number of occasions, and what happens between each one of these occasions can only be guessed at. The case of the electrocardiogram, continuously taken down by a mechanical device, may seem to be different; but in fact, there is some limit to the sensibility with which the machine registers the heart rate. It is true that we have no explicit rule stating that differences beyond a certain limit may be ignored (cf. the beginning of this section) but there certainly is a reasonable level below which no delicacy of interpretation may take us, which can be approximately determined: in our example above (fig. 41 b), reading off the task performance more often than each fourth of a minute is hardly possible. After all, it *is* absurd to read an ordinary diagram with an electromicroscope (though Sherlock Holmes may want to use it to determine that this is exactly the same token of the diagram, which was present at the place of murder). It can be determined to a reasonable degree whether an inscription of a type b diagram belongs to the same character as another one, or if it does not do so: thus, at least this density boils down to a kind of vague differentiation.

Thirdly, Bertin tells us diagrams may vary along 8 dimensions; therefore, they would already be *replete* in Goodman's sense. The difference between diagrams and pictures is then simply a question of degrees – which is also what Goodman tells us (p 230 f). But this is not really convincing: it is not obvious that a diagram making use of more dimensions must, because of this very fact, be any closer to being a picture (see examples in Bertin's books). But perhaps repleteness does not mean that comparatively more dimensions are relevant, but that *any* variation may turn out to constitute a relevant dimension (cf. for instance Goodman 1984:57 f); that would explain that repleteness is also a criterion of the aesthetic. Unfortunately, this does not seem to be a property of pictures as such: the thickness of the line with which Hokusai represents the contour of Fujiyama may certainly exemplify something aesthetically, as may any other property of the line, but it seems irrelevant to the line's referring to a mountain, according to the genre of outline drawings: only the outer contour, as Kennedy (1974 a, b) would have said, is employed iconically (Cf. III.3.3.).

There is, I think, a more fundamental point to be made here. We noted above, that in a type d diagram, the limits between the units were more explicit – that is, *segmentation* was more easy! It so happens that in a diagram, at least of the kind we have encountered here, the assignation of inscriptions to characters coincides with the segmentation of the "text" into its elementary constituents. Each diagram is a composite inscription, containing, at least potentially, elementary inscriptions of every character present in the diagram system concerned; this is so because, as Bertin remarks, the dimensions are ordered, and because the diagram orders them relative to each other; thus, there is a potential character, (1, h), not present here (in fig. 41 b), which is nevertheless part of the system. Here we see the problem with Goodman ignoring what is ordinarily called *syntax:* the particular ordering of the units of the system in the "text". In verbal language, each "text" is made up of a small selection of the units found in the system, combined according to an order, which is not the one defining the units relative to each other in the system. Perhaps pictures are rather like this. That, of course, depends on what the elementary units of pictures are.

Carter (1976) argues, against Goodman, that paintings are made up or "shapes", i. e. bounded areas on a canvas, which are higher-order units in relation to colours, lines and so on, and which have "the properties of disjointness and differentiation". Later on, however, Carter tells us Pollock's paintings are very dense, whereas the "shapes" in Lohne's paintings meet the requirements for "disjoint elements", among other things, because they do not overlap! This is of course not at all Goodman's problem, but an authentic problem of syntax, or *segmentation:* how to establish limits between parts of the picture, without having recourse to meaning (cf. Carter 1976:112 f; this is curiously similar to how Nöth 1972; 1975 and Koch 1971 conceive of pictorial segmentation, in terms of interspaces). But suppose that we decide that the units of which paintings, and pictures generally, are composed, are really "shapes", or bounded areas; and suppose that the picture which we are to analyze is made up of two bounded areas, one

being a circle and the other a rectangle. We now have to compare this picture with a number of others, each containing at least one of these bounded areas, and if it emerges that there never are apparently identical inscriptions once corresponding to a circle and a second time to a rectangle, our system will be syntactically disjoint (or perhaps it will be sufficient, as we saw in our discussion of verbal language above, to show that one space-time occurrence is not at the same time a circle and a rectangle). Secondly, it must be possible to determine, for each of these inscriptions, either that it is not a circle, or that it is not a rectangle, and then our system will also be syntactically differentiated.

This of course supposes the pictures to have been segmented already, and this is not so easily done with real pictures. But we have seen that neither are linguistic inscriptions easily separated from each other, if we except block letters. However, there is a possibility that, in the case of pictures, this property carries over into semantics. For example, the black wiggly line (in fig. 41 a) is the whole of that part of Hokusai's drawing which is seen as the contour of Mt. Fujiyama; but it is certainly insufficient in itself for us to see it as representing a mountain. So far, however, we have only been discussing pictorial syntax indirectly (cf. III.4.3.).

In this section we have been concerned with what Goodman calls the expression scheme of a sign system, in particular with the properties of disjointness and finite differentiation. Goodman's conception of verbal language was contrasted with that of modern linguistics, and we found that in a number of ways verbal language was really less different from pictures, on Goodman's own criteria, than Goodman claims. Verbal inscriptions are infinite in number, and can only be interpreted relative to a prototype. Expression characters can only be defined in relation to the units of the content plane. The vocabulary must be recovered from the "texts". And verbal language is syntactically nondisjoint if a partition of the language system into subsystems is not introduced. Next, pictorial signs were discussed. We rejected Goodman's identification of the units of exemplification and pictorial denotation with each other, and with the criteria for the identification of the picture as a unique particular. Then, we tried to take Goodman's comparison between a picture and a diagram having identical appearance ("black wiggly line") a little further. Diagrams, we said, are not really dense, not even those which appear to be continuous. Contrary to Goodman's conception, it appeared that diagrams too could be replete, on one interpretation of the term, while on another interpretation, pictures are not replete either. However, pictures seem to convey less explicit information than diagrams, without distinguishing the invariant and the variable part of the information, in the sense in which diagrams do so, according to Bertin. In fact, diagrams are "texts" which carry their system inside them, which explains that the assignation of inscriptions to characters is at the same time the segmentation. In pictures, however, segmentation is quite a different problem, which must be resolved beforehand. Syntax, in the ordinary sense, is simply ignored by Goodman!

III.2.5. Goodman's counter-proposal: content and/or reference schemes. The picture as a multi-dimensional thermometer

A sign system containing a notational expression scheme will be a notational system, if the manner in which the expression scheme is related to a "field of reference" meets three requirements: it must be *unambiguous, semantically disjoint,* and *finitely differentiated* from a *semantical* point of view. According to the first requirement, none of the expression categories may correspond to more than one (type of?) referent each. In verbal language, however, it is commonly found, that different inscriptions of the same character stand for different referents, so for instance, "cape" for "cloak" and for "headland" (Goodman 1968:143 ff; cf. Gardner, Howard, & Perkins 1974:32; Elgin 1983:101 ff). The disjointness requirement stipulates that no two characters should have any compliant in common: thus, class inclusion, as in "all cats are mammals", and class intersection, as in "some cats are white", must be excluded. In fact, redundant characters, i. e. several characters corresponding to one referent, should also be omitted from the notational system, but they actually do no harm (Goodman 1968:151 f). The real problem is intersection: putting it Elgin's (1983:102) way, a single object, like a gorilla, does not permit us to derive a unique compliance class, for it belongs to the extensions of terms like "animate", "powerful", "gray", "heavier than an acorn", etc. Finally, the semantics of the notational system must be finitely differentiated: that is, given two characters K and K', whose compliance classes are not identical, and an object h that does not comply with both, it should be at least theoretically possible to determine either that h does not comply with K, or that it does not comply with K' (Goodman 1968:152). Verbal language also fails this requirement; for its compliance classes are dense: a particular colour shade may be "purple", "dark purple", "halfway between dark purple and deep purple", "halfway between dark purple and the shade that is halfway between dark purple and deep purple", and so on. Faced with the colour, we have no way of excluding any one of an infinite series of terms. Thus, verbal language is semantically nondisjoint, dense throughout, and ambiguous. But so, apparently, are pictures (cf. Goodman 1968:151 ff).

Are these then properties of the relation between expression and content, or of the relation between the sign and the referent? Here, unfortunately, Goodman leaves "descriptive metaphysics" and enters a normative one,

for he declares that semantic theories should be extensional; thus, content he will not have! However, when used inside quotation marks, or "mention-selectively", as Elgin calls it, terms curiously turn out to have contents after all: for labels can plainly be used instead of intensions to attribute properties to things (as in Elgin 1983:47 ff, 121 ff), because the contents have already been tacitly incorporated into the labels. Thus, I conclude, Goodman's "expressions" are really complete signs. However, what Goodman calls "ambiguity" and "redundance" seem to be the same phenomena that are known to linguistics as "homonymy" and "synonymy" respectively (supposing absolute synonymy to exist) and these appear to be relationships between the expression and the content. Of course, contents may also be ambiguous in relation to referents: Coseriu cites Sp. "escalera", which gives a unique linguistic content for "staircase" and "ladder", without necessarily impeding the Spanish speaker from seeing the difference. But Goodman's examples are of the first kind, so we shall ignore this complication here.

On the other hand, Goodman's other cases for the nondisjointness and the nonfinite differentiation of verbal language no doubt concern the relation between the content and the referent. In fact, we may take "compliance class" to be a circumlocution for the content, the object which has to be assigned to it being the referent. What the nondisjointness and the nonfinite differentiation of verbal language amounts to then is this: given a referent, it is not possible to predict which content, forming part of the language system, will be applied to it, first, because there is a choice between different *intensional levels,* and between different *thematizations,* and second, because the level of delicacy of the description is also optitional. A system using fully reduced Arabic fractions to measure weight (cf. Elgin 1983:102 f) is semantically disjoint, because it only contains terms located on the dimension of weight; thus, if the smallest unit admitted by the system is specified, it will also be finitely differentiated, and it will only contain one "content" for each referent, so that the former is completely predictable from the latter. As in music, the "score" can be retrieved from the "performance".

At this point, it should be easy to recognize our problem: it is once again the manner of production of *formal connotations* (cf. II.4.3. and fig. 35). Being acquainted with the object of reference, and having chosen to describe it in the above-mentioned weight measurement system, we have no further options, the only connotation resulting from the very choice of this system if others were possible. Also, faced with a musical performance, and given the task of rendering it in ordinary Western musical notation, we really have no further choices to make (on Goodman's account), for both the relevant dimensions, and the limits of relevance are uniquely specified. Elaborating on the conceptions of Hjelmslev, Prieto, and Halliday, however, we showed that verbal language, as well as pictures, is different in this respect: once we have decided to describe the gorilla in pictures, the picture is not automatically given, but new options have to be taken, which engender their own connotations. Sometimes, of course, in particular pictorial systems, predictions may be possible: of the *Burg*-scheme, given certain types of buildings, in the work of a German woodcutter (cf. II.2.2.), of the classical anatomy, under certain conditions, in Le Bry's engravings (cf. I.3.1.), of the tadpole figures in the child's drawings, etc. But even so, the predictions only hold true on a particular intensional level. Thus far, then, the only thing we have been told is really that pictures, just like verbal signs, cannot be derived from referents, without the sign user taking a stand. But it would be interesting to know, how pictures and language differ in the options they present to the user (cf. III.5.).

For the curious thing about Goodman's theory is that it makes pictures and verbal language appear to be similar *semantically* – that is, exactly where our intuitive notions of these sign systems makes us anticipate the fundamental difference. And more precisely, we should expect there to be a difference, both in *semantics,* in Klaus's more limited sense of the relation between the expression and the content, and in *sigmatics,* in Klaus's sense, i. e. in the relation between the sign and the referent. First, there seems to be a kind of *isomorphism* between the expression plane and the content plane (but of a particular kind, as we shall see; cf. III.4.) in pictures, even at the level of figurae, where also onomatopes lack it: once the black wiggly line has been recognized as being Mt. Fujiyama, we can point to parts of the line as if they were parts of the mountain, locating the foot of the mountain, its summit, etc., on the drawing (cf. III.1.1.). In the second place, the relation between the expression and the referent is also different, at least according to Peirce and the tradition. And perhaps it could be added, that the content and the referent also relate in different ways, the pictorial content being primarily a perceptual part of the referent, while the verbal content is foremost an attributive part (cf. III.1.1. and I.2.4.). According to Goodman's criteria, however, all these relationships come out identical, and so does *syntax,* in the ordinary sense (cf. III.2.4.). To Goodman, in return, pictures differ from verbal signs in the way their tokens relate to their types. It is conceivable, of course, that Goodman is right and that intuition is wrong, but so far, we have no reason to think so. It will be remembered that we found Goodman's so-called "syntactic" differences rather doubtful (cf. III.2.4.).

But perhaps this is the wrong way to take Goodman's characterization of pictures; instead, it may be that we have to conceive of the "syntactic" and the "semantic" criteria together. One way of doing this could be to think of the two kinds of finite differentiation as negative tests which, in failing to apply, indirectly characterize pictures without telling us anything about their positive prop-

erties, just as Hjelmslev's derivate test seems to do in the case of his "symbol systems" (Cf. II.3.5.). To say that, between two putative categories of expression, there will always be infinitely many further ones ("syntactic density"), and that between two putative categories of content, there will always be infinitely many further ones ("semantic density"), is perhaps just an indirect way of claiming that there are no categories at all. Indeed, Goodman (1984:57 f) tells us that in dense systems neither inscriptions nor contents (or referents?) sort into discriminably different categories. If so, however, there seem to be more serious reasons than those adduced by Scruton (cf. III.2.4.), to doubt that pictures depend on sign systems for their meaning. Benveniste (1969:8), who wants to compare semiotic systems as to the senses addressed, their domain of validity, the way they function, and the nature and number of their signs, argues (p 128) that there can be no semiotic system of paintings since these have no minimal unit, let alone a significant one. To this Thürlemann (1982:9 ff) objects that all semiotic systems must not necessarily be systems of *signs,* there being other *modes of signification.* But he is not particularly clear about their nature. It is conceivable, however, that that kind of *principle of relevance, defined in relation to a prototype,* which we showed to be operative in verbal language at the level that Goodman calls "syntax", functions in pictures throughout the system, instead of there being any sign repertory given beforehand. Infinite variation is then possible as long as relevant features remain the same.

Criticizing Goodman's conception of dense systems, Roupas (1977:66 ff) seems to arrive at a similar proposal. In fact, he finds a contradiction within Goodman's definition for, being phrased in terms of classes, it must be extensional, but how can the system then "provide for an infinite number of characters"? This will give us an infinite number of possible objects, which is metaphysically undesirable, Roupas contends, and in fact there are only a finite number of paintings in Occidental Art. Instead, as a completely intensional alternative, he suggests paintings follow "interpretative standards". I find his reasons curious. Just like Goodman, Roupas is no doubt doing normative and descriptive metaphysics together, but we need purely empirical reasons for rejecting possible objects. More interestingly, Roupas obviously takes Goodman to mean that each picture is made up of just one single character; for there can plainly be an infinite number of partitions of a finite number of objects. Carter (1976:114) explicitly mentions this as a possible interpretation of Goodman. And it is true that Goodman never tells us what the units of a picture would be – perhaps because, as we suggested above, he intends the criteria of finite differentiation to apply vacuously, there being no units. But the black wiggly line which represents Mt. Fujiyama is certainly only a part of a Hokusai drawing. And where, then, are characters and referents thought to *merge?*

But Goodman is actually up to something different, I think. He wants to reconstruct the by now rather commonsense notion of the *analog* as opposed to the *digital.* A sign system, we are told (1968:160 f), is analog if syntactically and semantically dense; and if both its schemes are discontinuous, and syntactically and semantically differentiated, the system is digital. And the remarkable thing is, that Goodman clearly thinks that systems which are dense in only one way will ordinarily be defective, whereas those combining the two types of density are useful for many purposes. A system which is syntactically but not semantically dense is expected to contain many vacant characters or huge sets of coextensive characters (fig. 42 a); whereas a system which is semantically but not syntactically dense will have either contents without any corresponding expression, or expressions being shared by many contents (vig. 42 b; cf. Goodman 1968:162). That these consequences should be thought to ensue appears strange, until we realize that Goodman's criteria really amount to a double system of projections: the inscriptions being resumed in a smaller number of expression characters, or else permitting the positing of ever-new characters; and the referents being assigned to a limited number of contents, or else permitting the positing of ever-new contents.[5]

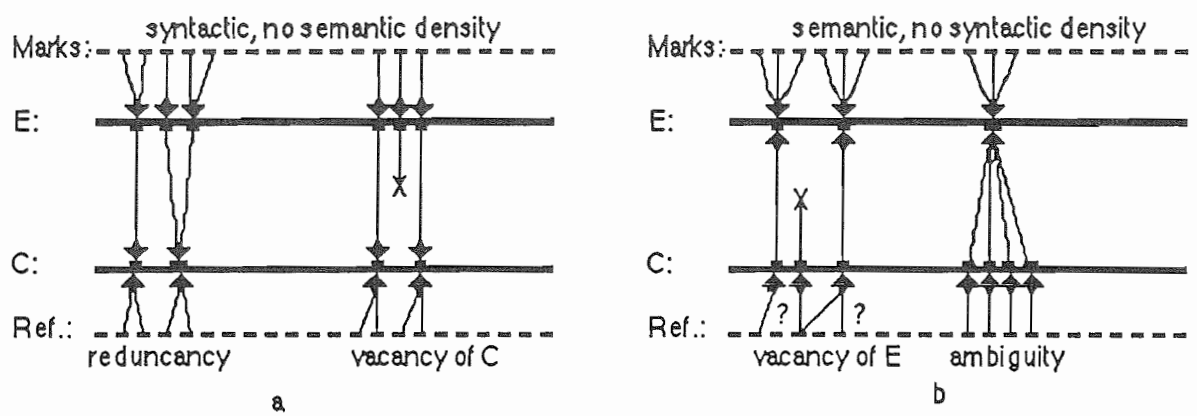


Fig. 42. Results of density

The problem, then, is how to make an infinite and a finite series meet. There are bound to be items of one series left unconnected with the other series, or items of one series each corresponding to many items of the other.

What, then, about analog systems which are, according to Goodman, both syntactically and semantically dense? From Goodman's examples – pictures, thermometers, pressure gauges, etc. – it appears that he is using the word "analogy" in a way familiar from common usage; it is this meaning which he intends to explicate in stricter terms. In this, I submit, he fails. There is an infinite number of ways of projecting two (potentially) infinite series onto each other; thus, besides those systems which are analog in the ordinary sense, the class of syntactically and semantically dense systems will also comprise others, which combine the drawbacks of the systems being dense in only one way (cf. fig. 42 a–b). *Analogy has not been reconstructed, but must be reintroduced,* in order to explain analog systems. That is to say, Goodman has failed to produce a theory that could rival traditional conceptions of iconicity in the explanation of the nature of pictures (cf. III.2.3.). It is not surprising then, that in many of Goodman's examples, as Janlert (1985:179) remarks, the semantic ordering is simply induced by the syntactic. Sometimes, it is true, Goodman explicitly states the different orderings; but this seems an unrealistic approach to real semiotic systems for, besides relating each expression and content separately, we would now also have to relate at least all the contents relative to each other.[6]

So far, we have supposed that there is just one sense to "analogy". Janlert (1985:182 ff) suggests there are at least two different meanings in common use: "continuum analog", when there are no gaps between the signs (between each two signs there is a third, as Goodman puts it) and "analogy analog", which is a structure-preserving mapping between expressions and contents (or referents) which may be continuous (if it preserves "closeness") or not. Roupas (1977) conceives of analogy as being essentially "a continuous aspect", and this is also Eco's (1968:212) earliest interpretation, as he tries to reduce the analogical to something digital, or discontinous. Later, however, Eco (1976:337 f) argues that the only admissible meaning of "analogy" is proportionality: 3 corresponds to 9 as 6 to 18 (cf. I.4.1.; this is the sense of analogy in linguistics, e. g. in Saussure's historical work; cf. also Degérando's examples, in III.1.2.). When Goodman (1968:160) tells us a syntactically dense scheme is analog, it can only be a question of continuum analogy. However, it should be clear by now that the only thing that can result from syntactical and semantical density together is a double continuum analogy. But obviously – and here I again agree with Janlert (1985:185) – pictures have very little to do with continuity, and a lot more to do with mapping.[7]

But Goodman (1984:58) claims that the common Lifeworld notion of a picture is incoherent, and so should be exchanged for his own better-defined concept of analog systems, which also include, for instance, ungraduated thermometers. Contrary to philosophy, semiotics is not at liberty to change those Lifeworld notions which prove to be problematical: instead, it has to find their particular ideological coherence. However, thermometers are no doubt dense sign system; but they are also partial identities or, as Peirce would have said, *indices;* and, more exactly in our terminology, they are *performative* and *factoral indices* (cf. I.2.5.). This is so because the rising of the mercury column in the thermometer is an integral part of the physical process which we call a temperature rise; but at the same time it is analogous in one single respect, its increase and decrease, to that which it stands for (perhaps to the content, the concept of temperature, rather than to the whole situation, the referent). It is, we could say, both indexical and iconical, in the sense of being *diagrammatic* or *logically analogical* (cf. III.1.2.). While tracks and photographs also tends to combine iconicity and indexicality, the latter is then a contiguity, an abrasion, and not a factorality (cf. I.2.6.). Contrary to thermometers, diagrams are only diagrammatic, not factoral; and it is because of their factorality that thermometers can be syntactically dense (cf. III.2.4.).

In spite of all this, we are still far from having explained the sign function of the thermometer. To begin with, in order to function as a signifier for that of which it is a part, and to which it is logically analogous, the mercury column must be encapsulated in an object that we can recognize as being a thermometer, either because it has the appearance of a typical thermometer, or because it is explicitly stated to be one. That is to say, it takes something more than just a part of the referent to make the expression. But this is not the whole story. Goodman's contention that the picture is like an ungraduated thermometer should make us realize what a curious object indeed this would be: it could only tell us that the temperature were comparatively high, or comparatively low. Without degrees being inscribed, we could not even know whether our particular thermometer is of the kind used for taking the temperature, baking a cake, or heating the oil. Thus, the sign would be virtually meaningless.

Like the diagram, the thermometer needs, in the final analysis, a conventional label to become the sign of something. The picture, if anything, would seem to mean too much (cf. our discussion of Barthes, in II.1.1.). The comparison of the picture and the thermometer therefore is not convincing, even if we admit that the picture can vary on more dimensions, i. e. is *replete* (cf. III.2.4.). For all that this amounts to is a series of "logical analogies", a number of variations along different dimensions, whose nature we are left to ignore. In the case of the diagram or the thermometer, analogy (in the sense of "analog analogy") will tell us the amount of variation, but convention, of a verbal or other type, must

tell us *what* it is that varies. The picture, however, would seem to tell us also the *what* in an analogous way; for we certainly need no label to discover that it is the mountain which is high (except in droodles). Therefore, it seems that the picture must also contain, apart from "logical analogies", that which Degérando calls "sensuous analogies", and which we could perhaps better term *qualitative* analogies (cf. III.1.1.). The black dots on the map will vary in proportion according to the size of population of the towns they represent: the quantity of this sign function is an analogy, but its quality is a convention. The pictures of these towns, however, if they could be made, would give us both sets of information together. But this is of course not to say that we understand as yet what "sensuous" or *qualitative* analogy is.

The present section has been concerned with a discussion of Goodman's "field of reference", which we claimed to confuse *content scheme* and *reference scheme,* a distinction which we argued were needed in order to understand Goodman's own examples. Semantic disjointness and finite differentiation were shown to be related to the problem of formal connotations discussed in earlier chapters. However, we pointed to the curious fact that on Goodman's account, verbal language and picture would be identical from the *semantic* point of view, i. e. exactly where a difference would intuitively be expected. On the other hand, we observed, Goodman appears to think that the combination of semantic and syntactic density engenders something qualitatively new, viz. an *analog* system. Our discussion of systems which are only in one way dense showed that Goodman's criteria really amount to a double system of projections, from the inscriptions to the characters, and from the referents to the contents. But then there must be an infinite number of ways in which two infinite series can meet without giving rise to analog systems. We concluded, therefore, that analogy, in the sense intended, had not been explicated. And we went on to suggest that, even if analogy could be introduced in some other convenient way, it would not be very helpful in this form; for, contrary to Goodman's contention, a picture is not just a multi-dimensional thermometer, but a sign that also tells us directly the nature of its dimensions which, in the thermometer and the diagram, must be conveyed by some other, usually conventional, means.

III.2.6. Eco's first critique of iconicity. The art of zebra watching

> *"Ein Jaguar z. B. wird durch ein Schema dargestellt, das an sich jeden Vierfüssler bedeuten könnte; hierzu aber kommt als* differentia specifica *die charackterische Krümmung des Ruckels; sie genügt, um jeden Eingeborenen das gemeinte Tier erkennen zu lassen."*
>
> *Vierkant 1912:352*

Umberto Eco's critique of iconicity exists in numerous variants, only a few of which can be scrutinized in the present context (Cf. e. g. Eco 1968; 1970; 1971 a, b; 1972 a; 1976; 1978; 1984 a, b). In this section, we will be essentially concerned with *La struttura assente* (1968); then, in the following section, we will inquire into the modifications introduced in *A Theory of Semiotics* (1976), and in a few other texts (1984 a, b).[8] What remains constant will be noted in this section.

Contrary to Bierman, Greenlee, and Goodman, Eco remains untroubled by similarity being neither a sufficient nor a necessary criterion for something being a (pictorial) sign (cf. III.2.1–3.); however, when Peirce says that the sign is similar to its object, and when Peirce and Morris alike claim that they have properties in common, Eco (1968:188; cf. 1976:327 f) thinks this is to some degree trivially true, but false to the extent that it is interesting. For, what can it mean to say that Annigoni's portrait of Queen Elizabeth has the same properties as the queen herself? Perhaps we could agree that, for instance, the shape of the nose is the same. But the nose of the real queen has three dimensions, and that of her portrait must remain satisfied with just two; the surface of the real nose is full of pores and other irregularities, but that of the painting is smooth; and corresponding to the nostrils of the queenly nose, there are no apertures in the canvas, but only two black dots (cf. our analysis of Lévi-Strauss's masks, in I.3.5.). Morris, Eco admits, is well aware of such problems, and has therefore proposed that iconicity is a question of degrees; but such a definition, Eco contends, can be stretched to include anything, and must lead to the destruction of the concept of iconicity. To say that the iconic sign resembles its referent *in certain respects* is not enough for semiotics, Eco concludes.

Oddly enough, it is precisely with this definition that Eco (1968:191) seems to end up a few pages later: iconic codes are said to reproduce certain *selected* conditions on the perception of the corresponding object. This selection in turn depends on the codes of recognition, and also on graphic conventions in operation. In our culture, for instance, the zebra, contrasted with the horse, will be identified by its stripes; but a society only acquainted with zebras and hyenas will need to focalize on some other feature. In order to imitate a helicopter, a four year-old child will spin round with his belly as an axis; but when drawing a picture of the same helicopter, the child will trace an indeterminate number of inter-

secting lines similar to boat-hokes in shape. In the first case, then, it is the elementary geometrical shape of the propeller which the child reproduces; in the second case, however, it is the effect of its movement (Eco 1968:193 f). In the same way, Eco (1976:349) says about Gombrich's (1963:1 ff) hobby horse, that it is iconic in the most abstract sense, because it only reproduces the straight line formed by the horse's back. Nothing of this is particularly original, however. In the most general sense, Peirce was well aware of the conventional nature of iconic signs (cf. III.1.2.). As for the codes of recognition, Vierkant (1912:352) had already noted their existence when he observed that the primitives make their pictures, including only that which must be observed in reality, from the practical point of view of the hunter; but of course, Vierkant thought Occidental man would not make use of such operations. A more impressive testimony of the workings of recognition codes is fig. 43, which reduces the difference between a bird and a man to a minimum (drawings of the Bakairi, according to Vierkant 1912:344). Paraphrasing Aristotle, we could say that to this tribe man is a breakless biped.

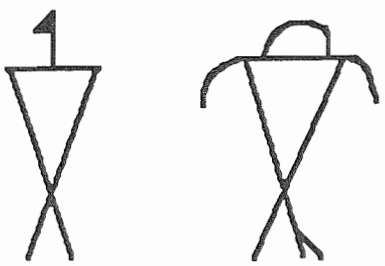


Fig. 43. Bakairi drawings

But all this may well be conventions of the Lifeworld as a whole, rather than specific picture conventions, as we pointed out in our discussion of Mallery and Gombrich (in III.2.2.; cf. Eco 1968:196 ff with examples largely taken from Gombrich). More important is the idea – if indeed that is the idea – that the selection of similarities is also conditioned by the possibilities of the particular pictorial expression used. But Eco does not pursue this idea further. It should anyhow be obvious that nothing of this will answer the fundamental criticism which Eco himself addressed to iconicity: even if we select just the stripes, or the propeller, or the horseback, it remains true that those of the pictures are basically different from those of reality. Or so it would seem.

Sometimes Eco (1968:201, 208; 1976:359) appears to return to his original radicalism: iconical signs only *seem* to reproduce the properties of their objects. A simple continuous line, we are told, will form the contour of a horse, and yet, "the only property the line has", i. e. that of being "a continuous black line", is "the only property that the real horse does not have" (1968:192; in 1976:328, it is a hand instead). Now, obviously, there are other properties which the real horse does not possess; but, more importantly, the line has other properties, at different intensional levels – and so, the common property may appear at one of these levels (cf. III.1.4.). In fact, Eco even mentions another property of the line a few lines later, viz. that it separates the inner space, the horse, from the outer space, the non-horse; but he adds that this property is not found in reality either. Then, mitigating once again the radicalism of his critique, Eco speculates that the horse may really look like that if seen in profile contrasted against the background of the sky. This is certainly admitting too much: the light may be such that the horse loses its character of having volume, but then it will appear as a silhouette. And silhouettes have *limits* ("Grenze"), but no *contours* ("Kontur"), as Volkelt (1963:28 ff) says: the latter, but not the former, detach themselves equally from outer and inner space. There is nothing comparable to that in reality; more precisely, nothing like that is to be *seen* in reality (in a photograph, a similar effect can be obtained only by solarization).

Curiously, the zebra, which to Eco is a horse with stripes, also appears in Kennedy's (1974 b:231 ff) psychological study of picture perception. Children were able to interpret lines to stand for uneven surfaces as in a landscape layout, uneven illumination as in shadows, uneven texture as in the hems and cuffs of knitted garments, and uneven pigmentation as in the hide of a zebra. Here then, contours, not coloured surfaces, are used for the stripes. Kennedy concludes that any discontinuities that are sources of optical structures may be rendered by lines. Thus, we may answer Eco, that the limits of the horse's body and the black continuous line have in common the property of being discontinuities in optical organization.

But something must be said now about the role Eco gives to perception. If the iconical sign has any property in common with something, Eco (1968:201) says, then it is not with the object itself but with its perceptual model; for the iconical sign constructs a model which is homologous to the model of perceptual relations which we construct when we recognize an object or remember it; only the matter in which the model is realized differ. In fact, we could say with Hjelmslev, Eco (1968:191; cf. 1975:329) elsewhere submits, that only the substance of expression, not its form, is different in the picture from what it is in reality.

Here, we reach a doubt anti-climax. Indeed, should we take the use here made of Hjelmslev's terminology seriously (cf. II.4.), we should have to conclude that to Eco pictures are in all relevant aspects identical to what they stand for; but we cannot attribute to Eco a mirror theory even simpler than the one he rejects in the work of Peirce and Morris. But even ignoring this detail, Eco's conclusion seems surprisingly harmless; for it seems

doubtful that there has ever been anybody who has claimed that pictures are similar to anything else than what we perceive and/or know about their objects, say, to the deeper nature or essence of things. There are those who ignore the difference: Goodman telling us about the numerous ways "in which the world is" (cf. III.2.3.); Hermerén (1983:119) observing, in his discussion of pictures, that we cannot be acquainted with *das Ding-an-sich*. Once alerted to the distinction however, no one, I suspect, would claim that pictures are similar to the essence of things. In fact, Plato, the only one perhaps to have considered this curious problem, said they were not.[9]

And yet, at least two other semioticians have rejected Eco's thesis, each one for different reasons. Kjørup (1980:76 ff) claims that it is precisely with the perceptual model that the picture has nothing in common; and Gerlach (1977:283) objects that only a limited Occidental tradition, from Renaissance to Realism, has produced pictures similar to the perceptual model. Interestingly, these arguments not only presuppose the nontriviality of Eco's thesis, but they must preclude each other. Still, both Kjørup and Gerlach appear to be justified in their claims, and the only explanation for this is that Eco's thesis is so vague that it is open to many interpretations. For what indeed does it mean – to choose the superficially strictest formulation – to say that the relations between the graphic phenomena, in the iconic sign, are homologous to the perceived relations of the object? If it means that the sign is based on perceptual knowledge, on the referent as conceived in one particular sociocultural Lifeworld, then the thesis is rather trivial (but cf. our discussion of Barthes's "anthropological" level, in II.1.1. and II.2.1–2.). If it means that seeing the picture is like seeing the corresponding object, then it is obviously false (cf. Gibson 1978 and III.2.2.); and no one has argued more convincingly against this thesis than Eco himself, when he observed that the queenly nose is very different in reality from how it appears in the picture. Again, if Eco wants to suggest that pictures produce visual illusions, as Gombrich (1960) says, or that they are "high-fidelity surrogates", as Hochberg (1979; 1980) terms it, then his thesis will be true only about some particular kinds of pictures.

None the less, one of Eco's many formulations of his thesis sounds much more promising, viz. when he states that iconical signs reproduce some of *the conditions on the perception of the corresponding objects* (1968:192). Once again, this formulation admits of many different interpretations; however, it seems clear that a condition on the perception of an object does not have to be *perceived* on the object; nor is it necessarily *known* about the object by the ordinary perceiver (but probably, at some level of awareness, by the producer of the picture). To this version, which was probably not intended by Eco, we shall have to return (cf. III.3.).

Pictures, according to Eco, depend for their meaning on a code, but only a very weak one; i. e. only with difficulty can they be dissolved into their elements (cf. also Zemsz 1967 for a similar view). Oddly enough, both Eco's argument for the coding of pictures, and his argument for this code being weak, are mistaken. In principle, Eco (1968:212, 217) says, any analog sign (apparently in the sense of "continuum analog"; cf. III.2.5.) may be dissolved into a digital sign; however, there is no claim that the "true nature" of every sign must be digital. As an example, Eco (1968:215 ff; 1976:323 f) cites the photograph, which must be dissolved into dots before being reproduced in the newspaper; and the telephotographic technique for transmitting photographs from one place to another. Now, these cases are plainly irrelevant: only the "substance" or "matter" of the photographic expression plane is here "digitalized", not the "form" of the pictorial sign, whose content is the photographic view. In fact, only when the dots are brought together again will configurations appear, and the picture is seen as such. The possibility of transmitting photographs dot by dot is no more relevant than the possibility of making any picture into a jigsaw-puzzle (cf. also Kjørup 1978:106 ff).

Such a "digitalization" is difficult in practice, Eco continues: it is hard to tell the elements of articulation apart (1968:203) and to distinguish optional features from distinctive ones (p 204). The signs (!) of the picture are not comparable to the phonemes, for they have no opposition value: the same dot may at one time signify an eye, and then something completely different (Ibid.; cf. 1976:355 ff). Finding the figurae is really the business of the psychology of perception (1968:233); nevertheless, Eco thinks they must either be infinite in number, or else that they should correspond to the elements of geometry – but he also gives a list comprising figure/ground, light contrasts, etc. (termed "conditions of perception"!). These are then combined into signs, corresponding to objects which may be recognized: a nose, an eye, a cloud – further combined into "iconical statements" like "this is a horse", or perhaps "this is a standing horse seen in profile" (p 234 f). Much will have to be said about all this later (cf. III.4.3.); but now consider the alleged differences between the "weak" iconic code, and the "strong" verbal one.

What Eco says about pictures could equally well be said about verbal language. There is no way of finding the elements of a language without being acquainted with its particular scheme of interpretation. It is common experience that one is unable to discover even the limits between the words when listening to an unknown language, or even a language one is beginning to learn. If there is really an iconic code to be learned, then we should expect the same situation to obtain. In verbal language we can only distinguish optional features from distinctive ones in relation to a given content; and the case is of course the same for pictures, only that these would seem to have different contents on different in-

tensional levels, so that a feature which is optional on one level becomes distinctive on another. We should not expect pictorial *signs* to be similar to phonemes; nevertheless, it is certain that physically identical sounds will be heard as different phonemes in different contexts, just as Eco's dot changes meaning with context; and in fact, physically quite different sounds are heard as the same phoneme (cf. Malmberg 1966; Guibert 1979; and III.2.4.). On Eco's account, it would seem, verbal language would also be a "weak code". Bouissac (1984:19) attributes Eco's contention, that iconic codes are "weak", to his having derived his information from philosophy and linguistics rather than from the natural sciences. It could also be said, however, that the information derived by Eco from linguistics was seriously incomplete, if not distorted.

In the first version of his critique of iconicity, as we have considered it in this section, Eco makes the important observation that there is a sense in which the picture and its referent may be seen, on closer inspection, to have *no properties* in common. Nonetheless, he seems to end up presenting as his own the very same theory of pictures resembling their object *in a few selected properties* which he rejects in Morris. To say that this resemblance exists between the picture and the model of perception of the object is hardly to add anything new, on the most general interpretation of this term; and if more precision is given to the thesis, it turns out to be false, either of some pictures, or of all of them. Both when arguing that pictures depend on a code, and that this code is "weak", Eco relies on erroneous conceptions of verbal language, which are contradicted by modern linguistics. The historical importance of Eco's first critique of iconicity cannot be denied, but on the whole, it appears to be essentially confused. We next go to consider the second version of this critique (III.2.7.).

III.2.7. Eco's second critique of iconicity. A taste of saccharin

> *"Enfin, l'utilité d'une analogie raisonnée consiste à nous offrir, dans les signes les plus simples, un tableau des idées les plus composées; mais le dessin accumule au contraire un très-grand nombre de signes pour nous donner une idée très simple à concevoir."*
>
> *Degérando 1800, II:406*

Most elements of Eco's earlier critique of iconicity recur in the iconicity chapter of *A Theory of Semiotics* (1976:325 ff), but the main point now is different, or at least, Eco himself seems to think so (see the note on p 325!). First, he tells us that there is no mutual implication between "digital", "arbitrary", and "conventional", nor between "analog", "motivated", and "natural" (1976:323 f; cf. 1968:208 ff; and III.1.4.). And then he argues that it is naive, not only to think that iconic signs have the same properties as their objects, or are similar to them, analogous to them, or motivated by them, but also to claim that they are arbitrarily coded, and that they can be analyzed into pertinent units forming more than one articulation. On the other hand, Eco (1976: 327) still believes that iconic signs are *culturally,* or *conventionally coded,* without however being arbitrary, nor discrete. Since arbitrary has immediately before been opposed to motivated, and since discrete appears to be another term for digital, which has been opposed to analog, Eco apparently wants to claim that iconic signs are neither arbitrary nor motivated, and neither digital nor analog; but it is not clear whether these dimensions should be taken to be irrelevant, or whether iconic signs occupy some intermediate position on them. In the case of the dimension conventional vs natural, however, Eco clearly opts for the first term: iconic signs are *not natural,* whatever that means. So far, we only seem to have a more explicit expression for the rather limited kind of conventionality propounded by Eco in his first critique of iconicity (cf. III.2.6.).

What is new, however, is that Eco (1976:327) now thinks that when we consider iconic signs to be arbitrarily coded, we must also accept the thesis according to which they are based on pertinent units having several articulations, and the latter at present seems completely impossible to Eco. If "arbitrary" is defined, as in Eco's text, by its opposition to "motivated", this connection is far from obvious. The same premises, which have previously (in Eco 1968) been used to demonstrate that iconic signs depend on weak codes, now serve to show that there can be no iconic signs, nor any figurae of iconicity, but only "iconic texts", which can be no further analyzed (1976:354 ff). These reasons continue to be invalid (cf. III.2.6.), even though the thrust of the argument has now been changed. But, generalizing his curious conclusion, Eco (1976:358 ff) claims there are no signs, but only different modes of producing signs.

In a later text, Eco (1984 b, 5 f) then tells us it was a mistake to look for signs and figurae in pictures, as the linguistic model made us expect; and he adds that it was an error to search real pictures for the elementary features of pictorial language because – and here, curiously, the linguistic parallel still holds good – the phonologist discovers the discrete units of verbal language, not from language as it is used, but on the basis of "prelinguistic considerations", which are "of an acoustic or spectral nature". Therefore, a semiotics of visuality, different in that from a semiotics of pictures, solely preoccupied with "texts", must start out from the neuropsychological mechanisms of visual perception. However, this description of phonology is not only untrue; it completely misconstrues the intentions of its founding-fathers, as anyone who has ever read a line of Trubetzkoy or Jakobson must know. Contrary to phonetics, phonology, as a "purely linguistic" science, is based not on physical measures but on commutation tests which, for their results, must depend on the intuitions of the speak-

ers of the language (cf. I.1.3. and II.2.5.). All that phonetics can do is to tell us which physical properties tend to correspond to the mental categories of phonology. If Eco is right about visual semiotics, then this is surely not a parallel to linguistics. Units, however, suppose *discontinuity,* and discontinuity, it would seem, depends on meaning (cf. I.1.4. and I.4.2.). Therefore, neuropsychological mechanisms are scarcely of any help; but the psychology of perception certainly is (cf. III.3.).

There are, nevertheless, other, more interesting aspects of Eco's new approach. He now attends to the distinction between "iconicity" and "doubles" (1976:307 ff, 348 ff; cf. III.1.4., III.2.1. and III.2.3.); he also observes that the mirror image, in the literal sense of the term, is no sign, because it does not stand *for* something, but *in front of* something (1976:339 ff; 1984 a:202 ff). And this time, it seems, he seriously rejects Morris's selection model (cf. III.2.6.): for although some of the earlier examples and formulations reappear, they have lost their central position in the argument. In their place, new elements come to the fore.

For instance, common sense tells us, says Eco (1976:329 f), that sugar and saccharin are similar; in fact, their chemical formulae share no properties, and in its visual appearance, sugar should rather remind us of salt. It is only the effects produced on our papillae by sugar and saccharin which resemble each other, and this they do, because the distinction between sweet and salty things is taken to be fundamental in our culture (Also cf. Jakobson's argument for the iconicity of both the lateral movement of the head used to signify "no" in some cultures, and the vertical movement used in others; quoted in Eco 1976:353 f). Thus, at the very moment that Eco rejects distinctive features, he argues for the existence of *constitutive* oppositions *in absentia,* which are, at least in part, responsible for the impression of similarity. This is no contradiction, however, for these oppositions must be *abductive* rather han *structural* (cf. I.3.3.). Unfortunately, Eco gives no pictorial examples of this constitution process: but such examples are easily discovered in the Bakairi version of the difference between a bird and a man (fig. 43), and in our own pictograms for ladies' and gentlemen's lavatories. Nevertheless, it seems intuitively clear, that the more important such abductive oppositions are in the constitution of a sign, the less iconic it is felt to be. And if a number of such oppositions tend to form a structure, or something vaguely structure-like, iconicity further decreases (cf. fig. 13 in I.3.5.).

The essential idea, this time, is that iconicity is a *system of transformations.* Only in geometry, Eco (1976:331) thinks, when two figures are congruent and also have the same size, is there similarity in a precise sense (but then it is difficult to understand how this is different from "doubles"). We must learn to disregard even such an obvious difference as size, Eco opines: a 3 year old would not see the similarity between the Cheops pyramid and a small-size model of it. Nor would a naive observer, in Eco's opinion, be capable of finding the similarity between a face and the corresponding mortuary mask, in spite of their congruence and identical size. Unfortunately, Eco is already wrong at this point. As we know (cf. I.2.1–2. and II.3.6.), perception starts out from the most general, "abstract" level, not from the particularized one; so it should be harder for the child to discover the difference between the Cheops pyramid and its toy version than to become aware of their similarity. Monkeys and pigeons have been found to react to pictures of people as they react to real people; what may perhaps still be in doubt is that they also note the difference (cf. Cabe 1980). As for the mortuary mask, Gregory (1973) actually demonstrated that, even if presented as seen from behind, it is perceived as a real face because, in spite of all cues to the contrary, the depth characteristics of normal faces are transferred to it. Therefore, it seems, relevance is determined at the level of the Lifeworld, if not at that of the organism (Cf. the discussion of Bierman and Goodman in III.1.1. and III.1.3.). Further rules of relevance may of course be introduced at later stages, but they can hardly be that elementary.

In Eco's view, however, all similarity is based on precise rules, which have to be learned, and which stipulate which aspects of the object are pertinent. Here, we once again recognize Morris's selection model (cf. III.2.6.), or even Peirce's notion of a *ground* (cf. III.1.2.). Only when we are familiar with the rules, Eco believes, will we be able to discover the motivation of the signs. This is, of course, what Mallery called "reasonable" similarity (cf. III.2.2.) which is, as we have already argued (cf. III.2.3.), only found in droodles and similar signs, and certainly not in prototypical pictures. The only thing which is perhaps necessary to know beforehand, we said, is that the marks perceived should be taken as *signs,* and more particularly as *pictorial* signs; the details will then follow (cf. III.3.1.). Once again, Eco is no doubt mistaken.

If "analogy" is not just another term for similarity, it means proportionality, Eco (p 337 f) claims; but then, he thinks, it must be a rule which establishes a relation between at least three (?) terms. This rule may state that, if 10 corresponds to 1, then 20 corresponds to 2; or it may just as well stipulate that as 3 corresponds to 9, 6 shall correspond to 18; therefore, Eco concludes, no similarity is required between the first and the second term, but this is created by the rule. And the iconic code, it seems, is also considered to work in this way (cf. 1976:335, 346, etc.).

Eco is of course right in thinking that the first two terms of a proportionality do not have to be similar in any way; in his first example, they are similar, and we get one of Degérando's examples of a "logical analogy" (cf. III.1.2.). But even in Eco's second example, similarity is presupposed: not, of course, a similarity of the first two terms, but of the relation between these terms and the

relation between the second pair of the proportionality. If Eco also thinks this similarity is created, this is perhaps because there are a number of relations between 3 and 9; therefore, given Eco's three terms (i. e. 3:9::6:x, if that is what he means), we could neither fix the fourth term, nor determine the relation. But we could still predict the few possible ones: if the rule is to multiply the first term of each pair by three, the second term of the second pair will be 18, as in Eco's example; if the rule says we should add 6 to the first term, the term searched for is 12; and if the rule requires us to multiply the first term of the pair with itself, the term to be mentioned is 36. If we are presented with all four terms, however, they will make up a simple *structure in praesentia,* which only serves to select one among the possibilities given by a *structure* in absentia (cf. Bartlett 1958:38 ff and I.3.4.; also cf. I.3.2.). Similarity is defined by the latter, not by the former, that is, it is defined by the structure of mathematics.

And yet, even if Eco's mathematical parallel proves wrong, he might be right in his claim about pictures, so now let us consider this thesis independently. On Roupas's (1977:69 ff) interpretation, Goodman's dense system is really the correlation of two "continuous aspects" (which, in a special case, are both *spatial;* Roupas 1977. 76 f; cf. III.2.5.). Suppose we want to know the length of some marks: in a dense system, there will be different expressions ("informational values") for the mark which is 3/4 cm, and for the mark which is 1 1/4 cm but, in a finitely differentiated system, they might both come out identical (cf. fig. 44 a, b, borrowed from Roupas 1977:73).

As Janlert (1983:184) points out, such a continuous mapping is only a particular case of a *structure-preserving* mapping, and this raises the question, which other organizations (which are not necessarity structures in our sense; cf. I.3.4.) may be preserved. First, it is possible that reality, i. e. our particular Lifeworld, is not continuous or at least that some parts of it are not; indeed, we have argued that reality is *categorized* (cf. I.2.1.), that is, discontinuous. In this case, organization is preserved if the semiotic system uses the same categories as the Lifeworld and relates them to each other in the same way; but if Lifeworld categories are abolished and/or the members are redistributed among the categories, the system modifies the organization (as in Le Bry's engravings, as analyzed in I.4.1. and fig. 14; and in Reiser's drawings, cf. III.5.2.). Although Eco claims "iconic texts" can be no further analyzed, his notion of analogy plainly supposes both expression and content (or referents) to be segmentable and differentiated. Neither continuity nor the precise categories need to be preserved, but the relations between the categories have to be kept up; and this would seem to presuppose the separability of the categories.

The only example considered by Eco (1976:33 ff) is Peirce's existential graphs, where the relations between the propositions of a syllogism are rendered by concentric circles. For instance, a reasoning like "All men are subject to the passions – all saints are men – all saints are subject to the passions" is expressed as the inclusion of the circle of men in that of the passions, and the inclusion of the circle of saints in that of men. Eco censures Peirces for claiming this to be a completely analogical, iconical sign, for that which is represented is not even spatial. Instead, he thinks there is a convention which establishes that space *a* is to be taken to be related to space *b,* just like the element *a'* is related to the element *b'* (p 335). This clearly supposes both the spaces and the elements to be segmentable and differentiated. In such a specialized representation as an existential graph (better known as a Venn diagram), it is of course conceivable that the equivalence of the relations between the two pairs of entities is conventionally introduced; but it seems more probable that this proportionality is based on *inclusion,* in the sense of *figurativity* (cf. I.4.5.). In any case, the only property preserved here is such an inclusion. In a typical picture, however, a great number of relations obtain between each two units, or even between every two elements of the pat-

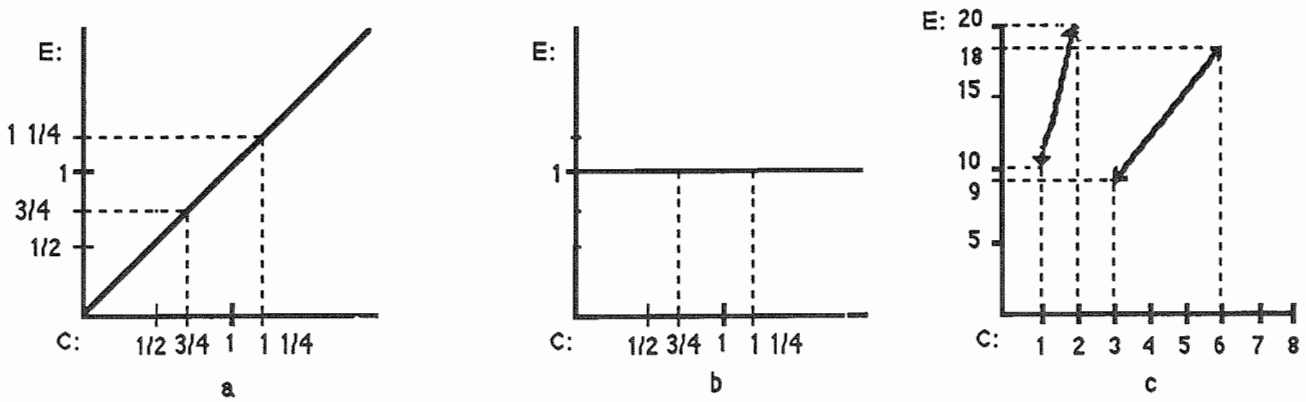


Fig. 44. Interpretative standards (a and b taken from Roupas 1977:73, with small modifications)

tern. A convention specifying all these relationships would have to be very complex indeed, and would probably have to be made separately for each picture (cf. the discussion of *exhibitive import* in III.5.1.). As a general theory of iconicity, or even of pictures, this conception is not feasible.[10]

But suppose instead – and that is the second possibility, intimated above – that the relations correlated in iconicity are prior to their relata, i. e. that they are holistic, nonconfigurational properties. This would not really be a proportionality, of course, for it really supposes a different segmentation of both the picture and reality from that given by objects and things; but the number of features could perhaps now be limited (cf. I.3.4.). Something of this kind seems to be suggested by Gibson, Kennedy, and Hochberg, as we shall see in the next chapter (cf. III.3.). However, we know that it is precisely before the child masters iconicity, and is able to produce pictures in the adult sense, that it renders, in its drawings, the holistic, non-configurational properties of the referent (cf. II.3.6.); indeed, there is even a stage at which the child is able to create configurations including the correct non-configurational properties, which are however not the correct configurations (cf. fig. 31). This means, that it will not be enough to require a prototypical picture to render the non-configurational properties of its objects, and to integrate them into configurations; we must also demand some correspondence at the level of configurations.

In the present section, we have been concerned with Eco's second critique of iconicity. While still claiming pictures to be *conventional,* Eco now denies the possibility of analyzing them into *features.* He is no doubt right in thinking that abductive oppositions often intervene in the constitution of pictorial signs, and his conception of analogy as proportionality is useful in relativizing Goodman's density. But he fails to see that even his own suggestions suppose there to be a basic motivation in the relationship between the picture and its referent. On the other hand, his rejection of features lacks all foundation. Interestingly, we shall see in the next chapter (III.3.) that to many psychologists engaged in the study of perception, pictures are *motivated* – and resolvable into *features!*

III.2.8. Other conceptions of iconicity; with summary and conclusions

In the opinion of many semioticians, pictorial signs are essentially arbitrary or conventional. According to the Greimas school, for example, pictures derive their meaning from an "iconic contract", but the conditions of this contract have hardly been specified (cf. notably Floch 1982; 1986; and II.3.4.). Also Groupe μ (1985) appears to take the conventionality of iconic signs for granted. Many other writers are content to refer their readers to Eco or Goodman.

Other semioticans, notably those who proceed experimentally, admit the existence of some kind of motivation, but are concerned to demonstrate its limitations. To Lindekens (1971b; 1973; 1979) we owe the important observation that it is impossible, given the technical limitations of the photographic code, to render correctly all the properties of the referent at the same time, notably its nuances and contrasts (cf. I.3.4. and II.3.6.). Gubern (quoted in Yllera 1979:25 f) has pointed to other, perhaps more obvious limitations of photography: it abolishes the third dimension, movement, and non-visual stimuli; it puts reality into a frame, changes the colour scale, and transforms visual continuity into a granular organization. Krampen and his collaborators (see Krampen, Espe, & Schreiber 1981; Krampen & Braun 1983; Braun 1983) have investigated psychologically the varying degrees of iconicity found in different kinds of signs. Here, then, iconicity is accepted only as a limiting case.

Peirce's declared disciples (like Deledalle 1979; Sebeok 1976; 1979; Walther 1974) seem to have fewer doubts about iconicity than Peirce himself (cf. III.1.1–2.). Also Barthes and the early Metz were convinced of the motivated status of pictures, at least of photographs (cf. II.1.1.). On the other hand, Radar (1978:47 ff) thinks iconicity is only a point of departure for that imagination which, through a kind of "sémiurgie", creates pictorial meaning; and Michel Tardy (1975; 1979) and Geneviève Dollé (1975) argue that not only the "analog" elements, but also their "discursive" organization, is needed, for the "sémiogénèse" to take place, at the moment of interpretation. As we scrutinize the concrete analyses of these authors, however, we find that the boundary between "analog" and "discursive" elements is located very high up in the pictorial hierarchy, perhaps at the iconographical level; too much, it seems, is given over to "analogy". It appears, from our earlier considerations (cf. III.1–2.), that it would be fruitful to investigate the *semiogenesis* of minimal pictorial elements.

What now remains is to consider the discussion around the contributions of Goodman and Eco (apart from the criticism that is cited in III.2.3–7.). Maldonado (1977:229 ff; 1979:774) points to the devastating consequences for science of Eco's "idealistic" critique: it denies the cognitive value of all that "modelling, simulating, categorizing, and classifying" which has formed the basis of the scientific approach since Galilee onwards. So far, Maldonado is undoubtedly right; but we have seen that, well considered, Eco's critique of iconicity is much less radical than it appears to be (cf. III.2.6–7.). Nor does it seem sensible to censure Eco's theory because of its consequences.

Paul Bouissac's (1984) discussion of Eco's critique has much in common with the present approach: he points to the fallacy of supposing the world to be an unorganized chaos of sensations, on which abstraction

has to operate (p 10); he observes that the notion of similarity becomes problematic only because all perceptual properties are taken to be equally relevant (p 16); and he opts for a model which includes both features and motivation. However, his features are those to which the cortical visual cells react, according to Hubel & Wiesel (p 12). But this is certainly not the whole truth: for, unlike Gombrich's fish, man will not snap at the pictured fly, and under ordinary circumstances, it is exactly in important respects that the pictured fly differs from the real one (cf. III.1.4. and III.2.3.). Something more is needed to explain picture perception.

Another appreciable critic of Eco's theory is Søren Kjørup who, just as we have, questions the radicality of Eco's position. Perhaps Eco intends to say, Kjørup (1978 a:105) suggests, that it is a sufficient and necessary condition for something to be a picture, that it should render the pertinent characteristics for the recognition of its object, or else a conventionalization of these; but then, he concludes, Eco's theory amounts to the same thing as Hermerén's theory of "seeing-as" and Wollheim's theory of "seeing-in" (which is a curious thing to say, for these theories are very different; cf. III.3.5.). In fact, however, this is not a sufficient condition: "Mona Lisa" has all the pertinent features of the recognition codes for its copies, but is not a picture of them; and although Reynold's portrait of Lady Hamilton reproduces the recognition code for the little Danish girl Clea, it is not a picture of Clea. Here, I think, Kjørup is very unjust to Eco: for, since Eco is discussing pictures under the denomination "iconical signs", he clearly takes them to be signs or, as he later prefers to say, sign processes; so, even if his insistence on their being conventional is somewhat confused (cf. III.2.6–7.), he clearly intends to say that they are in some way similar to other signs. Thus, a second requirement for something being a picture to Eco, is certainly that it is intended as a sign of the object whose recognition code it renders. As we already know, Kjørup's master Goodman would reject even this (see the end of III.2.3.).

But Eco's criterion is not even necessary, Kjørup continues: for we can have pictures of things we have never seen, and never could have seen: an unknown person, Truth, Communism, the missing link, etc. (cf. Hermerén 1983:116 for an equivalent argument against similarity). Again, the argument seems unfair, and for a variety of reasons. To begin with, Eco does not share Goodman's nominalist metaphysics which, as Rey-Debove (1971) observes, is of no use to semiotics, and so the universe of existing things can be more plentiful. As for the unknown person and even the missing link, they are made up of categories, which may be perceived in other instances (cf. our discussion of zero-denotation according to Goodman in III.2.3.). And when it comes to Truth and Communism, it appears that they can only be pictured indirectly, either as exemplified in a situation or through personifications; and thus, that which cannot be seen, if we grant this point, is not that which the picture is a picture-of.

Curiously Kjørup is able to accept much more serious deviations from the ordinary notion of what a picture is, when he goes on to consider Goodman's theory. And he even seems to attribute to Goodman (in Kjørup 1985:62 ff) a theory which he has himself developed. According to this latter theory, a pictorial sign is conventional, only in the sense that logically, a connection subsists between expression and content because of a constitutive, semantic rule tying it to a particular pictorial system; and, in principle, there is no limit to the ways in which such a pictorial language may be built up, as long as it is an analog system (cf. Kjørup 1978 a:114 f); in practice, however, those pictorial languages which have currency in present-day culture follow semantic rules, which require an X-picture to be something which can be *seen as* an X, that is, as Eco says, as a selection of properties found in the perceptual model. Now, this theory is, as far as I understand, incompatible with Goodman's conception, as shown in particular by his polemics with Gibson and his criticism of similarity generally (cf. III.2.3.). But we must now judge the theory on its own terms, as Kjørup's theory of pictorial meaning (to which is added a theory of picture use; cf. Kjørup 1974; 1978 a, b; 1985).

If we suppose that pictures tend to have, at the present time, both the property of being analog (probably continuum analog) and the property of being similar to their object, and that these properties are distinct (but cf. III.2.4.), then it is only as a completely arbitrary stipulation that it can be affirmed that analogy, but not similarity, is the defining characteristic of pictorial sign systems. When Kjørup claims that we will continue to consider a system which is analog but not similarity-based pictorial, but not the system having the reverse properties, this is nothing but divination. In any case, the similarity criterion comes much closer than the analogy criterion to delimiting a class corresponding to what is commonly meant by the term "pictures". Like Goodman, Kjørup (1978 a:114) is content to include diagrams, and then no doubt also thermometers, among what he designates as pictures (cf. III.2.5.); on the other hand, he is forced to exclude pictograms. And, of course, pictograms are not prototypical pictures; yet the consequences of this exclusion are very grave indeed for, as we shall see (cf. III.5–6.), all pictures are really somewhat "digital" in Goodman's sense, so that there can be no clear limit between pictograms and pictures.

It will be noted that, in spite of his critical observations, Kjørup finishes by accepting Eco's criterion on pictorial iconicity on a secondary level. In this, I think, he is excessively indulgent. As we know (cf. III.2.3.), Goodman claimed that not even the combination of denotation and similarity were sifficient to characterize picturehood; and although he would probably maintain that denotation and analogy *are* jointly sufficient criteria, the

result is to basically transform our Lifeworld notion of pictures. Kjørup here agrees with Goodman, but he adds that *existing* pictorial systems are defined by denotation, analogy, and homology to the perception model. Let us therefore reconsider Goodman's counter-example to the claim that pictures may be defined by denotation and similarity together, to see if analogy makes any difference. Analog analogy is obviously a kind of similarity (cf. III.2.5.), so it can be ignored here; but when we transformed the printed words of Goodman's example into scrawly writing, it was precisely continuum analogy which was introduced, for now small differences began to make a difference (see the end of III.2.3.). It will be remembered that we then concluded that, if one scribble could be seen as a picture of the other, this must depend on a sign function other than that contained in the verbal text, a sign function that is, for which the impression of similarity between the relata is at least a partial reason. Thus, as isolated facts, denotation, analogy, and perceptual homology are certainly not jointly sufficient.

But there is another problem with this œcumenical definition, which stems directly from Eco's contribution: not a picture, but rather a self-identification or, if we insist on the aspect of selection, the dummy, renders the perceptual model (cf. III.1.4.). We may also want to include these types of signs in our notion of iconicity, but in the case of pictures, another characterization is needed. All theories so far considered (including Hermerén 1969:34 ff; 1983:132 f) fail to account for the fact that a picture, when seen *as* a picture (and not as a "high-fidelity surrogate" observed with one stationary eye through a peep-hole) is something fundamentally different from that of which it is a sign. We will return to this problem in the chapter to follow.

Bierman, Goodman, and Eco, have all argued against using similarity as a criterion in the definition of iconical signs and/or pictures. We have seen that in general these arguments are invalid, among other things because they are based on an identification of the common sense notion of similarity with the equivalence relation of logic. Differently put, they are inadequate because they suppose man to live in the world of the natural sciences when in fact he always inhabits a particular sociocultural Lifeworld. The most immediate consequence of this fact is that many of the conventionalities attributed to pictures turn out to be inherent in the particular Lifeworld. This of course means that, whenever some peculiarities of an individual or a thing, some traits of the woman or the zebra, are locally given importance, they also make up the features given primary importance in a picture (cf. III2.2/6.). But some more general principles will also follow. Pictures, being a kind of visual thinking, are required to follow the phenomenological rule of all thinking, according to which an object can only be seized each time from *a particular point of view,* and not in its entirety, which means a choice has to be made among the proper parts, the perceptual parts, and the attributes of the object (III.2.2.; cf. I.2.4.). We also know that much thinking is made in terms of *prototypes,* and this is also true of pictures (III.2.2.; cf.I.3.1.); and even abductions and simple structures often intervene in the constitution of pictorial signs (III.2.7.; cf. 1.3.4–5.). But, as we shall see, there are yet more fundamental ways in which pictorial constitution is dependent on the Lifeworld.

Similarity, then, is really asymmetric and irreflexive (III.2.1.). It is something rather different from *identity:* in fact, it is between a picture and another picture that there is identity, according to a principle of pertinence of course, and on the basis of this property the picture, just as any other object, may be used in a *self-identification* or an *exemplification* (III.2.3.; cf. II.2.2. and III.1.4.). There is similarity, on the other hand, only on the basis of a fundamental dissimilarity. It is certainly not in their "important" properties, if that means the attributes defining them as "selves", that the picture and its referent (or content) are similar (III.2.3.). In fact, the hierarchically dominant categories of the picture and its referent must be different; for a picture which is just a picture of the picture-of-X, is indistinguishable from a picture of X (III.2.3.).

Although the sign relation is thus not needed in order to render similarity asymmetric and irreflexive, it is necessary if we are to distinguish similarities which are signs from those which are not (cf. III.1.1/3/8.). At this stage, then, it would seem that pictures could be defined by the sign relation, together with similarity. However, Eco has formulated on objection against similarity theories, which is at once much more simple and more convincing than those of Bierman, Goodman, and Greenlee: on closer inspection, there is really *no* similarity between the painted nose, and the nose of the real person (III.2.6.). The *impression* of similarity, as long as we do not choose to scrutinize the details, is not in doubt. Perhaps, then, similarity is simply a *result* of the sign relation, not its motivation (cf. III.1.4.). But this is possible only if there is some other property held in common by all pictures, and by no other objects. For not only is there a coherent Lifeworld notion of pictures, but there is no other way of explaining that pictures have meaning. Goodman's and Greenlee's contention that the referent of each picture is appointed individually (if that is indeed what they want to suggest; cf. III.2.2/5), and Eco's proposal that the relations of the picture are so correlated with those of the referent (III.2.7.), are utterly unconvincing, and besides, imcompatible with the results of the psychology of perception (cf. III.3.1.). But it does not follow that this common property must be similarity.

It could perhaps be "analogy" or "syntactic and semantic density"; at least Goodman could be taken to suggest that. Unfortunately, there are many problems with this proposal. To begin with it is counter-intuitive that the difference between verbal language and pictures is sup-

posed to lie in the ways in which types relate to tokens, and not in the relations between expression, content, and referent (III.2.5.). But if we are just looking for a property which tells us that something is to be taken as a pictorial sign rather than as something else, then the idea of having recourse to "analogy" or "double density" could still be acceptable. The next problem is that "analogy", in the sense of "analog analogy", does not seem to follow from double density, as Goodman supposes; we are thus concerned with two different properties (III.2.5.). As for density, it proves to be problematical in many ways. There are reasons to doubt that pictures are dense, in an absolute sense. No clear limit can be established between pictures and pictograms, but the latter are excluded by the definition (III.2.4/8.). On the other hand, the definition includes, among the objects which it qualifies as pictures, diagrams and thermometers, and no doubt many other signs which are not ordinarily seen as pictures. Even repleteness which, in Goodman's opinion, makes the difference between pictures and diagrams, is actually found in some instances of the latter. It is then of little comfort to discover, that diagrams, just as pictures, cannot be dense in any stricter sense of the term (III.2.4/5.).

Both Goodman and Eco base their conception of pictures on a comparison with verbal language. But Goodman's language is a logical construction, while that of Eco is assembled from badly understood linguistic information; with the consequence that, what both of them have to say about pictures, is as readily applicable to language (III.2.4/6.). It is conceivable that the principle of relevance of the pictorial expression plane must be defined in relation to more semantic systems, or system parts, than that of verbal language (III.2.4.). And it is possible that, unlike verbal language, pictorial signs depend, also for their content plane, not on a class of signs, but solely on a principle of pertinence (III.2.5.). In fact, the relationships which Goodman considers on the semantic level are clearly related to the sets of alternatives offered by semiotic systems which engender different connotations; but Goodman has nothing to tell us about how verbal and pictorial signs differ in these respects (III.2.5.; cf. II.4.3.).

Goodman's argument for the density of pictures supposes the same properties to be relevant for a picture's identity as a unique historical particular, as an exemplificational sign and as a denotational sign; but the first indentification is doubtful, and the second unacceptable (III.2.4.). What properties are relevant in a picture would seem to depend on genre conventions rather than being decided from case to case. Thus, we can also reject Eco's contention, first that they are not analyzable in features at all (III.2.7.). Both Eco and Goodman may also have meant to deny the possibility of segmenting a picture, but that is really quite a distinct problem, though in a diagram segmentation and classification seem to coincide (III.2.4.).

But if density will not do, and if it is distinct from analogy, what about the latter? Both in the sense of Goodman's analog analogy, and in the sense of Eco's proportionality, analogy here only amounts to the "logical analogy" of Degérando – so how is it, that in a picture, unlike a diagram, we can see not only *how much* there is of a particular quality, but also what this quality is (III.2.5/7.; cf. II.1.2.)? And how are we to explain that, even when other interpretations are possible, the pictorial one is the most immediately given (III.2.1.)? While there will probably be some analogy in this sense in a picture, its presence is not sufficient.

The same goes for continuum analogy. Goodman is right in claiming that the sign function and similarity are not jointly sufficient to define the pictorial sign; but substituting analogy for similarity, or adding them together is not enough either. But we can make sense of Goodman's counter-example if we require similarity, or the impression of similarity, to be at least a partial reason for the sign function (III.2.3/8.). In the case of a droodle, similarity will only be discovered once we have been informed about the precise sign function, or when we have guessed at it; but in an ordinary picture the impression of similarity precedes the sign function. However, it remains unclear how we are able to discover that similarity is relevant. Perhaps it is only the precise content of the sign function that must await discovery of the similarity relation; the fact, or at least the probability of their being a sign function, would seem to be a prerequisite for our hitting upon the similarity (III.2.3.). For something to be a sign of something else, it must be relatively low-ranked on the scale of prototypicality applying to the "things" of the Lifeworld (III.2.1/3.). Of course, signs can also be made out of high-ranked Lifeworld "things", as in exemplifications and self-identifications, but then the sign function must be introduced explicitly as a convention (III.2.1.).

The pictorial sign and its objects, then, are characterized by quite different hierarchically dominant categories (III.2.1.). But in that case, how is the impression of similarity possible? It seems that we must go beyond the primary categories to the higher-order features of the sign and its object. Contrary to Eco's contention, the pictorial sign may turn out to be not conventional and unanalyzable into features, but essentially feature-based and motivated (III.2.7.). At least, this is what seems to be suggested by the psychology of perception (cf. III.3.).

Thus, we are left with the cloud – but we are beginning to realize that it can be used as a mirror.

Chapter III.3.
Mirrored clouds – the psychology and phenomenology of picture perception

"In das Bild schauen wir den gemeinten Gegenstand hinein, oder aus ihm schaut er zu uns her./– – –/ Andererseits ist doch das Sujet im echten inneren Bildbewusstsein nicht reproduktiv bewusst, sondern 'gesehen'. Es ist imaginiert, abert perzeptiv imaginiert."

Husserl 1980:30; 481

A double but limited task will face us in the present chapter: first, we have to take cognizance of those facts which have been established by the psychology of perception, and which constrain the class of possible theories of picture perception; and second, we have to become adquainted with the different theories of picture perception proposed by the leading psychologists of the domain. On the other hand, no complete review of the theories and findings of the psychology of picture perception, let alone of the psychology of perception generally, can be given here (cf. Deregowski, Gibson, Gregory, Hagen, Hochberg, Neisser, etc. in the bibliography). In fact, we are interested in continuing that discussion about the specificity of pictorial signs which we began in the last two chapters (III.1–2.); and this is why we will end this chapter with some considerations on what Husserlian phenomenology has to say about picture perception, which we shall approach through an examination of the views professed by some other philosophers.

This should seem a curious thing to do: for how, it ought to be asked, are we to compare philosophical and scientific theories? In fact, we have already hinted at an answer to this troublesome question (cf. I.2.1.): scientists may organize experiments and execute analyses, which establish the limits of what may be reasonably thought about a particular subject, but no amount of facts will ever engender a theory on its own. Facts are like *indices* of reality; but they have to be bound together by *abductions,* preferently transformed into *structures* (cf. I.2.3/5; and I.2.4–5.). They are similar to newly discovered stars; they acquire meaning only once they have been linked into constellations; and these constellations are composed according to the style of a particular sociocultural Lifeworld; for example, the Chinese have 283 constellations, with the limits differently drawn, where we, and the Ancient Greeks, have 48 (cf. Weisgerber 1962:44 f). In the same way, given the same facts, there are Greek abductions and there are Chinese ones.

But the really surprising thing is how much these abductions have in common. How is it possible, Peirce asked, that so many abductions prove right, and he postulated a natural instinct as an explanation. In fact, there is an infinite number of ways to relate stars, and facts, but most of them would seem to be humanly inconceivable. Right or wrong, the limited number of conceivable alternative abductions may be due, not to a natural instinct, but to the commonality of the most general organizational framework of the Lifeworld (cf. Husserl 1962 a, b; Gurwitsch 1974 b; Schütz 1932; 1967). And psychologists, like philosophers, inhabit the common Lifeworld; sometimes, they are even more or less aware of it.

As we shall see, the psychologists' alternatives parallel those of the philosophers and the semioticians: the perception of pictures, and the perception of the world, may be motivated, possibly by similarity, or they may depend on conventions, or on some combination of the alternatives (cf. Hochberg 1978 b; Hagen 1980 b; Winner 1982:81 ff). There are differences between the conceptions of Bruner & Postman, Neisser, Gregory, Deregowski, and perhaps Hochberg, on one hand, and Gibson, Hagen, and Kennedy, on the other, which have to do with which experiments they consider relevant, and to which properties of the experimental results they attribute most importance, but this in turn must be due to the way they, as laymen, inhabit our common Lifeworld, and how consciously they relate to it. This does not necessarily mean that the differences between these psychologists are mere disparities of taste and personal predispositions; for they could as well be explained by different aptnesses for the difficult art of doing phenomenology. For, like Monsieur Jourdan, as the French would say, psychologists may be doing phenomenology without knowing it. When faced with the same facts, Gibson and Gregory reach different conclusions; but this could well be because one of them reviews the evidence in the light of his own Lifeworld experience made conscious. This is the possibility that must interest us in the following sections.

III.3.1. Children and other savages look at pictures

"Psammetichus, finding that mere inquiry failed to reveal which was the original race of mankind, devised an ingenious method of determining the matter. He took at random, from an ordinary family, two newly born infants, and gave them to a shepherd to be brought up amongst his flocks, under strict orders that no-one should utter a word in their presence./–––/ Two years later the shepherd /. . ./ happened one day to open the door of the cottage and go in, when both children, running up to him with hands outstreched, pronounced the word 'becos' /–––/ /which is/ the Prygian word for 'bread'."

Herodotus 1954:102 f

Two and a half centuries after the time of Herodotus, the Psammetichus type of experiment was at last carried out in the study of pictures. But Hochberg & Brooks,

who performed this experiment, were not intent on finding out in which style the child would execute his first drawing if left alone (if indeed there would ever be any; cf. Gardner 1980); instead, their experiment bore on the interpretative capacities of the child. Thus, they raised a child up to the age of 19 months, impeding it from having other than incidental experience of pictures, and then exposed it to outline drawings and then photographs of objects with which it was acquainted, finding the child had no trouble recognizing the objects. Commenting on this experiment in a later text, Hochberg (1972:70 f) himself observes that either there must be an innate capacity for interpreting pictures, or that such an ability must develop at an early stage, and then not from pictorial experience itself, but from the ordinary experience of the world.

This result, and Hochberg's conclusions, are remarkable. To begin with the former, it is obviously imcompatible with any theory, such as that of Greenlee or that of Goodman (cf. III.2.2/5.), according to which a picture acquires its meaning simply by being "appointed" to be the sign of an object (as noted in Hochberg 1978 b:235 ff). What is interesting about Hochberg's conclusions is that the most "obvious" alternative is not even considered, that is the alternative according to which no interpretative capacity at all is needed, because the object and its picture are simply "similar". But of course this is no serious alternative since, only to a very superficial phenomenology, is there any similarity between the picture and its object (cf. III.2.6.). If lines on paper are taken as equivalent to the object's edges, Hochberg (1978 b:236) notes elsewhere, this is a fact about the viewer, not about the light at the eye.

Apart from the observations of children, research into origins has always employed a second kind of investigation, that of peoples reputedly less civilized than ourselves. This method was also first used in the study of verbal language. Itard and other students of "wild boys" like Victor, apparently never thought of investigating the capacity of these children for understanding pictures (cf. I.3.1.): however, at least from the last century onwards, explorers and travellers, and later anthropologists and social psychologists, have reported on the difficulties experienced by members of "savage tribes", principally in Africa, when they were confronted with pictures for the first time and asked to explain their content (Cf. Deregowski 1972; 1973; 1976; also for the following anecdotal material). Essentially, these reports would seem to testify to two very different, and apparently contradictory, obstacles to an adequate pictorial understanding: for either the hero of the story is unable to make out what kind of object the picture is, and what function it serves, or he fails to distinguish the picture from what it represents. Typical instances of the first kind of anecdotes are Herskovits's story about the puzzled woman who turns the photograph of her own son about, without being able to understand what it is, and Muldrow's description of the Me' tribe, whose members smell and taste the pictures, but do not think of looking at them. The second series of anecdotes may be illustrated by the tale of the tribe panic-stricken at the sight of a slide projection showing an elephant to the point of running away; and by the report of another tribe treating photographs of white women as if they were real people.

Here, then, we encounter in their practical form the very same theoretical issues that retained our attention in the last chapter (cf. III.2.): the problems of relating the picture to its object, and of distinguishing the former from the latter. Differently put, iconicity theories must expect all human beings to discover the relatedness of the picture and its object immediately, but some tribes fail to do that; and, rather more implicitly, these same theories must suppose that we are all able to tell the picture and its object apart, but this too, it seems, some tribes fail to do.

But the experimental literature is really concerned with a third problem: our ability to discover, not *that* something is a picture, but *what* it is a picture of (cf. the reviews of this literature in Deregowski 1972; 1973; 1976; Kennedy 1974; Pick & Pick 1978; Jones & Hagen 1980). Moreover, most of the experiments have been devoted to an investigation of the extent to which non-Western people are able to decode the depth cues inherent in Western linear perspective, whereas the logically primary task, the study of their willingness to take pigment patterns on paper to represent three-dimensional objects of the world, has been seriously neglected (as regretted by Deregowski 1973:165; 1976:19). Hudson performed a number of tests using perspectival pictures, which were repeated by Deregowski with some modifications, and both of them found a lesser ability on the part of native Africans, particularly unschooled ones, to interpret correctly the depth cues of otherwise ambiguous pictures. But Kennedy (1974:65 ff) gives a number of reasons for questioning these results: for instance, the drawings were often so unclear that the answers given by the Africans seem as plausible as the expected ones; and the social consequences of having, in South Africa, a white experimenter posing questions to black people were ignored, although these are evident from the fact that some persons waited an hour before making their reply. Jones & Hagen (1980:203 ff) observe that white people never get 100 % right at the Hudson test either, and New York children have been classified as two-dimensional perceivers according to the criteria of this test. More importantly, Jones & Hagen demonstrate that the Hudson picture is perspectivally incorrect: if the elephant and the tree in the background are moved along the perspectivally represented road to the foreground, and enlarged in proportion according to the laws of projective geometry, they would not appear to be much bigger than the antilope depicted in the foreground. But the inability to interpret geometrically incorrect pictures does not tell us anything about the ca-

pacity for decoding pictures which *do* follow the laws of perspective. However, from our point of view it is important to note that, even if Hudson is right, the fact that the Africans were able to go through with the test, seems to suppose that they recognized the picture as such, and as distinct from what it was a picture of, and that they identified the pigment patterns as standing for the antilope, the elephant, and the tree (through perhaps not the road; cf. Kennedy 1974:65 ff). Thus, they were certainly superior to the Africans of the anecdotes.

In fact, Hudson's subjects were probably familiar with pictures, though not with perspectival ones. However, Kennedy & Ross found that the Songe of Papua, who have no pictures, could identify well-known objects on outline drawings in 90 % of the cases, while less well-known objects were identified by 10–20 years olds 97 % of the time, and by those over 40 years of age 68 % of the time. Also Deregowski found that Ethiopians over 40 years old were slower at identifying depicted objects (cf. Jones & Hagen 1980:198). In general, the identification of objects on colour photographs occasions no problems, according to Jones & Hagen (1980:196); but black-and white photographs may cause trouble, particularly so if, as in one of Deregowski's tests, pictures of unknown animals have to be matched with the corresponding models. In the case of somewhat more complex drawings, Deregowski (1973:165) has noted the importance of cultural expectations: what to a Westerner seems a window behind a woman's head looks to the East African like a four-gallon tin carried on the head in question (which supposes a Necker cube type of perspectival reversal). But considering the great amount of different picture types, and their different levels of complexity, almost nothing is really known about the limits of object recognition in pictures.

We can now return to the issues raised at the beginning of this section: the difficulties of relating the picture to its object and distinguishing the two. Referring to Herskovits's puzzled woman, Kennedy (1974:68) points out that being puzzled over something is very different from seeing it as "mere daubs on a surface. Indeed, mere daubs on a surface would hardly puzzle anyone." It is conceivable that the woman *does* recognize her son, but that it seems unbelievable to her that a mere piece of paper is capable of suggesting the appearance of her son. But now what about Muldrow's story? Members of the Me' tribe, we are told, smell the pictures, taste them, bend them, and so on, in short behave like a Piagetian child exploring his world. According to Deregowski (1973:167; 1976:20) not only pictures, but materials like paper are unknown to the Me'; therefore, when Deregowski had pictures printed on coarse cloth, animals well-known to the tribe could be identified, although the recognition was still not immediate. In the case recounted by Muldrow, it seems the Mé were so busy trying to discover the fundamental properties of the paper as an object in itself, as a "self" (cf. II.4.2.), that the iconic properties, those making it a pictorial sign of something else, were not noted; other attributes became *dominant* in their experience of it (cf. I.3.1.). This result should remind us of our earlier suggestion (cf. III.2.1/3/8.) that for something to be a pictorial sign of something else, it must occupy some specified position in the particular Lifeworld hiearchy of "things". Before returning to this question, however, it will be convenient to consider the second of the issues mentioned above: the distinctiveness of picture and object.

The Ancient Greek painter Zeuxis is famous for having depicted a bunch of grapes in so illusory a manner, that even the birds were fooled. Commenting on Pliny's well-known story, Gombrich (1963:5 f) claims this was no great feat of Zeuxis's since, as ethology has shown, animals react to very gross similarities. The theorists of primitive thinking, if they are still around, will be happy to add that so do some human beings. Cabe's piegons, on the other hand, would not follow suit as the other birds launch their attack on Zeuxis's grapes. Most experiments purporting to demonstrate the ability of some animal species to interpret pictures have neglected to investigate whether the animals are also able to tell the difference between the picture and its object; but Cabe (1980:335), who makes this observation, tells us he has taken pains to ascertain that the pigeons of his experiments possess the latter capacity (p 313 f). So far, then, it seems that even pigeons are superior to Africans in the art of reading pictures.

According to Gardner (1982:105) American children aged 4 to 7 tend to confuse the motive and the picture; however, when attention is called to the medium, they are able to understand the point. Perhaps, then, the distinction just seems to them to be too obvious or too unimportant to be mentioned. The moment after having taken to flight at the sight of the pictured elephant, the members of the tribe visited by the explorer Lloyd discovered their mistake and returned laughingly in front of the screen. Of course, the difference between the elephant and its picture was neither unimportant nor obvious to them; but in a moment of potential threat, they were certainly wise to react on insufficient evidence. Since perception seems to start relatively high up on the ladder of abstraction (cf. I.2.2. and II.3.6.) it is indeed probable, that in a moment of stress, only very gross similarities will be noted, even those which are not ordinarily category-defining. Indeed, the situation of terror may be like a natural equivalent of Sander's tachistoscopic exposures, where holistic, non-configurational properties predominate. The other story, where photographs of white women are treated as real people, is rather implausible; if not some magical equivalence is meant, then perhaps this behaviour must be understood as a kind of social deference to the white men who showed the pictures. Again, more research would be needed to go beyond the anecdotes.

When a full perceptual experience is possible, the

picture is probably never confused with reality. Burks, it will be remembered, argued that the icon also needed a conventional sign function, to inform us that something which is a sign is an iconic sign, and to pick out the properties of the expression relevant for this sign function (cf. III.2.1.). This, we observed, supposes we already know some object is a sign. On the other hand, Burks's second reason for having a sign function seemed invalid in the case of pictures, though not in that of droodles (cf. III.2.1/3.). Thus, we argued, we must first know somehow that something is a sign, and a pictorial sign; then the particular "similarities" will take care of themselves. That paper is the kind of stuff of which signs, and in particular pictorial signs, are made, was not obvious to Herskovits's puzzled woman; and to the Me', this material was so interesting in itself that it absorbed all interest; coarse cloth, however, was easier to conceive in this humble part, though even now, time was needed to discover what was depicted, perhaps because the sign function itself had to be discovered. But are we also to suppose that Hochberg's child must know first that pigments on paper may be pictorial signs, before he could discover for what particular objects these pigments stand – years before the child even started "romancing" about what his own scribbles represented (cf. Gardner 1980:46 ff)?

Sonesson (1979 b:289 f) has argued, against Searle (1969), that if we found shapes resembling letters traced in the sand at some desolate place where no human hand could have produced them, we would not conclude that they were not letters, but random shapes created by the wind, because no intention could be attributed to them; but, on the contrary, if their resemblance to letters were convincing, we should have to grant them purposefulness, if not that of human beings, than that of God or the Martians, and there are historically well-documented examples of both kinds of attributions, although not of their truth. More generally, we argued that instead of being a condition for the recognition of an act of meaning, the attribution of intentions followed on this very recognition; but the argument also seemed to imply that the act of meaning was recognized simply from its expression, considered as a material fact (which it is not; cf. II.4.2.).

An example closer to our present preoccupations is suggested by Black (1972:104): although he rejects the causal theory of pictures, he thinks causality is not completely irrelevant, for a rock accidentally resembling Napoleon would not be a representation of him. This is a curious thing to say, for Napoleon is certainly not the cause of a sculpture portraying him, in the sense in which Westminster Abbey could be said to be one of the causes of a photograph depicting it (cf. I.2.6. and III.1.3.); at the very most, Napoleon would be an indirect cause of the sculpture if he ordered it to be made (and also, perhaps, in the vague sense in which his appearance could be said to be the cause of the sculpture resembling him; but that would also be true of the rock). Thus, we should perhaps amend Black's argument to say that in order to see something as a sculpture of Napoleon, and not just a rock accidentally resembling him, we must recognize the object as intended to portray Napoleon; this argument would then be parallel to that of Searle for verbal language. Unfortunately, sculptures pose somewhat different problems from those occasioned by pictures in the strict sense (cf. III.1.4. and III.2.1/4.) so in the following account it will be convenient to replace the rock resembling Napoleon with an ink blot.

The question is: will our argument against Searle, in the case of verbal language, carry over to pictorial signs? The reason why purposefulness is no condition for something being a linguistic sign, but something which is attributed as a matter of course to an object which on other grounds is recognized as a linguistic sign, is that there is a linguistic institution which takes care of the mapping of expressions onto contents, and which is part of the knowledge the language user has about his language. Well before it is understood, the linguistic expression will *connote* "verbal language", as well as the particular language system of which it is a part, in virtue of a limited number of exemplifying and pseudo-exemplifying properties of the expression (cf. II.4.3.); and it will connote "verbal language" to *any* language user, i. e. in principle to any human being, but it will connote the particular language system only to those who have at least some acquaintance with that system. But, in these respects, the case of pictorial signs seems to be different: for although there may be a limited number of properties which connote "picture", and perhaps a particular pictorial type (cf. III.2.3–4.), there is no pictorial system relating each expression to a content, to which expressions having these properties can be assigned (cf. III.2.2/5.). If an avowed purpose is dispensable in the case of verbal language because the conventional sign function precedes it, then it may yet be necessary to pictorial signs, as we concluded in the particular case of publicity pictures (cf. II.1.1.). At this level, however, the argument is mistaken if, as we have supposed, the "similarities" take care of themselves once the iconic ground has been attended to: we only have to be informed *that* something is a picture, not *what* it is a picture of, so no system is needed. In fact, as we shall see, the case of pictures is not so different in the end from that of verbal language.

Consider the following, authentic case: the astronomer Richard Hoagland says he has discovered, on pictures from the planet Mars, a sculpture of a monkey's head, together with some other strange constructions, which must be traces of an ancient Martian civilization. Other astronomers claim this is as absurd as affirming the man in the moon has been painted by intelligent beings (Hallgren 1985). What the latter astronomers want to say is that from what we know about the conditions of

life on Mars, nothing more complex than bacteria can ever have lived there, and it is not plausible to think that bacteria could have *intended* to construct a monkey's likeness (supposing them to have seen one in their ambitious dreams about the future). This is a good argument, but it is no real refutation. For it is conceivable – to popular imagination, which is what concerns us here – that von Däniken's space gods, with their superior technological resources, have landed on Mars and edified the monkey's head, just so as to bewilder us. The solution, instead, is to realize that what Hoagland presents us with is actually an iconical sign of another putatively iconical sign, i. e. a photograph of the monkey's head. So, if we cannot go to see for ourselves on site, we must demand more and more detailed photographs from more varied angles. The decisive proof remains a perceptual one.

But what about the ink blot, that happens to resemble Napoleon? It, or something exactly like it, could indeed be a picture of Napoleon if it were exhibited at an art gallery, mounted in a frame, signed by an artist, or in other ways were conventionally designed as a pictorial work of art. But it would then hardly be a prototypical picture of the kind which is comprehensible to Hochberg's child. Perhaps we may speculate that a more prototypical picture would possess configurational and other holistic properties not found in ink blots which, in their natural state, are maybe too unjustifiably irregular and, in their Roschach version, too symmetrical (cf. Arnheim's analysis of the latter, in 1966:93 ff).If these properties exist, it would be an important task for pictorial semiotics to find them.

If we suppose the Hochbergian child to understand, not only that given pigment patterns on paper have something to do with the shoe, the doll, and the Volkswagen of the real world, but also that the former are signs for the latter, and not the reverse, then it will not be enough for the child to have learnt from his experience with objects of the world, that objects' edges have properties which are shared by contours drawn on paper, or to be innately predisposed to react to these common properties (cf. Hochberg 1978 a:136). He must also have acquired, probably from experience in his particular Occidental Lifeworld, some notion of the relative low ranking on the scale of prototypical Lifeworld things of a material like paper, which directs his attention, not to what the pigment patterns on the paper are as "selves", but to what they stand for. And perhaps he must also possess some idea of a meaningful organization (cf. I.4.2.), which relieves him from the task of finding a meaning in ink blots, in the dirt on the road, in the stains he makes with his dinner on the tablecloth – and in the clouds!

But perhaps this issue also will become clearer, once we have reviewed the psychological theories about picture perception (III.3.2–3.).

III.3.2. A glance through Alberti's window. Gibsonian "phenomenology".

> *"The basic idea of it is that when a man sees something through a window, he can get a correct image of it by tracing its outlines on the window pane, provided that while he does this he uses only one eye and does not move his head. Alberti's construction is no more than a graphic way of reducing this process to a series of interrelated measurements."*
>
> *Ivins 1946:71*

In the first heroic age of the Occidental perspective, both Alberti and Leonardo compared the canvas to a window. Behind this figure of speech, there was something more: a technique for projecting the objects of the real-world scene point by point onto a surface. In Ivins's (1938; 1946) study of the emergence of Renaissance perspective, the intellectual preconditions for this technical achievement are traced back to Euclid, Kepler, and Desargues, and yet the same author tells us that Alberti's discovery really sprang from a craftsman's tradition, from the mason's manipulation of models (i. e. from another iconical practice). Thus it seems to parallel the creation of geometry out of the landsurveyor's art, as described by Husserl (1962 b) (cf. I.2.1.; this is rather an indexical practice, however; cf. I.2.4.).

Just as the experiments of the natural sciences only gain meaning when seen in the framwork of an *idealization* applied to the regularities of the Lifeworld, so can Alberti's borrowings from trade secrets only be transformed into a "rationalization of sight" once they have been integrated into a mathematical system of intelligibility. Seeing is a Lifeworld process, of which perspective is an *idealization* (cf. I.4.4.); but this means perspective is different from seeing, while at the same time deriving from it in a non-arbitrary way. Although it is really just a "clothing of ideas", like logic and mathematics according to Husserl's analysis, the perspectival grid was soon taken to be reality itself, just as had happened to logic and mathematics in the sciences. And in the same way as scientific theories were later reinterpreted by Carnap and others as merely convenient but arbitrary frameworks for connecting empirical facts, the perspectival grid was declared first by Panofsky and then by Goodman, to be an arbitrary device for rendering the three-dimensional world on a surface. In both cases, the complex relationship between an idealization and its Lifeworld foundation seems to have been misrepresented.

The window metaphor was taken literally by Dürer, when he constructed a device permitting the projection of light coming from an object directly onto a screen, where the pattern formed by the light could be traced out with a pencil. And yet, a window is not a picture. Eco (1976:339 f; 1984 a:202 ff) says of another famous metaphor for the picture, the mirror, that it is no sign, and thus no iconical sign, because it depends on a rela-

tion of equivalence, i. e. it is an identity and not a similarity (cf. III.1.4. and III.2.6–7.); because it stands *in front of* its object and not *instead of* it, and it cannot exist in the absence of its object, and is in fact caused by it; and because it can only correlate tokens at the exclusion of types, and is not independent of the medium, which can only be the mirror itself; and finally, because it cannot tell a lie. Most of these observations also apply to the window; most notably, the window also stands *in front of* its object, but in a different way because this time, the object is not the observer. However, it is only because the window and the mirror are not literally pictures, that they can be metaphors for the picture in the first place. In what respects, then, is the window metaphor interesting as it applies to pictures? For the moment, it interests us, as it points to the perspectival model (but cf. III.3.6.).

We are not interested here in perspective as a depth cue of the kind tested by Hudson (cf. III.3.1.). It is conceivable however that, besides telling us which of the elephant or the antelope is closest to the hunter, perspective may help in identifying the elephant, the antelope, and the hunter as such. Indeed, in Ivins's view, perspective gives pictorial signs a grammar, and makes the signs repeatable (1938:12 f; 1946:68 f). In fact, he claims (1938:9 f) perspective may be regarded as a practical means for securing a rigorous two-way relationship between the objects and their pictorial representations; and he also thinks that it at last renders the exact duplication of pictures possible, since it defines a narrow range of variation in the physical expression, inside which no change of content will result (1938:8 f). If this is true, it would apparently mean that, in Goodman's terms, perspective renders pictures *semantically* and *syntactically differentiated* and *disjoint* (cf. III.2.4–5.); or, at least, that pictures so fabricated are in some sense closer to possessing all these interesting properties. Thus, for one thing, perspectival pictures are not dense. And, glancing through Alberti's window, we should expect to gain precise and accurate information about the world.

The theory embodied in Alberti's procedure, and in Dürer's device, according to which the light coming from a perfectly executed painting is the same as that emanating from the objects themselves, was explicitly formulated only in 1715 by Taylor (cf. Gibson 1971; 27). This "point-projection theory of pictorial perception" was still held by Gibson in 1954 (as reported in Gibson 1971:28): a faithful picture was described as "a delimited surface so treated that it yielded a sheaf of light-rays to a given point which is the same as would be the sheaf of light from the original scene to a given point". But, since he was aware of the much more limited range of light present in a picture, Gibson immediately modified the definition to concern "contrasts" rather than points of light. In a later overview of his own earlier definitions, Gibson (1978:228) emphasizes that progress had already been made in substituting *relational* correspondence for a point-by-point projection. Later definitions of Gibson's then came to include other relations than those of brightness: textures gradients, and discontinuities, which Gibson considers to be relations between relations. Thus, we approach Gibson's last theory, according to which it is not light itself, but "persisting invariants of structure that are nameless and formless" (1978:228) which remain indentical; differently put, that which is yielded by the surface to a given point is "the same kind of information" and "a common higher-order information" as that offered by the objects themselves (1971: 31). These claims are not clear, and we shall have to return to them later in this section; it is certain, however, that what remains constant, in Gibson's view, from the object to its picture, are relations, and relations between relations.

Before we go on, it will be important to see if this is a similarity theory of pictorial motivation, as claimed by, among others, Wollheim (1980) and Janlert (1985: 156 ff). At least, this is not Gibson's (1971:33, cf. 1978:231) own interpretation, for he explicitly rejects "the fallacy /. . ./ that a picture is *similar* to the object pictured (which is false to begin with) and the notion that when similarity reaches a maximum it becomes identity". His disciple Kennedy, who at great length criticizes the idea that pictures are based on similarity (1974 a:33 ff), yet defines "icons" as such displays as represent something "in part because the two have the same *significant* properties in common" (1974 b:211). That the properties should be "significant" suggests a *selection theory,* and this is equally true of Gibson's (1971:29) mention of "an effort at displaying *relevant* information" (my italics; cf. III.2.6–7.). More importantly, what is selected are properties possessed in common, not similarities. Hochberg (1978 a:164; 1978 b:236) also expresses his conception in terms of properties held in common. But it will be remembered that, in Eco's critique of similarity (cf. III.2.6.), the theory that pictures are similar to their objects, attributed to Peirce, and the theory that they have properties in common with their objects, attributed to Morris, are rejected altogether. It is clear however that to Gibson, to have properties in common is to be *identical* in certain respects ("the same information", "the same kind of information", etc.) and identity, as Gibson explicitly states, is not to be taken as the maximum of similarity (cf. 1971:33, quoted above). We can agree that identity is different from similarity, but then we must go on to claim that, in its most straightforward sense, identity characterizes other kinds of signs than pictures (cf. III.1.4.). To say that pictures are identical to their objects in some selected aspects is therefore not enough; only if some particular (kinds of) properties in which the picture and its object must be identical can be specified, will this proposal be of interest. The question is: does Gibson tell us anything about which these properties are? Goodman (1984:11 f)

and Janlert (1985:159) clearly think he doesn't. But we already know at least that they are relational properties.

If we are to understand Gibson, we will have to take his affirmation seriously that the modifications introduced in his picture theory are consequences of the ways in which his conception of perception itself has changed. Essentially, it appears that Gibson's "ecological optics" amounts to a rediscovery of the fundamental intuitions on which Husserlian phenomenology is based, although there is certainly no reason to think that Gibson has ever read Husserl. But, as well as being a psychologist, Gibson is a good phenomenologist in his own right. And when he observes (1978:228) that, when we are confronted with the-cat-from-one-side, the-cat-from-above, the-cat-from-the-front- etc., what we really *see* is all the time the same invariant cat, he actually recovers the central theme of Husserlian phenomenology, according to which the object is entirely, and directly, given in each of its noemata (see Husserl 1939; 1962 a, b; 1973; and cf. I.2.2.). Husserl's cube and Gibson's cat instantiate the same phenomenal fact – for it is a phenomenal fact, and not an experimental one, also in Gibson's work. Just as Husserl called into question the conception of his contemporary Helmholtz, according to which consciousness is like a box, where the world is represented by signs and pictures, from whose fragmentary pieces we must construct our perceptions (cf. Küng 1973), so Gibon's strawmen are the followers of Helmholtz, who claim hypotheses are needed to build up perceptions from the scattered pieces offered us by the sensations (cf. III.3.3.). At least superficially, however, there is an important difference; for whereas Husserl rejects the picture metaphor of consciousness, by showing Brentano and Helmholtz to be in error in their very conception of pictures and other signs when they ignore the transparency of the expression to the content (cf. Küng 1973), Gibson (1971; 1978) rather seems to emphasize the dissimilarity of the picture from a real-world scene, which makes the numerous experiments using pictorial stimuli to study normal perception seriously misguided. And yet, to both Husserl and Gibson, normal perception gives *direct access* to reality, while Gibson thinks pictures represent a kind of *indirect perception,* and Husserl tells us, as we shall see (cf. III.3.6.), that they are "perceptually imagined".

It is a very different thing, Gibson (1980) tells us, to perceive surfaces and marks on surfaces. Depth is not added to shape, but is immediately experienced. In fact, the perception of surfaces, of their layout, and of the transformations to which the latter is subjected, is essential to the life of all animal species, but the markings on these surfaces have only gained importance to man, notably in the form of pictures. The marks, produced by what Gibson calls the *graphic act,* can be deposits, traces, lines, or shadows projected on the surface. They may be produced by fingertracing, drawing, painting, or engraving, with a tool such as a stylus, brush, or pen; or otherwise a simple device, like the ruler or the compass, may be used, or a complex one, such as the printing press, the gadgets of photography, or the projector of lantern slides (Gibson 1980:xii; cf. 1978:229 about "the fundamental graphic act"; and see also Lurçat 1974). Thus, some pictures are hand-made, or *chirographic;* and others are *photographic* (Gibson 1978:229; cf. I.2.6.). Surfaces have the kind of meaning which Gibson elsewhere calls "affordances" (which seems to correspond to Goodman's exemplification and to Floch's plastic language; cf. II); the markings on surfaces, however, have "referential meaning". That is, surfaces do not *stand for* other surfaces, but the markings on surfaces may possibly do so. The pattern *of* a surface and the pattern *on* a surface are different, and can usually be distinguished by an adult. The surface on which a "graph" has been executed can be seen underneath the "graph". However, a surface may be decorated, regularized, textured, painted, or embellished in other ways without acquiring a referential meaning; and deposits of dirt or blots of pigment may be left on the surface without the surface being made to stand for something. The two cases, intuitively describable by the opposition of order and disorder, are not differentiated by children (cf. I.4.2.). Thus far, then, ornament and dirt have been distinguished from each other, and from pictures, but it is unclear how they differ from affordances; for, while dirt and ornament are marks, like pictures, we must ask what characterizes a mark, if it does not have to have referential meaning. Perhaps a mark is something that only contains information for twodimensionality; but then, what about the marks of pictures?

According to Gibson (1980:xiii), surfaces and their affordances are actually perceived, but there is no way of pe ceiving pictured surfaces. We learn to interpret affordances from our experience of the world. Photographic pictures are also independent of convention, but diagrams and drawings are "at least somewhat conventional" (cf. Barthes's standpoint, in II.1.1.). However, even photographs will "at best provide a sort of partial second-hand perception for stay-at-home observers" (ibid.; they cannot preserve all information, for it is infinite; 1978:231), and chirographic pictures can only offer an "imagination at second hand", which stimulates perception more than description does (ibid.; cf. 1971:33 f). The information provided is of course made up of the mathematical invariants, which are nameless and formless, and which "specify the distinctive features of the object"; for neither in the picture nor in the environment can there be any access to sensations, or pure energy (1971:31, 33 f).

It is important to note, then, that the picture is a surface among other surfaces before becoming a sign. Gibson (1978:231) observes that, besides conveying the invariants for the layout of the pictured surfaces, the picture must also contain the invariants of the surface which is doing the picturing: those of the sheet of paper,

the canvas, etc., as well as those of the frame, the glass, and so on. Only when looking with one eye through a peep-hole with no possibilities of movement, can a person fail to notice the latter invariants, and so take the picture for reality (In the same way, Husserl 1980:20, 41, 82, 178, rejects the "Täuschungen à la Panoptikon, Panorama, etc." as "Jahrmarkteffekte"). Even under these restricted conditions, Kennedy (1974 a:50 f) notes, only 1/3 of the subjects confused the pictured corridor with the real one, so not all invariants of the surface have been abolished; perhaps anyone could have discovered these invariants, if allowed to look at them a little longer. Besides, it seems to be essential that we should see the surface as such, at least in order to be able to correct the distortion which would otherwise appear when, as is usually the case, a perspective picture is viewed from another station point than that of the perspectival grid. That this is so was suggested by Pirenne, but Hagen & Elliott (1976) and Perkins (1973) showed experimentally that adults, but not children, use the pictorial surface to correct the shape of perceived objects when viewing pictures obliquely, although not to the degree they should have, but only to some intermediate point. It is curious that Hermerén (1983:139) should find this fact dubious and irrelevant. To us, in any case, it serves to make an important point: unlike the marks of ornament and dirt, pictures contain information for both two-dimensionality and three-dimensionality. Thus, we can answer the question formulated some paragraphs ago:

	invariants	sign function	order/disorder
surface layout:	3 D	–	0 (+?)
pictures:	2 D/3 D	+	0 (?)
dirt:	2 D	–	–
ornament:	2 D	–	+

Table XVII.

But we are now faced with a new question: how are these two different series of invariants contained in pictures related (or separated from each other)? Gibson (1978:231) is sometimes content to say that the picture is both scene and surface; and then he affirms that "the scene is paradoxically *behind* the surface". Here, it seems, Gibson's subtle phenomenology becomes rather unhelpful.

We shall have to return to this question (in III.3.5–6.). Meanwhile, two other problems with Gibson's approach will concern us. How is it possible for a single, stationary view of an object, such as a picture, to convey the same information about the identity of the pictured object, as the object itself? If pictorial perspective is so different from real-world perceptual perspective as Gibson says, must not Alberti's window metaphor, and Ivins's idea about a rigorous two-way relationship between the picture and the world, vanish for ever? That is our first problem. The second problem concerns the way in which Gibson's *mathematical* invariants are able to render that particular cat-ness, dice-ness, or teacuphood which, rather than abstract shapes, are what we see in the picture. We will now set out to explain why these are problems, and we will begin with the first.

Again, Gibson here seems to repeat an ancient insight of Husserlian phenomenology. "If it is true that the perception of a detached object is not composed from a series of discrete forms of that object but depends on the invariant features of that family of forms over time, it follows that an arrested member of that unique family will have at least some of those invariants" (Gibson 1978:228). Inevitably, Gibson's "family of forms over time" which is not "a series of discrete forms" reminds us of Gurwitsch's *noematic matrix* (cf. I.2.2.); and if the "arrested member" is a noema, it does indeed follow that it must contain at least some of the invariants of the whole series or, as Husserl would say, of the *noematic core,* the *Noemkern,* which is the overlap zone of all the noemata (However, Gurwitsch 1957 and Sonesson 1978a,b, would rather emphasize the coherence between the nonoverlapping parts of the noemata). But if we take Gibson's own observation seriously that the picture is first and foremost a surface, then we can hardly accept the identification of this same picture with "an arrested member" of the views we would normally have of the object. "The fact is that even when one sees a pictured object one does not see its front surface only but the whole of it", Gibson (1971:31) says. But is this a fact? we may well ask, for if it is a fact, it must be a phenomenal, not an experimental one. Elsewhere, Gibson (1971:32 f) rightly observes, that the difference between a picture and a window is that in the latter, each movement gives rise to the specification of new information, through "accreation-deletion of elements"; but then the window is simply a particular case of an object partially hiding another object. In Husserl's view, the object is seen in full because it contains "horizons", i. e. retentions and protentions pointing to the other, hidden sides, which may be ever so vague. But it is important that I know, that I can always go on to inspect the other sides, which are hidden from me for the moment ("Ich kann immer weiter") (cf. I.2.1–2.). This is exactly what cannot be done, when looking at a picture, instead of a real noema. Gibson does not take the opposition between the real-world scene and the picture sufficiently far.

At yet another point, Gibson recovers Husserlian insights, in a way that is essential to our present concerns: he opposes the "naive attitude" to the "perspectival" one, where the first consists in looking through a series of perspectives in movement to the invariant features of the object, while the latter fixes a single perspectival view and considers it in its own right (cf. 1971; 31 f). This sounds exactly like the distinction made by Husserl (notably 1962 a) between the "natural attitude", which we all tend to hold in the Lifeworld, and the phenomenological attitude, or "reflection", which consists

in thematizing the noema as such. Gibson (1978:233) becomes even more of a phenomenologist when he rejects his own earlier conception about the "perceptual field", and affirms that, even when closing one eye and remaining absolutely still, it is impossible to see pure sensations, deprived of depth – for the only thing that can be perceived under these conditions is *"the surfaces of the world that can be seen now from here"*, i. e. noemata. Again, this is a phenomenal, not an experimental fact. In phenomenal experience, however, this does not apply to pictures; for unlike noemata, pictures are indeed flat.

There are at least two ways, then, in which the pictorial expression plane, even if executed in linear perspective, must also differ from any possible time/space slice of "the family of forms over time" which we call an object: it is detached from the rest of the series, and so does not permit the apprehension of the whole internoematic system from the point of view of one of its members (cf. Gurwitsch 1957:152; quoted in I.2.2.); and it is flat beyond help. But, while a perspectival picture does not directly reproduce a noema, its particularity certainly seems to be that it renders the noema in a more immediate fashion than the object itself, though this is not directly apparent. In his discussion of Barthes's Panzani analysis, Perez Tornero (1982:67 f) observes that the respect in which the picture is really giving a appearance of naturality to something artificial is the subordination of the observer's point of view to its own, which is presented as that of the referent (cf. fig. 45). But how can something so artificial ever come to appear natural?

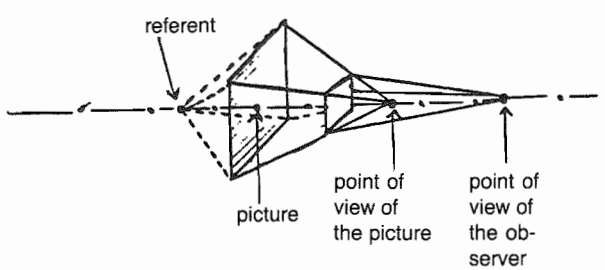


Fig. 45. The point of view of the picture (from Pérez Tornero 1982:68)

For artificial it is. Hermerén (1983:119 ff, 123) expresses a classical theory when he claims that the child's drawing must represent "conceptions" rather than "impressions", for *"there is no angle from which the bed would look"* as it does in the typical child drawing, with its legs spread out from the corners. Here, we recognize Deregowski's elephant (cf. I.2.2/4. and III.2.2.). Kennedy (1980) in fact obtained the same style of pictures, when he asked blind people to make drawings of tables. Does it follow, then, that Africans, and blind people, are also more conceptually disposed than we are? To claim this is perhaps no more absurd than the reverse (cf. Furth 1966), but it would indeed be surprising, as Gombrich (1963:1 ff, 8) observes, if children were more inclined to consider things conceptually than adults. In fact, we know from Arnheim (1969), but also from Sander & Volkelt (1962), that perceptions begin by "abstraction" or, more properly put, on a level which is reached much later by conceptual abstraction. It is easy, unavoidable even, to see the object in one of its noemata, and to look right through it to the invariant features of the object; but if we are to render the noema rather than the object in the picture, it is not sufficient to take that first conceptual step, which Gibson calls the perspectival attitude, for, after fixing a single noema, we must also detach from it some of its properties i. e. its depth, and its protentions and retentions. Linear perspective is highly conceptual. That is why Alberti had to invent it.

How is it then that children can understand perspective pictures, though they do not make them (cf. III.3.1.)? Ivins's correspondence seems to work at least one way. It is possible, however, that children understand perspective pictures, in spite of their perspective, and not because of it: perhaps what they interpret are the "invariants" of the object, common to all the possible angles of vision, if there is indeed something like that. This would mean that they look straight through "the point of view of the picture", as well as "the point of view of the observer", directly onto the referent (cf. fig. 45): i. e. they treat both "points of view" as noemata. To see the perspectival view as such, in this case, would be a sophisticated ability, which requires us to learn, not only the invariants of the object, but the invariants of the different angles of vision. So far, this is only speculation. But it is a reasonable idea if, as Gibson sometimes seems to suggest, every noema contains the same invariant core; and it is supported by Hoffman's experiments with children copying drawings (cf. II.3.6.), as well as by the fact that nonperspectival drawings are readily interpretable.

On the other hand, Gibson (1971:31) also claims that a picture should depict its object "from a favorable point of view". According to Hagen (1980 b:30 ff; cf. 1979), pictorial styles differ in the relative attention given to Gibsonian invariants, and to the momentary appearance of things, as in Arnheim's "aesthetic attitude"; although Hagen fails to note it, the latter possibility obviously supposes there to be invariants (from picture to reality) of that which is variable (from one moment or angle of vision to the other). However, Hagen (1980:35) also claims that only a subgroup of the members of that "family of forms" in which the object appears specify unambiguously the invariant properties of the object; i. e. the common core of the noemata is not as common as that. According to our author, we may employ Arnheim's intuitive notion of "renvois" to explain why particular members of the "family of forms" are chosen, once this notion has been reinterpreted in terms of Gibsonian invariants. But Hagen seems to be unaware of

the fact that Arnheim (1969:48 f) has himself borrowed the term in question from Gurwitsch (1967:165). And here, we are confronted with a double series of misunderstandings: for Arnheim's notion of "renvois" is not that of Gurwitsch, and Hagen's notion is not that of Arnheim.

Arnheim, in fact, tells us "renvois" are "references, which point behind the given aspect to adjoining, subsequent ones"; and this at first sounds rather similar to Gurwitsch's observation that "chaque perception renvoie à d'autres perceptions, plus exactement à un système de perception de la même chose, système dans lequel une place définie lui est assignée". The difference, however, begins with the fact that Arnheim is talking about works of art, while Gurwitsch is concerned with the place of each single noema in the noematic matrix pertaining to any given object of perception (cf. I.2.2.). Arnheim's criticism of Gurwitsch is highly significant: only certain aspects, he says, for example the angle of three thirds, but not the frontal view, have the effect of making the object appear "more dynamic by pressing for continuation beyond the given view" (ibid.); and he adds that archaic sculptures as well as Egyptian frescoes do not lead on, but emphasize "the independent view". Gurwitsch is of course not at all interested in dynamics: his notion of "renvois" serves to epitomize the implicit presence of unseen aspects of the thing in the aspects seen. Every view, however independent of the archaic sculpture, will contain, with the recognition of it as a sculpture, the promise of a whole series of further, if only potential, views. The case of the frescoes, which are not objects but pictures, is more complex (cf. above).

Curiously, Hagen's conception comes much closer to that of Gurwitsch than to that of Arnheim, if Gurwitsch would admit that the noematic core is not equally present in all noemata, i.e. that certain noemata give clearer indications as to the identity of the object. "Renvois", to Hagen (1979:203), is, for example, the employment, in the Altamira cave paintings, of angles of vision permitting us to see such parts of the animal as its horns and tail which, in her view, make visible the underlying organization of the animal's body. With an extension of Rosch's terminology, we could call such preferred angles of vision on an object its *prototypical aspects* (cf. I.3.1.); and indeed Rosch, Mervis, Gray, Johnson, & Boyes-Braem (1976:400 f) found that 90 % of their subjects would agree that certain common objects, such as furniture, pants and shirts are more naturally imagined as seen from the front, while shoes and socks may be seen from the side of the front, vehicles from the side, and animals from the side with a certain importance given also to the frontal perspective. The very fact that language tends to attribute a front, a back, and sides to familiar objects, is probably not unrelated to which aspects are considered most characteristic, although other properties, such as the preferred direction of movement, also count (cf. Fillmore n. d.; Miller & Johnson-Laird 1976). The existence of prototypical aspects has particularly been noted by students of children's drawings: Lurçat (1968:436) observes that the child will at first draw a human being from the front, but an animal in profile, aspects which "rassemble l'essentiel des éléments qui permettent l'identification". But it is probably not in itself that the facial traits of the oxen carry less information than those of man. Luquet (quoted in Osterreith 1976:46, 54 f; cf. Lowenfeld 1947:51 ff) says the child will choose the "exemplary" perspective on every object, showing the peaked cap from the side, and the face below it frontally. Also the Egyptian fresco painter feels at liberty to change the angle of vision for different body parts, but curiously (and I have seen nobody comment on this interesting fact) he represents the face in a side-view, thus disagreeing with Luquet and the Occidental child about which perspective is exemplary. In any case the Egyptian fresco, which lacks "renvois" in Arnheim's sense, because it does not press us to go beyond the single view, has a lot of it, in Hagen's sense, because it presents us with "invariants" of all body parts, each, it would seem, from its best angle. In Gurwitsch's sense, finally, the fresco can only carry "renvois" as the flat surface it literally is.[2]

But we must now turn to the investigation of Hagen's idea, that a particular angle of vision is, in our terms, more prototypical because it contains more of the Gibsonian invariants of the object. From the anecdotal side, some doubt may be thrown on this suggestion by pointing out that, while invariants are supposedly universal, Occidental children and Ancient Egyptians choose different angles of vision, even on such a familiar object as the human face. In general, however, our inquiry into the possibility that the prototypicality of an aspect depends on the extent to which it displays the Gibsonian invariants of an object, must bring us to the more fundamental question of what these invariants are, and it so happens that this is also the heart of the second problem in Gibson's theory, which we promised to treat in this section.

We are concerned with "*invariants,* in the mathematical sense, of the structure of an optic array"; "formless and timeless invariants that specify the distinctive features of the object" (Gibson 1971:31); "relations between relations, for which there are no names and no mathematical expressions"; "invariants of structure which are nameless and formless" (1978:228). This certainly seems curious, as Gibson's critics have not failed to notice (cf. Goodman 1984:11 f; Janlert 1985:156 ff): for while it *is* conceivable, that a mathematical invariant cannot "be put into words", it is difficult to understand how it can lack mathematical expression. According to Kennedy (1974 a:44) solid angles are too complex to be computed by the optics of the present time; so mathematical expression is supposedly forthcoming in the future. Purdy and Sedgwick have demonstrated that pic-

tures really do contain geometrical information for depth (cf. Sedgwick 1980); and Perkins (1973) has shown that certain geometrical volumes can be derived from their orthogonal projection on the picture plane, from some of the angles of vision. That the information is present does not mean that it can be used by the perceptual system, as Hochberg acutely remarks (cf. III.3.3.). More important for the moment is the consideration of *what kind* of information it is that has to be picked up.

Like Husserl, Gibson points out, clearly on phenomenal evidence, that objects are directly seen, not sensations on the basis of which we draw conclusions about the objects. But this argument can be taken much further: what we directly see is not a geometrical volume but a culturally-defined object, not a cube but a dice, not the teacup formula but the teacup, not, in Gibson's (1978:228) terms, "that peculiar, furry, mobile layout of surfaces", but the cat (also cf. I.2.2.; the cat that we see is of course a cultural object, just like Eco's zebra; cf. III.2.6.). Therefore, it is not enough to show, that there is geometrical information on the picture plane for depth, and for simple geometrical shapes; we need to find the formula of cat-ness. Kennedy (1974 a:44) is aware of this problem: what optics is still not able to do is to discover that which is common to all angles which are projections of human beings. That there *are* such invariants is however, as far as I understand, simply an article of faith. So why could we not suppose instead that these kinds of invariants, unlike those of depth and simple shapes perhaps, are *qualitative* rather than quantitative, and have both a name and a time of birth?

This would certainly bring us closer to the *Ganzheitspsychologie,* though not so much the Berlin school which Gibson explicitly rejects (cf. I.3.4.). The examples given by Gibson (1978:230) could easily be understood in this qualitative way: straight lines, curves, closure, intersection, parallelism, coincidence, and other features are invariants which the child must discover and correlate with invariants of the environment, such as occluding edges, corners, pigment-borders, etc. Features of this kind have been studied more thoroughly by Kennedy and Hochberg (see below and III.3.3.). Although Gibson clearly identifies his invariants with features, Kennedy seems to feel that his features are different.

Kennedy (1974 a:28 ff) starts out radicalizing Goodman's critique of similarity, in order to include what we have called logical analogy (cf. III.2.3–5.): Langer, who is more precise than Peirce and Wittgenstein about the distinction, says that similarity may consist in "a proportion of parts", "an arrangement of elements analogous to the arrangement of salient visual elements in the object" which, as Kennedy (p 34) observes, is really two criteria, for a stretched rubber sheet changes its proportions but retains the adjacencies of its parts, i. e. its topology. Two configurations close to each other on the pictorial surface may, as Kennedy points out, represent a neighbouring house and a distant hill (cf. Lindekens' intraiconic configurations; II.2.3.). Thus, it is certainly not in terms of the distribution of chemicals on the pictorial surface that pictures can be defined. It could be added, I think, that if there is similarity, it exists between the content and the referent (between the *picture object* and the *picture subject,* in Husserl's terms; cf. III.3.5–6.), not between either of these and the expression (i. e. the *picture thing*). This problem is assumed to be resolved by both Langer and Kennedy.

The convention theory is also rejected for obvious reasons (cf. III.3.1.). Gibson's original point-projection theory (cf. above) will not do either: the same configuration can be formed with white chalk on the blackboard, and with blue ink on white paper, and there will be no single identical spot (p 42). Later, however, Kennedy suggests that the projection theory can be made feasible, if it is reformulated for features instead of spots. Indeed, if we are concerned with outline pictures, Gibson's colour spots are clearly irrelevant for there is no colour (p 106 ff); so perhaps, instead, Kennedy suggests, it is the whole object which is projected from the world to the picture. Since it is possible to depict, and to recognize the depiction of, unknown objects, Kennedy argues, entire objects cannot be projected, so perhaps it is parts of objects which combine to form new configurations which are projected. But different objects have different parts, Kennedy continues his argument, so this would give us an infinite number of elements (cf. Eco's levels; III.2.6. and III.4.3.). In order to arrive at "a small set of units – a small vocabulary", Kennedy (p 108) suggests another analysis in terms of contours, shadowing, highlights, etc. Contours, for instance, have features like "concave corner, convex corner, occluding edge, occluding bound, strands, cracks, etc." (p 110 ff; cf. fig. 46). Features like these must be higher-order variables, so it is not clear how they differ from Gibson's invariants, at least from Gibson's examples quoted above. Nor is it clear so far if Kennedy's proposal would amount to a resurrection of Ivins's pictorial vocabulary. We will return to Kennedy's analysis when we discuss Hochberg's feature theory (cf. III.3.4.).

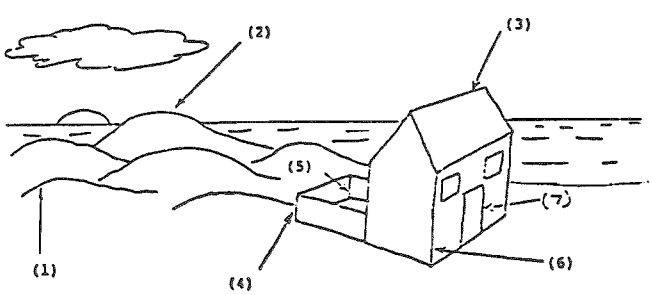


Fig. 46. Features according to Kennedy (1974 b:231): 1) occluding bound with background air; 2) occluding bound with background surface; 3) occluding edge with background air; 4) occluding edge with background surface; 5) concave corner; 6) convex corner; 7) crack

In any case, Kenney's features result in a new segmentation of perceptual reality, a new "form" given to the old "substance", for the human body will no longer dissolve into head, trunk, legs, etc., but into bounds, edges, and corners (cf. I.3.2.). Of course, at some unconscious level, perceptual reality is supposedly analysed in the same way. But this means that to Kennedy, and perhaps to Gibson, pictures are *motivated,* and analysable into *features* – which is exactly the opposite proposition to that of Eco (cf. III.2.7.). So far, Kennedy's suggestion certainly seems the more reasonable.

In this section, we have tried to assess the contribution of Gibson and some of his disciples to the understanding of pictorial perception. On a number of fundamental points, Gibson was found to rediscover the basic insights of Husserlian phenomenology, as phenomenal rather than experimental facts. And yet, the theory was found wanting in a number of ways. First, while pictures are thought to differ from surface layout on the one hand, and from dirt and ornament on the other, by containing information for both two- and three-dimensionality, it is not clear how these invariants can coexist on the same surface. In the second place, if we take Gibson's own descriptions of the differences between pictorial and ecological perspective seriously, it seems impossible for there to be, in Ivins's terms, "a rigorous two-way relationship" between the one and the other, and so, in Goodman's terms this time, something close to a notational system (cf. III.2.4–5.).

Perhaps, we suggested, there is really a correspondence though a much less rigorous one, between the invariants of the noematic core, i. e. in spite of perspective. Alternatively, pictorial vision could perhaps be explained, as suggested by Hagen, from the selection of *prototypical aspects;* but if then, we take prototypical aspects to be those in which the Gibsonian aspects are best displayed, we are faced with the third problem inherent in Gibson's theory: for, if invariants are really mathematical, albeit in a way unknown to contemporary mathematics, what is the mathematical formula of catness, and that of dice-ness, and that of teacup-hood? And, if we ignore the Galilean prejudice (cf. I.1.4. and I.2.1.), is it not just as reasonable, or more so, to suppose these invariants to be *qualitative* as to claim them to be *quantitative,* in an as yet unknown way? It remains unclear to what extent Kennedy's theory could be taken as a proposal in this sense. So far, we have hardly done more than explain what the problems are. In the sections to follow, these problems will now be confronted with other theories.

III.3.3. In the looking-glass, somewhat darkly. Hochberg and constructionism

"Le regard, par exemple, n'est pas très différent, d'une question qui, exprimée en paroles, se formulerait a peu près comme suit: 'Il y a bien quelque chose de visible pour moi?'."
Strasser 1967:93

In present-day psychology there are, it seems, essentially three ways of conceiving the relationship between that which is perceived and the cause of the perception: and the three corresponding theories are those of constructivism, Gestalt psychology, and Gibsonianism (Hagen 1980 b:4 ff; cf. 1979). It is the contention of the latter, which could also be termed "direct registration theory" (Winner 1982:84 ff), that all information needed is available directly in the light coming from the environment and determined by this light, although only if we take into account all the higher-order variables of the environment and its invariants over time (cf. III.3.2.). According to Hagen, constructivists like Gregory and Gombrich claim that reality in itself lacks organization, and so must be set in order by a hypothesis on the part of the perceiver; but the resulting arrangement is only probable, and may have to be further revised. Again according to Hagen, gestaltists such as Arnheim and Hochberg (sic!) would agree with the constructivists in affirming that reality is fundamentally ambiguous and must be supplemented by the beholder but, in their view, the perceived organization results deterministically from the Gestalt laws built into the human mind. Also, while the Gestalt laws, or at least the simplicity principle on which they are based, are supposedly innate, constructivists rather tend to suppose that the hypotheses employed in perception are either explicitly posited as conventions, or derive in a more tacit way from earlier world experience (as suggested by Winner 1982:108).

Hagen maintains that all three theories are descriptively inadequate: constructivism because no criteria have been proposed for when a hypothesis is confirmed; Gestalt psychology, because its laws are mystical; and Gibsonianism, because no list of the invariants picked up from the environment can at present be given (p 21 ff). In spite of these observations, however, Hagen herself clearly remains within the bounds of direct registration theory. This is precisely the theory which Winner (1982:98 ff) declares descriptively inadequate. On the other hand, in pictorial perception there are cases, she claims, in which simplicity overrides familiarity, thus favouring Gestalt psychology, and other cases in which familiarity gains the upperhand, which favours constructionism. Contrary to Hagen, Winner thus concludes that reality *is* ambiguous, but may be supplemented in various ways.

Constructionism, or hypothesis-testing theory, derives from a 1949 article by Bruner & Postman (see

Bruner 1973; Neisser 1967; Allport 1955). A once popular theory in psycholinguistics, "analysis-by-synthesis", contended that an analogue model was constructed in the mind, then to be compared to the perceptual object, and sometimes disconfirmed in the confrontation (cf. Neisser 1967:221 ff). Gregory (1966; 1972; 1973; 1974; 1979), who seems to hold a theory of the same general type, compares the perceptual process to the scientific enterprise, as described by Popper, but historically traces his approach back to Helmholtz's notion of an "unconscious inference" based on the fragmentary data of the environment. There is no longer any reason to reject this notion as contradictory on the ground that inferences must be conscious, Gregory (1973:51) thinks – for also nice computers do it!

But why should Gregory, Neisser, and others think that such "inferences" are necessary when Gibson, Kennedy, and Hagen feel they can dispense with them altogether? Among the facts to be explained by perceptual psychology, according to Gregory (1966; 1974), such things as the pick-up of non-optical properties, gaps in the stimuli, visual illusions, amgibuities, illusory contours, and the perception of logically impossible objects (cf. III.3.4.) figure prominently. To Gibson, however, these are simply curiosities, of very little weight to everyday perception, and therefore to perceptual theory. Recently, Neisser (1976) recognized the necessity of accounting for the fact, that ordinary perception usually proves right. Just like Gibson claims, information is picked up from the light, Neisser (1976:16, 20 ff) grants, but this only serves to start a perceptual cycle taking place in time: anticipatory schemes generate generic, rather than specific, hypotheses which the information made available by the object modifies, engendering more detailed schemes, which guide the further exploration of the optic array. At this point, oddly enough, constructionism, if this is still constructionism, also begins to sound curiously like Husserlian phenomenology.

According to Husserl's (1928) model of time consciousness, there are, embedded in each moment of the present, its retentions, and the retentions of its retentions, pointing to the past, together with its protentions, and the protentions of its protentions, pointing to the future, and confirmed or disconfirmed by it. This model was used in the semiotics of literature by Mukařovský (1974:20 ff), in the semiotics of the theatre by Veltruský (1942), and, independently, in speech act analysis, by Sonesson (1978 a, b). In a similar way, Husserl (1973:135, 109 f) describes the perception of the ordinary perceptual thing, "die Dingwahrnehmung", as a "prinzipiell unabschliessbarer Prozess": "Und überall das Spiel von Intentionen und Erfüllungen. Das Unklare weist auf die kommende Klarheit hin; in ihr weist sich aus, was mit dem Unklaren eigentlich gemeint war, was er eigentlich darstellte, mindestens relative" (cf. also 1973:49 ff). Thus, the visible sides of the perceptual object contain, more or less vaguely indicated, the adumbrations of the momentarily hidden sides, which will be confirmed or disconfirmed when new vistas open on the object, eventually permitting some of the "empty intentions" to be filled in with further details (cf. 1973:59 f; also 1939:26 ff, etc.). Perhaps Neisser's (1976:32) "open and less specific hypotheses", which are "the medium by which the past affects the future", could be identified with Husserl's "empty intentions". And since Neisser (p 16) agrees with Gibson (and thus with Husserl; cf. III.3.2.) that what is seen is the real environment made up of objects and events and not sensations or retinal images, at least Neisser's variant of constructionism seems to recover even more insights of Husserlian phenomenology than direct registration theory did.

But Gregory may well represent the more unrepentant type of a constructionist, who argues for a return to Helmholtz. Moreover, his principal antagonist seems to be Gestalt psychology, "the main theory (in what I personally regard as the Dark Age) since Helmholtz" (1973:52; but cf. Gregory 1974). Thus, he is out to show that perceptual hypotheses, based on familiarity, rather than innate principles of simplicity, are responsible for the fragmentary information of the optical array being completed into perceptions. The difference between figure and ground is simply a question of the hypothesis chosen (1973:69). If simplicity has a part to play, then it is only because simple hypotheses are preferred (p 80). To recognize something as a face or a tree is to assign probabilities as to what the various parts may belong to, or be part of (p 81). If the result is a familiar object, the percept is more easily reached, and is more stable, which is strong evidence for the importance of experience and learning for perception (p 53). Although Gregory develops no particular theory of picture perception, he freely employs pictorial examples in his argument, so also to illustrate the assignment of probabilities to a pattern: a simple figure, which in itself would normally be seen as a tree (fig. 47 a), may be made to appear like a female head, although no part of the original stimulus pattern has been changed, through the simple addition of a new detail, in this case a cigarette (fig. 47 b). As we shall see, this is an important example.

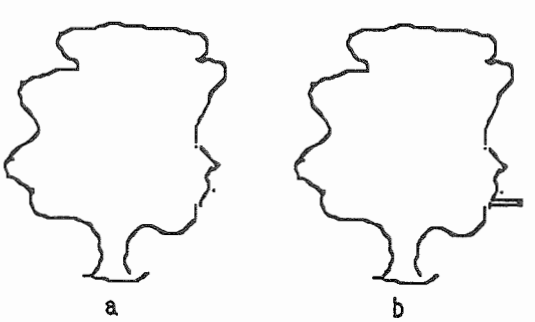


Fig. 47. Gregory's tree/lady with a cigarette (from Gregory 1973:81)

Unlike Gestalt psychology, Gibson's theory, Hubel's & Wiesel's biological feature analyser theory, and a number of other conceptions, Gregory's (1974) own constructivism resolves all the problems laid before it and perceptual psychology in general by Gregory himself. And yet, it is hardly satisfactory, if only because it fails to account for the phenomenal facts which Gibson's theory, and thus also Neisser's, take care of (cf. III.3.2.). Also, if perceptions are hypotheses in the strict sense, it is curious, not only that they are arrived at immediately, but in particular that once they have been established, they can not often be changed (cf. III.3.4.). It is conceivable, that the Gestalt principles derive from experience, but they certainly seem to function independently: Perkins (quoted in Winner 1982:101 ff) claims drawings are sometimes perceived according to the simplest interpretation even when unfamiliar objects result, and that good continuation may override familiarity, as in the photographs in which the arm of a person standing behind another seems to grow out of the second person's head (also cf. Hochberg 1978 a).

The pictorial example proposed by Gregory (fig. 47) is interesting, however. Unfortunately, in an informal test I have found the head profile interpretation to be preferred, also for fig. 47 a, with the tree interpretation coming second. Admittedly, it is even more difficult to see a tree in fig. 47 b, so the probability of this interpretation being right is in fact diminished. In any case, there clearly are more cues than the cigarette pointing in the direction of the head profile interpretation. Besides, Gregory's drawing is a droodle rather than a real picture (cf. III.2.1.); the latter would have contained more cues favouring one of the interpretations. And yet, it is important to note that, while a real tree and a real head profile would normally have nothing in common, their corresponding pictures may support very minimal distinctions; and that a local cue, once interpreted, will spread its sense to the entire picture (cf. III.3.4. and III.4.). We should not exaggerate the local character of the cue, however: in order to change the interpretation of the original pattern, the cigarette must first be seen as such, and that will not happen until it is integrated into the context of something that could be a mouth.

Following Hagen's description, we should now expect to find Hochberg defending the Gestaltist point of view; but Neisser (1976:32) observes that Hochberg has independently arrived at the same kind of modified hypotheses-testing theory as he himself defends; and Hochberg (1978 a:vi) claims his theoretical stance is that of constructivism, close to Neisser's position. Undoubtedly, Hagen's confusion must stem from the fact of Hochberg (in particular 1974) having undertaken the appraisal of the Gestalt tradition. That the Gestalt laws do work, in same cases, is a fact; the problem is to find out why this is so. Sometimes, indeed, the most natural three-dimensional interpretation of a picture is not the simplest one (Hochberg 1972:59 f). Gestalt phenomena are really peculiar cases of Helmholtz's law, which says that we see that which is most probable, given the pattern of stimulation (Hochberg 1980:58 f; cf. 1974:196 ff). The "minimum principle" cannot be due to a built-in perceptual mechanism that makes us perceive the simplest object that would fit the overall stimulus, Hochberg (1978 a:153) claims on some pictorial evidence (cf. III.3.4.); but it could perhaps result, Helmholtz's way, from the putting together of the fragmentary sensory data, in a manner corresponding to the most likely object; or it could be the organization that has the best change of being seen and remembered from one momentary glance to another. Although Hochberg thus accepts some variant of the "unconscious inference" theory, he certainly rejects Helmholtz's atomism, arguing that habit may also form complexes functioning as wholes (Hochberg 1974:197; and most of 1978 a). Furthermore, he accepts Gibson's idea that higher-order units are at least sometimes present in the environment, and accessible to perception (1978 a:105 ff). However, at numerous places, he nevertheless takes for granted the curious idea, rightly rejected by Gibson (cf. III.3.2.), that it is possible, if one so chooses, to see a flat perceptual field, instead of the ordinary perceptual thing of the experience world (bug cf. 1980:61 f).

Contrary to Gregory and Neisser, Hochberg takes a peculiar interest in pictorial perception, which, unlike Gibson, he thinks can be explained from the same principles as the perception of the world; and, at first, it seems strange that he should nevertheless emphasize to an even greater degree than Gibson the differences between pictures and reality (cf. III.3.2.). According to Hochberg (1979:17 ff; cf. 1980:47 ff) no picture, even if observed with one eye from a fixed station-point, is a "high-fidelity surrogate" for a real-world scene. A television picture, but not a painting, can *simulate* the scene, but it is optically quite different. In the picture, in particular if it is a painting, the pigments can never present the same range of brightness, nor the same saturation as in reality (1979:25 ff). The history of painting, from Rembrandt to the post-impressionists, is the history of the efforts to overcome these limitations of the medium. In addition, the shapes and spatial relationships in pictures are quite distinct from those of reality: instead of a set of surfaces at different distances, we get "a single flat, mottled, lined or dappled plane surface" (1980:48 f). Moreover in many cases lines, i. e. mere ribbons of pigment, are used to represent edges, dihedrals, and horizons of the actual scene. In spite of these differences, however, the "language of pictures" is not arbitrary, as shown by Hochberg's own Psammetichus experiment (cf. III.3.1.).

The interpretation of pictures requires "mental structure", Hochberg (1980:58 f) says, i. e. "visual knowledge, not given in the stimulus display". But the same principles continue to apply, because these are also needed in order to perceive the world: for although it

may to some extent be true, as Gibson claims, that all information required is present in the environment, "the *usable* stimulus information in each momentary glance" is ambiguous and incomplete (1980:59 f.). In fact, fine details can be detected only in the central region of the retina, the fovea, but in peripheral vision acuity deteriorates rapidly so that, by 5 degrees from the center, it has dropped 50 %. The eye is therefore in perpetual movement, exploring the world in a series of fixations bringing the object of interest within the reach of the fovea. Schemes of sensory expectation are developed to bridge the distance between the successive glances at the world, and these schemes mimic the most likely results of the perceptu-motor explorations had they been performed (p 61). Seeing is a selective, purposeful process, as most clearly seen in the reading of text, or of pictures (cf. Hochberg 1972:61 ff; 1978a:158 ff, also cf. Kolers 1977; Kolers & Perkins 1975). When looking at a picture, as for instance Hokusai's "The Wave", the beholder will, as Buswell has shown, direct his gaze at a small number of places as, in this case, the crests of the waves, Mt. Fujiyama, and the middle point; and each time, peripheral vision gets a hunch of something more, forms a hypothesis or an expectation about it, and sets out to verify it.

Here then we recognize Neisser's perceptual cycle; and an even better approximation to Husserl's conception of the perceptual act as a behavioural sequence directed at the attainment of relative confirmation, or "Evidenz". It is difficult not to think of Husserl's "Ich kann immer weiter", when Hochberg (1980:61) refers to "the permanent possibilities of sensation". Hochberg's glances appear to have the same organization as noemata, whose retentions and protentions are reminiscent of Hochberg's "sensory expectation". Of course, Husserl would not be interested in the physiological difference between fovea and periphery as such. Clearly, Hochberg's theory, like those of Gibson and Neisser, is in no sense arbitrary: it is firmly based on phenomenal facts, before experiments have been brought to bear on it.

How then, when directed at a picture rather than a real-world scene, does the cursory glance arrive at a scheme bridging its fixations, which is "similar", but not identical, to that of the corresponding scene perception? Physical situations themselves, as Hochberg (1980:48 f) recognizes, do not present any lines to the eye. Kennedy (1974 a:150 ff; 1980; & Fox 1977) had blind people identify objects rendered by raised points; since they did rather well, Kennedy concluded that what both lines and raised points represent is not light, but "the spatial juxtaposition of surfaces" (1980:297). Elsewhere, Kennedy (1974 b:215) tells us that a line, which is usually a deposit of pigment, is "an inhomogenization on a surface between two boundaries (called contours) enclosing the width". It seems reasonable to conclude that raised points, as well as lines, are such inhomogenizations on a surface. Of course, raised points, unlike lines, are three-dimensional; but since the third dimension is the condition of possibility for their being tactually accessible, it can probably be reckoned as non-pertinent. In both cases, then, inhomogenizations on surfaces stand for inhomogenizations in the space through which we move. It is not clear if any kind of inhomogenization will do. Nor is it clear if such inhomogenizations may stand for anything else than inhomogenizations in space. Lack of homogeneity is indeed an abstract property for lines and objects to share.

There is another property of lines which in any case is not shared by the edges of objects (nor by the elements of photographs, cut-outs, etc.): that of having two boundaries which, so to speak, "face out" in different directions. These boundaries are different, Kennedy (1974 b:218) observes, if the line is not straight: for instance, the outer contour of a glove is like a mitten, but the inner one is like a hand with the fingers slightly spread out; and the numeral 9 has one contour like  , and another which looks like  . Depending on whether we give prominence to one contour or the other, different parts of the drawing may emerge as "figure" and "ground" (and since Kenney 1974a:154 thinks there is evidence of figure/ground effects also in "haptic pictures", he apparently also thinks raised lines have two borders; cf. 1980:294 f about "ambiguities"). But it is wrong, Kennedy claims, to take Rubin's experiments to show that both contours cannot be given interpretation at once: in fig. 48, this is only true if we see one half of the picture as a head profile; but not, for instance, if we consider it to be a clam on its edge with its two sides clasped tight.

But there is no reason to stop at this point; for while it is true, semiotically speaking, that either just one boundary of a line, or both boundaries, may turn out to be pertinent under a particular interpretation, there is also the further possibility that, besides the boundaries, the pigment between them possesses a meaning in the picture. The interior line of Kennedy's drawing (fig. 48) could well be the mouth of the clam, in which case the pigment stands for the mouth hole itself, while the boundaries, facing on to the pigment and each other, represent the inner edges of the movable body parts around the opening. It should be noted, however, that according to this same interpretation, only the outer boundary of the oval line has a meaning in the drawing, viz. as the outer edges of the clam's body (or, strictly speaking, its "horizons" in Hochberg's sense; cf. III.3.4.). But the same drawing may also represent a wire construction, in which case both boundaries and pigment, of the oval as well as of the inner sinuous line, correspond to particular parts of the represented object.

In discussing how lines relate to the objects which they represent, we have followed Kennedy rather than Hochberg, because the latter has not been prolific on the question (but cf. end of III.3.4.); and yet a constructi-

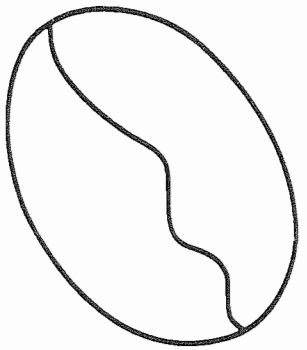


Fig. 48. Kennedy's face/clam (from Kennedy 1974 b:217)

vist conclusion seems to result from our review. Indeed, as Hochberg (1978 b:235) observes, the fit of picture perception with direct registration theory is an uneasy one. For, in order to see an outline drawing as representing an object of the world, we must somehow determine more or less separately for the different lines, if one or two of its boundaries are relevant, and whether the pigment is, and which side each line is facing. How is this done, and how in particular is it accomplished by the infant (cf. III.3.1.)? Before we go on to draw all too wide-reaching conclusions, we should realize that Kennedy's clam is a droodle, rather than an ordinary picture, and in fact even more underdetermined than Gregory's tree (cf. fig. 47). Ordinary pictures certainly leave us much less latitude, but the question is how they manage to do that. Here we are reminded about Töpffer's law, and of what we called its cloud side (see introduction to chapter III). Faces, trees, and perhaps even clams are things close at hand in the common everyday Lifeworld: they are that kind of hypothesis which is tried out first on a picture, until contra-indicated. There is an active search then, as Hochberg and Strasser say, an "effort after meaning" in Bartlett's phrase: meaning *is* projected onto the cloud. But these hypotheses are not arbitrary: not only is that interpretation chosen which is the most probable relative to the light pattern, but the choice is primarily made among the things of the Lifeworld that are taken for granted, indeed among those things "most" taken for granted.

In this section, we have introduced an alternative to direct registration theory as professed by Gibson, Hagen, and Kennedy, and we have encountered some of the reasons for taking this alternative seriously. In accordance with Strasser's principle, that one obviousness may hide another from view, we discovered that there were also phenomenological foundations for constructionism. Gregory's tree permitted us to realize that small, localized cues of a drawing may make an enormous difference for its interpretation, and therefore that in pictorial semiotics, as in linguistics, the alternatives of the paradigms of expression do not strictly parallel those of the paradigms of content. And Kennedy's clam made it obvious that, in spite of Kennedy's own conception, expectations must determine what is seen in pictures, and that these expectations are contingent on Lifeworld probabilities. Töpffer's law returns in force.

In the next section (III.3.4.) we will pursue the investigation of local cues, in particular in the conception of Hochberg and Perkins, and as related to pictures representing impossible objects.

III.3.4. The Escher-Reutersvärd connection. Impossible objects and the perceptual theme

> *"Folgen wir dem Lauf des Wassers, bemerken wir, dass es fraglos kontinuierlich abwärts und gleichzeitig fort von uns fliesst. Plötzlich scheint der entfernteste und niedrigste Punkt mit dem höchsten und nächsten identisch zu sein; so kann das Wasser wieder nach unten fallen und das Rad in Bewegung halten; ein Perpetuum mobile!"*
>
> *Ernst 1978:88*

The task of the perceptual scheme, according to Hochberg, is essentially to fill in the details which peripheral seeing fails to capture. For while the information picked up from the environment, when it falls on the fovea, is indeed abundant, the gaps between the fixations have to be spanned with constructions built up on fragmentary cues (cf. III.3.3.). Painters have used this fact, Hochberg (1979:25 ff) suggests: Rembrandt developed one style for the fovea, and another for the periphery; and impressionism devised a way of painting, the result of which simulates a scene when viewed peripherally, while merely indicating "painterliness" to the fovea (p 36). We cannot pursue these complex issues here, but will remain content to consider the case of outline pictures. In Hochberg's view, depicted objects, as well as real ones, differ most from each other at their edges: thus, when perceiving an object or a picture, we are likely to fix some of the edges, or the lines standing proxy for the latter, and then fill in the rest from assumptions. That this is so, Hochberg (1972:59, 1978a:154; 1980:63) tries to establish in his discussion of "impossible pictures", which are really very possible pictures indeed, for they exist, although they seem to represent objects which could never exist in the three-dimensional world (cf. fig. 49 a–g.). The point is that if we really had access to complete information from the environment, as Gibson suggests (cf. III.3.2.), we should at once realize that such pictures cannot be interpreted three-dimensionally (cf. Gregory 1966); but the three-dimensional interpretation is only rejected, Hochberg claims, when the contradiction is apparent in one momentary glance, for otherwise the gaps will be coherently reconstructed using the most plausible assumptions.

First, we see the famous Penrose triangle, which was the basis of many of Escher's constructions (cf. Escher 1967; Ernst 1978); it was actually invented by Reutersvärd in 1934, 24 years before the Penroses' article (cf. Bresti 1985). Neither this figure, nor the two to follow should look solid according to the Minimum principle (cf. III.3.3.), because they are neither simpler nor more consistent as whole 3 D objects than they are as flat patterns. But although the right and left sides of fig. 49 b are inconsistent, because the line marked x must change its function as the corner of a dihedral angle somewhere between the two sides, this contradiction is not obvious, and does not interfere with the figure's apparent tridimensionality. The reason for this, Hochberg (1980:63) claims, is that the two sides cannot be encompassed by foveal vision in one single glance. But this is possible in fig. 49 c, and consequently, the figure looks flat and inconsistent, Hochberg tells us. That 49 c is not flatter merely because of its proportions is shown by 49 d, which is as compact, but appears tridimensional. In other cases too, what is grasped in the momentary glance determines the interpretation. Thus, when the gaze is directed at point 1 in fig. 49 e, we see a perfectly consistent object, viz. a partly transparent box oriented as in 49 g; but with the gaze turned to point 2 in fig. 49 e, perspective reversals will be perceived to occur, and the orientation of the figure in 49 f will alternate with that of 49 g, even though only the latter is consistent with the local depth cue at point 1. These two sets of pictures are taken by Hochberg to show that only those lines which fall near the fovea act as cues in the reprsentation of an object's corners and depth, and that the reamining part of the percept, including orientation, is hypothetically reconstructed on this basis.

Hochberg's argument appears to rest on his own perceptual experience with the figures, and it seems possible not to share that experience. I, for one, find it quite impossible to see fig. 49 c as flat; nor do I think that it is properly speaking inconsistent. Instead, it appears to me to be strangely twisted and contorted; there is even a suggestion of a spinning movement. The Penrose triangle can also be read in this way, but hardly Hochberg's rectangle (fig. 49 b): however, at least on a second viewing, it may give the impression of being slightly bent, rather than inconsistent. Nor can I agree with Hochberg about the most natural interpretation of the second set of pictures. These are similar to the well-known Necker cube, that admits of two readings, which only differ as to orientation (e. g. fig. 49 j). But in the classical Necker cube, both readings are equally consistent, and the aptitude for reversal is quite resistant also to the addition of further cues: even if anterior and posterior lines are drawn in different colours, reversal can take place, and a tridimensional wire construction is treated in the same way (see Kennedy 1974 a:138 ff). In Hochberg's view, fig. 49 e is also open to two readings, one of which is inconsistent, but fig. 49 f and 49 g only admit of one reading each. However, it seems to me that also fig. 49 f and 49 g can be seen in either of two orientations, where the second is inconsistent; and while it takes some effort to find the second reading of fig. 49 f, fig. 49 e appears to shift from one orientation to the other quite spontaneously. The case of fig. 49 e is even more curious: I find it hard to see the reading which is consistent, for I immediately perceive the righthand side of the figure to be the farther side of the box. Even when fixing point 1, I often continue to see the cube in this orientation, and although I sometimes manage to see the consistent reading, where the right-hand side of the figure is the closer side of the box, the figure will soon revert to the first, more stable percept. It would of course be interesting to know whether most people would agree with me or with Hochberg, on the interpretation of these pictures, or if they would suggest some third reading; but even if my perceptions are completely idiosyncratic, they throw some doubt on Hochberg's argument, for the physiological constraints which it posits must apply to each and every case. Besides, in an informal experiment, I found confirmation for all my readings, except for the amgiguity of fig. 49 f–g.

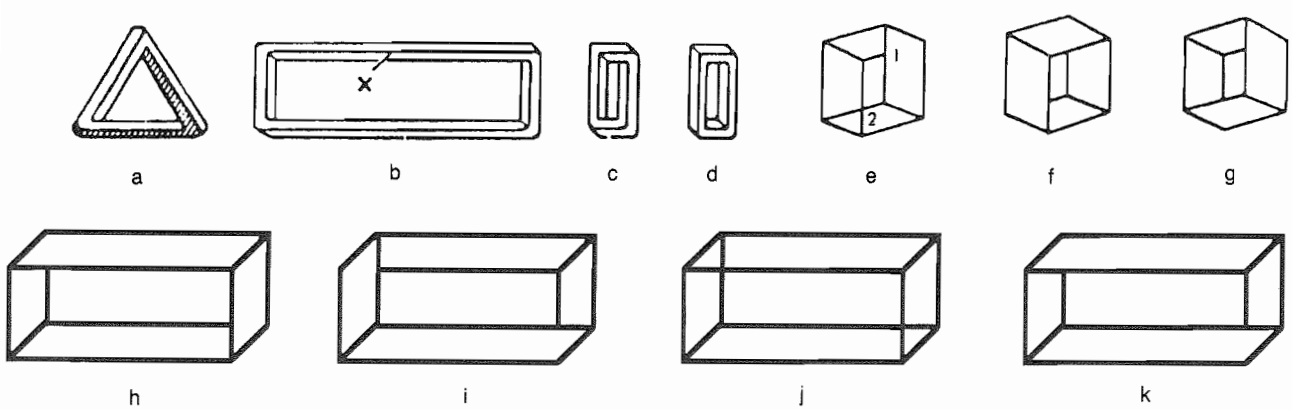


Fig. 49. "Impossible pictures" and some all too possible ones (a–g from Hochberg 1978 a:154; h–k from Perkins 1981:152 ff)

Perkins's (1981:152 ff) argument is similar (also cf. Perkins & Cooper 1980:122 ff): fig. 49 h and 49 i have different orientations; fig. 49 j can be seen both ways; and fig. 49 k has no coherent interpretation, for the right-hand part is like that in fig. 49 i, and the left-hand part looks exactly like that of fig. 49 h. The reason for this, Perkins (1981:154) submits, is that the perceiver begins with some local cue, and then attempts to extend the interpretation suggested by this cue to the entire figure until the procedure runs into trouble, permitting a new cue to be taken up, and again extended as far as possible. This is very much like Gregory's hypothesis-testings, as Perkins & Cooper (1980:122) also remark (cf. III.3.3.); and it has a somewhat more conceptual ring about it that Hochberg's proposal. Yet local cues cannot be the whole story: Perkins & Cooper have already demonstrated that the presence of symmetry is essential to the way a picture is interpreted, and now they observe that symmetry supposes cues to have been picked up from all over the figure, and then to have been integrated with each other. Unfortunately, Perkins & Cooper do not develop this line of thought. However, we already know from the studies of Sander, Volkelt, and Hoffmann (cfl I.3.4. and II.3.6.) that holistic, non-configurational properties seem to have primacy in all perception; and we have suggested, as the most favourable though somewhat implausible interpretation of both Eco and Gibson (cf. III.2.7. and III.3.2.), that what is identical from the picture to reality is some kind of holistic properties.

There is no denying the importance of local cues, however. At some very elementary level fig. 49 h–k, as well as fig. 49 e–g, are probably seen simply as "angularity" and "closure" or, somewhat more concretely, as instances of "box-ness" (cf. I.2.2.). It is impossible, I think, to see fig. 49 k as a flat pattern. But then local cues are essential. In the case of Gregory's tree (fig. 47), it will be remembered, a small detail is sufficient to change completely the interpretation of the whole figure. But when it comes to the Necker cube and its variants, there is not even that much of a difference: here, as in Rubin's vase which is also two facial profiles, the mouse which is an old man's face, and the duck which is a rabbit, all the features of expression of the two pictorial signs are identical, but *the thematic hierarchies are different,* because the thematic centre has been differently located in the two cases. It should be possible to attend to local cues, without failing to capture holistic properties, if, as in the noema, there is a horizontal consciousness accompanying that of the thematic centre. As it is originally presented by Hochberg (cf. III.3.3.), one would expect peripheral vision to be sufficient for picking up *some* information, if only of a sketchy kind; but Hochberg later only takes account of the fovea. It is possible, however, that peripheral seeing conveys the kind of information gathered from tachistoscopic exposure by the subjects of Sander and Hoffmann: holistic properties. If so, at the same time as the thematic centre gives us the local cues (if we are able to pick them up) the fringes offer holistic information. Even the pictorial expression would thus take on the meaningful organization of the noema.

But this noematic organization cannot simply be identified with the retinal distinction between fovea and periphery. The fact, referred above, that Hochberg's figures may be perceived in other ways than those he takes for granted, contradicts such an identification. If, at least to some persons, fig. 49 c does not appear to be flat, but three-dimensional and contorted, or even as executing a spinning movement, then the presence of contradictory local cues in the space encompassed by a single momentary glance is not enough to destroy the three-dimensional percept. If the fixation of point 1 in fig. 49 e does not automatically change the orientation of the box perceived, the fovea cannot be the sole responsible for the election of the perceptual theme. Further, if fig. 49 e and 49 g are easily seen in such orientations as suppose inconsistent percepts, consistency cannot be the fundamental criterion, and if the reading of fig. 49 e giving rise to the most stable percept is the inconsistent one, there must be cues which override consistency: perhaps, in this case, holistic properties of "box-ness", which induce the most prototypical orientation of the box to the viewer. Again if, in spite of the distance between the contradictory local cues, fig. 49 b appears to be bent rather than being an ordinary frame, the contradictory cues must somehow have been sampled, but only when the over-all interpretation has been established. There is also a much more general point: if pictorial interpretations were simply contingent on foveal fixations and their limited scope, we, as well as Hochberg, would have had to modify our interpretations many times during our extended scrutiny of the figures; in fact, however, there are a few possible, and some preferred, interpretations, which remain identical even as we learn they are inconsistent. It is conceivable, of course, that the result of the first fixation is stored in memory, and continues to influence perception from there; but there may be other sources also for the selection of the perceptual theme (like the cultural expectations determining Deregowski's 1976:22 f window/tin can picture; cf. III.3.1.).

In his discussion of Reutersvärd's "impossible figures", Bresti (1985:24 f) introduces a distinction between "genuinely impossible figures", which represent solid, stereometrical bodies, and figures which are "not genuinely impossible", because they are not completely closed, or delimited, and fail to separate the "figure" clearly from the "ground". Bresti (p 17 f) also quotes Reutersvärd himself as saying that the genuinely impossible figures are "more impossible", because the objects which they render seem to be perfectly tangible, and the drawings can be coloured, and shadows added, just as in the case of pictures representing ordinary objects. The distinction is not quite clear, particularly as

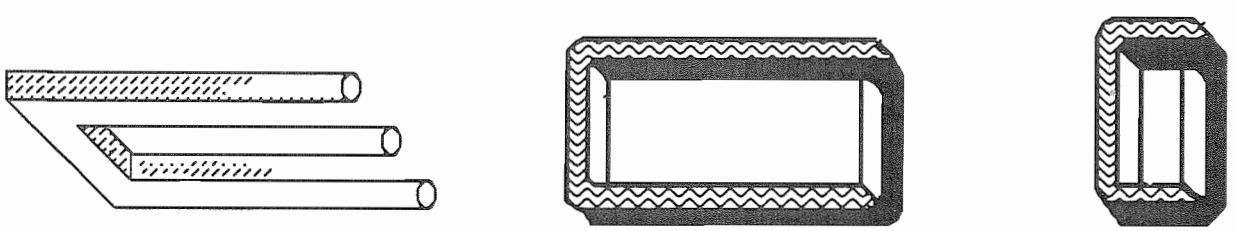
Bresti (p 25) also presents a drawing by Reutersvärd which is "completely closed, although it is not a genuinely impossible figure", which seems a contradiction in terms. However, Gregory (1966:72 f) also suggests that, while the Penrose triangle and the Penrose staircase (used in Escher's "Ascending and descending"; cf. Escher 1967:76; Ernst 1978:90 ff) correspond to objects that cannot exist, the "three-stick clevis", also called "the devil's turning fork" (fig. 50 a), is a rather different kind of impossible object, which cannot even be seen – and the latter figure is clearly among those which Bresti considers as "not genuinely impossible". From the intuivive determination which is the only one at our disposal so far, it appears that Hochberg's examples are all "genuinely impossible figures". If we manage to understand the difference between these two kinds of impossible picture, we will perhaps also gain a deeper understanding of Hochberg's problem.

Bresti is of course wrong in suggesting that Reutersvärd has, in any sense, rendered fourth-dimensional space; but it is true, as Kulpa (1982.14) says, that only those objects which we tend to see the pictures as representing are impossible, while the same drawings may also correspond to other, quite possible ones – but, unfortunately, the latter must then be two-dimensional patterns. Indeed, Deregowski (1980:1717 ff) found that only those who were 3D-perceivers, according to his construction test, had any trouble copying "the devil's turning fork" (cf. Kennedy 1974 a:146 ff). The works of Escher and Reutersvärd illustrate how the "rationalization of sight", just as all other "formalizations", may, once they have been accomplished, be detached from their foundations, and applied to alien, and sometimes rather "irrational" purposes (cf. I.4.4. and III.3.2.). The whole point of the "impossible figures" is that they appear to be three-dimensional, but we *know* they cannot be.

Impossible objects, Kennedy (1974 a:146 ff; 1974 b:235 ff) claims, are made up of the same ecologically attested features as possible ones (cf. III.3.2.), though in ecologically impossible combinations: in the real world of perception, "cracks", which have surfaces on both sides, cannot turn into "wires", which have air on both sides, and vice-versa; and occluding bounds enclosing surface cannot fit in with occluding bounds enclosing air space (cf. fig. 46); but this is exactly what happens in the devil's turning fork. However, this explanation does not seem to account for "genuinely impossible figures": in most of the work of Escher and Reutersvärd, and in Hochberg's examples, there are no "cracks" becoming "wires", and so on, but "wires" in impossible mutual orientations. As a practical test of "genuine impossibility", we may, following Reutersvärd, try to colour our figures: in the devil's turning fork (fig. 50 a), we must give up the attempt at some point between the ends of the lines; but in Hochberg's figures, colouring the "wires", if anything accentuates the contorted three-dimensionality of the objects perceived (fig. 50 b–c). There is also some truth in Gregory's curious observation that some impossible figures are not only non-existent, but cannot even be seen. For if we try to follow one of the inner lines of the devil's turning fork, or Kulpa's monobar, from one end to the other, there is some intermediary point at which the inconsistency becomes flagrant; but in Hochberg's figures, as in Penrose's tribar, and in Escher's stairs, there does not seem to exist any such single point at which three-dimensionality breaks down. For, strictly speaking, the devil's turning fork *can* be seen, and *is* seen: viz. as a fork. It is only when we try to capture the inner details that the fork becomes diabolic, or virtually unseeable. Indeed, it shifts from one interpretation to the other, both equally inconsistent, or dissolve in a general blur, instead of appearing real but contorted. In this respect, the Reutersvärd picture so contradictorily described by Bresti (1985:25), is really not a genuinely impossible picture, although it is enclosed by a continuous contour: it is genuinly unseeable.

The essential fact, however, is that the devil's turning fork is seen as a fork, and that Hochberg's figures are seen as frames, although there exists no consistent way in which the local cues may add up to this impression. Independently of the perspectival cues, there seems to be a primary message about fork-hood, frame-ness, and what have you. But how, then, is this message conveyed?

Like Kennedy, Hochberg (1972:69; 1978 a:190 ff;



a. The devil's turning fork (from Gregory 1966:73)

b. A coloured variant of fig. 49b.

c. A coloured variant of fig. 49c.

Fig 50. Two kinds of impossible figures

1980:51) thinks picture perception is essentially based on perspectival cues. The pigment on the paper can stand for the edge of a surface, as the contour indicating the silhouette of a key; it may represent the corner where three surfaces meet, as in the Necker cube; or else it can represent the line where a round surface, for instance a doll's body, passes out of sight, just as the earth disappears from view at the horizon. At least some of these features, like many of Kennedy's (cf. III.3.2–3), are already on the content side: the edge and the "horizon", for instance, look exactly alike, until they are seen as parts of the object they compose on the pictorial surface. The case of the different angles between the lines is different, for they can be interpreted by a properly programmed computer (cf. Winston's programme discussed in Boden 1977). In addition to the perspectival features, Hochberg (1972:73 ff; 1980:76 ff) also considers *distinctive* or *canonical features,* the nature of which can most easily be grasped from an example: given a facial oval, a toothbrush moustatche is sufficient to indicate Chaplin, if the potential set is made up of movie stars: but in a wider context, a bowler hat, instead of the characteristic fringe, is needed in order to distinguish Chaplin from Hitler. The insistence on "potential sets" gives the argument a distinctly structuralist ring (cf. I.1.3. and I.3.4.); but neither the fringe, the moustache, nor the hat are "purely negative terms", and so must somehow be recognized for what they are in themselves (cf. our discussion of Gombrich's "schemes" in III.3.2.). If we can explain how this is possible, we have also perhaps the general explanation for picture perception.

Indeed, the modification of Gibson's picture theory was provoked by the Ryan & Schwarts experiment, which showed that cartoon-type drawings were more rapidly recognized than more literally correct pictures, including photographs (cf. III.3.2. and E. Gibson 1969:100 ff; Hochberg 1978 a:193 ff; Perkins 1975; Perkins & Hagen 1980); and yet the rejection of the point-projection theory could, as Kennedy (1974 a:42) observes, be motivated from the common sense observation that white chalk on a blackboard can form the same picture as blue ink on white paper. But what if cartoon features, or "canonical notation", *are* crucial to all pictures? What if there are some "invariants" for moustache-hood, bowler hat-ness, and fringe-ness, which are not perspectival in nature, i. e. do not refer to spatial layout? Consider again Kennedy's landscape (cf. fig. 46): how much would we make of it, if the house had not been a typical house, just as the hills, and the quite non-perspectival cloud and sea? The perspectival cues, then, would be secondary to some more qualitative types of holistic properties; and this would explain, not only that non-perspectival pictures are readily interpretable, but also the possibility of "impossible pictures".[3]

We have been concerned in this section with the case of "impossible pictures"; and we have suggested that the possibility of their being impossible argues in favour, not of Hochberg's or Gregory's constructionism, but of a theory, according to which perceptions start out from very general, holistic but non-configurational properties, the resulting interpretations of which are also upheld in the face of local inconsistencies. On a secondary level, however, we found local cues to be important for the interpretation, because they may determine feature hierarchies of expression which are probably the only thing which separate two readings of the same pattern. We must now move on to consider how it is that something is "seen in" the picture, and in what way (III.3.5.–6.).

III.3.5. The rabbit transmuted into the duck. Wittgenstein, Wollheim, and Husserl on "seeing-as" and "seeing-in"

"Man zeigt mir einen Bildhasen und fragt mich, was das sei; ich sage: 'Das ist ein H/ase/'. Nicht: 'Das ist jetz ein H/ase/'. Ich teile die Wahrnehmung mit./– – –/ Der Ausdruck des Aspektwechsels ist der Ausdruck einer neuen *Wahrnehmung, zugleich mit dem Ausdruck der unveränderten Wahrnehmung."*
Wittgenstein 1953:229 f

Once upon a time, inspired, it seems, by Wittgenstein's (1953:227 ff) considerations on the duck/rabbit picture (cf. fig. 51 a), both Hermerén and Wollheim claimed our experience of pictures is an instance of "seeing-as". Lately, however, Wollheim (1980:205 ff) has rejected this conception, arguing that pictures really must be explained as a kind of "seeing-in". Some of Wollheim's reasons have to do with the different possibilities of phrasal construction, and are rightly rejected by Hermerén (1983:137 ff), and this point has been granted by Wollheim (as quoted in Hermerén 1983:279 ff; cf. Wollheim 1980:211 f). But then Wollheim (1980:212, 215 ff) also invokes Pirenne's argument, that the correction of perspectival deformation when the picture, as is almost always the case, is viewed from an erroneous station point, requires us to perceive both the "medium" and the "motive". Hermerén (1983:13 f) does not explain why he thinks this argument is irrelevant. It seems very relevant to me, and the truth of it has been amply demonstrated since Pirenne's proposal (cf. Hagen 1980 b; & Elliott 1976; Perkins 1973).

It is difficult to make anything out of Hermeren's alternative theory, according to which we shift back and forth from seeing the "medium" and the "motive": since the eyes are in constant movement, in a number of cycles at different levels of consciousness (cf. Argyle & Cook 1976), no obvious interpretation can be given to the idea that the two aspects are seen successively, rather than at the same time. However, it is already clear from phenomenological evidence, as both Gibson and Husserl observe (cf. III.3.2.), that both expression and content must be present to consciousness, if the picture is to be seen *as* a picture. Wollheim (p 216) also has a

more curious argument: we *should* perceive both "medium" and "motive", for then we will be able to appreciate the aesthetic qualities of a painting better. However, if our earlier analyses of, for instance, the Panzani publicity, Floch's "News" advertisement, and Gauthier's publicity for glass containers, are correct, there even seem to be meanings produced by the interaction of iconical and plastic language, meanings that is, that can only be grasped by someone who is concurrently aware of the picture as a surface and a scene (see part II).

Unfortunately, it is unclear what we have gained by stating that we see something *in* a picture. The meanings of prepositions are notoriously vague, rather like Gardner's "modes" and "vectors", and Lévi-Strauss's qualities, as shown by Hjelmslev (1937) and his followers in the localist tradition (Fillmore, Anderson, etc.) (cf. I.4.). And it is not clear whether we are allowed to say that we see something *in* a mirror, and *in* a window. As for clouds, Wollheim (p 224 f) *does* tell us they may instantiate both kinds of seeing.

Indeed, Wollheim sketches a kind of "natural history" of "seeing-in". It begins from dreams and hallucinations, which are presumably completely unconstrained. Then there are Leonardo's damp-stains and fissures, where the perceiver himself must decide what is pertinent. Next, in the duck/rabbit, the artist intervenes to choose such analogous traits as can evoke the likeness of a rabbit or a duck. Between the second and the third stage droodles, I believe, could be placed: for here, as perhaps in the Rorschach ink blots, the interpretation is constrained by the necessity of accounting for all the features of expression present on the pictorial surface. In the case of the ordinary picture, then, more rigorous constraints are imposed on our "in-sight".

Wittgenstein was concerned with a different question, Wollheim (1980:213 f) claims: he did not use the duck/rabbit, as Gombrich does, to argue that the surface and the scene, like the duck and the rabbit, cannot be seen at the same time, but to demonstrate the impossibility of separating the duck as well as the rabbit from their common substratum. Thus, like Husserl and Gibson (cf. III.3.2.), he rejected the extrinsic relationship between the "sensations" and their interpretations suggested by the Helmholtz tradition (cf. III.3.3.). It was unfortunate, Wollheim thinks, that Wittgenstein chose a pictorial example, for "seeing-as" is not typical of pictures. The point, then, is the following: the choice between the duck and the rabbit depends on a "seeing-as", and is equally relevant to the seeing of the world; but it is because of "seeing-in", that pigment on paper may be seen as something else, in this case as a rabbit or a duck (fig. 51 a); in other cases, however, only as a rabbit (fig. 51 b), or only as a duck (fig. 51 c). The latter is at least what we have tried to suggest, using a minimal difference of pattern to favour each time one of the hypotheses (cf. the minimally different cat and rabbit of Koch 1971:479). Thus, fig. 51 a cumulates "seeing-in" and "seeing-as", while 51 b–c are pure "seeing-in". There are "seeing-as" phenomena also in the perception of the world: at a distance, one may mistake a shrub for a ruffian. The shrub and the ruffian are not seen simultaneously, and neither are the duck and the rabbit; but Wollheim is clearly wrong when he claims (p 220 f) that we cannot see something as an oak and as a tree at the same time, for this is as easy as to see the cube and the dice, the young girl and Judith, and the man and the ruffian. In these cases, the categories are located on different *intensional levels* of the same hierarchies, and there are implications from one to the other (cf. I.3.2.; more curious is the fact that something can be seen as both a crown and a bunch of vegetables, a trunk and a face, and so on; cf. I.2.5.). In any case, Wollheim is certainly right in thinking that the duck and the rabbit cannot be seen at the same time: one is transmuted into the other as the *perceptual theme* is switched, which may happen when the foveal fixation is moved (cf. III.3.4.) or when the pattern is perceived in a series of duck pictures rather than a series of rabbit pictures, or vice versa (cf. Gombrich 1982:36); in addition, it may change when hitherto neglected details are attended to, as the *inner context* of fig. 51 b–c, or the *outer context* formed by the cigarette which transforms Gregory's tree into a head profile (cf. fig. 47).

Whereas "seeing-as" is an expression of "visual curiosity", a part of the exploration of the world, "seeing-in" Wollheim (p 225) concludes, is a peculiar visual experience where "a state of affairs can be seen in a particular"; which permits a double attention, to the "me-

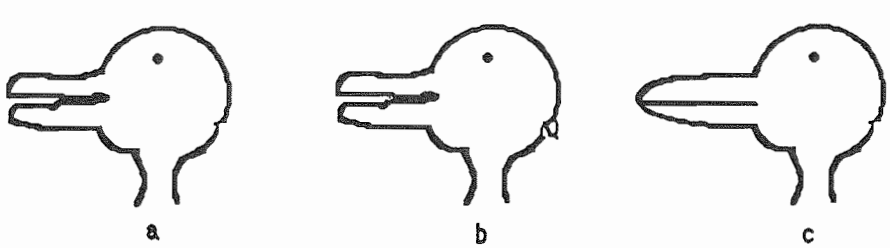


Fig. 51. The duck/rabbit metamorphosis: Variant a is taken from Wittgenstein 1953:228 who borrows it from Jastrow (cf. Gombrich 1982:26); c–d are adaptations due to the author

dium" and the "message"; and in which the experience is rather freely localized in relation to the medium. This characterization seems to be valid as far as it goes, but it does not go very far. However, there is at least a superficial similarity between Wollheim's theory and Husserl's conception of *pictorial consciousness* as it was developed in a series of research manuscripts written between 1898 and 1925. Following the lead of Husserl, it may therefore be possible to probe deeper into the nature of "seeing-in".[4]

Two similar things assume the character of a picture only when pictorial consciousness is attached to them, Husserl (1980:17, 16, 138 f) contends (and, in addition, the similarity must be "anschaulich"; p 135; i. e. perhaps a sensuous analogy; cf. III.1.2.). Pictorial consciousness relates three instances, however: the picture thing (originally the "physical picture"), the *picture object,* and the *picture subject* ("Bildding", "Bildobjekt" and "Bildsujet", respectively). When the picture is said to be lopsided, this concerns the picture thing; but when we complain about the photograph's failure to resemble the person photographed, it is the picture object which is incriminated. But what, then, is the difference between the picture object and the picture subject?

In the photograph of a child a figure can be seen which is in some respects similar to the child, but differs from it in size, colour, etc. The miniature child in a greyish violet is of course not the child which is "intended", i. e. conceived ("vorgestellt"; p 19). The real child, the picture subject, is red-cheeked, has blond hair, and so on, but the picture object can only show up "photographic colours" (p 20; cf. the similar description of Rafael's Theology, p 44). Non-coincident traits stand out on the background of coincident, depicting ones (p 30 ff); and, while the extent to which picture object and picture subject differ, varies from one picture type to another, and for each particular case, there must be some difference, for without a difference and an awareness of it, there can be no pictorial consciousness (p 20, 82, 138), merely "Täuschungen à la Panoptikon, Panorama, etc.", i. e. "Jahrmarkteffekte" (p 41; cf. III.3.2.). Between the picture object and the picture subject there is also a different kind of difference, however: for while that Berlin castle which we see is here, where the picture is, the Berlin castle itself, as a thing, remains in Berlin (p 18).

Unlike the picture subject, both the picture thing and the picture object are "appearances" ("Erscheinungen"), i. e. they are directly perceived (p 27 f, 489 f). Our seeing of the picture object is *of the same kind* as ordinary perception (p 133 f), and yet it is somehow "abnormal" (p 490). For picture thing and picture object can by no means be identified: the latter is no part of the physical picture, as the pigments and the lines are; and while the picture thing is flat, the picture object is three-dimensional (p 19 f, passim). Indeed, Husserl (p 82 f, 138 f, 143) says the sole property of which the picture object cannot be deprived is its three-dimensionality. Thus, "dieselben Farbenempfindungen, die wir einmal als die objektive Farbenverteilung auf dem Papier, auf der Leinwand deuten, deuten wir das andere Mal als den Bild-Reiter, als das Bild-Kind usw." (p 20; cf. p 44 f). Wittgenstein's picture rabbit is here joined by Husserl's picture rider and picture child. Although we may recognize the same preoccupation with the identity of the interpretation and its substratum, there is also a suggestion of "seeing-in"; and in fact Husserl uses this very phrase all through his extensive research manuscripts (e. g. pp 24 f, 28, 30 f, 32, 34 f, 167, etc.). Unfortunately, each time he becomes more precise, it appears that he is thinking about the relation between the picture object and the picture subject – at one point (p 156) he even claims there is a fusion between them. To see the picture subject in the picture object is perhaps not to be very explicitly aware of their difference; but to see the picture object in the picture thing is to attribute meaning to pigments on paper. The latter seems the most important question, and the one with which Wollheim is concerned.

Interestingly, it is also for the relation between the picture object and the picture subject that Husserl requires similarity (p 138 f and passim) i. e. for two instances which are roughly equivalent to Peirce's "interpretant" and "object", or perhaps rather to his "immediate" and "dynamical objects" (cf. III.1.2.). Except once, when he says that a relief is comparatively more similar to its picture object (p 487 ff), Husserl never discusses the similarity of the picture object and the picture thing. Nor does he consider the similarity of the picture thing and the picture subject, which is the closest we can come to Peirce's relation between the "representamen" and the "object". It is in the relation between the picture object and the picture subject that pictorality may be more or less *extensive,* and more or less *intensive,* i. e. concern a greater or lesser number of properties, and realize them to a greater or lesser degree (*"Extensität"* and "*Intensität* der Bildlichkeit"; p 56 f). That third of the iconicity questions elected for consideration by Husserl is thus not the same as that chosen by Peirce (cf.III.1.1.).

The picture thing and the picture object are directly perceived; but the picture subject, which is what is intended ("gemeint"; pp 23 ff, 30, passim), is only indirectly given; therefore, although Husserl does not tell us so, we would seem to have an *appresentation* (cf. Husserl 1939:174 ff; Luckmann 1980; and I.4.2.; but not a sign, as we shall see below!). It is possible to thematize the picture thing, as when we note that the picture is lopsided, but "trotz meinender Zuwendung zum Bildding bleibt die erregte Erscheinung des Repräsentierenden Bildes mitbemerkt" (p 137; cf. p 488). Likewise, it appears to be possible to thematize the picture object, at least to note the "extensity" and the "intensity" of its pictoriality. But when the picture subject and/or the pic-

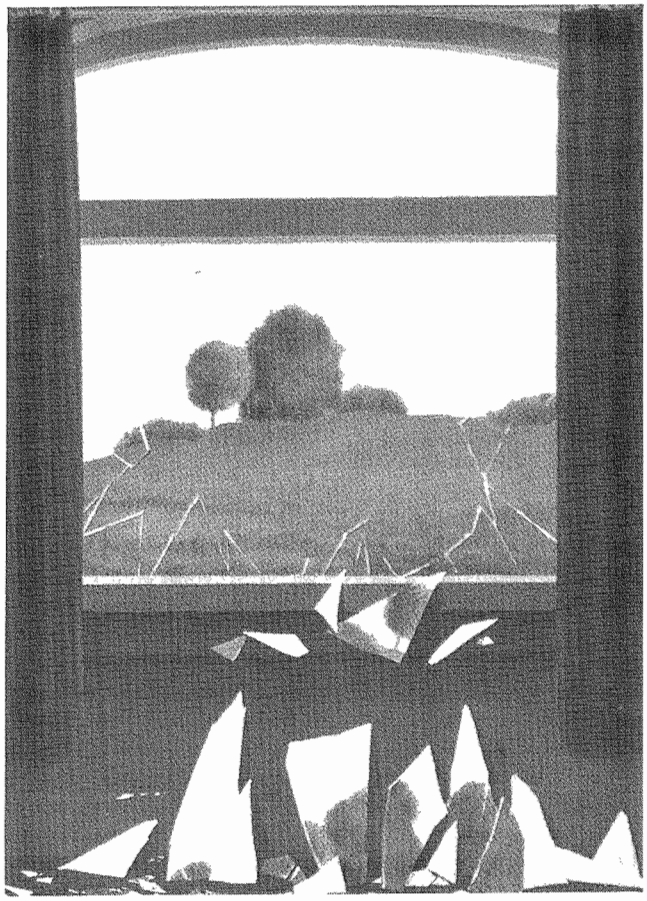
ture object are thematized, will then the picture thing stay completely out of consciousness? Like Hermerén, Husserl (p 122 ff) suggests that it may be possible to shift the attention from the one to the other, but then he goes on to note, that the physical picture must contribute to the complete pictorial conception. This is vague; and the awareness of a difference which forms part of pictorial consciousness seems to concern the picture object and the picture subject (see above). Fortunately, in his later considerations on pictorial consciousness, imagination, and illusion, Husserl has made his point clearer.

At first, Husserl wanted to analyse imagination (including memory) as a kind of pictorial consciousness, deprived of a separate picture thing. Now, however, he realizes that there is no distinction between picture object and picture subject in imagination; instead, it is the non-present which has been reproduced in the present. Memory differs from imagination in the stricter sense in that it is located in the temporal context of the present, i. e. it is embedded in the retentions and protentions of the stream of consciousness (p 262 f; cf. Husserl 1928). As opposed to this, imagination is characterized by its arbitrarity ("Beliebigkeit"), its transformability, and its lack of present-ness; but also when it posits a land of centaurs, consistency is required (p 533 ff). Imagination does not mingle with reality, but forms a country apart, a shadow kingdom (p 152); in the picture, on the other hand, two perceptions permeate each other. But this is not only true of pictures.

A perception may occur in the dubitative mode: we are not sure if we see a human being or a wax-doll (p 277, 401, etc.). In this case, there is competition ("Wettstreit") between the two perceptions, whereas in the case of illusion, e. g. a drama, a picture, or a ghost (!), there is only contradiction ("Widerstreit"; p 226), for the picture object is seen without "belief" (p 489; cf. p 245, 279). The doll and the human being have certain parts in common, e. g. clothes, hair, the superficial shape of the hands, etc., which remain unmodified as the doubt is decided in favour of one of the alternatives; but this is not the case with pictures: "Wir haben zwei Räume mit verschiedener Fülle, die sich 'decken' und das Dingliche hat gar nichts gemeinsam" (p 482). Doubt, in Husserl's sense, is like Wollheim's "seeing-as"; and Husserl even observes that such dubitative perceptions also arise in pictures, when several motives can be discovered in one picture (p 465). But then it appears that the dubitative mode is modified by pictorial consciousness, for the duck and the rabbit, as picture objects, have no parts in common. Unfortunately, this is also true of the shrub and the ruffian; so either Husserl's "doubt" does not cover all of "seeing-as", or it is inadequately described. We should distinguish, then, the cases in which the two alternative perceptions have a common, unmodified substratum from those, more congenial to Wittgenstein's approach, in which such a substratum is absorbed into the different perceptions.

So far, the distinction made by Husserl concerns the case in which there is a "competition" between alternative perceptions, and that in which two perceptions are given together, but one of them is given as "cancelled". Later, however, Husserl (p 473 f, 486 f) argues that the picture is not really an "illusion", in this sense: "Das illusionäre Objekt mit seinem illusionären Raum (etwa Spiegelbild) gibt sich als Wirklichkeit und hat im Bewusstsein aufgehobenen Wirklichkeit, d. i. Nichtigkeit". The picture object is no doubt also a *fictum,* but not an illusionary one for, unlike the latter, it is discordant already in itself, so that no attention to the environment is needed in order to cancel it out (p 490). Also, while the illusionary *fictum* appears in the ordinary world, the picture presents itself in a reserved space (p 480). Indeed, the paper surrounding the drawing can be observed, as can the frame, the wall where it is placed, the room, etc., but there is no ordinary perceptual apprehension ("Wahrnehmungsauffassung") for that part of the paper where the drawing is. Of course, the paper apprehension is all the time "co-conscious", for it is part of the continuous field of vision, but it has lost its contents to the picture object apprehension. There is a contradiction, but the picture object prevails (p 45 f). And yet, the picture object is unreal, for it contradicts that which is present in the here and now: in the consistent wall perception, a piece is "covered" by the picture (p 482). An object is split in two according to their different reality status: the ideal world exists on its own, inside the frame, in the picture space, as in a window (p 45 f). And thus we are back to the window and the mirror.

But these are perhaps not the best examples. Like Eco, Husserl rejects the analogy between the picture and the mirror (cf. III.2.7. and III.3.6.); but neither should he have accepted Alberti's window. For not only is the reality on the sides of, and behind, the window "of the same kind", but the view from the window is not contradictory in any way. According to what was said above, both the picture thing and the picture object possess their particular kind of existential priority: although both are directly perceived (see quotes above from p 23 ff, 30, etc.) the picture object "covers" the picture thing, and thus is more readily accessible; but only the picture thing is continuously connected with the environment, and so coherent with it. The window does not contain any such fissure between an immediate picture object and a more coherent picture thing: the window pane is "in the same world" as the scene outside. The pictorial fictum, however, is a phenomenon which cancels itself out: it contains both cancelled and cancelling positional components (p 491). Indeed, there really is a double contradiction in the picture: between those orientational sensations required by the picture object and the real ones, and between the picture space and the real space (p 486). The first contradiction is the one also noted by Gibson, Pirenne, and Hochberg (cf. III.3.2–4.), between



Pl. XXI. Magritte: La clé du champs (1933).

the surface cues and those of the scene. None of these contradictions exists in the window, but only two scenes detached from each other; and Magritte's "La clé du champs" (1933) is a pun on this (pl. XXI).

In the window, then, there are two scenes, which are differently spatially localized, but incompletely linked to each other; but if two percepts have an identical spatial location, they may be alternatives, in which case we have "doubt" or "seeing-as"; or, if one of the percepts is cancelled out, they appear simultaneously at the same place as in "seeing-in", or in "illusion" in Husserl's first sense. There is a further possibility, which is a very real one, but which is ignored by Husserl: *both* the percepts may be given as cancelled. We have already encountered cases like this: the trunk which is a face, the bunch of fruits and vegetables which is also a crown, etc. (cf. I.2.5.). In fact, children have difficulty capturing such double perceptions, just as they have in the case of the picture thing and the picture object (cf. Kennedy 1974/a:60 f), but the ambiguity is not the same, nor is it like "seeing-as", which excludes simultaneity. At least in our examples, the percepts are of the kind which cancel themselves out, instead of being cancelled by the environment. But in order to have two simultaneous percepts which cancel themselves out in the same place, we must probably also have a third percept, which is not cancelled, and so this phenomenon should only be possible in pictures (cf. I.2.5.). It makes for the particular advantages of pictorial rhetoric.

There are also some problems with the distinction between percepts cancelled by the environment, and those cancelled by themselves. Among the latter are counted, it will be remembered, theatrical performances and ghosts, alongside pictures. To take the ghosts first, perhaps Husserl is trying to say that they contain contradictory cues for their being human beings, and nothing at all – which justifies Berner's (1980:38) conjecture that jealousies must have been aroused "in the spirit world of actual Doppelgänger" by the invention of the hologram, for the hologram, being a "light sculpture" (op. cit. p 53), would also seem to give partial evidence for the real thing. Unfortunately, no ghost has ever been so kind as to present himself in my study in order to undergo phenomenological analysis, so I am unable to appraise Husserl's claim. In the hologram, however, there certainly is a distinction between the picture object and the picture thing, and there is contradictory evidence for them both; but the picture thing is not just a flat surface, as in an ordinary picture, but the volume formed by the light beams, at which we are looking.

But what about the wax-doll, or some other dummy, when it is seen as standing for a human being? We should not confuse this case with Husserl's "doubt" for there, only the wax-doll or the girl, as in the Olympia example, is seen at each moment, and eventually only one of the percepts is retained. The latter is not true of the rabbit and the duck (fig. 51 a), but that would seem to be because "seeing-as" is qualified by "seeing-in". The dummy in the shop-window, or the sculpture, is seen to be what it is, and at the same time it is seen to represent a human being. If three-dimensionality is the essential difference between the picture thing and the picture object, then the distinction is not clear here. Perhaps to see a picture thing as a picture object is to see it as (similar to) something which is higher up the Lifeworld hierarchy of essential "things"; and there, human beings are of course more prominent than volumes made out of wax, stone, or plaster. But even so, the picture object "girl" can hardly be said to "cover" the picture thing "wax-work"; rather, the interpretation "wax-work" seems to be most directly given, as well as the only one consistent with the environment. We could then perhaps say that there is a particular "reserved space", inside which the wax-doll counts for a girl.

Now we can tackle the theatrical performance. In the later manuscripts, Husserl repeatedly treats this case as equivalent to that of the picture: he talks of the "picture object king" (p 490), and he says that the furniture on the scene is furniture of the imagination (p 518; cf.

p 226). We should thus expect these percepts to be inherently contradictory, and so to cancel themselves; but Husserl goes on to say that the furniture is cancelled by its use (p 518) and that the picture object king is consistent in itself, but is cancelled out by the theatrical whole, the stage, the wings, etc. (p 480). The first case sounds like Barthes claiming that the chair may be used, not to sit on, but to signify its use (cf. II.2.1.); and at least the latter case must involve a cancellation stemming from the environment. But which is correct: is the "picture object" of the performance cancelled out by itself, or by the environment? Probably in both ways, and in different degrees according to the varying styles of representation. However, as we noted above (in the discussion of Ubersfeld and Fischer-Lichte in III.1.4.), it is in an essentially conventional way, though aided by some identity signs and perhaps also similarities, that the actor stands for the personage. The dramatic part has to be constructed from these various indications. I therefore conclude that there is no picture object cancelled either by itself or by the environment. It is the actor who is both most directly perceived, and who is consistent with the most large-scale environment. Indeed, even more clearly than in the case of the wax-doll, a particular privileged space is needed, not to cancel out the personage, but to make it exist. Of course, certain spectators may believe more in the personage than in the actor, but then it is the actor who disappears, and there is in any case no double percept.

At this point, we arrive at the following overview:

At the beginning of this section, we argued that Wollheim's claim, that pictures depend on "seeing-in" instead of "seeing-as", was well justified, but also somewhat obscure. We thus set out to explore what, on the face of it, is a rather similar theory about pictorial consciousness in Husserl's research manuscripts. The discussion of Husserl's theory taught us at least, that simultaneity, rather than alternance of the percepts, is not sufficient to elucidate the peculiarities of pictorial perception. There were also problems with Husserl's conception, however. The results of most lasting value seem to be these: in the picture, both the *picture thing,* i. e. the picture as a physical object, and the *picture object,* that which is "seen-into" the former, are in a sense directly perceived; and while the *picture object* has a kind of existential priority, because it is most immediately seen, the *picture thing* has another claim to the same priority, because it is compatible with the most extended range of the environment. In the case of a dummy or a theatrical performance, that which is equivalent to the picture thing seems to possess both kinds of priority, the difference being that the dummy requires recourse to a less extended environment than the performance to appear as something else than what it is "in itself"; indeed, neither the dummy nor the performance should have a picture object if we are to stand by Husserl's own criteria; nor do I think the girl is really "seen-in" the wax-doll, and even less the king "seen-in" the actor, in terms of perceptual experience. Finally, we should also note, that to Husserl, the question of resemblance is posed, not

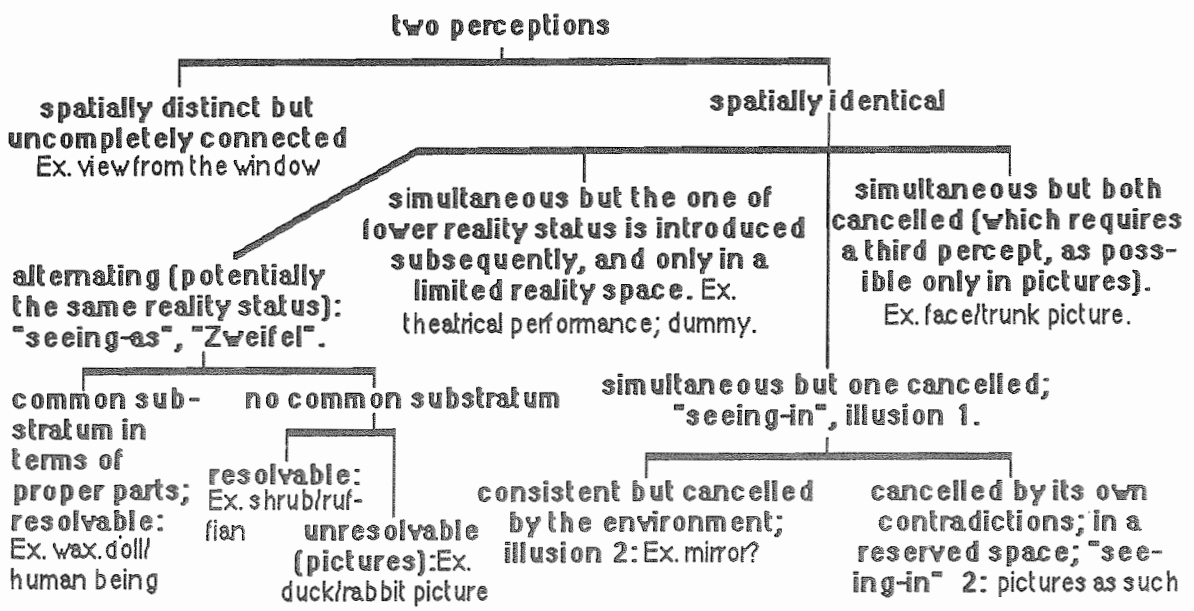


Table XVIII. Double percepts

for the relation between the picture thing and the picture object, but for the relation between the picture object, present in the here and now of the picture, and the picture subject, somewhere in the outside world. In the next section, we will review the consequences of these observations for the sign character of the picture (in III.3.6.).

III.3.6. Pictorial consciousness and sign function; including a visit to The Upside-Downs

If both picture thing and picture object are directly perceived, we should not expect them to maintain the kind of relationship connecting expression and content in the sign. In the beginning of his research manuscripts, Husserl (1980:82; cf. p 141 ff, 156 f) even denies all sign character to the relation between picture object and picture subject, claiming that "die symbolisierende Funktion ist eine äusserlich vorstellende, die bildliche eine innerlich darstellende, ins Bilde die Sache hineinschauende". He even distinguishes pictorial consciousness from analogue signs, where there is similarity, but the content is not "innerlich einheitlich bewusst", not "anschaulich" (p 30, 138). Both the sign and the picture point beyond themselves, but whereas the sign points "aus sich hinaus", the picture directs attention "auf einen analogen, sich im Bild darstellenden /Gegenstand/, und vor allem, sie weist auf den Gegenstand *durch sich selbst hindurch*" (p 34; cf. p 89). Yet, pictorial consciousness, together with "symbolic", i. e., it seems, conventional signs, and analogous signs, constitute the three kinds of "mittelbare" (p 88), "fundierte Vorstellungsmodi" (p 89) – that is, I take it, some subclass of appresented pairings (cf. Luckmann 1980:99 ff; also I.2.5. and I.4.2.).

Thus, according to Husserl, analogous signs are something different from pictures, and the former do not include the latter (also cf. Malmberg 1974:4 f); but it is never quite clear what analogous signs are. In any case, pictures may be *used* sometimes in an "extrinsically representative" way, i. e. as signs, and then probably as analogous ones (cf. p 35 ff, 50 ff, 150 ff, etc.); for instance, if a photograph only serves to remind us about a person, of whom we then produce a more adequate representation in the imagination (p 52; Costa 1977:53 f calls such a typical family use of photography "foto consumismo"). But there also seem to exist pictures, ordinarily so termed, which can only be used in this way: for example the reproduction, in a publicity booklet of the reproduction in the book "Masterpieces", of Titian's painting "Heavenly love" (p 53, 152, 156). Interestingly, a sign is here conceived as something which essentially serves to remind us about something absent, rather than to reproduce it in full – and this is indeed the essential task of signs, according to Hobbes and Leibniz (cf. Dascal 1978), who may well take their inspiration from the important tradition, from Antiquity to the Renaissance, of artificial memory (cf. Yates 1966; Gomez de Liano 1982). But Husserl also thinks there are intermediate cases between pictorial consciousness and analogous signs, such as silhouttes, children's drawings, hieroglyphs, and the drawings of American Indians; and the problem with these seems to be that they do not adequately render three-dimensional space (cf. Deregowski about the memory function of "split representations"; cf. III.2.2; and also Gauthier's 1976:126 f "nomination" as opposed to "reproduction"). There is no indication, however, about what a *purely* analogous sign would be, as distinct from pictures used as such, and intermediary cases between pictures and signs (cf. III.6.).

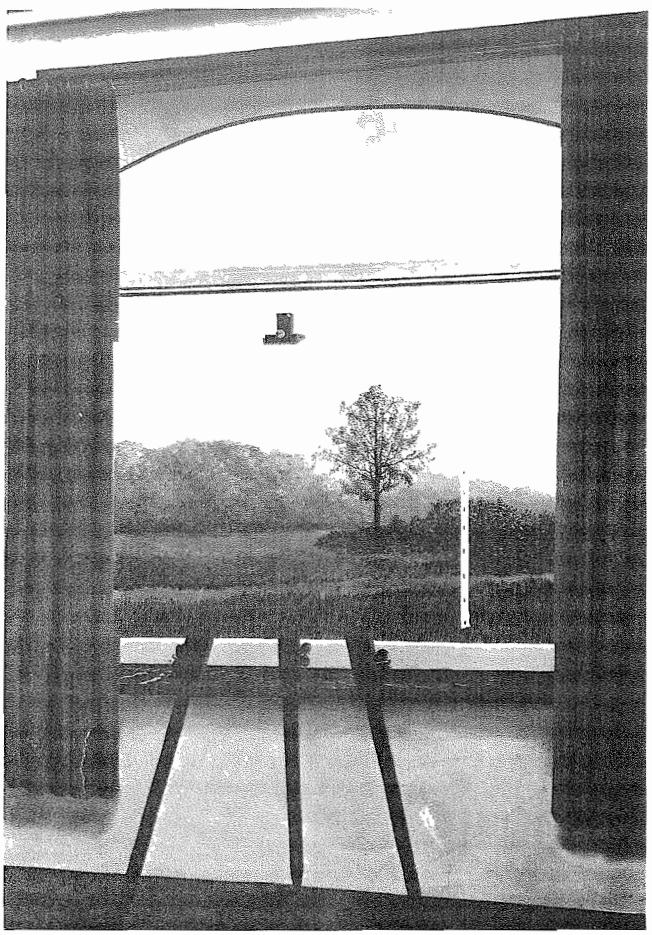
The possibility of seeing the picture object in the picture thing is connected, for Husserl, with the experience of three-dimensionality; and this experience cannot be equated with depth signs (p 139). However, there is a number of depth cues (linear perspective, light perspective, relative size, overlap, etc. cf. Hochberg 1978 a), which may be contradictory, as they indeed often are, not only in children's drawings, but in the work of Cézanne and Matisse, and in that of Dürer, for instance (cf. Ivins 1938:36 ff). There is perhaps a continuous series from completely motivated to completely conventional renderings of depth (at least in terms of experience), like the one Friedman & Stevenson (1980:225 ff) propose in the depiction of movement. In fact, different perspectives may all be equally justifiable; Bresti (1985:20 ff) suggests the Japanese isometric perspective corresponds to the way near-by objects are seen. Husserl (p 142 f) also admits that there are different degrees of analogous signs, but there is only one genuine pictorial consciousness. But whatever they are called, intermediate cases seem problematic on this account: for what does it mean, for an appresentational pairing, to be intermediate in having and not having a picture object?

Besides, even in an outline drawing lacking all depth cues, something is felt to be seen into the picture thing (cf. fig. 51). There should be more essential properties than three-dimensionality separating the picture object from the picture thing; both are perceived, but the picture object is also "imagined" ("vorgestellt"; cf. p 471, 481 f); and they have different titles to existential priority, one being most immediate, and the other most coherent (cf. III.3.5.). In this sense, the duck/rabbit picture also has its picture object; actually, it has two of them.

In later parts of the manuscript, Husserl tells us that pictorial consciousness has, on one hand, a function in which the picture object manifests itself, and on the other hand, an analogically signifying function, which constitutes pictoriality proper (p 223, cf. p 238, 277, 467, 474). Except for the first mention, this idea seems to be related to the later conception, according to which the picture subject is an optional element. At the beginning, Husserl clearly assumes each picture must have an

outer relation (p 141), but then he apparently comes to think that the picture subject is dispensable (p 384 f, 474, 499, etc.; perhaps p 481). If Husserl now believes that the relation picture object/picture subject is a sign function, one may wonder if there is still a difference between pictorial consciousness and analogous signs; if so, this must be because analogous signs lack the distinction between picture thing and picture object, or because they have a sign function there too. But Husserl will eventually introduce a sign function in the later relationship, even in the case of genuine pictorial consciousness, although only as a complement to the intrinsic relation between the two instances (p 491), somewhat like Wollheim's "standard of correction" (1980:206 ff).

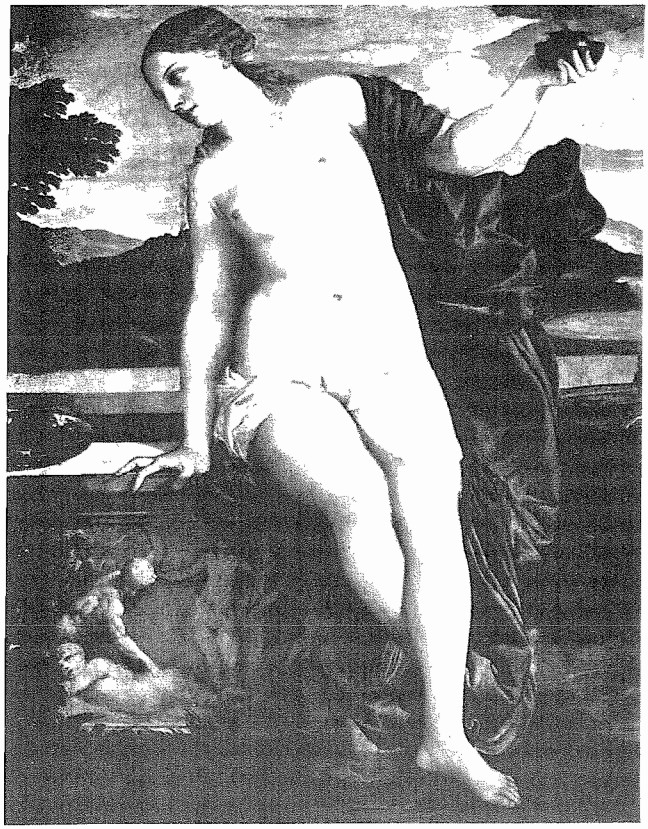
In order to gain a deeper understanding of pictorial consciousness, we must now also return to the differences between picture object and picture subject. Would it be sufficient to attenuate the "intensive" and "extensive" differences between them (cf. III.3.5.), in order to make them approach gradually, and then at last fall together? This should never happen, because the picture object is here, where the picture thing is, but the picture subject is somewhere else, in the place assigned to it in the Lifeworld (cf. p 18; and Husserl's reasons for not taking imagination to be a kind of pictorial consciousness; p 79). Magritte's "La condition humaine I" (pl. XXII) seems an acute comment on this conundrum, for although it presents the picture object in continuity with the picture subject, this is only possible because both are painted, i. e. are picture objects. Again, the picture object is perceived, but the picture subject is only something about which information is conveyed (cf. III.3.5.). Moreover, it must be wrong to think of the picture object as something which is consistent in itself, and which only becomes contradictory when it is related to the picture thing; by definition, the picture object is inextricably merged in the picture thing (at least when not observed through a peep-hole; cf. III.3.2.). Thus, when we supposed the picture object to be more immediately perceived than the picture thing, this cannot mean we first see the likeness of the picture subject, only here and now, but rather, we perceive a contradictory blend of the picture thing and the picture object, instead of the completely consistent picture thing, i. e. the lines on paper, etc. In a sense, every picture shows an impossible object (intensively, rather than extensively, in Husserl's terms; cf. III.3.5.).



Pl. XXII. Magritte: La condition humaine I (1935).

Can we then identify the triad picture thing, picture object, and picture subject, with expression, content and referent, or with Peirce's corresponding terms (cf. III.1.2.)? Our own revision of Goodman's "field of reference" (cf. III.2.5.) is naturally taken in this sense. Yet, the picture object is perceived, which the content of, for example a verbal sign, is not; and there is a real sense in which the picture object is here and how, together with the picture thing, which the verbal content can hardly be said to be. But can we then assume the picture subject to be the referent, in the sense of a concrete object of the world? Or even in the sense of being a type standing for a number of such instances?

First, it will be remembered, Husserl took the picture subject to be an integral part of pictorial consciousness; then, it came to be seen as something added, though yet constitutive of pictoriality proper; but then, finally, it was reduced to an optional element. It was made constitutive, I think, while Husserl still though pictures depended for their existence on a kind of "illusionäres Bewusstsein" (p 223); for, unlike the case of an ordinary illusion, that which was cancelled out here must be taken to exist somewhere else, and so the picture was a "Scheinbaum-Bild 'des' wirklichen Baumes" (p 234 f). When the difference between pictorial consciousness and illusion was localized at an earlier stage (cf. III.3.5.), the picture subject must have seemed dispensable. But differently motivated doubts were voiced even earlier in the case of pictorial art, If we could encounter the picture subject of Titian's "Heavenly Love" (pl. XXIII) in – heavenly – reality, there should be "Erfüllung", and we



Pl. XXIII. Titian: Sacred Love (1514).

should have a more complete adquaintance with it. "Aber eine Erfüllung der Bildintention wäre das nicht", for the interest is here directed to "das im *Bildobjekt Sich-darstellen des Objekts*" (p 154 f), i. e. to the picture subject just as it "appears" in the picture object. But is this something different from the picture object itself? Perhaps it is not, and Husserl only wants to suggest that thematization which, in other cases, would ultimately reach the picture subject, here remains with the picture object. This is reminiscent of Mukařovský's "aesthetic function", and of Jakobson's "poetic" one (cf. part II). Indeed, Husserl even intimates a similarity between the reflexive attitude of the phenomenologist, considering the noemata rather than the object, and that of aesthetic experience. But even on this interpretation, the picture subject loses its importance.

Later, it seems, only portraits and the like, such as Wallenstein pictures, are taken to possess picture subjects on which real judgments and not only quasi-judgments, valid inside the fictive frame, can be founded (p 384, 448 ff, 450 f, 474 f, etc.). Here the picture subject is apparently an extrapictorial referent. But the same thing cannot be true of Titian's "Heavenly Love", for although there may have been, in Goffman's sense (cf. III.1.3.) a – mundane – *model* for her, not only an antique precedent (cf. Clark 1956:119), no one can ever have thought there was a referent, in the sense of a *subject,* not even a heavenly one – which is a difference from the case of "la Virgen de Guadalupe" and other supposedly heavenly-inspired pictures. And yet, the picture object does point beyond itself to a human body, which is, as Clark says, "generous, natural and calm". In the same way, the whole point of the "impossible pictures" is that they point beyond themselves to something which cannot exist, their equivalents in the three-dimensional world (cf. III.3.4.): indeed, their picture things are quite possible, as are in this sense their picture objects (consider the importance of "recognizability" to Escher 1967:9). This is, I submit, the most interesting interpretation of the notion of picture subject: as the potential real-world equivalent of that which is "seen in" the picture thing, that is, of the picture object. Husserl (p 490) could be taken to suggest just this, when he claims that what is seen in the picture is corrected for its deviations from the idea we have of the corresponding type, which poses constraints on the possibilities of perception: being made of plaster contradicts our idea of a human being, so we withdraw it from the picture object. Yet this is misleading, I think, if it implies that the picture object is independent of the picture subject.

As Scruton (1974:204) observes, a figure like fig. 52 a is naturally seen as a face; and yet, as he goes on to say, the questions as to which hair, nose, or ears the face has does not apply, and the face must be said to be square, although no real face can have that property. The picture object is square, and it lacks hair, nose, and ears – but it is only because we compare it to the picture subject face, that we see it as a face, and as lacking these particular features. Actually, there must be an infinite number of other objects to which fig. 52 a is more similar than a face. Also, fig. 52 b, which was immediately declared to be a chair by a child 1 year 11 months of age (Stern 1914:159), could really be almost anything. We are not concerned with the fact that an infinite number of things may present the same light pattern to the eye, at least in static presentation (cf. III.3.3.); for there must be an even "greater" infinity of such "abstractions" from patterns than we encounter here.[5] Extending Töpffer's law, we must not only suppose that, in picture perception, the interpretation most compatible with the

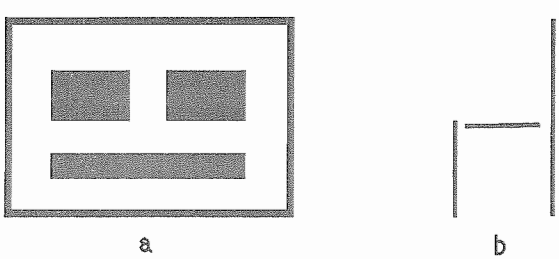


Fig. 52. Face and chair. (a from Scruton 1974:204; b from Stern 1914:159)

fragmentary evidence is fitted to the picture thing, but also that expectancies of objects close at hand, such as faces and human bodies and, in our culture, chairs, ducks, rabbits, cigarettes, and trees, are projected onto any given picture thing. There must be, as we said before, a Lifeworld hierarchy of most probable objects, beginning perhaps with the human body itself, in particular the human face. There is no implication that such a hierarchy must be innate: as E. Gibson (1969:356) observes, even the facial scheme may be constituted in experiences common to all human children (cf. Argyle & Cook 1976; Schaffer 1971). In a sense, all or most objects and scenes can be depicted,[6] but below the apex of the hierarchy built of Lifeworld expectancies, many more details are necessary, in order to make the object or scene recognizable. That very specific invariants must in any case be included is shown by the fact that not just any orientation of the picture thing will give rise to a picture object, as we shall see in a moment.

Thus, if the picture subject is the projection onto the common, three-dimensional Lifeworld of the picture object, the reverse is also, and primarily, true: at least on some intensional level, Titian's Sacred Love and the Escher-Reutersvärd kind of objects also reflect potential things of the common Lifeworld, in relation to which they are felt to be incomplete. For instance, at the level of perceptual parts, the picture object is normally based on just a single noema (or a few noemata in the case of Cubism) and no real world object, and so no picture subject, can have just one noema (or only a few; cf. Husserl 1980:38: the picture object renders the picture subject in one of "seiner Erscheinungen aus der Synthesis"). Furthermore, the picture object differs in its *attributes* both "intensively" and "extensively", as Husserl puts it, from the picture subject; or at least this is the usual case. It is also possible for a picture object to show just a *proper part* of a picture subject and, at least in one sense, only complete objects can exist in the Lifeworld. Thus, we could take the picture subject to be the picture object as it must be completed in order to be something which could possibly be encountered in the Lifeworld. But this is only possible because, at least as types, at a general level, we know the Lifeworld objects beforehand. We can easily complete our Lifeworld prototypes of woman, a sitting person, an almost naked person, and so on, to arrive at the picture subject which is Titian's Sacred Love (though not at the iconographic level); but the picture subjects corresponding to the "impossible objects" can only be anticipated as some very general kind of Lifeworld objects, as "boxlike", or something of the kind (and outside the purview of real box possibilities) (cf. I.2.4.).

As we noted above, Husserl, at the end of his researches, came to the conclusion that there must be a sign function even between the picture thing and the picture object, for while the picture thing, just like any other object, can be observed from any chosen vantage point, there is a "normal position" which alone gives rise to the picture object, and which must somehow be stipulated to be the relevant one (p 491 f). It seems obvious from this argument that for Husserl, signs are always conventional, even if they are analogous, and this conventionality is now extended, though in a more limited sense, to embrace pictorial consciousness. However, the reason quoted in support of this move is most certainly mistaken. In the first place, we know from the work of Pirenne, Hagen and others that, from many angles of vision, widely diverging from the station point of a perspectival picture (and no doubt also in others) we actually see (almost) the same things as from the point coinciding with the station point. Secondly, if we choose a vantage point beyond this range, we are left with nothing to see, or only the picture thing. The latter fact is most clearly illustrated from its exceptions: there are pictures like Mitelli's drawing, which shows a face also when turned, literally, on its head (cf. Gombrich 1963, fig. 2.), or Gustave Verbeck's famous comic strip "The Upsidedowns" where the story, begun in the "normal position", is continued when the whole strip is inverted. At least in the latter case it is possible to turn the picture thing round, and to discover how one picture object goes over into another, sometimes at different moments for different parts of the picture. Until we reach the point where meanings begin to change, however, we continue to see the first scene in the interpretation which should only ensue in the position from which we started. Thus, the information about which is the "normal position" for viewing the picture is not external to it, but part of the picture object itself, and the sign function is not needed in the sense in which Husserl thought it was.[7]

But pictorial consciousness is certainly a sign function in the sense we have used the term: an appresentation (cf. I.2.5. and I.4.2.). From the picture thing via the picture object to the picture subject and, in case there is one, to the extrapictorial referent, there is (if the aesthetic function does not apply) increasing *thematization,* and, roughly speaking, there is also decreasing *directness* (cf. II.4.4.). There is decreasing directness only if the most large-scale consistent reading is required, for otherwise the picture object is the most directly given, and directness decreases in both directions from there (cf. fig. 53). As for the extrapictorial referent, it may be a *motive* or a *model* (if these are separate; cf. III.1.3.); and in the latter case, it is sometimes, as in a photograph, indexically related to the picture thing (cf. I.2.6.). Even in the case of such indexicality, a conventional link is often needed between the picture object and the picture subject on the one hand, and the referent on the other, if the referent is to be recoverable (cf. Barthes's "anchorage", on one interpretation; see II.1.1.). Kjørup has pointed out that a 17th century painting may well resemble his niece, but cannot be considered a portrait of her, so there must apparently be some kind of tacit convention

relating the picture object to the referent (although, given a sufficiently good picture, the differences between the 17th century lady and Kjørup's niece should be possible to track down, the decision as to what the picture is a portrait of will not wait for the result). Also, as Wollheim (1980:206 ff) notes, a picture in which we "see in" a dog may have been intended to show a lamb, and so a "standard of correctness"is needed to tell us so; this time, the referent is also a general category, rather than a spatiotemporal individual, but otherwise, the case is identical.

–	*thematization*	+	+
+	*directness with maximal consistency*	–	–
–	*+/+ absolute directness*	–	–

PICTURE THING/PICTURE OBJECT/PICTURE SUBJECT/REFERENT

Fig. 53. The pictorial sign

It is possible, then, that there are conventional correlations between picture object and extrapictorial referent; sometimes, as in the photographs of "impossible objects", they are not even intended to be the same (cf. III.1.3.). But no "standard of correctness" is required to relate the picture thing and the picture object; but since this relation is in no way obvious, a hierarchy of the relative Lifeworldliness of things is needed, if we are ever to understand why a certain picture is a picture of a particular object.

Now let us reconsider the case of the mirror. Husserl (p 152, 205 f, 486 f) is clearly wrong in treating mirrors as illusionary objects, which give themselves as reality but are contradicted by the environment (cf. III.3.5.). Small children and most animals really do confuse the mirror image with reality; but just as we cannot understand the picture from how it is perceived through a peep-hole, when its picture character is hidden, we cannot appreciate the nature of the mirror from an inquiry into the experience of those to whom its mirror character is lost. An illusionary object, in Husserl's narrow sense (cf. III.3.5.), is something which gives the appearance of being one particular thing, but is then cancelled by attention to the environment: to see the shrub as a ruffian, rather than to hesitate between both interpretations; to see the wax-doll as a human being, until one discovers the pedestal; to confuse the theatrical scenery with a real façade, until one has tried to enter the house; and so on. The environment is important even to the mirror, but to confirm its mirror character: unlike the case of the window, we have two scenes which are more or less continuous, and indeed related by inverted symmetry (as a "mirror image"); and we expect the noemata in the horizon of the scene in which we stand to confirm the image in the mirror; otherwise, as in certain fantastic stories where such correspondences between the world and the mirror image cease to obtain, there is no mirror, but only the illusion of a mirror.

Unlike the picture, the mirror will really give rise to new "picture objects", as it (or that which is in front of it) is moved, and none of them is more correct than the others. We should expect there to be an intrinsic inconsistency in the mirror too for, like the picture, it is both surface and depth; but in our experience, the scene is in no way inextricably intertwined with the surface. Indeed, there is really nothing which corresponds to the picture thing, for there are no lines, or anything which may be observed as such, independently of the depth projection to which they give rise. Here, slides appear to be more similar to mirrors than to photographic prints for, although they do have picture things, these are in the projector, and cannot be seen at the same time as the projected images; and yet, in slides, in contradistincion to mirrors, the surface is inseparable from the scene. As for the equivalent of the picture subject, it is always identical to the referent, i. e. the person or thing placed in front of the mirror, which is also often the receiver of the message (though not always, for instance not in the driving mirror). At least there is a common kind of mirror which is ordinarily felt to make the picture subject coincide with the referent: unlike the sign, Eco (1976:339 f; 184 a:202 ff) says, the mirror cannot lie. But Vilches (1983:21) observes that the mirrors in the Fun House do just that. Indeed, they lie in a systematic way: there is always the same distance between the referent and the picture object, at least from a given position in front of the mirror, so we can still dispense with the picture subject.

The mirror is no sign, Eco (1984 a:216 f) says, because the mirror image is not present in the absence of its referent, it is causally produced by its object, it is not independent of the medium, it cannot be used for lying, and so on. In particular, the mirror is no index, Eco (p 211) claims, because, unlike a letter containing personal pronouns like "I", which continues to refer to the writer, a mirror sent by post ceases to indicate the sender and will now point to the receiver. This is true, but the weathercock, one of Peirce's favorite examples of an index (cf. III.1.2–3.), behaves in all these respects more like the mirror than like the pronoun: if sent as a message from the seasonal resort, it will indicate the direction of the wind at the place where the receiver lives. The difference really depends on how far the constant elements of signification go in a sign: we know "I" refers to the speaker or writer using a particular instance of the sign, and there are usually other ways of discovering who the speaker or writer is, or at least that he is not identical to ourselves. The constant element of the weathercock is the indication of the direction of the wind in the here and now; and that of the mirror is the rendering of something visible placed presently in front of it. But the variable elements are too many ever to be retrievable.

There is no reason to deny the sign character of the mirror: something which is comparatively more direct and less thematic, the mirror image, stands for something which is less direct and more thematic, the object in front of the mirror. Indeed, we may want to call the mirror a *hard icon* (cf. I.2.6.). But the mirror is no picture: it has no independently observable picture thing; the mirror image is not, like the picture object, inextricably interwined with the surface of the object which is the support of the image; and there is no picture subject distinct from the referent. Also, the mirror, unlike the picture, will render all kinds of objects with the same ease: the hierarchy of most Lifewordly things may be brought to bear on the mirror too, but the mirror does not change its way of representing these things. Nor can the mirror choose to render the world at different *intensional levels,* as the picture does (cf. III.5.).

In this section, we have rejected Husserl's sharp distinction between pictorial consciousness and analogous signs, as based on the criterion of perceived three-dimensionality; "seeing-in" is wider than that; and likewise, we have dissented from Husserl's argument for introducing a conventional link between the picture thing and the picture object. In addition, we have argued that the extrapictorial referent, if there is one, is something quite distinct from the picture subject (unlike the case of mirrors). Thus, it seems, we must think of both the picture thing and the picture object as being on the expression side of the sign; the picture subject is similar to the content; and the referent, which strictly speaking falls outside the sign, is still the referent. The picture object must be seen as a reflection in the sign, of the picture subject: and thus, the similarity of the picture object to the picture subject, in absolute terms, matters less than the place of the picture subject in the hierarchy which allots their relative centrality to the objects of the Lifeworld. How this determines the possibility for pictures to say new things about a very old world will be seen in the following chapters.

III.3.7. Summary and conclusions

We have been reviewing the evidence and the theories about picture perception, stemming from the ranks of contemporary perceptual psychology, as well as from some philosophers, notably Wollheim and Husserl, who have considered the pictorial sign from the point of view of perception. The fact that pictures are readily interpreted by small children, and by people from cultures where no pictures are known, poses constraints on the possible theories of pictures, and is hardly compatible with those philosophical and semiotic theories we have encountered in the preceding chapter (in III.2.). But there is also some indication that, while the 19 month old child in Western society has learnt to attend to the lines on paper *alter-functionally,* such an attitude is by no means obvious to adults from picture-deprived cultures. Thus, a kind of hierarchy between things likely to be valued in themselves, and things most probably used to stand for other things, seems to be one very general Lifeworld condition for the perception of pictures (III.3.1.).

Direct registration theory, in the versions of Gibson, Hagen, and Kennedy, was then appraised. Gibson's theory, we argued, differs from other theories in accounting for more phenomenological facts, and much less in being based on new experimental findings; indeed, it is very reminiscent of Husserl's conception of perception. Although Gibson and his followers are undoubtedly right in much of their subtle analyses of picture perception, they fail to explain how pictorial perspective is mapped onto its ecological counterpart, which at least Gibson claims to be quite different; and they cannot make sense of the fact that perspectivally incorrect pictures are easier to interpret than others; and they are unable to tell us why some combination of angles, which is really common to an infinite number of objects, is immediately seen to be, for instance a house (III.3.2.). Indeed, after discussing the theories of Gregory, Neisser, and Hochberg, according to which pictorial perception, as all perception, consists in an active search after meaning, we were able to show in one of Kennedy's examples that in order to see something specific in a drawing, we must begin by projecting something onto it (III.3.3.).

Following Hochberg and Perkins, we then brought up the case of impossible pictures, well-known from the works of Escher and Reutersvärd. While there is some justification for the view that the percept is constructed from local cues, which, when they are contradictory, give rise to conflicting interpretations, our new reading of the phenomenal evidence, i. e. in this case the pictures used by Hochberg, suggests that there are global non-configurational properties which determine the general idea of the object seen. Thus, we argued, the "canonical features", which are treated as a marginal phenomenon even by Hochberg, may well be central to pictorial perception. Perhaps such qualitative features are always required to start the pictorial perception process, which is then spelled out in greater details, if the spatial layout features included in the pictures permit it to be done (III.3.4.).

This brings us to the question of how the surface and the scene commingle in the picture. We followed Wollheim in describing this as a "seeing-in" (rather than a "seeing-as"), and we pursued what seemed to be the same idea through some research manuscripts by Edmund Husserl. Thus, we were able to establish some distinctions between pictorial seeing, and some other ways in which in which two perceptions may coexist in space and time; and we could at last see the limits of the window metaphor for the picture (III.3.5.). As a result of this move, we now had to distinguish the picture thing, the picture object, and the picture subject, as three in-

stances in pictorial consciousness – and we wanted to know if the picture were still a sign. We concluded that the picture is indeed a sign, in the sense of appresentation, but that does not mean it is in any simple sense conventional. Picture thing and picture object are both on the side of expression; picture subject is similar to the content of the sign; and there may also be a separate, extrapictorial referent, which is perhaps only conventionally recoverable (and we could now see the limits of the mirror metaphor for the picture). However, it was clear that the Lifeworld hierarchy of comparatively more central things was also needed to explain that, given such limited indications of their invariants, certain things could still be recognized in pictures (III.3.6.).

Here, it seems, we should really set out to establish the Lifeworld hierarchy, or at least the more general conditions of possibility of all Lifeworld hierarchies found in the different sociocultural Lifeworlds but, even supposing that to be a task which is possible to accomplish, it lies beyond the scope of the present essay, since it pertains to much more than only pictorial signs. Instead, in the chapters to follow, we will on the one hand spell out the consequences of our conception for the nature of the typical pictorial signs, in particular as to how they differ from verbal signs, and on the other hand, show how such specific properties of the pictorial sign form the basis for such operations as determine its peculiar commerce with meaning.

If the picture is perceived, and at the same time imagined, as Husserl and Hochberg would agree to say, it partakes in the nature of both mirror and cloud. In this chapter, the mirror part has taken precedence over the cloud part; in the next, the cloud will once more gain the upper hand (III.3.4.).

Chapter III.4.: Cloudy mirrors – On the semiogenesis of pictorial meaning

> *"L'intégration montre que l'enfant devient capable /at 4,5 years/ d'établir des rapports de nature graphique entre les differentes parties de son dessin. Ce qui différencie le dessin du langage, c'est qu'il faut ramasser dans une seule image une succession d'idées qui se distribuent dans la durée."*
>
> *Lurçat 1968: 440 f.*

In the most recent version of his critique of iconicity, Eco arrived at the conclusion, that pictorial signs were conventional, though not resolvable into features (cf. III.2.6–8.); on the other hand, in the psychology of perception, as represented by Kennedy and Hochberg for instance, pictures are considered to be largely motivated, and yet resolvable into features (cf. III.3.2–4.). Before we declare these results to be in complete contradiction, we need to be sure, not only that the concept of motivation is the same (cf. the bulk of III.2–3.), but also that the term "feature" is used in the same sense. Semiotics derives its notion of feature from linguistics (or, at least, so it is claimed), and at least E. Gibson (1969: 82 ff) and Hochberg (1978a: 190 ff) also quote the example of linguistics when they introduce their notion of feature; but it is not obvious that such an identification can withstand closer inspection (cf. III.4.1.).

The problem of pictorial features must be faced here for yet another reason: while it seems that pictures cannot be entirely explained from spatial layout features (see III.3.), some rendering of the spatial distribution of the picture subject in the picture object is essential to the core meaning of the notion of picture. For instance, even Scruton's head (fig. 52a), which is square and lacks ears, nose, and hair, nevertheless reproduces (very roughly) the mutual relations between the eyes, the mouth, and the face as a whole, and indeed builds up a facial schema, in virtue of which the ears, the nose, and the hair *are lacking at specific places* in the drawing. It will be remembered that Hoffmann's children arrived at a stage in which they were able to reproduce in their drawings some global, non-configurational features of the object imitated, and to integrate these into a configuration, and yet they had not achieved pictures in an ordinary sense, because the configuration on the paper was not the same as that present in the model (as seen from a paticular angle of vision, I suppose; cf. II.3.6). Nonfigurative art certainly does produce art works which are of the same general kind as these, but, if they must still be considered pictures, they are certainly not prototypical instances of the category (cf. III.6.). The prototypical picture, it seems, reproduces the fundamental spatiotemporal framework of the Lifeworld – as Cubism, Expressionism, and all kinds of more or less figurative art continue to do.

Pictorial features are, I believe, in some respects different from linguistic ones, at least as the latter are ordinarily described. We will be essentially concerned to show, in this chapter, that there can be no "double articulation", in Eco's sense, in pictures, because what is taken to be the first and the second pictorial articulations have in fact properties in common with *both* linguistic articulations. It may seem futile to attack a doctrine which Eco has already abandoned himself: but not only does Eco continue to use the results of this argument in other parts of his theory, and his conception still exerts a sizable influence on would-be semioticians, but it is important for our understanding of the nature of pictures to see just *why* this doctrine is mistaken. Also, an alternative conception of pictorial meaning will emerge from our critique, which is more useful for semiotic analysis, and is more in agreement with perceptual and cognitive psychology, and with the study of children's drawings (III.4.3.).

However, we will adopt a regressive strategy, begin-

ning with the discussion of the "triple articulation" Eco discovers in the cinema (in III.4.2.). We will thus be able first to disentangle some other confusions over linguistic concepts, common to Eco and some other promoters of multiple semiotic articulations. And this is no vain exercise: it will enable us to rescue some essential distinctions for the analysis of pictorial meaning.

III.4.1. Bringing the hobby horse back home. Some features of features

> *"Le sème linguistique fait partie de la famille générale des* sèmes uni-spatiale, *dont fait partie nécessairement tout sème basé sur la transmission acoustique/– – –/ /but an exemple of a/* sème multi-spatiale */is/ le* tableau allegorique *ou même une peinture quelconque dans la mesure où les objets représentés touchent à la signifiance des choses. Il est impossible de dire que ce tableau commence par la gauche et finit . . ."*
>
> *Saussure 1974: 39*

Features, as they are conceived in mainstream (European) linguistics, are characterized by a number of properties: there is only a limited amount, indeed a small number of them; they are defined *alter-functionally*, i.e. in relation to a constant which is on the other plane of the sign (cf. I.1.2–4.); they are *distinctive*, but not *significative*, i.e. they lack meaning in themselves (which must be shorthand for saying that they do not convey any part of that meaning which defines them alter-functionally; but even so, the case of semantic features is not clear); they are categorical in nature, i.e. they must be present or not present, not there to a certain degree (even Trubetzkoy's "gradual oppositions" are made up of categorical terms, alter-functionally considered); their relation to the constant on the other plane is *deterministic*, not probabilistic, i.e. once a particular feature, or combination of features, is present, the consequences for the other plane are sure to follow; they are normally *structurally* defined, i.e. in relation to other features of the same plane (cf. I.3.3.–4.), and, more often than not, this structure is taken to be made up of a series of *privative, binary oppositions*; also, at least on the expresison plane, they are of two different types: either they are configurations, and are then organized linearly on the temporal dimension (e. g. phonemes); or they are rather like attributes (cf. I.2.4.), and perhaps like holistic, non-configurational properties (lacking internal articulation and external demarcation; cf. I.3.4.), and then they may be simultaneously present (e.g. phonological features).

Let us now see what can be determined about the features of visual perception in general, and those of pictures in particular. Pictures, and perhaps also perceptual reality, may be made up of a limited number of features, if only spatial layout features of the kind posited by Kennedy and Hochberg are needed (cf. III.3.3.–4.), but if, as we have hypotesized, there are also a more "qualitative" kind fo features (cf. I.3.4/6.), their amount may be very great indeed, although not "infinite" (as Eco 1968: 234 suggests). The features of ordinary perception are of course *alter-functionally* defined only when we are faced with a self-presentation (cf. II.2.2.), and then only in a somewhat peculiar sense, for the other is really the same but conceived differently. In the picture, however, features *are* alter-functional, in relation to different constants in iconic and plastic language (cf. II.3.). And the features of perception are certainly not meaningless in themselves, relative to what they stand for: to identify a conjunction of features as, for instance, a house, is also to see one of them, a crack, as the door opening (cf. fig. 46 and III.3.2.).

The case of pictorial features is more complex, as we shall see in the bulk of this chapter: they both are, and are not, part of the meaning they convey (see in particular III.4.3.). Because of their alter-functionality, the expression features of pictures must be categorical, when they are considered in relation to a given meaning (cf. III.2.4.); but the relation existing between the feature collocations and the content plane must be probabilistic, the meaning becoming ever more certain with each added feature pointing in the same sense. Thus, if we except the fact that the complete series of features is not identical to what each of the features stands for separately, pictures follow the *symtom* model of meaning (cf. I.1.2.); and since the meanings of the perceived environment do not split up in two strata, they fit in even better with the symptom model. As for *structure* generally, and the particular case of privative, binary oppositions, we have already found that they may serve to *overdetermine* pictorialmeaning, and thus perhaps visual perception generally, but, so far, there is little indication that *constitutive* features of pictures and perception are necessarily organized in this way (cf. I.3.3–4.; II.3.6.; III.2.7.). Pictures, just as other percepts, do seem to involve both configurations and non-configurational attributes (cf. I.4.4–5. and III.3.2–4.), but the similarity could well stop there, for if, as Saussure says, pictures are "des sèmes multi-spatiales", they can contain many configurations simultaneously. We will now have to look a little closer at some of these characteristics.

And it will be convenient to start at the end, with the two types of minimal features. Indeed, we are seldom told if those other non-linguistic minimal features, the mythemes, gustemes, vestemes, iconemes, and what have you, are thought to be similar to phonemes, or rather to phonological features. But one may wonder how, in the first palce, there can be two kinds of *minimal* units, both of which are *distinctive*, rather than *significative* (or "sense-discriminative" or "indirectly signifying", as Preziosi 1979a, b more properly says). Pohl (1967: 453 ff) defines his "plèmes" as the minimal units "sans signifié" (p. 455), and admits that there are two types of them, but then establishes the phoneme as the

standard of comparision, although, as he says, it can be analysed further. This is an outright contradiction; but the reason for it is of course that the "minimality" of these units is relative also to the categorical framework of space and time. The distinctive feature cannot be resolved into smaller units on the axis of simultaneity (the paradigm), Jakobson (1976: 211) says; and the phoneme, he adds, cannot be analysed into smaller units which are on both the axes of simultaneity and succession (the paradigm and the syntagm) (cf. Trubetzkoy 1939: 34; also Saussure 1968: 101 f about the phoneme being a "temps homogène"). Using these hints, we are in fact able to suggest a feature analysis of the linguistic features themselves, or, more broadly, of sounds (also cf. Coseriu 1970: 181 ff about Heinse's analysis of "Schall" and its congeners):

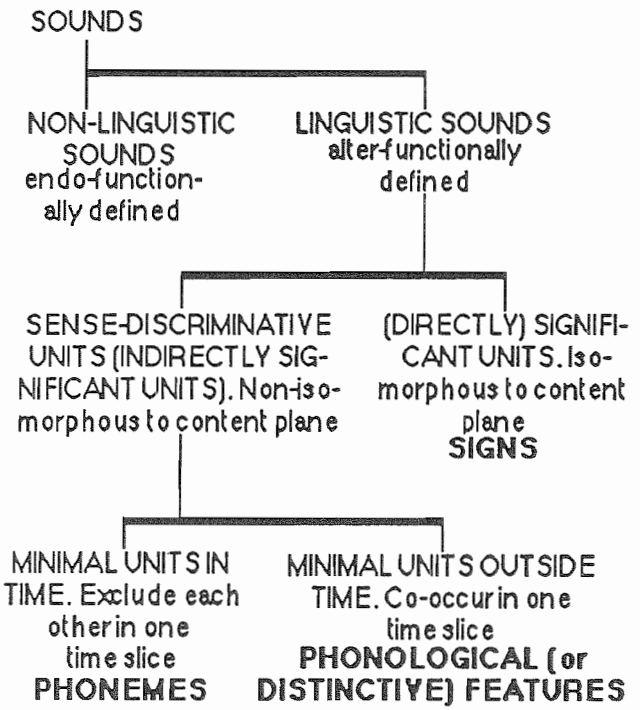


Table XIX. Feature analysis of sounds and sound features.

If phonemes and phonological features differ only in their relation to *time*, the distinction should prove inapplicable to pictures, which are, on the face of it, untemporal. And yet, the analysis of letters, which, like pictures, are not temporal in nature, has given rise to the parallel distinction between graphemes and graphic features (cf. Allén 1965; Mounin 1970; and III.2.4). It is true that the reading of a text takes time, and, in spite of a persistent belief to the contrary, pictures are not apprehended all at once either (see Kolers & Smuythe 1979); but neither letters nor pictures are read linearly, in sequence, letter by letter or figure by figure, but in a series of saltatory movements, with largley overlapping scope, and quite a few retrocessions (cf. also Kolers 1977; & Perkins 1975; Hochberg 1978a); and so their temporal organization cannot define any units. In Mounin's (1970: 141 f) terms, the letters "b", "d", "p", and "q" all have the same features, viz. "l" and "o", and differ only in the secondary feature of position; but then how do they differ from "lo" and "ol", respectively? Position clearly does not carry the same import inside and outside the limits of the letter, and while the difference of position is one of degree, the result is an absolute difference of category. Thus, it seems, simply introducing two-dimensional *space*, instead of time, will not do.

The basic distinction, I presume, is between minimal features which are *configurational*, and thus somewhat "thinglike", and those which are disembodied (though not necessarily global) *attributes*. In his analysis of some Klee paintings, Thürlemann (1982: 19; cf. 1986) makes a distinction between "elements" and "distinctive features" (defined by "categories"), which is not defined, but which, in practice (cf. 1982: 24 ff), seems to correspond to such an opposition between configurations and attributes (but the attributes are usually not global, e.g. the number of angles, or sides). Floch (1978a) could also be understood to be calling for an analysis going beyond the configurational level, and indeed for the pursuit of attributes of attributes (cf. II.3.). Eco (1968: 234), however, certainly ignores the distinction: of the features he proposes, some are global attributes (e.g. the figure/ground relation, brightness contrasts, geometrical relations, etc.), some are local attributes (e.g. angles), and others could best be conceived as configurational prototypes (in the sense of Rosch 1973; e.g. the circle, the line, and perhaps also the point).

More light is shed on the properties of these different kinds of features by Greenberg's (1967:216 ff) objection to the parallel Hjelmslev makes between phonemes and content features (i.e. Prieto's 1966:112 f; 1975a:40 f "third articulation"; cf. III.4.2.): the latter, he says, are more similar to phonological features. Phonemes, like the constituents of atomic compounds, are not organized into subsets which exclude each other (with the exception, in chemistry, of acids and alcalis), enter combinations in quantified form, and give different results when put together in different order; phonological features, and semantic ones, Greenberg contends, have none of these properties. This is true, with one, very essential restriction. Phonological features, as well as semantic ones, are situated on different points of a *dimension*, or *axis*, and if they are binary, but also if they are gradual, each point excludes the others (cf. I.3.3.); and while phonemes and lexemes can each manifest only one point of such a dimension, they participate in many dimensions, so that no partition of all phonemes or all lexemes in exclusive subsets can be made (i.e. a

phoneme cannot be both open and closed, and both voiced and unvoiced, but it is a member of the group of all open phonemes, which may be voiced or unvoiced, and of all voiced phonemes, which may be open or closed, etc.). If a phoneme appears twice instead of just once in a word, its meaning is changed; but to be twice unvoiced is just to be unvoiced, and the doubling of the feature + female will not augment feminity. And while putting one phoneme before the other makes a difference as to meaning (e.g. "perform" and "preform"),

	configuration/attribute	*time-individuated/possible coincidence in time*	*place-individuated/possible coincidence in space*	*totally place-distributed/ overlap possible*	*2D distributed/ not precisely localized*
Phonemes	+	+	o	o	o
Phonological features	–	–	o	o	o
Graphemes	+	o	+	+	+
Graphical features	–(+)[a]	o	+(–)[b]	+(–)[b]	+(–)[b]
Pictorial configurations	+	o	+	–	+
Pictorial features: global	–	o	–	–	–
Layout features	–	o	+	+	+
Semantic configurations (words)[c]	+	+	o	o	o
Semantic features	–	–	o	o	o

	exclusive partition possible/ impossible	*X+X=2X / X+X = X*	*X+Y # Y+X X+Y = Y+X if + is sequence*	*X+Y # Y+X / X+Y = Y+X if + is thematical order*	*may contain only one instance from one axis/may contain several instances*	*(if not minimal): may contain instances of the same type as itself/only lower-type features*
Phonemes	–	+	+	+	+	+[d]
Ph. f.	+	–	–	–	o	–
Graphemes	–	+	+	+	–(+)[e]	+[f]
Gr. f.	+	+[f]	+[f]	–	o	+(–)[e]
Pict. conf.	–	+	+	+	gl. + l. –	+
Pict. f. gl.	+[g]	o[h]	+(?)[h]	+	o	–
Layout f.	+	+	+	+	o	–
Sem. conf.	–	–(+)'	+	+	+	+
Sem. f.	+	–	–	+	o	–

Commentaries: *a) according to extant analyses, some graphical features are configurations: e.g. "o" considered as a feature of* "a, b, d, g, p, q"; so the difference between graphemes and graphic features is not completely expressible in these terms; this is probably because the grapheme is taken to be a directly significant *unit standing for the phoneme; cf. Hjelmslev 1954.*

b) there is not that kind of relative consensus on the identities of graphical features that exists for the phonological ones. Most analysts, like Mounin 1970, take graphical features to be local, but those of the Gibsons are largely global; cf. E. Gibson 1969: 87 ff; Neisser 1967. Here, we follow Mounin.

c) semantic configurations (words, morphemes, etc.) are of course already signs, *not features in any sence; they are included here to complete our series of parallels. Cf. a above.*

d) if affricates and geminates are considered to be double phonemes.

e) According to Mounin, the graphemes "b, d, p, q" all contain the features "l" and "o", only in different positions, and positions (right/left, above/below) are taken to be separate features. On this interpretation, there should be composite graphical features, e.g. "l-to-the-right" as part of the definition of the grapheme "d". Since the number of positions for which the graphical configuration provides is limited, we could however also posit a separate axis for each position (i.e. "l" or nothing above to the right; "l" or nothing below to the right, etc.). This alternative is hardly feasible in the case of pictorial configurations, for the number of positions could only be arbitrarily determined.

f) If, again, like Mounin (cf. e above), we take position to be an independant feature, it is clear that the addition as well as the inversion of features like "l" (though not positional features; and not inversion of symmetric features like "o") do make a difference; and while in the case of our example, i.e. the features "o" and "l", the result of addition lack interpretation, this is not true of all Mounin's features (e.g. the horizontal bars in "E, F, L", etc.). If, on the other hand, we define each axis relative to a position, addition will simply be invisible, and inversion cannot exist.

g) If features are prototypical, there should of course be intermediate cases, but this is a different issue; cf. I.3.1. and III.6.

h) In fact, X+X = more-of-X, or more probably X. See end of this section! Relative predominance of certain global features in some part of a picture is often used to convey particular meanings.

i) For reasons outside syntax and semantics proper, repetition of semantic configurations often carries meaning.

Table XX. The features of features.

there is no way of combining phonological features in different order. If we admit, however, that there are other kinds of order then linear sequence, it certainly seems that semantic features can be amalgated in different ways: not, perhaps, by "linking", a kind of configurational mode of junction once proposed by Weinreich (1966), for this can be reduced to more features, and, above all, to more adequately formulated features (cf. Sonesson 1978b); but in any case in different thematic hierarchies. Fillmore (1971) demonstrated convincingly that the verbs "accuse" and "criticize" for instance, contain the same features, but with the features which are affirmed in one case being presupposed in the other, and vice-versa (More examples in Clark & Clark 1977; Ducrot 1972; Le Ny 1979; Miller & Johnson-Laird 1976). But we have already seen (in III.3.4.) that also the expression features of pictures are organized into such thematic hierarchies (which are gradual rather than all-or-none; but then this may be the most adequate description also in the linguistic case). However, we now need to investigate to which type of pictorial features this applies; and how the different kinds of pictorial features fare generally in a Greenberg type of comparison. Adding a few kindred problems, we have tried to undertake this investigation in the form of a number of yes-or-no questions (reserving the case where the question does not apply) in the table below (+ for the first alternative; – for the second; o where the question is not applicable):

In the table above, our intention has been to show how different features, in the widest sense, may be, even though they have some properties in common. We have not tried to determine if some pairs or sets of properties always go together, for then a much wider range of different feature types (those of myths, music, and so on) would have had to be taken into account. At least a number of questions have been raised for more serious consideration; it can no longer be said simply that pictures are like verbal language, or unlike it (cf. I.1.2–3.).

We will consider next the number of pictorial features there is likely to be; Eco, it will be remembered, suggests there may be an infinite number. If so, however, the whole justification for positing features seems to collapse. In Hjelmslev's (1943: 42) opinion, the transition from signs to non-signs never comes later than the passage from unlimited to limited repertories; and both Martinet (1960: 14 ff) and Prieto (1966: 79 ff) explain the very existence of "double articulation" from the "economy" of means which it renders possible. Jakobson (1976: 83 ff) even claims the analysis in terms of phonological features is more adequate than that in phonemes, because less features are needed, and human memory can be loaded with much fewer meaningless items than with those that have meaning. Since the latter fact is also well-known from memory research (cf. Kintsch 1974; 1977), the suggestion that the human mind should process pictures in the form of an infinite number of meaningless features, instead of apprehending them as equally many, but meaningful wholes, seems utterly absurd. There are a number of ways of turning this objection. First of all, pictorial features, though similar in some respects to linguistic ones, are perhaps not meaningless in themselves; we shall return to this issue below. In the second place, maybe there is only a limited number of pictorial features in relation to a given principle of relevance – as in the case of Kennedy's layout features (cf. III.3.2.). Again, there is perhaps only a limited amount of features available when the child first learns to "see" pictures, viz. only the features of the most probable Lifeword objects (cf. III.3.6.).

As for the principle of pertinence mentioned above, it is, in all linguistic cases, and indeed in all signs, *alter-functionally* defined (cf. I.1.2.). This means that the features are delimited, not in relation to the whole they themselves form, but in relation to a unit they together imply on the other plane of the signs (cf. Trubetzkoy 1939:7 ff; Hjelmslev 1943:54; and in semantics, see the criticism addressed to Katz by Coseriu & Geckeler 1974 and Geckeler 1971). Representatives of the Prague school, in particular, have insisted that the units of phonetics are (in our terms; cf. fig. 54) *endo-functionally* defined, and those of phonology *alter-functionally*. Thus, Jakobson (quoted in Trubetzkoy 1939: 14) once claimed that phonetics was comparable to numismatics, whereas phonology can be equated with the science of finance – no doubt because in numismatics, coins and bank-notes are considered in relation to other coins and bank-notes, but in the science of finance, they are replaced in society, and in the series of exchanges which they occasion. It is important not to confuse this distinction with another one, stemming from Pike (1967), and now current in much of anthropology, which construes the "etic" and "emic" view-points as those of the external observer and the participant member of the culture, respectively. Obviously, numismatics, as well as finance, simply disappears, from the point of view of a person not thorougly steeped in the interpretational practices of the particular culture.[1]

Elsewhere, Jakobson (1976: 59) makes a parallel closer to our present concerns: phonetics lies outside linguistics, just like the chemistry of colours is beyond the bounds of the theory of painting, but the uses to which sounds and colours are but, are part of that which must be studied by linguistics and the theory of painting, respectively. When approaching non-linguistic objects, other linguists none the less tend to ignore this important distinction. Greenberg (1967: 2144 ff), for instance, argues that when Aristotle dissolves the four "elements" fire, air, water, and earth, into the binary oppositions "hot/cold" and "dry/moist", he has already applied the operation of present-day phonological analysis; but clearly, these attributes are critial, if anything, in relation to the "elements" themselves, not to a constant lying on another plane (from the Aristotelian point of view: to us, they form "une petite mythologie", as Lévi-

Strauss would have said; cf. I.4.6.). Also Nida (1975a:40ff, 46 ff) using geometrical figures, leaves, and screws, or, more precisely, pictures of them, to illustrate the procedures of semantic analysis, chooses his features so as to differentiate the objects in themselves, not in relation to the meaning they convey, or (since he is concerned with semantics) in relation to the expression which convey them.

Graver still is the fact that those concerned with pictorial semiotics are guilty of the same confusion. Gauthier (1976: 113) observes that a photograph can be reduced to points, but this is of course quite inconsequential if these points are not those which alter-functionally define the meaning. Thürlemann (1982: 24 ff) makes an interesting feature analysis of the elements in Klee's "Blumen-Mythos", but again, the properties retained are arbitrary, for they are not related to a constant on the content plane. This is not to say that these authors do no have good reasons for proceeding as they do: Thürlemann is concerned with plastic language, and it is certainly not easy to ascertain what is to be found on its content plane (cf. II.3.); and in the case of iconic language, which is what Gauthier is thinking of, the relevant features will change, as the content plane is itself apprehended on different intensional levels. Even Eco's (1968: 234) suggestion, that geometry may furnish us with the features of pictures, neglects the problem of alter-functionality – and yet may have some truth to it, if the Gibson/Kennedy tradition is to be trusted (cf. III.3.2–3.).[2]

A related point concerns the putative lack of meaning of features, as conceived in linguistics. Clearly, not even a phoneme or a phonological feature is deprived of meaning, in the most general sense of the term, but it does not on its own stand for something different than itself (cf. I.4.2.). Even when specified in this way, the thesis that features are merely distinctive becomes problematical, already when the feature concept is transferred from the expression plane to the content plane of verbal language: however minimal, a semantic feature must, by definition, have a meaning, and it is precisely this meaning which, together with the meanings of other semantic features, add up to the meaning of the sign.

It might then be suggested that the features of expression are such features that have no *independent* content *in the system* considered, and that thus the features of content are only required to lack *independent* expression in the *particular system*. But Mounin has argued that, since verbal language is the universal semiotic system, in which everything may be expressed, there is an expression corresponding to every content; to which Prieto (1975b: 80 ff) answers that some semantic features, like "singular" and "first person", cannot be independently expressed in verbal language, and that there are also phonemes which carry meaning (because there are words made up of one phoneme, in English, "a", for instance). But this is hardly a satisfactory rebuttal: for although "singular", "first person" and the like are not terms of ordinary language, they are extensions of that language, using its phonological, morphological, syntactical, and metaphorical means; and while there are very few phonemes (and no phonological features) which are also words, most semantic features will be words, even according to Prieto. This result would seem to carry over to the content plane of pictures, i.e. to iconic language. For while pictures may only be capable of conveying "all visible" meanings, there is no reason to suppose that the features of which these meanings are composed should constitute a more extended class (this applies to "picture objects"; cf. III.3.5–6.). In the case of the pictorial expression plane, we are really confronted with a much more curious paradox: for whereas the minimal features of a picture (even a photograph at a sufficiently low scale) considered in isolation fail to convey any particular part of the meaning contained in the whole picture, just as a particular phoneme does not communicate any part of the meaning of a word, the same pictorial features, envisaged as integral parts of the whole, stand for particular parts of the full meaning of the picture, rather like the semantic features add up to the linguistic content plane (cf. III.4.3.).

Must we then conclude, at least in the case of the content plane, that there are really no features? I think not. To begin with, ordinary perceptual features clearly have meaning (cf. III.3.2–4.). And, at least in linguistic semantics, there is a series of "convergent operations", as Garner (1974) terms them, which show the existence of features (though not always of the same features):

a) the ordinary *structuralist operation*, i.e. the commutation test. As Prieto (1975b: 81 ff) rightly observes, we may find that "cow" means +cattle, +female, by comparing it to "bull", "horse", etc., just as objectively as we derive the phonological features of the phoneme /b/, viz. +labial, +voiced, from opposing it to the phonemes /p/ and /d/ (cf. I.1.3. and II.4.4). This operation seems to be insufficient, however, first because meanings such as "cattle" and "female" appear to be too rich to be left intact; secondly, because once we take seriously Saussure's contention, that the "value" of an element depends on all others, we shall have to compare each term with every other term (which is of course impossible), not just with a couple of other terms contained in a "semantic field"; and thirdly, because it may be true, as Jakobson (1976: 76 f) has claimed, that while phonemes are oppositional, relational, and merely negative, as Saussure says, content units are not just negative. In the case of pictures, it seems even more obvious, that too much meaning is left untouched by the oppositional operation, which is unable to encompass the – for all practical purposes – infinite number of items concerned, and it is even more certain that the operation must leave a positive rest. We need other operations:

b) the *contextual operation*. Katz's "selectional re-

strictions" in generative grammar, Greimas's notion of isotopy, and, in a more restricted way, the "lexical solidarities" of Porzig and Coseriu (1977: 143 ff) record the fact that there are semantic, as well as syntactic, limitations on the ways in which words may combined; but such constraints may also be taken to form an extended expression plane which is alter-functionally related to word content (cf. the analyses of the semantic fields corresponding to "cut" i Swedish, French, and Huasteco in Sonesson 1978a, b; 1982). If, for instance, "cut" combines with "bread" but "carve" with "meat", this could tell us something about the more subtle, semantic difference between "cut" and "carve". It is not obvious, however, how this operation, and the next, shall be applied to a non-temporal medium like pictures.[3]

c) the *textual operation*. As in text grammar, we can go beyond the more immediate context to more remote combinational constraints. For instance, once a particular word has been introduced in a text, others may, as Karttunen (1971) observes, be used with the definite article, i.e. be presented as already known; and languages differ somewhat in what they presuppose in this way (cf. Sonesson 1978a). Thus, if one can say "I have an armchair in my room, but the fourth leg is broken", this shows that "armchair" contains a feature like "has (normally) at least four legs".

d) the *metaphorical operation*. Both Nida (1975a) and Kerbrat-Orecchioni (1977a) have observed that those features which account for the relation between a metaphorical and a literal meaning are not the same as those which are criterial, according to the structuralist operation. Groupe μ (1970) once suggested that "birch" could be a metaphor for "young girl", because these words have the feature "flexible" in common (cf. I.2.4.); but Ruwet has observed that "flexible" is no criterial attribute of neither girl nor birch (i.e. it cannot be derived from the structuralist operation); and in a later text, Klinkenberg (1983) also appears to recognize this. Instead of rejecting the results of the metaphorical operation, it seems more convenient to grant these features a different thematic status (cf. I.4.6.); and fortunately, this is an operation which is feasible also in the case of pictorial meaning (cf. III.6.).

e) the *thematic operation*. In the case of verbal language, this operation is largely convergent with the others, such as the structuralist one. It consists in placing a word in certain sentence frames, so as to bring different semantic features to the apex of the thematic hierarchy. For instance, in "she is a woman, not a man", feminity dominates the hierarchy, in "she is a woman, not a girl", adulthood comes to the fore, and in "she is a woman, not a mule", humanity occupies the apex; however, the fact that "she is a woman, not a person taller than 180 cm" sounds curious shows that expected height, although it may still form part of our notion of woman, cannot be brought to the thematic apex of the word "woman". Perhaps similar operations could be applied to pictorial meaning, if there were something comparable to sentence frames in pictures; but the limits of variability are clearly set by the intensional level and the perceptual noema chosen for the picture. However, the fact that thematic reorganization of the pictorial expression plane *does* have consequences could be taken to speak for the reality of pictorial *expression* features (cf. III.3.4.).

f) the *transsemiotic operation*. In his classical analysis of the French semantic field of "sitting furniture", Pottier claimed, among other things, that "chaise" had the features "avec dossier, sur pied, pour 1 personne, pour s'asseoir" (discussed in Baldinger 1980: 62 ff; Geckeler 1971: 259 ff). Although this analysis was accomplished by the aid of other similar French words, i.e. with the structuralist operation, so that features were posited only to separate words existing in the language, Gipper (1978: 43 f) is no doubt right in affirming that the content of Pottier's features is taken from a decomposition of the objects themselves, rather than of the linguistic mening. As a remedy to this, however, Gipper (1959:277 ff; 1978:43 ff) suggests an approach, which, on the face of it, is even more extralinguistical, and which consists, as Jakobson would have said, in "translating" from one semiotic system to another, and indeed from pictures to words (cf. Metz's "transcodage"; II.2.2.): people were shown pictures of different kinds of sitting furniture and had to decide in each case, if the depicted object was a chair or an armchair ("Stuhl" or "Sessel"; the same method has been taken up recently in psycholinguistics; see examples in Clark & Clark 1977; Glass et al. 1979; Miller & Johnson-Laird 1976). An armchair, it was found, is relatively more comfortable and connected with leisure and rest, whereas a chair typically has a higher utility value, and is employed in working, eating, and other goal-directed activities. It will be noted that Gipper's features are conceived as prototypes *avant la lettre*, and that they are "global" properties, where these of Pottier are local. However, Gipper's operation clearly amounts to the classification of pictures (or the depicted objects) in relation to words – and this gives rise to two questions: does this operation also tell us something about the pictures? And would it be possible also to classify words in realtion to pictures?

As for the first question, it is important to realize that Pottier and Gipper could have used the same pictures for their divergent analyses. Gipper's pictures can of course, as pictures, be partitioned Gipper's way, Pottier's way, and in many other manners, but only one of these partitions is linguistically pertinent, or so it is supposed. The *intensional levels* rendered in the picture must obviously set a limit to the features derivable form it; but both Gipper's and Pottier's features are so high up the intensional ladder that they could well have been taken from schematic pictures like Stern's chair (cf. fig. 52b). When it comes to depiction, the two proposals can hardly be distinguished: indeed, the easiest way to pic-

ture an armchair, i.e. a comparatively comfortable piece of sitting furniture, is probably to include, in a drawing of the Stern type, something which could be taken to stand for elbow-rests. Thus, it seems, no matter how schematic a picture is chosen, it is indeterminate in relation to verbal language under the transsemiotic operation.

At this point, we will do well to remember Elgin's gorilla (cf. III.2.5.): faced with it, we are overpowered – by the profusion of words we dispose of for talking about it. If our earlier conclusion was warranted, Goodman's, and Elgin's, semantics is concerned with the possibility of a projection from the world to the word, rather than the reverse (like retrieving the musical score from the performance), i.e. its ideal type is a unique mapping from a given referent to one sign of the repertory. As we know (cf. III.2.5.), this test fails already with verbal language; but just as we cannot retrieve a unique word corresponding to the real-world gorilla, we are unable to decide on a unique picture onto which the gorilla can be mapped; nor can we find a unique word suggested by the gorilla picture, nor, vice-versa, a unique picture correlated with each of the gorilla words.[4] This, however, seems to render all transsemiotic operations entirely arbitrary: how, then, is Gipper's test possible? There is a rather obvious answer to this: when the alternative terms "chair" and "armchair" are given to the experimental subjects, their common semantic domain is established as the presupposed intensional level, with the same effect as when the information that weight is to be measured is introduced into a system of fully reduced Arabic fractions (as in Elgin's example, quoted in III.2.5.). The transsemiotic operation can therefore be accomplished, beginning with the pictures, by opposing two pictures or two parts of a picture to each other (cf. I.3.3.). It should be noted, however, that if there is a *basic level*, in Rosch's sense (cf. I.3.2.), the host of terms suggested by the gorilla are not of equal importance: indeed, there should be a reduced system which is disjoint and differentiated (at least when a point of view has been specified). If so, the same system could apply to pictures, and there should really be no problem in employing the transsemiotic operation – apart from the very triviality of its results. Nevertheless, to the extent that there is a base figure level, independent of the base object level, the analysis becomes less straightforward.

It may be concluded from the foregoing discussion that the evidence for the existence of semantic features is even less conclusive in the case of pictures than in that of verbal language. While proceeding with our consideration of the features of pictorial features, we will fortunately be able to pursue at a deeper level some of the questions hinted at above, and notably those which have to do with the correlations between perceptual, linguistic, and pictorial configurations.

We would ordinarily take pictorial features to be categorical in themselves, just like linguistic features. It might be suggested, however, that, in their relation to the other plane of the sign, the pictorial expression features are probabilistic, rather than deterministic. Fant (quoted in Belardi 1967) states that the features of perception are more redundant than those of phonological analysis, also in the perception of phonemes. But that which is called redundancy in phonology really corresponds to a number of phenomena:

a) a *thematic hierarchy*. In phonology, this is often an artifact of the method. In many languages, the phonemes /p/ and /b/, for instance, are not only distinguished by voice, but also by the tensity of their articulation, so that when one of these features is not correctly pronounced, or is covered by noise, the other is sufficient to assure recognition. Although it has often been argued that only one of these dimensions is pertinent, the other being redundant, such a distinction must be inconsistent from a strictly structuralist point of view: if features are only determinable from oppositions, and if two dimensions always vary together, they are simply one dimension. In the same way, it is arbitrary to decide that fig. 54b differs from fig. 54a in being wider or in having one oblique side; although there is no single term for that in the language, it must be said to differ in being wider-and-having-one-oblique-side (also cf. Nida 1975a: 40 ff, 46 ff).

Strict structuralism may well be wrong (cf. I.3.). Two or more features, which tend to appear together, though sometimes fail to do so, may yet be seen as distinct, and as equally important, as is perhaps the case with those features that define Rosch's prototypes, and which make some of Garner's test figures easier to grasp for the experimental subjects (a more homely illustration of the same point is that biscuits made of different kinds of dough are traditionally given different shapes, making the difference more apparent; cf. I.3.1. and I.4.1.). Of two different features that always go together, one may even be felt to be more important: it is obvious that, although fig. 54c differs from fig. 54a in being round and in having an appendage, its roundness will override any other conceivable property. In this sense, features very low down the thematic hierarchy may be said to be redundant.

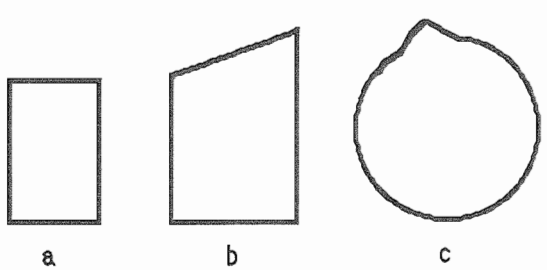


Fig. 54. Feature correlations.

b) *properties implied* by thematic properties. Thus, all geometrid figures having the properties of being closed and having three sides also have the property of possessing 180 degree angles (Nida 1975a: 39 f); and since our fig. 54b has one oblique side, it must also have two parallel sides which are not equally long. As for the choice of pertinent and redundant features, the same observations as above would seem to apply.

c) features that *together convey the same* as each one of them convey alone. Here redundancy only exists in relation to the other plane of the sign. In spite of Gregory's tree (fig. 47.), it appears that pictures do not ordinarily change meaning completely when a single feature is exchanged for another (as in verbal language, e.g. "boy"/"toy"). Instead, there are of course those cases in which the modification of expression features only occasions the parallel modification of content features ("girl wiht closed mouth" becomes "girl with open mouth", etc.); but then there are also cases in which the successive accumulation of many features increasingly weights the interpretation in favour of a new content (see fig. 55). In fact, the latter process is probably more complex: first, a few features will have to assemble before any meaning whatsoever can be indicated; then each additional feature is normally not simply synonymous with the others, but different sets of features out of the total set (at each given moment), are compatible with different sets of contents; and finally there will be some stage at which the meaning of the picture is, for all practical purposes, determinate. This is of course the symptom model of meaning, with the exception that the (potential) full set of expression features does not make up the content (cf. I.1.2.). This description clearly applies to both layout features (see fig. 49. and III.3.4.), and to more qualitative kinds of features (cf. fig. 47, 51, etc.). If so, however, we cannot expect the commutation test to work with pictures; and yet it has been used, at least by Porcher (1976) and by Gauthier (1979: 44 ff; 57 ff).

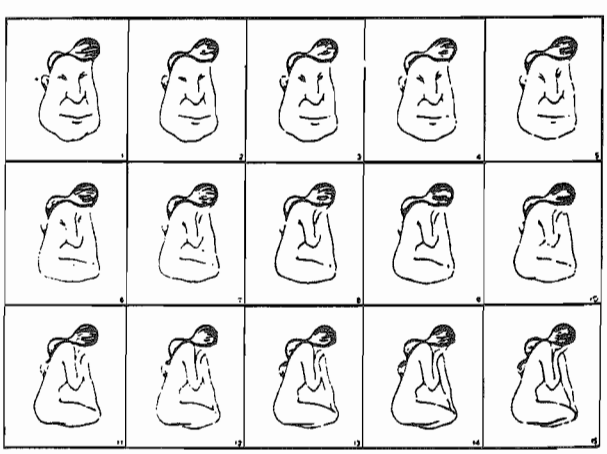


Fig. 55. Male face or girl sitting (from Hesselgren 1975).

Actually, neither Gauthier's nor Porcher's putative commutations concern minimal features, but rather consist in the exchange of complete signs inside larger sign constellations, or compound signs (e.g. hair colour, finger nails, and so on); and yet an inquiry into the difficulties encountered by this enterprise is undoubtedly worthwhile. Here, Gauthier's attempts appear to be the less instructive: they, like those of Porcher, certainly suppose a completely arbitrary delimitation of the segments to be exchanged, as well as a gratuitous choice of elements with which to exchange the segments (cf. our discussion of Gauthier's tomato, in II.2.2.). Thanks to the subtlety of Gauthier's analysis, however, the results are interesting, in spite of the (lack of) method. Porcher's analytical practice is therefore more revealing: in one case, he claims that the meaning "voyage" cannot be taken away from a particular cigarette advertisement because it remains when the steering-wheel, the interior of the car, the road outside, the other cars visible on the road, and so on are effaced from the picture (p. 130). Of course, if "voyage" is a meaning of the picture, it is a very compound sign indeed, and if effacing the steering-wheel does not remove the content "voyage", it does nullify the content "steering-wheel". The interesting question really concerns the possibility of taking away some parts of the expression for "steering-wheel", while retaining the content "steering-wheel" and even, on a lower intensional level, the particular steering-wheel type content. According to perceptual psychology, this should be possible (cf. III.3.3.). However, Metz (1968: 68), quoted by Porcher (p. 207 f), argues against a double articulation in pictures (cf. III.4.3.), because in a picture of three dogs, the expression and the content "the third dog" have to be effaced together. This is an erroneous argument for what is, in a way, the right conclusion. To begin with, on the most obvious interpretation, "the third dog" is a sign, not a feature, and Metz is thus simply presupposing what he wanted to demonstrate. However, it is possible to make a drawing of three dogs in such a way that the expression features for the dog group cannot be exclusively distributed among the three dogs, using for instance what Riegl and Wölfflin have called the "tactile" or "picturesque" style (also cf. Paulsson 1942). The same result can be obtained in a photograph, using certain techniques, as for instance high-contrast, which makes different real-world objects have a single boundary (cf. Lindekens 1971a, b; 1973).[5] No matter if there is a single sign for "three dogs", or three signs for "dog", it is inside these signs that we have to look for the pictorial expression features.

In another case, Porcher's experimental subjects tell him the impression of "femininity" in a picture stems from the hand, in particular from the finger nails (p. 58 ff), but when Porcher removes the nails, or modifies their appearance, "femininity" remains. Procher therefore concludes that there is some ineffable femininity to the arm, in which the nails participate throught "irradia-

tion sémantique". Again, when the removal of "snow-covered slopes" from another picture does not cause the content "vacation" to disappear, Porcher (p. 60) still concludes that it is the pertinent unit. He even repeatedly (p. 27, 87, 130) claims it to be characteristic of pictures that they contain oppositions which are not pertinent – which is a contradiction in terms (cf. I.3.3.). All signs normally contain differences which are not pertinent, i.e. differences of substance, but then these are not oppositions. It would have been more correct to say that pictorial features are pertinent, although they are not necessarily based on oppositions. The presence and absence of pictorial features do make a difference, although not a categorical one: there must be "invariants" of feminity redundantly distributed all over the arm in Porcher's advertisement, and yet the painted finger nails may be felt to be more prototypical. We must thus determine the relative weight of each feature for the establishment of a particular content (cf. our analysis of the Italianity in "Panzani"; II.1.4. and II.2.2.).

With more justification, Porcher (p. 61) also observes that there is never a single expression for a content, nor a single content for an expression in a picture. Thus the counterpart of *redundancy* would be *cumulation.* The latter aspect, which is crucial, is better exemplified in Gauthier's (1976) "Peanuts"-analysis. In the "Peanuts" code, Gauthier (1976: 113) argues, there can be no separate expression for such meanings as "eye", "opening/shutting (of eye)", "(the eye) in profile/from in front", or even the parts of the eye. The same line may participate in conveying the contents "eye", "openness of eye", "profile view", "smile", "happiness", and so on. While this is true, many different things seems to be confounded in this example. The line that makes up part of the configuration that means "eye" may possibly participate in the expression of the meanings "smile" and "happiness", in the same way as the real eye in the real world takes part in the expression of these real-world meanings (but cf. Birdwhistell 1971: 29 ff); thus, like in a compound word, the eye, together with other signs, builds up a larger unit, but unlike the case of verbal language, the eye retains its own meaning. Then there are the peculiarities of the Peanuts code: that there is no separate expression for parts of the eye. However, more interestingly, there are clearly features that must go together, if the result should be what is considered a prototypical picture: a visual display which had separate expressions for the eye as such, its state of openness, and the point of view from which the observer confronts it, could thus be some kind of notation (similar to those used by Birdwhistell and Kendon to note gestures), but it would no longer be a picture, simply because such a dissociation would not respect the conditions of Lifeworld experience (cf. I.2.1–2.). Perhaps this is what is meant by Husserl's requirement that pictorial likenesses should be "anschaulich" (cf. III.3.6). The limits to the dissociability of pictorial features is probably an important characteristic, not only of pictures generally, but of different pictorial kinds, and we will return to this below (cf. III.5.).

This, rather than multi-spatiality, may be the way in which pictorial meaning "touche à la signification des choses". That is, while it is not necessary that all features should be multi-spatial in themselves, the prototypical picture has to cumulate the expression of all three dimensions of the Lifeworld. Blueprints and most maps are only required to express two of these dimensions together. But not even in a perspectival picture do all features have a multi-spatial interpretation (cf. III.5.).

In this section, we have been concerned to show that if there is a sense in which pictures, both on the expression side and on the content side, may be said to be made up of features, the properties of these features are not simply the same as those taken for granted in linguistics. Gombrich's hobby horse suggests a horse, in a very diffirent way from the word "horse" (cf. II.3.6.). While pictorial features are surely alter-functional, and perhaps limited in number, at least when pictorial apprenticeship first takes place, they are not meaningless, in the way linguistic features are, and they are probabilistically, rather than deterministically, related to the other plane of the sign; thus, there are on the one hand redundant expressions for one content, and on the other hand a cumulation of contents conveyed by a single expression. In part, the latter phenomenon is due to restrictions on the dissociability of features existing already in the Lifeworld; in part, however, the rules may change from one pictorial type, or a particular style, to another.

III.4.2. The myth of the triple articulation

> *"L'une des fonctions du récit est de monnayer un temps dans un autre temps, et /. . ./ c'est par là que le récit se distingue de la* description *(qui monnaye un espace dans un temps), ainsi que de l'*image *(qui monnaye un espace dans un autre espace)."*
>
> *Metz 1966a: 335*

Double articulation is that property of verbal language that allows any stretch of discourse to be divided, first, into segments having equal extension on the expression plane and the content plane, e.g. words and morphemes, and then, a second time, inside the limits of the units resulting from the first operation, into segments only existing on the expression plane, e.g. phonemes, and, on some accounts, segments only existing on the content plane (cf. Martinet 1960; Mounin 1970; Prieto 1966, 1975a, b; and also Hjelmslev 1943). While the linguistic model still held sway in semiotics, it seems that all researchers considered it necessary to establish the fact that also that particular semiotic system studied by them had double articulation. Thus the case for double

or triple articulation in architecture was argued by Dorfles (1969) and Jencks (1969); Pasolini claimed to have found two levels of articulation in the cinema, and Hanna (1977) discovered the same number of levels in dancing, while Barthes (1972) suggested that medical symptoms must also be taken to be doubly articulated (cf. I.1.2.). Furthermore, literature as such possesses double articulation, in Altman's (1981) opinion, and Lévi-Strauss long ago claimed the same property for both myths (in the antrhropological sense) and painting (cf. Brenner 1977).

Basing his argument on Prieto's (1966) investigation of a number of simple codes, Eco (1968: 224 ff) rejects the idea that all semiotic systems must have two levels of articulation; but then, curiously, he proceeds to assert that the pictorial code does indeed have double articulation, and that the cinematographic code, being based on the pictorial one, must therefore possess *three levels of articulation*. Although in his later work, Eco denies the existence of features, and thus double articulation in pictures, he oddly enough continues to defend the three levels of articulation in the cinema (in Eco 1976: 378), which clearly must presuppose pictorial double articulation (cf. III. 2.6–7.). In this section, tackling our problem from the rear, so to speak, we will set forth a number of arguments against Eco's triple articulation in the cinema; then, although it remains for the next section to point out the confusions in the notion of a double pictorial articulation, we will have gained some insight into the nature of articulation levels.[7]

According to Eco's (1968: 237 ff; 1971a, b) original argument, the picture is composed of *figurae*, such as lines, angles, curves, brightness relations, etc., which make up *signs*, such as "human nose, eye, quadratic surface", etc., which themselves add up to *iconic statements*, such as "a tall, blond gentleman wearing a bright suit" (1968: 244; 1971a: 90). This supposedly accounts for the double pictorial articulation – and we shall take this demonstration at face value throughout this section (but see III.4.3.). Eco now maintains that the iconic statement, i.e. a compound sign of the pictorial system, is just a feature when considered as a constituent of a film. According to Eco, the admittedly paradoxical concept of triple articulation supposes a code made up of figurae, which build up signs, but are not parts of their meanings; and whose signs, in turn, form some larger unit X, without being parts of its meaning. The cinematographic code is built up of such third order units. Thus the iconic statement "a tall, blond gentleman wearing a bright suit" forms, together with a number of other such iconic statements, the cinematographic scene in which the teacher is talking to the children in the classroom. Eco also tries to bring home his point in another way. Kinesics, which studies the meanings of gestures, cannot, or cannot without difficulty, establish the limits between different gestural signs; but the camera establishes these limits as a matter of course (also cf. Birdwhistell 1971). A still cannot always be identified as corresponding to a phase in a particular gesture. For example, exactly the same pose as it appears on a photograph, may be a feature of the sign "yes" + "indication of the right-hand neighbour", or of the sign "no" + "down-bent head". Only together with a number of other photograms will this feature make up the meaning "I say yes to my right-hand neighbour", or the meaning "I deny something with my head bent down".

So much for Eco's argument. The most immediate reaction to these examples should be, I think, that if they are enough reasons for positing a third articulation in the cinema, then why should not also the three pictorial levels mentioned by Eco, viz. *figurae*, *signs*, and *iconic statements*, form a triple articulation; and why should not phonemes, words, and sentences be the three levels of articulation of verbal language (as is indeed suggested by Goodenough 1981: 13), and why should not phonological features give verbal language its fourth articulation level, with the paragraph, the section, the chapter, the book, and so on adding many more? Clearly, then, if we admit Eco's argument, we must admit all this, and the concept of articulation levels will become quite pointless, for we can have any number of levels we want. Thus something more than what Eco supposes (and, I am afraid, Sonesson 1978a) must be meant by the term articulation; but this is unfortunately something which is taken for granted, rather than explicitly stated, in books on linguistics. We will return to this question after considering some minor points.

The notion of triple articulation is indeed something of a paradox, for while the first articulation is made up of units having both expression and content, the second articulation is composed of units which are meaningless in themselves, which means that a triple articulation must contain units which are both meaningless and endowed with meaning (cf. Prieto's 1966: 153 ff codes with only the first, or only the second articulation; quoted in Eco 1968: 224 ff). The sentence is a unit with both expression and content, and it can be divided into words or morphemes, which also have expression and content (first articulation); but the further segmentation of the words or morphemes into phonemes does no longer result in units to which parallel segments correspond on the content plane (second articulation). But there is no way of taking a further step down, for we cannot reduce to one plane something which already has only one plane, and we cannot deprive of meaning that which has lost its meaning already. Yet there is an answer to this counter-argument: we have seen that no features can be altogether without meaning, but may only lack that kind of meaning which would be conveyed in a particular semiotic system (cf. III.4.1.). Thus, it may be argued that, while the iconic statements have meaning relative to the semiotic system valid for static pictures, they lack meaning as parts of the cinematographic semiotic sys-

tem. But in this case, it would be more correct to say that the cinema is a *complex semiotic system*, both constituent systems of which are doubly articulated (a similar point is made in Garroni 1972:71 f). On this account, triple articulation is simply an improper designation for complex semiotic systems, and it should be enough to propose a stricter terminology. But there are much more serious objections to Eco's conception.

To begin with, we should query whether the photogram, even as a constituent of a film, possesses any of those properties, apart from lack of meaning in the system, which a feature could be expected to have (cf. III.4.1.). Obviously, the photogram does not share many properties with the linguistic feature (neither the configurational nor the attribute type), which is of course the kind of feature Eco is thinking of. Thus no photogram is, or could be, defined by a privative, binary opposition, nor in any other structural way, for the photograms cannot be exclusively partitioned, nor divided into a limited number of overlapping sets – since there may be any number of differences between them (cf. III.4.1.1). Again, the number of photograms is (potentially) infinite. On the other hand, photograms do seem to be deterministically related to the cinematographic scene we perceive, in the sense of being sufficient for giving rise to the perception, but they are plainly not necessary, for, due to the limitations of human perception, a host of other photograms will make us see the same thing (cf. Hochberg 1978a; & Brooks 1978). Two films showing the same event, at a rate of 24 pictures a second, will be experienced as identical, even if one of the films does in fact begin some fraction of a second later. It might be argued, of course, that the set of photograms producing the same result are simply variants, "substances", for the one and only photogram form (cf. II.4.); but this argument supposes that the mechanical procedure of projecting the film can be a substitute for the commutation test, which, as such, could never be executed with photograms. And this is really the essential objection, as we shall see below.

It certainly seems more reasonable to take photograms to be features in a more general sense, as in the psychology of perception and in pictures, as we have suggested (cf. III.4.1.). There is an objection also to this, however: the photogram as such is not only not a part of the meaning of the film, as Eco claims, it is also not a part of the perception of the film, unlike the phoneme which is part of the perceived verbal sign, although not of its meaning (see Kjørup 1978a: 110 for a similar point). Indeed, when seeing the film as a film, it is impossible to perceive the photogram as such (which is also why commutation is impossible), whereas it is only because we hear the phoneme as a phoneme that we perceive the word as a word. Since they are not perceived, the photograms are not configurations and cannot build up more complex configurations, so they do not participate in any articulation. As elements of a physiological, or otherwise biological, coding, the photograms must be considered substance, not form in relation to the cinematographic scene. But would they not then be comparable to the phonological features, instead of the phonemes? In fact, not even the phonological features, as they are conceived in linguistics (notably by Jakobson), are bare physiological facts, or material facts of any kind: acoustically, for instance, one feature may have many different realizations. What is more, while phonological features are perhaps not ordinarily perceived as such, they can be so perceived, and they often are, in particular in poetry, as Jakobson and many others have shown; but there is no way of perceiving the photogram without ceasing to perceive the film. Thus, all the photograms making up a film could be mounted so as to form a photo novel (albeit a very curious one[8]), but then the whole cinematographic experience is gone. Unlike the phoneme and the phonological feature, the photogram is simply not a category endowed with meaning in the system in which it appears.[9]

But even if Eco had not been wrong on the points considered so far, the conclusions which he draws do not seem to follow. Either the cinematographic scene is made up of iconic signs, as suggested by Eco's argument (quoted above) for the possibility of triple articulation, or it is composed of iconic statements, as Eco's figure (1968: 246; 1971a: 90) seems to indicate. In the first case, it seems more correct to say, even with Eco's understanding of the notion of articulation, that both the picture and the film are doubly articulated, but that the first articulation level is differently located in the two cases; and in the second case, it is not clear why we should not simply take the scene to be a compound iconical statement, just as a verbal discourse is made up of many sentences. And this brings us to the fundamental point.

Articulation is really a relation between two levels; thus, the first articulation is, in linguistics, the way in which the sentence is divided into words (or morphemes); and the second articulation is the way in which words are divided into phonemes; which means that double articulation requires at least three levels of organization. Therefore, according to Eco's first version, both the picture and the film should be doubly articulated, for the first articulation of the film would be the division of the scene into iconic signs, just as the first articulation of the picture is the division of the iconic statement into iconic signs, and in both cases the second articulation would be the division of the iconic signs into figurae. Eco's second version brings us back to the question, formulated at the beginning of this section, why the existence of a great number of organization levels in verbal language, such as phonological feature, phoneme, morpheme, word, clause, sentence, paragraph, chapter, and so on does not make us have an equal number of articulation levels (or, strictly speaking, just one less). For, if we can explain this, we can also ex-

plain why a cinematographic scene, even if made up of photograms, would not be a new level of articulation.

All depends on what kind of organization is meant. Indeed, Eco's fundamental error consists in confusing *configurational levels* and *appresentational levels*. A *configuration*, it will be remembered, is a whole which is more than its parts (and which, unlike the structure, is more prominent in experience than its parts; cf. I.3.4.); and an *appresentation* (for instance a sign) is something which stands for something else, i.e. an item which is directly given but not thematized and which points to another item which is indirectly given and thematized (cf. I.2.5.; I.4.2.; III.3.6.). Simply put, one configurational level exceeds the immediately lower one by containing something *more*; and one appresentational level differs from the other in introducing something completely *different*. When, in his argument for the possibility of triple articulation, Eco says that the lower level is not "part of the meaning" of the higher one, the formulation is indeterminate between configuration and appresentation. But Eco's examples clearly must be taken in the sense of configuration. Strictly speaking, the fact that the same pose reproduced in a photograph may be part of the gesture "yes" and the gesture "no" (cf. above) does not show anything at all; for it is possible that other temporal phases were pertinent for the gestural meaning. However, the real gestural movement is undoubtedly felt to be "something more" than even a very complete series of stills reproducing its phases. Thus in relation to the full set of static poses, as well as to each pose alone, the complete gestural event is "something more", but it is certainly not something completely different: there is no passage to another "realm", to something which is thematized but indirectly given (cf. I.2.5.).

Verbal language has a number of configurational levels, and so have most pictures (cf. III.4.3.). What is so peculiar about the limit between the first and the second articulation, however, is that here there is coincidence between a configurational level and an appresentational level. In relation to the phoneme, the word (or the morpheme) is a new configurational level, and, at the same time, it introduces the first level of appresentation. There is of course nothing which impedes the film from having more configurational levels than the picture, although, as we noted above, photograms are not configurations, as they are not perceived as parts of the film (they are probably configurations in the photo novel, as other pictures are in the comic strips, etc.). The cinema may well gain a further level of configuration from that which Metz (1968) has called its macrosyntagmatics: thus, the alternating montage showing the fugitive and the pursuer would seem to give a meaning which is more than the sum of the two sequences. But of course we are not brought to a third realm beyond those of the signifier and the signified. The world of the fugitive and the world of his pursuer are both identical to their common world.

Another question concerns the very possibility of such a phenomenon as triple articulation. Examples such as letters appresenting phonemes which appresent a word content (Buyssens "substitutive semiotics"), or the lines of a drawing appresenting a cross which appresents Christianity, come to mind, but they are clearly cases of complex semiotic systems, in the sense we used the term at the beginning of this section (but cf. Todorov's and Sperber's conception of "symbols"; II.1.2.). Moreover, although we have two appresentations in these cases, one of them does not seem to coincide with a change of configurational level, so it is not an articulation: that is, as a general case, letters do not build up larger configurations of phonemes, but usually correspond to them one by one: and the cross also seems to form a simple mapping to Christianity. Returning to the cinema, we now encounter a more interesting case in the kind of montage favoured by Eisenstein, where a new meaning is supposedly produced out of the collision of dissimilar sequences, such as the Kérenski sequence in "October", followed by a shot of a peacock. In the cited example, it seems that the peacock stands for vanity, in the same way as the cross stands for Christianity, and this meaning is then transferred to Kérenski by means of a performative index (cf. I.2.5.). In the same way, the famous Kuleĉov effect must be explained: the contiguity of the shot showing a meal makes the actor look hungry, because this contiguity is taken to be a performative index. But indexicalities of this kind are considered in our earlier analysis (in I.2.5.) to be secondary signs, which means they contain two appresentations, and it should be clear from the examples that there is also a concurrent shift in configurational level. Perhaps, then, this is a case of triple articulation. However, if montage is not specific to the cinema, it would certainly be more correct to say, once again, that a complex or compound semiotic system must account for the phenomenon considered.

Indeed, commenting on the researches into "film grammar", Hochberg & Brooks (1978: 291) observe that there is nothing peculiarly cinematographic about such a "syntax" because, for instance, the effect of the verbal sequence "man – pistol – man" is the same as that produced by the corresponding cinematographic shots. Although the example given is more like Metz's fugitive/pursuer case, the argument seems to apply also to the Kérensky/peacock type of montage, which, unlike the former, implies a passage to a secondary appresentational level. Interestingly, Hochberg & Brooks compare the cinematographic sequence, not with a sentence of verbal language, but with a mere word list, which is also, I believe, the adequate comparison, for the latter may be taken as a rhetorical device – and the cinematographic montage certainly shares more properties with rhetorical devices than with syntactical constructions (cf. Kaemmerling 1971; Tardy 1975; etc.). But if that which is added to the bare sequences of pictures in the cin-

ema is a rhetoric, the result is undoubtedly the coming together of two separate semiotic systems, rather than a single system having triple articulation. Never the less, such a cinematographic rhetoric differs in at least one fundamental way, both from Eco's hypothetical case of triple articulation and from the compound semiotic systems considered above: in order to produce the meaning on the secondary appresentational level, the units on the primary appresentational level must be taken, not as deprived of meaning in relation to the second semiotic system, but, on the contrary, as having the meaning they have in the first semiotic system. Thus, it is precisely because we identify Kérenski as Kérenski, and the peacock as the peacock, that we can derive the meaning "vanity of Kérenski", just as we can seize the meaning "man-being-hungry", only once we have recognized both the meal and the man as such.

In this section we have adduced a number of reasons for rejecting Eco's description of the cinema as a semiotic system having triple articulation. First, we argued that, since lack of meaning, as required by the concept of articulation, must be taken to be relative to a semiotic system, what Eco describes as triple articulation is really a compound semiotic system constituted of two separate semiotic systems each having double articulation (as long as we accept the rest of Eco's assumptions). In the second place, we claimed that the photogram could not be taken to be a feature, in any sense of the term, since it is no meaning category, which follows from the fact that when the photogram is perceived as such, the film is not seen as a film, and vice-versa. Thirdly, and most importantly, we showed that, while the concept of articulation as used in linguistics supposes a concurrent shift in level of appresentation and configurational level, Eco's examples contain the second kind of change: the full gestural act is something more than the complete series of its phases, but not something quite distinct. In what Metz has termed cinematographic macrosyntagmatics the film really reaches beyond the configurational level of its constituent elements (which are the shots, not the photograms), but the appresentational level, and therefore the articulation, remain the same. In the Eisenstein type of montage, however, there may well be a second appresentational level, but this derives from a compound semiotic system which, moreover, requires meaning to be intact from one level to another.

Although we have so far accepted the idea that static pictures are doubly articulated, we have now forged the tools which will permit us, in the next section (III.4.3.), to throw considerable doubt on that conception.

III.4.3. Pictorial semiogenesis. How pictures mean

> *"The child establishes substitutes, lines which lose their meaning when separated form the whole. An oval might mean a body within the whole representation of a man, but when separated from the whole, the oval* loses *its meaning as 'body'."*
>
> *Lowenfeld 1947: 26*

Most semioticians have believed in the existence of some kind of minimal unit of pictorial meaning, sometimes termed an *iconeme* (for instance Eco 1968; 1971a, b; Koch 1971:38 ff; Floch 1978a; 1981a; 1984b; Gauthier 1976; 1982; Thürlemann 1982:18 f; Lindekens 1971a, b;1973; 1976; 1979; Groupe μ 1976; 1979; 1980; Gubern 1972:108; 1974:160; Tardy, according to Porcher 1976:235; Vilches 1983; Paromio, according to Yllera 1979; etc.); but many of these authors would seem to be thinking of plastic language, while taking the iconic layer for granted (cf. II.3.), and most of them fail to specify such features of their features which are of interest for comparison with other semiotic systems (cf. III.4.1.); and it appears also that they all ignore the fundamental requirement of *alter-functionality* (cf. I.1.2–3: III.4.1.). Although Eco was later to reject the feature model for pictures (in 1976; and, more emphatically, in 1984b), he is probably the only semiotician to have presented a version of this model sufficiently elaborated, and sufficiently explicit, to merit consideration. Thus, once again, it is Eco's theory that will stand in line of fire. It should be noted again that while Eco himself has discarded the theory we are about to discuss, he has done so for completely erroneous reasons (cf. III.2.7.), and he continues to presuppose it, in his conception of triple cinematographic articulation (cf. III.4.2.).

Iconic codes, Eco (1968: 234 f; 1971a: 77 ff) suggests, are articulated (sic) into three levels: *figurae*, *signs*, and *semata* or *iconic statements*.[10] *Figurae* are "conditions of perception" (1968:234; 1971b:88) or "relations of perception" (1971a:77), and they form the "second articulation" of pictorial signs. However, there is perhaps no finite number of them, and they are not always discrete. Eco's examples include the figure/ground relation, brightness contrasts and geometrical relations, which would seem to be comparable to distinctive features, and the Euclidian elements, which should rather be compared to configurations (cf. III.4.1.). On the next level, there are the *signs* which correspond to recognition units (in 1971a:78 and 1971b: 89 "recognition semata"!) such as "nose", "eye", "sky", and "cloud", or to more abstract models or "symbols", like the circle with strokes which stands for the sun. Also the signs are found in a graphic continuum and are difficult to separate out from the next higher level, which forms the context permitting recognition (so also in the discussion of the cinema, 1968: 244). *Semata*, or *icon-*

ical statements, are what we usually call "pictures" or "iconic signs", i.e. "a man", "a horse", etc. Strictly speaking, pictures are really complex iconical statements, such as "this is a horse" or "this is a standing horse seen in profile". Such semata form the contexts in which iconical signs can be recognized.

This is, I submit, a description which invalidates itself, for it is sufficient to be attentive to what is said, to see that no difference remains between figurae and signs and between signs and semata. First, consider what is said about *figurae* and *signs*: both supposedly lack autonomy (1968: 244) or discreteness (1971a: 77f), both tend to dissolve into the graphic continuum (and Eco fails to realize that the same thing happens with linguistic features for those who do not master the "code"; cf. III.2.4/6–7.), and both assure recognition in a given context only. Of course, if Eco (or his translator) uses the term "autonomy" (or "independence ") to indicate something different from discreteness (as a problem of segmentation, not of categorization; cf. III.2.4.), then he may want to indicate different kinds of autonomy in the two cases. Thus while distinctive features have no independence whatsoever, configurations, such as phonemes, possess perceptual independence (according to Gestalt laws; cf. III.4.1.). Traditionally, however, autonomy is granted in linguistics only to words, meaning semantic independence because words convey what is felt to be complete meanings or concepts, and syntactic independence because, within certain limits, words can be moved freely inside the sentence. In yet another sense (for instance in categorical grammar), only the clause, or the sentence, is independent, containing "a complete thought". If Eco intends to refer to these, admittedly vague, distinctions, then he fails to make that clear, and, in any case, there is no obvious way in which the parallel will hold. Eco in fact explicitly denies his pictorial signs the semantic and syntactic autonomy which characterize their verbal counterparts in contradistinction to verbal figurae of the configurational kind.

According to Koch (1971: 38ff), strokes and curves of a drawing are somehow comparable to phonemes, and constellations corresponding to the positions of eyes, and of eye brows, are like morphemes. Morphemes, as they are understood in linguistics, are certainly less independent, both syntactically and semantically, than words (or "monemes"), and so this term may seem more adequate to describe even Eco's second level. There are, it seems, two ways in which the relative context-dependence of morphematic meaning is understood in linguistics: either the morpheme possesses a basic meaning, which is then modified by other morphemes entering into the word, or the morpheme has a number of quite different meanings, so that the context must operate a choice between them. But none of these conditions is achieved in pictures: for although it is true, as Eco says, that an identical dot can stand for an eye in one context, and then, in another context, for a star, there is no basic common meaning to the dot in the two contexts, nor does the dot as such possess a number of meanings like "eye", "star", etc., from which the context selects its alternative; and the same can be said about combinations of dots and combinations of lines.

Nor is it true, in any simple sense, that pictorial figurae are meaningless, and that pictorial signs have meaning – judging from Eco's examples. Thus, the figure/ground relation carries meaning, also in the limited sense of pointing to features of the threedimensional world: for instance, in Rubin's well-known vase/profiles drawing, or in Kennedy's face/clam (fig. 48), the lines will stand for different things, according as the figure/ground relation is taken differently. In general, it seems that there is no detail in the picture, however small, which does not stand for some particular part of the object depicted. There are, of course, exceptions to this. One example is those painters, as Matisse (1972: 171) points out "qui avaient appris à fair le feuillage en dessinant 33, 33, 33, comme vous fait compter le médecin qui ausculte", and whose "signes de l'arbre" do not admit an interpretation below the extensional level corresponding to "foliage". A quite different example is afforded by Klee's drawings, in which the semblance of an animal, a landscape, etc., emerges from a jumble of lines in such a way that part of one line stands for edges of the animal's body and so on, while other parts of it lack iconical interpretation (see examples reproduced in San Lazarro 1957). And there are many other examples – but it is not the general case.

Here we arrive at a paradox: the dot, the line, and their combinations, do not possess any meanings in particular; and yet, as parts of a picture, they all, in general, stand for particular parts of the object or scene depicted. We will take care of this paradox below, after considering Eco's distinction between signs and semata.

Curiously, Eco first identifies the iconical statement with what is ordinarily called a picture, and then goes on to tell us that most pictures contain complex iconical statements. Either no definition has been offered, or the definition is contradictory. And since Eco's complex iconical statement is complex in attributing a number of properties to a single object (and is so in a second way, as we shall see below), the question remains: what kind of unit is a picture showing a horse and a man, for instance a man riding a horse (In Eco's film analysis, it is suggested that the photogram "a tall, blond man in a bright suit", together with other photograms, form the "iconographical statement" "teacher with his pupils"; cf. 1968: 244; 1971a: 90; but this adds extension, rather than cultural context; cf. II.1.3.). Such a question should seem natural in Eco's framework: for if we look to examples, instead of definitions, we will find that the only difference between for instance "eye" and "man" is that the latter, but not the former, exists (in its "natural" state) as an independent entity of the Lifeworld – which

is perhaps to say that "man", but not "eye", is on the extensional base level (cf. I.3.2.). But there is no reason whatsoever to transfer this distinction among the referents to the corresponding signs (which is of course not done in the verbal case), and even if such a reason could be found, the distinction would in no way parallel that which is commonly made between complete statements and isolated signs.

And this brings us to the second, more fundamental point: the term "statement" itself, and the circumlocution "this is an X". It will not be necessary to take up, in this context, the controversial issue as to the possibility of using pictures for making statements; no matter how that question is resolved, the essential problem remains the same.[11] It could hardly be denied that if we should try a transcription of pictorial meaning into verbal, we would come much closer by means of the periphrasis "this is an X", than with "X" alone; and we could get even closer by using the French presentative, "voilà X", as Metz (1968: 72) acutely observes. However, for the same reasons, which are difficult, or even impossible to verbalize, it is intuitively more satisfying to say that the nose, in Eco's man-picture, means "this is a nose" than to say it means simply "nose"; and the same applies to parts of noses and even, perhaps, to the strokes and dots making them up. As a result, even the distinction between signs and semata has been abolished.

We may now return to our paradox: the very same pictorial units both possess meaning and lack it. Indeed, when any particular fragment of a picture is considered in isolation, it is quite meaningless, but when it is replaced in the whole of which it is a part, it becomes an immediate carrier of a specific content. Taking account of the first property only, we are led to believe that all parts of the picture, at any level of organization, are like the second linguistic articulation; and when we ignore this property to consider only the second, we are forced to believe that the smallest parts of the picture possess the properties of the first linguistic articulation (cf. III.4.1. and Prieto 1966). Although there is, as we shall see, some justification for positing a sign/semata level of pictorial meaning, there is really nothing in the picture which is comparable to the second linguistic articulation. Not that there are no features (cf. III.4.1.); but these perform their function in a different way. Like the phonemes /m/, /æ/, and /n/ forming the word /mæn/, the strokes and dots making up the picture of a man are in themselves meaningless even when considered in their particular spatial location; however after having been put together, the phonemes continue to be deprived of meaning as such, whereas the strokes and the dots begin to take on the aspects of different proper parts and attributes of the man they contribute to form. Put simply, the different parts and properties of the man are not distributed among the phonemes /m/, /æ/, and /n/, as they are among the strokes and dots forming the corresponding picture. However trivial this observation may seem, it epitomizes the peculiar character of pictorial semiosis.

Consider Hünig's (1974: 5 ff) argument regarding the impossibility of a pictorial commutation test. Fig. 56a looks like a fish, but fig. 56b is easily seen to be a bird; since the only difference between them is the elements found in fig. 56c, one might suggest that they are indirectly signifying units, like phonemes. Against this proposition, Hünig adduces the fact that fig. 56d, which does not contain the elements in fig. 56c, can also be seen as a bird, as well as the further facts, that the very same elements are parts of a star in fig. 56e, and form the arms of a man standing on his hands, in fig. 56f, which, without these elements, would instead be similar to a tree, as in fig. 56g. Unfortunately, this argument is invalid. To begin with, if both fig. 56b and fig. 56d mean "bird", they will simply be synonymous expressions, and this fact has no bearing whatsoever on the existence of features, for synonyms cannot be expected to have the same (In fact, these pictures should really be intensionally specified, at least as "standing bird" and "flying bird", respectively; then verbal language appears to be more motivated in this case than pictorial semiotics, for in the latter there is nothing standing proxy for the invariant birdness). In the second place, the other cases cited actually confirm the thesis they were designed to oppose: for if the elements in fig. 56c are able to enter into so many configurations having quite different meanings, they really appear to be units lacking meaning in themselves, exactly as phonemes are. The real point, however, is that once the elements in fig. 56c are added to fig. 56a, the fish is not only changed into a bird, but the elements added themselves take on the aspect of bird's legs; and when the same elements are introduced into fig. 56g, the tree is not only transformed into a man standing on his hands, but the elements themselves now appear to be the arms of the man. The difference is not where Hünig expected it to be.

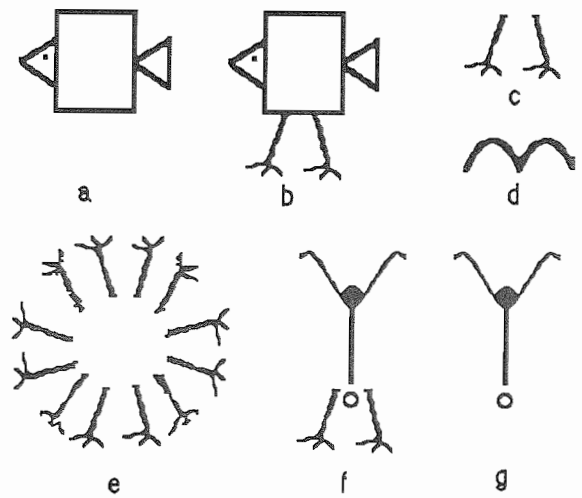


Fig. 56. Iconical features and configurations (from Hünig 1974: 5 f).

If we now return to Eco's nose, we realize that this content unit, as well as the content "man", can appear in a picture, either as an independant sign, or as a mere feature of such a sign. Using, oddly enough, this very same example, Palmer (1975: 296) observed that a nose, extracted from an ordinary outline drawing, could equally well depict a number of other things (cf. fig. 57a–b), but if "internal part structure" is added, the nose may become recognizable in isolation (fig. 57c). Although the nose of fig. 57c is, in actual fact, far from being recognizable out of context, in the manner of a sign, it certainly contributres more to be determination of its own meaning than that of fig. 57a–b, and there really are noses, most easily found in paintings and photographs, which can be identified in isolation. In fig. 57a, in any case, the nose is really a feature, indeed only one of the features, which together indirectly signify "head profile", and it is only once the meaning of the whole configuration has been discovered that the different units comprised in this meaning are redistributed to the different parts of the picture. Thus it seems the meaning possessed by these features derive from a higher configurational level, which may either take its meaning from a configuration still higher up, or else possess its meaning independently, like a real sign. That *configurational level*, which independently yields a content, is also the level of *appresentation*. In spite of what was said above, appresentation in photographs and paintings does not necessarily take place at lower levels than in drawings: in the case of Costa's (1977: 73 ff) ballerina photograph, the appresentational level is the whole picture, just as in Palmer's drawing (fig. 57a.).

This is not the whole story, however. In his classical study of children's drawings, Lowenfeld (1947: 26, 78; cf. Osterreith 1976: 39 f) claims that, whereas small children make pictures whose parts lose their meaning if viewed independently, children around nine years of age, who reach the realistic stage, create drawings in which "every part has its meaning and retains this meaning even when separated from the whole". Nevertheless, if we examine the drawings reproduced in Lowenfeld's book, we will find that there are no examples of pictures, in which the parts or, as Lowenfeld sometimes says (p. 26), the lines continue to convey a meaning when considered in isolation. The most that could be suggested, then, is that there is a tendency, with increasing age, for children to let appresentation take place at comparatively lower configurational levels. Even if this is so, we cannot take such a process as a simple indication of maturation, for many artistic drawings, notably those of Picasso and Matisse, retain appresentation at the highest configurational level. Furthermore, if we compare the drawing of a ten-year-old with that of a seven-year-old (for instance, fig. 26 and 17, respectively, in Lowenfeld 1947), it is difficult to discover any difference of appresentational level: in both cases, it is roughly equivalent to the *extensional base level* of the Lifeworld. What differences there are, are of a more subtle kind.

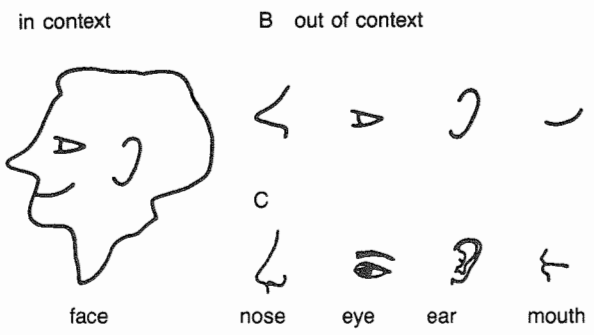


Fig. 57. The nose and other facial traits in context, and out of it (from Palmer 1975:296 f.).

Strictly speaking, configurational levels pertain to the picture thing, the difference between pictorial features and pictorial signs concern the picture object, and it is the picture subject which possesses extensional levels. Children are known to introduce more borders in their drawings than are found in the corresponding picture subjects (cf. Goodnow 1977: 31, 19 f), and thus they augment closure, which is one of the properties forming configurations (cf. I.3.4.); but since these elementary configurations are simply added to each other, rather than made to form higher level configurations (cf. Osterreith 1976: 39 ff, 49), the appresentational level is not shifted upwards already for this reason. However, to the extent that contiguity also forms configurations, there are really more configurational levels in the drawing of the seven-year-old than in that of the ten-year-old, at least in this particular case; but in both drawings, appresentation will take place only at the extensional base level, i.e. at the level of concepts such as "man", "tree", and so on. It therefore seems more important to distinguish picture types as to the *extensional (and intensional) level* on which *appresentation* takes place.

The relation of the feature to the configuration and back again is, of course, a case of *factorality* (cf. I.2.4.); interestingly, *contiguity* also seems to make its contribution to pictorial semiogenesis. Thus, in the seven-year-old's drawing of a man, the face would seem to be relatively well recognizable alone because of the minimal requirements for face recognizability (cf. III.3.6.), so that it is perhaps contiguity with this facial schema that identifies the rest of the figure as the body of a man; but in the drawing of the ten-year-old, many different features of the figure contribute to the meaning "man". What is more remarkable is that such contiguity may serve to transfer meaning, in the drawing of the seven-year-old, even from some configurations to others, thus identifying, for instance, "chair", "table", and the like (but not for the child; remember Stern's chair, fig. 52b.). So Lowenfeld is right, in the end, in believing small children's drawings to be more contextually-dependent.

It also seems clear that between pure features and pure signs, there are many intermediate stages which, though not determinate in themselves, are suggestive, to some degree, of a particular content, and/or contribute a more specific characterization to a detail, once is has been recognized as the part of a whole. The first aspect brings us back to the symptom model of meaning (cf. I.1.2. and III.4.1.), where each added feature changes the probability of a given interpretation being correct. Thus, in the drawing of the seven-year-old in Lowenfeld's book, the face is semantically the most loaded part, in a relative sense, in that it accounts for most of the probability that can be assigned to the interpretation "man"; and yet, the face in the drawing of the ten-year-old, which is relatively less semantically loaded, since other parts of the drawing also make their contribution, is more semantically loaded, in an absolute sense, that is, it affects the interpretation "man" with a higher probability value altogether.

As for the second aspect, it can be illustrated by the comparison of two drawings, Charlie Brown from Schultz's "Peanuts" and a woman's head, from Picasso's print "The painter and his model 6.12.1963" (fig. 58a and b). In spite of Gauthier's (1976: 113) claim to the contrary, Charlie's eyes and brows only emerge as such when they are referred to the higher configuration, in this case the whole head profile, that is, to coin a term, when they are *resemanticized* by the whole. But one such a resemanticization takes place, this particular dot and this particular stroke do not only stand for an eye and a brow, but together they also convey a certain range of feelings, at least for those who are acquainted with the limited set of alternatives permitted in the Peanuts code (cf. Gauthier 1976: 132; and III.5.). The case of the head from Picasso's print is somewhat different: without referring to the higher configuration, we would scarcely have an easier time discovering that a certain constellation of a stroke and a dot represents the woman's eye and brow, but when they have been resemanticized by the whole, the stroke and the dot appear to stand for a brow and an eye which are much more individualized and directly expressive. Exactly what meaning is then conveyed is difficult to say, however, for there is no explicit set of alternatives with which we can compare the picture. These, in any case, would seem to be the real issues of pictorial semiogenesis.

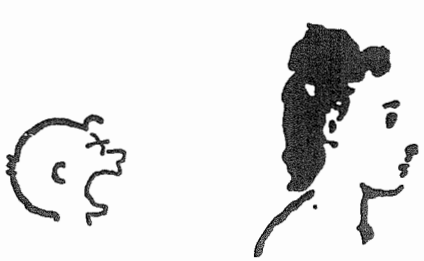


Fig. 58. Resemanticization (a from Peanuts, by Schultz, in Gauthier 1976:137, b from Rau 1974:135, by Picasso).

Psychological investigations have surprisingly little bearing on our present preoccupations. According to Jones & Hagen (1980: 220 f), Deregowski defends a differentiation theory of pictorial meaning, whereas Kennedy argues for a construction theory. After recounting the anecdotes about the reactions of "primitive" people at their first exposure to pictures, as well as his own experimental evidence (cf. III.3.1.), Deregowski (1976) indeed claims that the only theory which can explain all the data, is the hypothesis-testing theory formulated by Gregory (cf. III.3.3.). It is not true that we see the whole picture at once, for certain parts are clearly accentuated, Deregowski says; nor can we piece the interpretation together detail for detail, for the postulation of units would be completely arbitrary, and we could not know if we should start from the foot, the toe, or the nail. Instead, a hypotesis is derived, and transferred to the details of the percept, as far as possible. Jones & Hagen here reiterate Hagen's doubts about the provenance of hypotheses (cf. III.3.3.), but they agree with Deregowski, and therefore go against their own construal of Kennedy's position, that pictorial interpretation must be a differentiation; thus, they would seem to embrace the first of the theories rejected by Deregowski.

Kennedy (1976; 1977), however, nowhere defends such a specific theory as that attributed to him by Jones & Hagen; instead, in response to Deregowski's article, he suggests that there is no unique way of interpreting pictures, but that the interpretation may start sometimes from above, sometimes from below, and even at times from some intermediate point. Furthermore, he thinks the question is not very interesting and does not concern a problem specific to pictures. That Kennedy should think there is no specific problem of pictorial interpretation, is hardly surprising, since both he and Deregowski talk as if the details of the picture were eyes, toes, feet, and so on, rather than pigment on paper, which is to suppose the problem resolved beforehand; but it should be clear by now that, in many pictures, the invariants of the real-world nose are distributed all over the depicted page. In my view, Kennedy is quite right in relativizing the process of pictorial interpretation, but instead of making it relative to the individual interpretator and the occasion, he should have relativized it to the type of picture. This is the sense of what was stated above regarding appresentation taking place at different extensional levels in different pictures.

The one theory which can be rejected offhandedly is the naive conception according to which the perception of pictures, unlike the perception of texts takes place outside time: the study of eye-movements, in particular, has shown this to be untrue (cf. Kolers 1977; & Perkins 1975; & Smuythe 1979; Hochberg 1978a). Jones & Hagen seem to think that the general layout of the picture object is immediately perceived, but that further inspection of the pictorial surface is needed in order to attend to lower-order details. In Deregowski's view, a hypoth-

esis if formed on a probability basis, and is then tested in the survey of pictorial detail. Palmer (1975: 295 ff) maintains there is a combination of a "top-down" and a "bottom-up" strategy, and that these are then tested for consistency with each other. According to Kennedy, interpretation may start from anywhere in the picture. That other Kennedy imagined by Jones & Hagen, on the other hand, claims that pictorial interpretation consists in adding isolated details together until they form a whole. If we exclude the last variant, there is probably some justification for all these theories, in particular as they relate to different picture types. There is even a further variant to be added: meaning may be transferred from detail to detail, by contiguity, beginning from some exceptional part of the picture which, because of its unexpectedness or its Lifeworld importance, first strikes the eye (cf. III.3.4.).

We began this section with an argument against Eco's stratified model of pictorial meaning, showing that it was sufficient to attend to the definition of the different layers, for figurae to merge with signs, and signs with iconical statements. Some variant confusion found in the work of Koch, Hünig, and Metz, were also discussed. Pictorial features are not like the second linguistic articulation, we argued: for while they are meaningless in isolation, they do take on their part of the meaning when considered as parts of a whole. There clearly are elements in a picture which have meaning independently, and others which only receive a content when referred to a higher configurational level; but a nose, for instance, may sometimes be a figurae, and sometimes a sign, depending on the style of the picture. The process by which elements which are meaningless in isolation take on a signification was called *resemanticization*; and it was argued that different elements contribute more or less to this process, and also differ on how specific the information is that they convey, once they have been replaced in the whole of which they are a part. Perceptual psychology was found to give us little guidance on this point; the very abundance of psychological theories on the issue could perhaps nevertheless by explained by an interest in different pictorial types. As for our theory, it must of course be substantiated by a study of a variety of pictures based on different pictorial construction procedures.

III.4.4. Summary and conclusions

It has been the business of this chapter to reconsider some specific aspects of the linguistic analogy applied to pictorial meaning. First, we investigated the nature of pictorial features, in contrast with linguistic ones; then, after some consideration of what is implied by the notion of articulation, we proceeded to discuss if there was something comparable in pictures to the first and the second linguistic articulations.

In spite of the argumetns of Barthes, Metz, and the second Eco, we accept, along with the psychologists of perception, the existence of pictorial features. But these features differ in important respects from those of linguistics. Like all features that pertain to signs, pictorial features must be *alter-functionally* defined, and although there is probably not just a small number of them, they could scarcely be infinite. On the other hand, pictorial features are not meaningless, at least not in the way phonemes are. Structure in general, and binary, privative oppositions in particular, do not seem to be fundamentally involved in the constitution of pictorial meaning. While pictorial features do seem to be categorical in themselves, their relation to the other plane of the sign is merely probabilistic. Indeed, the pictorial sign contains many redundant expressions for one content, but also a cumulation of contents conveyed by a single expression. In this way, they are similar to the perceptual Lifeworld, but, for the same reason, they allow for rhetorical modifications of our Lifeworld experience (III.4.1.).

Eco's contention that the cinema possesses three articulations, being based on the double articulation of static pictures, was shown to derive from an at least threefold confusion about the import of the notion of articulation in linguistics. Most importantly, Eco confounds *levels of configuration*, where a whole adds further meaning to its parts, and *levels of appresentation*, where there is a passage to a quite different realm of reality. In fact, although linguists have never presented a clear definition of articulation, it is clear from their analytical practice that they take it to imply a concurrent shift in level of appresentation and configurational level. Thus, there is no triple articulation in the cinema (III.4.2.).

Next, we examined the existence of double articulation in pictures. It turned out that Eco's three stratum model of pictorial meaning could not be sustained, the figurae level merging with the sign level, and the sign level with the semata level. Although pictorial features are really meaningless in isolation, they acquire specific meanings as parts of a signifying configuration, and thus they do not form anything comparable to the second linguistic articulation. If there is something like the first linguistic articulation in pictures, then it appears on different configurational levels of the picture thing, and on different extensional levels of the picture subject, in different kinds of pictures. A nose may be a feature or a sign, depending on the pictorial style (III.4.3.).

This sets the task for the next chapter: we will approach the problem of the differences between pictures.

Chapter III.5.: Cloudlands in the mirror – The varieties of pictorial meaning

> *"Je ne peins pas les choses, je ne peins que les différences entre les choses./– – –/ J'ai fini par découvrir que la ressemblance d'un portrait vient de l'opposition qui existe entre le visage du modèle et les autres visages, en un mot de son asymétrie particulière. Chaque figure a son rythme particulier et c'est ce rythme qui crée la ressemblance."*
>
> *Matisse 1972: 168, 177*

The overarching purpose of this entire study has been, and is, to discover such properties as are found in all pictorial signs; therefore, when we now move on to consider the ways in which pictures differ from each other, we are less intent on scrutinizing the differences themselves, than on epitomizing the very factors susceptible of variation inside the invariant frame formed by the pictorial sign itself. Here, our interest in variation is only for the sake of invariance; and it is quite another task to analyze the pictorial kinds, or sign types, as such. Moreover, pictures differ from each other in many ways, and we will only attend to a few of them, which all have to do with the manner in which picture thing, picture object and picture subject relate to each other in the sign (other differences, not considered here, depend on the channels in which pictures are socially distributed, and on the purposes and effects attendant on their circulation). Furthermore, since we have already mentioned some of the relevant factors in earlier chapters and sections, only a few will come in for further analysis in this chapter, and we will be content only to list the others in the following pages.

First, pictorial kinds differ as to the *configurational level* at which *appresentation*, and thus *resemanticization*, takes place: each single configuration may possess a content independently of the others, or it may be necessary to refer to higher-order configurations in order to attribute a meaning to the primary configurational level. There is a second, perhaps more profitable way, in which resemanticization may be viewed: as appresentation in relation to the picture subject. Direct appresentation can take place at what is, in the Lifeworld, the *extensional level* of the group of people, the body, the head, the nose, details of the nose and so on (cf. III4.3.). Much could be made of these two related factors in the study of pictorial styles, as well as in the investigation of children's drawing ability.

From those levels, in the picture thing and in the picture subject, respectively, in which appresentation takes place, at least two other kinds of levels must be distinguished: the *thresholds of iconicity*, and the *extensional* and *intensional levels* of the picture object itself. It is obvious that pictures do often have a lower threshold of iconicity; thus, when, as Matisse (1972: 171) says, some painters draw "33, 33, 33" to indicate a foliage, appresentation most probably takes place at the extensional level corresponding to the tree, and from there resemanticization can go down to the level of the foliage, but no further, for there is nothing in the picture isomorphous to meanings such as "leaf" or "twig", even after resemanticization. As we shall see, there are, at least in some kinds of pictures, even further restrictions as to how far iconicity applies (cf. III.5.3.). Interestingly, this suggests that pictures are not, or not always, dense in Goodman's sense (cf. III.2.4–5.).

Then there are the extensional and intensional levels of the picture object. In ordinary perception, an object containing some higher intensional and extensional level must contain all lower ones, but this is not necessarily the case in a picture (cf. I.3.2.). Thus, while we know that the man depicted on the traffic sign must have a body made up of the usual body parts, and that he must possess further characteristic properties beyond that of being a man, these cannot be "seen in" the picture, at least not in a clear-cut way. Also, pictures may create a *base figure level* of their own, distinct from the *base object level* of the perceptual world (cf. I.3.2.). More subtle variants of these level modifications are found in works of art, such as Matisse's cut-outs (cf. III.5.1–2.).

A particularly interesting way in which pictures are able to change the object they depict, consists in the modification of the *extensional hierarchy* typical of the object. The body scheme is a characteristic case of such an extensional hierarchy which is brought to bear on the interpretation of the things of the Lifeworld; it supposes certain relations of parts to wholes, and certain dominance relations, but both these are modified in Matisse's cut-outs (cf. III.5.2.), and, in a less radical fashion, in Schultz's comic strips (cf. III.5.3.).

Just as pictures do not map the world point-to-point (cf. III.3.2.), they fail to reproduce each one of the categories of perceptual experience independently; rather, certain kinds of semantic features presuppose each other and tend to come together in "*information packages*". Prieto has repeatedly suggested verbal language is unique as a semiotic system in requiring us to choose a number of semantic values together (e.g. in the pronominal system of Indoeuropean languages, but not, for instance, in Finnish, the choice of the feature "human being" renders necessary a further choice between the features "male" and "female"). In fact, however, it should be obvious that the use of a pictorial semiotic system forces us to choose, on a more extensive scale, among a number of mutally implicating semantic features. At least in the case of "Peanuts", we will discover that some of these presuppositional relationships are the same as those in perceptual reality, while others are peculiar to the pictorial systems employed (see III.5.3.).

Factors such as these must account for that peculiar

property of iconical signs according to Peirce, termed "*exhibitive import*" by Greenlee, which permits us to get more out of the picture than what we put into it (cf. III.5.1.).

Pictures also differ in the type and the number of their *viewing positions* (cf. Hagen 1980: 30 ff). Indeed, as Hagen (1979:209) acutely observes, any picture, even when it is not executed in linear perspective, supposes a geometrically determinate viewing position, or a number of them (as in split representation, cubism, etc.). However, we will not delve further into this important issue here (see also III.3.2. and fig. 45.).

There is also a difference in *the kinds of minimal units* of the perceptual world which the picture makes correspond to particular minimal units of its expression plane. Thus, in outline drawings contours of graphic pigment stand for edges of perceptual things (cf. III.3.2.); but in paintings and photographs, other properties of perceptual surfaces are also rendered by other kinds of units found in the pictorial expression plane. At least part of what is meant by Riegl's distinction between *haptic* and *optic* pictures, and by Wölfflin's similar distinction between *linear* and *picturesque* pictures, would seem to concern what of the object's edges, or the ambient light, is primiraly represented by the pigment on paper or canvas, etc. Also this question, which is perhaps the fundamental one, will have to be left for another investigation.

As far as this study is concerned, it will only be possible to present, first, in a theoretical section, a few considerations on extensional and intensional levels, information packages, and exhibitive import (III.5.1.); and second, an analysis of one of Matisse's cut-outs, which illustrates the hierarchical reorganization of the perceptual world sometimes wrought by the pictorial sign (III.5.2.); and then an examination of a number of earlier analyses of Schultz's comic strip "Peanuts", which permits us to make some important points about the nature of pictorial information packages (III.5.3.).

III.5.1. On the exhibitive import of pictorial signs

> *"A great distinguishing property /of the iconical sign is that/ by the direct observation of it other truths concerning its object can be discovered than those which suffice to determine its construction. Thus by means of two photographs a map can be drawn /– – –/ This capacity of revealing unexpected truth is precisely that wherein the utility of algebraical formulae consists, so that the iconical character is the prevailing one."*
>
> *Peirce 1932: II: 279*

After giving to Peirce's "great distinguishing property" of iconical signs the name "exhibitive import", Greenlee (1973: 79) curiously proceeds to dispute its specificity, claiming it to be present also, for instance, in novels, in respect of human situations, and this "entirely independent of the perceptual qualities of the vehicle, in contrast to the imports of a lyric poem" (p. 80). Here, I submit, Greenlee seriously misinterprets Peirce's point, which is actually concerned with that property of icons which guarantees their "cognitive value", as Maldonado would have said (cf. III.2.8.), and which was singled out, in connection with mathematical and logical signs, already in the semiotical theories of Leibniz and Lambert (cf. Holenstein 1976: 151 ff; Dascal 1978). It is important to note that this, at first sight, curious rapprochement between pictures and logico-mathematical formulae is a constant theme, also of Peirce's theory of iconicity. But before we can elucidate what may well be termed the classical conception of iconicity, it will be useful to try to reconstruct Greenlee's, in itself very reasonable line of thinking.

For what indeed can it mean, that "by direct observation" of the sign, other truths about its object can be discovered "than those which suffice to determine its construction"? A novel is entirely made up of the resources of verbal language, the words of its vocabulary, whose received meanings are listed in any lexicon; and yet the novel is undoubtedly able to recount experiences not already contained in an adequate feature analysis of the vocabulary of the language in question. In itself this is certainly an interesting property of signs (captured in Benveniste's distinction between "le sémiotique" and "le sémantique"), but something more is required for the sign to have exhibitive import: that this additional meaning can somehow be directly observed. Thus when Greenlee cites, in support of the novel having exhibitive import, the fact that the additional meaning engendered in no way depends on "the perceptual qualities of the vehicle", this is really an argument against his claim, and poetry is in fact a better candidate for iconicity (cf. Jakobson 1965a, b). In spite of Greenlee's own interpretation of the term he has coined, the exhibition of the import must here be taken in the sense in which Wittgenstein says that certain properties are shown by the sign, rather than signified (cf. also Récanati 1979); indeed, exhibitive import would seem to be that part of what is shown which is also signified (cf. Goodman's notion of exemplification; II.2.2. and III.1.4.; but pictures do not literally possess the properties they exhibit). For instance, what is iconic about mathematical formulae is, according to Peirce (1932: II: 282), that, each time, the same letters are used to stand for such unknown terms that "are in analogous relation to the problem". The same is true about the existential graphs.

When Eco (1976: 333 ff) denies the iconicity of Peirce's existential graphs, he once again misses the point: visuality has never been a criterial attribute of icons, although some icons are visual (cf. III.1.), and Peirce would certainly not want to claim that the parts of which his graphs are made up are motivated in themselves, any more than he would have said so about the numbers and letters of the mathematical formulae. Only the relationships are *exhibited* (cf. III.1.2.). Long before

Peirce's graphs and Euler's circles, Lambert invented a "logikalische Zeichenkunst", in which logical relations could simply be read off (cf. Eisenring 1942: 22 ff). Thus, for instance, if we know that all B are A, and that some C are B, and if we transcribe these two relations on paper, we are able to see directly, rather than conclude by reasoning, that at least some C are A:

A . . . . . a
B . . . . . b
C c

Compared to this, the identical letters in the mathematical formulae are perhaps the irreducible residue of exhibitive import. But then do ordinary pictures possess even more exhibitive import than "existential graphs" and the like? Peirce certainly suggests that, when he tells us a map may be drawn by means fo two photographs. However, we will first consider a more straightforward example: in Picasso's print (fig. 58b), it is conceivable that only the relation between the eye and the brow and between the brow and the hair were necessary to "determine the construction" of the upper righthand part, and yet the relation between, for instance, the eye and the hair can also be discovered in the picture. Since the order in which the elements of a picture have been drawn is rarely relevant, or even known, this fact is of very slight interest. But there are two other properties of *pictorial exhibitive import* which are fundamental. First, exhibitive import permits us to "see in" Picasso's print also such parts of a human head as possess no expression features of their own in the picture, as for instance the cheeks, the forehead, etc. What is more, these parts can be at least roughly localized in relation to the other parts of the head, exactly as those parts which do possess expression features. And this brings us to the second point: that which is exhibited in an ordinary picture is not just any kind of relations, but the spatial relationships prevailing in our common Lifeworld, that is, a series of *locations*.[1]

The question is, of course, where that information comes from, which is not contained in the principles of construction determining the picture, and the only reasonable answer, I believe, is that it derives from the *interpretational schemes* of the Lifeworld. But so much, it seems, could also be claimed for Greenlee's novels. The difference, then, is that, through the projection of the interpretational schemes onto the picture, it is possible to *locate* details of the depicted object in relation to each other in the picture, also when these details are not marked on the pictorial expression plane. Even the photographic lense is selective, and can be made more so by special techniques, so even here, interpretational schemes can make their contribution. Nevertheless, it might be argued that, as the principles of construction of the photograph *are* those physico-technical processes making the camera work, no other "truths" than those permitted by the processes in question can be observed in the photograph. However, Peirce's claim regarding the possibility of deriving a map from two photographs could be taken to suggest that, given two perspectival adumbrations of an object, we are able to construct, by means of the *Dingschema* of the perceptual world, an "invariant" view of this same object. At least under some circumstances, one photograph should be enough. And in a more restricted way, the picture could also be derived from the map.

Before delving deeper into the peculiarities of pictorial exhibitive import, a few more remarks on the iconicity of mathematical formalism are in place. In Artificial Intelligence, there have been some recent efforts by Sloman and Hayes to establish a general distinction between pictorial and verbal modes of representation. Here, logical and mathematical formalism is taken to be even more clearly opposed to pictures than verbal language. It is interesting to note, that in his critical remarks on Sloman's and Hayes's distinctions, Janlert (1985: 98, 101 f, 106) repeatedly quotes mathematical examples in order to show that "verbal" representations possess the properties supposedly reserved for "pictorial" ones, apparently without realizing that it would be much harder, at least in some of the cases, to find literally verbal counterexamples. Thus Janlert (p. 101 f) rightly observes that, contrary to Sloman's claim, the "structure" of the mathematical formula, just as the "structure" of the picture, could well contain information about "the structure of what is represented". But Janlert's implication that what a formula such as "2×3" represents is "6", i.e. its sum, appears confused to me, for this is a meaning relation of a secondary nature, *in* the formula, not from its expression plane to its content plane. Rather, each one of the numerals and signs stands for a number or a mathematical operation, and they do so, as Degérando has shown, by means of *logical analogy* (cf. III.1.2.; also see Prieto 1966:101 ff). Indeed, each single numeral being a sign, not a figura, as Prieto (1966: 159 f) observes (cf. III.4.1–2.), there is *isomorphy* between the two semiotic planes, and this isomorphy also extends to the "syntax" of the formula. Although isolated instances of this kind can also be found in verbal language (cf. Jakobson 1965a, b), its dominant principle is certainly very different. Therefore, we may conclude, with Leibniz, Lambert, Degérando, and Peirce, that mathematics has more in common with pictures than with verbal language.[2]

And so, in discussing the interpretational schemes rendering exhibitive import possible, we will pursue the comparison with mathematics. According to Degérando (1800, I: 180 ff), "complex ideas of the second order" are formed out of simple ideas in alternative ways; thus a, b, and c, d may add up to A and B, respectively, which together form X; or else, a joins with c, and b with d, to form A' and B', respectively, which again result in X; or it is a, d, and b, c which form A" and B", respectively, again adding up to X. The concept of complex ideas of

the second order is introduced by Degérando, in order, he tells us, to solve the much-discussed problem concerning the interest of a proposition such as "5+2 = 4+3"; for one would naturally think, Degérando suggests, that either the formulae "5+2" and "4+3" are really identical, in which case the fact of their equivalence is trivial, or they are not identical, which means the formulae cannot be exchanged for each other; but in fact, they can be so exchanged, and the result is informative. While it may be surprising to learn that this was a well-known problem even as early as Degérando's times, we immediately recognize Frege's (1966: 41) famous question, how it is possible for expressions like "a=b" to carry any information (also cf. Carnap's 1958: 138 idea of "intensional isomorphism"). In a more general way, we are also reminded of the idea, current in communication theory and psycholinguistics (cf. Miller 1967; Clark & Clark 1977; Chafe 1972; 1977; etc.), that information may be handled and stored in memory in different-sized "chunks". Indeed, Degérando (1800, I: 165 ff) claims "complex ideas" are needed because we are unable to comprehend more than 4–5 units at a time, and Daube (1805: 21 f) thinks "l'etendue du jugement" spans at the most 5–6 objects, which comes close to a more recent bet, Miller's "magical number 7±2". Later in this section we will return to consider the way in which different amounts of information may be packeted into one "chunk", but for the moment we will explore the qualitative aspects of "complex ideas", their hierarchical organization, following more closely the Frege/Carnap-connection.

The solution to the puzzle, Degérando says, is that, while the same primitive elements are found each time in the complex idea, they are not "envisagée dans la même manière par l'esprit". If I have 5 pence in one pocket and 2 in the other, or 4 pence in one pocket and 3 in the other, there is a difference, for "mon esprit peut apercevoir, un suivant l'une, des rapports qu'il ne remarque point en s'attachant à l'autre" (p. 180 f). The complex idea "seven" may perhaps be conceived in the following way:

1	1	1	1	1		1	1	=	1	1	1	1	1	1
				5			2	#				4		3
							7	=						7

Thus, in a sense, there is identity on the highest and the lowest level, but not on the intermediate level. This is only a small fragment of what Arnheim (1969: 218 ff) terms the "inner structure" of mathematics, even as applied to the number "seven", for there are numerous ways in which "seven" may be organized into chunks; but the essential point is that the identity lost at intermediate levels, re-emerges at both extremes of the hierarchy. But so far, we have only been concerned with quantities; the question now is if something similar holds true of the more "qualitative" types of complex concepts. In the famous equation "Hesperus = Vesperus", and in other cases that proved of interest to Frege and Quine, there is an identity at a higher level (except for the person who is ignorant of this astronomical equivalence, to whom there are really *two* cultural objects, as suggested by Eco 1976: 129); indeed, there is identity all through the hierarchical levels of constituency, but the *thematic* organizations of the elements differ, just as in the noematic matrix of the perceptual object (cf. I.2.1–3.; we will return to this case below). Also different are the classical cases of *intensional hierarchies* we have considered above (in I.3.2.): in Panofsky's example, "Judith" is intensionally included in "young girl", and in the case cited by Goodman, "the duke of Wellington" intensionally overlaps "the warrior"; thus, in both instances, there is only *partial* identity of elements. But if we now consider what we have called *extensional hierarchies*, a parallel to the mathematical example can be found.

A case in point is the *body scheme*. Here, an obvious division into the head and the central body can be made, followed by the separation of the latter into upper and lower body, comprising chest and arms, and belly and legs, respectively. An alternative analysis would distinguish the central part, the trunk, and different appendages, such as the head, the arms, and the legs (similar to "the cannibal's body image", according to Bucher, which however has a wider domain, including inner parts of the body, i.e. the bowels; cf. I.3.2.). Both these divisions, and a number of other ones, apply to an identical whole, and have identical ultimate constituents, such as fingers, toes, etc. If verbal language is our sole source for "the semiotics of the body", as Ellen (1977) would seem to believe, then the fact that some languages use the same term to mean "hand" and "arm", certainly implies that also the ultimate constituents of the body scheme may turn out to be different from one classification to another. However, it would seem that in such models of the body as are derived from gestures, dance, work, and other corporeal activities, in which the hand, and the fingers, are directly pertinent units of signification, lower-order distinctions of this type have to be made. In any case, we have no trouble admitting that, in some instances, the identity between the variant analyses of a "complex idea" is found only on the highest level of the extensional hierarchy, in contradistinction to what seems to be the case in mathematics. But this would mean that, contrary to what Degérando supposes, the variant analyses of the same "complex idea" are not necessarily based on a simple rearrangement of the identical constituents, but presuppose different elementary segmentations of the perceptual world (cf. I.3.2.).

A more important difference to mathematics, from our present point of view, is that the different variant analyses of the same extensional hierarchy do not seem to have, in general, the same status; and it is not only that one version is explicitely given, and the others implicitly,

but some variants are clearly granted more importance, and even "correctness", than the others. In Occidental cultures, I submit, the following is at least one of the relevant taxonomies:

The importance of this scheme will be clear when discussing Matisse's "Nu bleu" in the following section (in III.5.2.). It is of course not meant to account for all kinds of bodily meanings: for, quite apart from the existence of rival bodily schemes, there are also operations, such as eroticism, which, as Holenstein (1976: 60 ff) observes, treats the body as the poetic function does with language, making it absolutely signifying, or, as Goodman would have said, *dense* and *replete* (cf. III.2.4–5.). Our figure applies the kind of analysis to the body, another object *in praesentia*, which linguistics has employed with the sentence, the tree diagram, and actually, it combines two traditional approaches to such an analysis, *constituency grammar* and *dependency grammar*. In the first case, as in the base component of a transformational grammar, the body, just like the sentence, is divided into its proper parts. The format which we have (rather arbitrarily) adopted is that of binary contrasts; and although this is not always linguistically manifested (arm_1, arm_2, etc.), all contrasts are based on *inclusive oppositions*; e.g. the arm both includes the hand and is opposed to it, as that part (of the arm, in the first sense) which is not the hand (cf. I.3.3.). It is to express such relations that we have had recourse also to dependency grammar, where parts which are somehow more central, and on which the others depend, occupy a privileged position (cf. Hays 1961; Tesnière 1959). Instead of using two tree diagrams, we have chosen to employ brackets to stand for constituency, and arrows for dependency, on the same diagram. The arrow goes *from* the dependent element to that on which it is dependent; a double arrow expresses mutual dependence, and no arrow stands for simple coexistence (cf. Hjelmslev's concepts of determination, interdependence, and constellation). Perhaps these relations of dependence and dominance can be identified with what was termed *thematic* relations above (as in Hesperus/Vesperus, but here combined with differences in constituency).

Before we proceed to investigate (in the next section) the interesting case, in which a picture operates a reanalysis of such a "complex idea" as the body, it remains for us to consider the possibility of a picture's "pruning" some of the levels in the hierarchy corresponding to its picture subject, so as to establish a *base figure level* different from the *base object level* characteristic of the object in the Lifeworld (cf. I.3.2.). Since we know that there are at least two different kinds of hierarchies, the *extensional* and *intensional hierarchies*, the issue must be examined separately for the two cases.

In a strict sense, there has been a modification of the base level in a picture where the original base object level does not appear; in a looser sense, there is such a modification, when another level is seen to be intrinsically more *dominant* (in the sense of I.3.1.) in the picture. Since one of Rosch's criteria for determining the intensional base level is that it is the last level on which an "averaging" of all pictures will still yield a recognizable object, it seems obvious that there can be no *upward* shift of base level in a picture, not even in the weak sense. Thus, while it is not true, as is often suggested, that pictures are inextricably bound up with the particular, they cannot go beyond the perceptual base level, or rather, they must do so, just as verbal language, by means of a semantic rule. Traffic signs, for instance, contain pictures whose dominant level is "human being", but it has been impossible to make a picture corresponding to the meaning "wild beasts crossing", which must instead be synecdochally implied by a picture showing an elk; for the averaged shape of an elk, a bear, a boar, and so on, would be impossible to identify. In a semiotic system less geared to easy readability, it would of course be possible to make a composite animal out of the most characteristic parts of the different

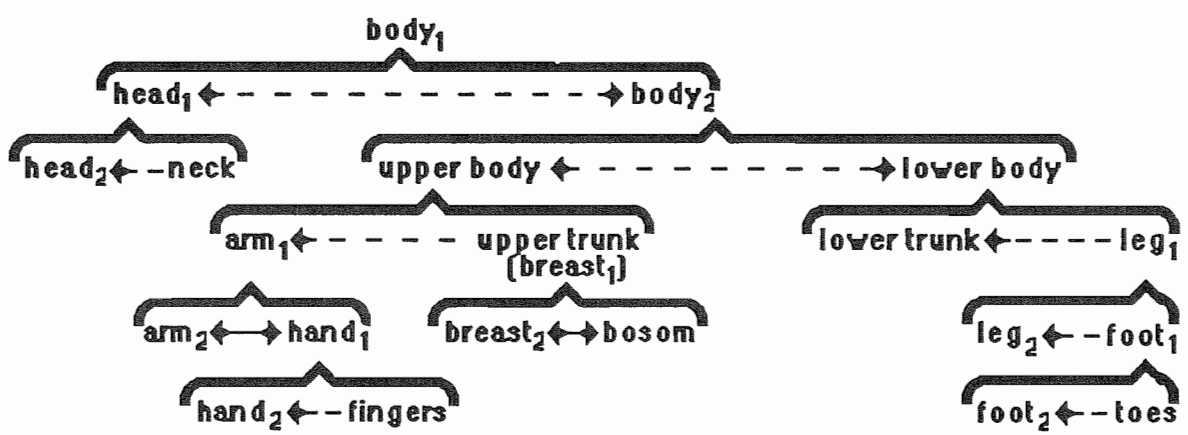


Fig. 59. The body scheme – a variant of the taxonomy.

species, but then each part, considered as such, would be at the base level, and a semantic rule would again have to account for the meaning.

A more intricate question is if there can be a *downward* shift of intensional base level in pictures. This would require us to depict "Judith", to use Panofsky's example, in such a way that the meaning "woman" cannot be "seen in" the picture, or at least so, that the meaning "Judith" is more dominant; or, to use Goodman's example, we would have to convey the meaning "the duke of Wellington", without passing through the meaning "man". To gain some perspective on this issue, it will be useful to consider first the more general question, if it is possible, in the rendering of an object in a picture, to select the base level and the lower intensional levels separately.

That is, is pictorial representation bound up with particulars? According to Gombrich (1963: 2), the wax-doll at Mme. Tussaud's, which represents a guard, is as particularized as the other, more well-known wax-dolls, which are made in the likenesses of famous people; it is not a generalized, but only an anonymous guard. Armed with the concept of base level, we are now able to point out that the guard, just as the famous people, is first of all seen as a human being, then as a guard, and much later as an individual person. But it may still be true that there is no possible pictorial rendering, in which the intensional levels below the base level are not also included. While Gombrich is probably right about wax-dolls, it would seem that "schematic pictures" (to use Wallis's 1975 term) like traffic signs fail to posit any intensional levels below the base level: "the man", it seems, is simply "the man". This is not strictly true, however, and for two reasons, one of which has to do with what we have come to know as *exhibitive import*, while the other may be said to pertain to *resemanticization* (and to exhibitive import in an extended sense).

First, then, interpretational schemes permit us to add to the picture subject parts and properties which are in no way indicated in the picture thing, and thus in the picture object. Strictly speaking, no eyes can, for instance, be "seen in" the figure of a man depicted on the traffic signs: but, given our body scheme, they are tacked on to the picture subject as a matter of course. And so is the case for all other details. As such, this is of course a question of *extensional* levels, going from the whole of the body to its proper parts; moreover, that which is added is really *redundant,* for once the concept of body has been indicated, all its proper parts are also unambiguously given. What is not given, however, is the exact way in which we imagine the eyes (and so forth): for we will most probably conceive of these eyes as they are most likely to look in our culture, and this is something which is most certainly not given by the "principles of construction" of the picture. In this connection, it is interesting to note that in the Middle Ages, painted figures were supposed to be, in Baxandall's (1972: 47) words, "generalized and yet massively concrete", in order to permit the viewer to project onto their faces those of familiar people, thereby fortifying his memory for the teachings of the picture. To some extent, such processes still seem vital to pictorial interpretation.

There is however a second, more fundamental reason for claiming, that no picture is capable of rendering the mere base level, to the exclusion of all lower levels; and this is that, in all pictorial systems, some different categories of meanings can only be conveyed together, in the same *information package*. In none of the well-known traffic signs is there a mere depiction of a man; it is a man digging, or walking, or riding a motorcycle and so on. But apart from such features, which are part of what was meant to be conveyed by the traffic signs, each man-depiction also presupposes a number of choices as to how tall the man is to be, how fat, how well-proportioned and so on. Another case in point is the well-known pictogram that often indicates the whereabouts of the ladies' washroom: although the intended message, or *denotation*, of the sign is simply "woman" (from which, by synecdoche and convention, we arrive at "ladies' washroom"), the pictorial system forces the draughtsman to decide also on such trifle matters as if the woman wears a skirt (and she must wear one, lest she be confused with a man, if we are not prepared to permit the representation of more obligatory sexual characteristics) and even on its length (thus, some of the pictograms in Aicher & Krampen 1977 clearly show women of the fifties, and others women of the sixties). Since such additional meanings are clearly imposed upon us by the rules of the semiotic system, they are properly called *connotations* (cf. II.4.).

Thus, the pictorial system often forces the artist to convey more "information" than he is supposed to, and/or which he possesses. Traffic signs and toilet pictograms are supposed to depict generalized human beings; but other pictures are meant to render concrete situations about which we have an insufficient knowledge. The draughtsman, who is asked to visualize a particular landscape as it will look in the future, may be furnished with information as to how many trees are to be planted there, but he has to decide arbitrarily on the appearances these trees will assume as they grow. Another draughtsman, who is given the task to describe, in a comic strip, the flight from prison of Mesrine, the most notorious criminal of the French seventies, may supplement the lacking information by using the format established by "Dick Tracy" and similar comic strips, as Fresnault-Deruelle (1977a: 79 f) suggests, but he also has to invent a number of minute details, that neither he nor anybody else was there to see: for instance, the exact angle between Mesrine's legs at the moment he fired his first shot. Also, while Le Bry may have applied the European butchers' scheme for cutting up animals to Soutch American cannibal practices, as Bucher suggests (cf. I.3.2.), there remains many elements in his

pictures that he must simply have made up, or derived from some other scheme, but certainly did not observe at the scene.

It is important to note that even if such decisions are not consciously made by the artist, the tiniest details of his picture may still be so interpreted; once it is decided that Gregory's drawing (fig. 47) shows a tree, or a head profile, we will also be able to discover, in the minutae of the contour line, ample information about the properties of the tree, or the head profile. This is of course *resemanticization* (cf. III.4.3.); but since the information conveyed exceeds that which the artist possesses, and thus, in a different sense this time, "the principles of construction" of the sign, it may also be termed *exhibitive import*. It is, however, an exhibitive import deriving, not from the picture subject, but from the interaction of the picture thing and the picture object. But unfortunately, there is nothing to guarantee that those additional meanings which it permits us to discover are "truths".

From all this it follows, not that pictures must render all levels below the base level, but that something more than the base level must probably be included, and how much that is depends on the particular pictorial system, traffic signs, toilet pictograms and cartoons being, generally speaking, less restrictive than more elaborate kinds of drawings and photographs. The Peanuts code, for instance, no doubt permits the "pruning" of many lower levels (cf. III.5.3.). But what, then, about the possibility of "pruning" the base level? Perhaps this cannot be done in what was above called the *strong* sense, but it certainly is possible to make other levels more intrinsically *dominant* in the picture. Thus, for instance, in an analysis we made of Reiser's drawings (based on his comic strips in *Nouvel Observateur* no 931–945, September to October 1982), it was found that hierarchically lower levels such as "young, beautiful woman" and "old, ugly woman" by far dominated the putative base level "woman".[3] Indeed, from the point of view of the expression plane, there is a primary opposition between "young, beautiful woman" on the one hand, and "man" and "old, ugly woman", on the other. As should be obvious, this issue is subtly connected to the one concerning the hierarchical reanalysis of the perceptual object in the picture (cf. III.5.2.).

The existence of an *extensional base level*, it must be remembered, has not been established by Rosch (cf. I.3.2.); but what is at stake, when Piaget and Bower argue over the innateness of the "object concept", is obviously not just any object, but such a base level. There seems to be no difficulty in having pictures in which there is an *upward shift* of the *extensional base level*: a drawing may render a group of people in such a way, that there is no possibility of separating out the signs for the different individuals that make it up; and, even more obviously, the group level may be given more prominence in the picture than the body level. As Lindekens (1973) observes, the same effet is easily obtained in a highly-contrasted photograph; and, it might be added, in a partially blurred one. But what about the possibility of adjusting the extensional base level *downwards*?

Again, it may be useful first to consider the possibility of having pictures which contain the base level, to the exclusion of all lower levels. As was already indicated, all lower order details which are implied by the base level are, by means of the interpretational schemes, projected, as a matter of course, onto the picture subject of the particular picture; but we are concerned here with that which is manifested in the picture thing and, therefore, in the picture object. Traffic signs and other pictographs, it would seem, rarely indicate any inner detail (In the scale of abstraction, that Aicher & Krampen 1977: 119 ff apply to different pictographs, a decrease of inner details seems to be a contributing factor; however, increased regularity and symmetry would appear to be more fundamental in their examples). Actually, it is too simple to suppose that a picture must either contain lower extensional levels, or not contain them; there are many intermediate cases. Thus, for instance, in the pictographs, fragments of the border line function as indexical signs, by *factorality* (cf. I.2.4.), for different body parts; and though the interpretation of these signs suppose our acquaintance with the body scheme, the particular qualities of the line add information about the particular appearance of these body parts. Of course, such interpretation is more relevant, and more profitable, in the case of Matisse's cut-outs, than in that of the traffic signs (cf. III.5.2.). In a similar way, only partially drawn lines, inside the contours of a drawing, may serve to indicate the limits between the body parts. Another interesting device consists in transforming repeated parts into the corresponding holistic property; thus, for instance, as in the example quoted from Matisse above, where leaves are not rendered, but a kind of "leaf-ness" is expressed (in an all to banal way, according to Matisse). At least the first of the above-mentioned mechanisms, the factorality meaning emanating from the outer contours of the picture, is probably present in all pictorial signs; and thus we must conclude, in the case of extensional levels as well as in that of intensional levels, that at least some details below the base level, but certainly not all existing ones, have to be included in a picture.[4]

Now let us return to the possibility of having the extensional base level shifted downwards in a picture. We shall take this to mean, not simply that a proper part alone is depicted, but that it is rendered in such a way as to appear to be an independent object, at least according to some criteria of independence (cf. I.2.6.). This seems to be possible. Indeed, we shall show in our analysis of Matisse's cut-out, in the next section (III.5.2.), that the proper parts of the body are largely autonomous; however, in this case, the proper parts into which the pictured body divide are certainly not those of the common body scheme.

In much of the preceding discussion, as well as in some earlier sections (notably in III.4.1.), we have referred to the fact that pictorial meanings tend to come in informational packages, or chunks; in fact, we orginally realized this in our reanalysis of Gauthier's analysis of the Peanuts code (cf. III.5.3.). Put simply, this means that, in a given pictorial system, the decision to render one particular semantic feature forces us to render also another particular semantic feature, or, perhaps more commonly, to choose among a range of alternatives pertaining to another feature type (cf. the "implicational universals" of Husserl and Jakobson, as discussed by Holenstein 1974: 50 f). As we shall see (in III.5.3.), not all these mutual implication between semantic features are of the same kind, for some of them the picture shares with the Lifeworld. In any case, the really interesting implications are not of the strictly logical kind (unlike that kind of "redundancy" termed "implied properties" in the discussion of fig. 54, in III.4.1.), but are rather intrinsic to the semiotic system (or to the Lifeworld). Consider Janlert's (1985: 106) objection to Hayes's claim, that information cannot be added piecemeal in pictures, as is typically the case in verbal language, because we cannot add the distance between city A and city B on a map, without adding other distances simultaneously if other cities are included in the representation. As before (cf. beginning of this section), Janlert finds that analogous properties are present in mathematics, but this time he seems to me to be mistaken: adding "1+2=3", he claims, also involves adding, however implicitly, "2+1=3" – but these are, as we saw above, two different analyses of the same "complex idea". Its parallel in the map would be the impossibility of adding the distance between city A and city B, without also adding the distance between city B and city A (though this is really, as we said above, a thematic inversion; but different divisions of distance on a map can hardly be defined without recourse to mathematics!). Hayes's point is undoubtedly that the positing of a content, in this case a distance on a map, forces us to posit (indeed, as Janlert 1985: 107 rightly observes, automatically posits) *another* content, i.e. another distance; and, as far as I understand, there is nothing similar to that in mathematics.

On the other hand, the very property here attributed to pictures seems to be claimed by Prieto (1966:144; 1975a:123) as a pecularity of verbal language. Admittedly what Prieto (1966:127, 129; 1975b:122 ff) actually says is that only verbal language, among really existing codes, is capable of adaption to circumstances, because only it possesses signs whose contents are not in mutual exclusion, but include and intersect each other (which is exactly what is wrong with verbal language, *and* pictures, according to Goodman, if we take him to be referring to a comparable level of content; cf. III.2.5.). However, there are reasons to believe that this is only another side of an identical phenomenon. Thus, consider the kind of example referred to in all of Prieto's books (1966:72ff, 134f; 1975a: 41ff; 1975b:88ff, 103ff, 157 ff, 239 ff, etc.): In phrases such as "Give my book to me!", "Give the book to me", "Give it to me", and so on, there is partial overlap of semantic features, which permits us to choose each time that particular constellation of features which is adequate to circumstances. In order to examine one of Prieto's (1975b: 103 ff) examples in detail, we will present it in a format which is easier to survey (Table XXI):

	Poss	Ip	Sg	of DO	DO	Sg	M/F	"Book"
Donnez-moi mon livre!	+	+	+	+	+	+	+	+
Donnez-moi le mien!	+	+	+	+	+	+	+	–
Donnez-moi le livre!	–	–	–	–	+	+	+	+
Donnez-le-moi!	–	–	–	–	+	+	+	–
Donnez-moi!	–	–	–	–	–	–	–	–
	+	+	+	+	–	–	–	–
Impossible	+	–	+	+	+/–	+/–	+/–	+/–
combinations:	+	+	–	+	+/–	+/–	+/–	+/–

(The feature matrix of "Donnez-moi" is all the time "Give" Imp IIIp Pl IDO Ip Sg; + means a feature is chosen, – means it is not, and +/– leaves both possibilities open.)

Table XXI. Situational features (Prieto's examples).

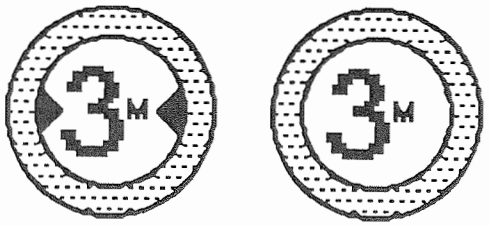
The point here is not only that facts, known beforehand or from the situation, may be explicitly included or not in the verbal sentence, but also that there are certain types of features which cannot be chosen independently of each other. As for the latter, Prieto notes three combinatorial impossibilities, two of which are really classes of impossibilities, since nothing is said about the presence or absence of the last four features; but many other impossible combinations are readily generated from our matrix above. This seems to be exactly the same case as Hayes points to in his analysis of the map, and the same as we will encounter in a more complex form in our "Peanuts" analysis (cf. III.5.3.): the choice of some features, or feature types, is not independent of other choices, but implies them and/or is implied by them. Thus Hayes seems to be wrong in thinking that this is a property which distinguishes pictorial modes from verbal ones; and even in the attenuated form given to it by Janlert (1985: 108), according to which a pictorial information chunk is at least as big as, and often bigger than, the corresponding verbal information chunk, the claim refers to too many unknown elements to be evaluated at this point.

But what about Prieto's reverse claim? Interestingly, in a later text, Prieto (1975b: 159 f) observes that in claiming this property exclusively for verbal language, he was thinking only about "utilitarian" codes, the "artistic" ones, like the cinema, the comics, and figurative

painting being as yet insufficiently known. This is certainly a prudent position; but in the case of another kind of picture, the traffic sign, Prieto (1966: 130f) has not hesitated to demonstrate that there can be no intersection, or inclusion, of the contents of its signs. Before we proceed to examine this analysis, we should ask ourselves if it is possible to have a semiotic system, in which some semantic features must be chosen together, and which yet does not contain contents which intersect or include other contents. The only conceivable case seems to be a system, in which all such implications are mutual and valid in all cases, so that there is in fact no criteria for individuating the features chosen together and consequently must be considered single features. Pictures do not belong to such a system, however, although there are of course no finite number of pictorial signs; for small numbers of such signs may be considered separately, as we will do with "Peanuts" and with Matisse's "Nu bleu".

Prieto suggests we imagine what it would mean for traffic signs to possess contents in inclusion. Fig. 60a (from Prieto 1966: 130) is an existing sign which signifies "prohibition for vehicles the width of which exceeds 3 meters to cross the bridge"; but fig. 60b shows an imaginary sign which, according to circumstances, is supposed to take on the meaning already mentioned (when a bridge is visible, for instance), or the meaning "prohibition for vehicles the height of which exceeds 3 meters to pass below the viaduct" (when a viaduct spanning the road is in sight) and so on. Prieto now claims that there is no traffic sign like this in existence, and so the corresponding code does not contain any contents which overlap or include others. However, Gambarara (1979: 280) cites a putative counter-example: "prohibition to overtake another vehicle" is included in "end of prohibition to overtake another vehicle"; and Prieto (1975a: 125) curiously accepts this counter-example as such, but argues that it is too isolated a case to be of importance. It should be observed, first, that in both these cases, the relation of inclusion between the contents is accompanied by a parallel relation of inclusion between the expressions, and this is not normally the case in the linguistic examples; and second, that, whatever the mertis of Gambarara's example, it is not really comparable, neither to Prieto's linguistic examples, nor to his traffic signs, for unlike these, the signs referred to by Gambarara cannot, in different circumstances, be made to stand for the same meaning, *considered in conjunction with the circumstances*, but of necessity signify quite opposite things – and thus the inclusion does not lead to an adaptability to circumstances, as Prieto insists it should.

In any case, the real reason why a traffic sign like fig. 60b is impossible is that no ambiguity and no vagueness can be tolerated in this kind of code; but, in the case of other pictures, even those intended to be informative, this is no great trouble, as long as there is



a b

Fig. 60. Real and imaginary traffic signs (Prieto 1966:130).

ample time to examine them in detail. The Peanuts code would seem to contain at least one instance directly parallel to Prieto's imaginary traffic sign: brows are ordinarily not marked as parts of the eye, unless they are called upon to manifest a content from the expression paradigm; but this is not meant to indicate that brows are *absent* from the faces of the Peanuts heroes the rest of the time. Indeed, sometimes not even the mouth is drawn in, without there being any suggestion that it periodically disappears (cf. III.5.3.). Also, Matisse's "Nu bleu", Sarbin's line figure (III.5.2.) and our fig. 55 all manifest at least the features "woman" and "person sitting on the ground"; but there seems to be total exclusion between their respective features of expression. And although there may be circumstances, in which they could be used to mean the same thing, this would not be a typical use of them, in particular not of Matisse's cut-out (cf. III.5.2.).

We have been concerned, in this section, with a number of interrelated properties of pictorial signs: *exhibitive import*, *intensional* and *extensional hierarchies*, and *information packages*. The first, which Peirce called "the great distinguishing property" of iconical signs, was illuminated through an examination of that pre-Peircean tradition, which seaks out parallels between pictures and mathematics. Interpretational schemes applied to pictures were shown to possess some of the same properties as Degérando's "complex ideas", and Frege's different *Sinn* corresponding to one *Bedeutung*. As an example, and in preparation for the discussion in the next section, the body scheme was analyzed. The possibility of a picture's "pruning" some parts of the extensional or intensional hierarchies characterizing the object depicted was then considered. An upward shift of the intensional base level seemed impossible, but the extensional base level could easily be so shifted. Both kinds of downward shift seemed possible, however, and though in both cases details below the base level could be left out, it appeared to be impossible to "prune" all such details. Although the existence of information packages has been claimed by Prieto to be an exclusive prerogative of verbal language, and by researchers in the field of Artificial intelligence is considered something characteristic of pictorial meaning, it appears from our

investigations that verbal language and pictures function in a fairly similar way in this respect, and although there may be more subtle differences between the two, these cannot be discovered at the present point of our investigations.

The following sections of this chapter must be taken as case studies, concerned with particular pictorial systems, and no generalizability for the results can be claimed at this point (see III.5.2–3.).

III.5.2. The pictorial reanalysis of the perceptual world. Matisse's Blue Body

> "Je garde ces jeunes filles souvent plusieurs années, jusqu'à épuisement d'intérêt. Mes signes plastiques expriment probablement leur état d'âme (mot que je n'aime pas) auquel je m'intéresse inconsciemment ou bien alors à quoi? /– – –/ L'intérêt émotif qu'elles m'inspirent ne se voit pas spécialement sur la représentation de leur corps, mais souvent par des lignes ou des valeurs spéciales qui sont répandues sur toute la toile ou sur le papier et en forment son orchestration, son architecture. Mais tout le monde ne s'en aperçoit pas. C'est peut-être de la volupté sublimée, ce qui n'est peut-être pas encore perceptible pour tout le monde."
>
> Matisse 1972: 162f

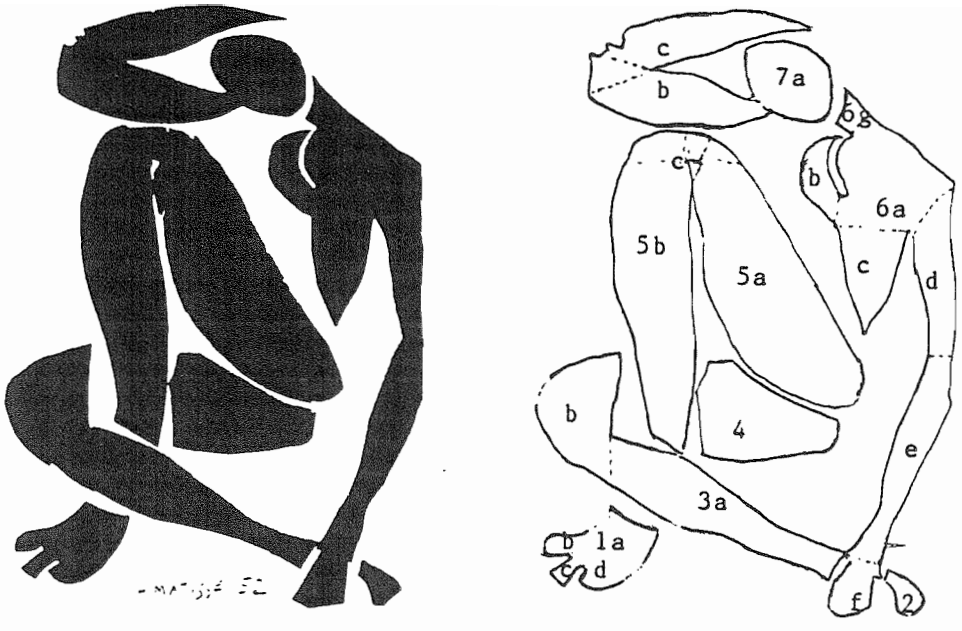
In this section, we hope to make "perceptible" that "volupté sublimée", or perhaps that "état d'âme" of the model, which is inscribed in Matisse's cut-out "Nu bleu IV" (1952) (Cf. Gowing 1979: 194f), this time on the body itself, for nothing else is pictured in that work. We make only modest claims for the following analysis: its results cannot be generalized to all types of pictures; and even as an analysis of "Nu bleu IV", it is probably for the most part incorrect (In this respect, a comparison with the other variants of "Nu bleu", and with other cut-outs by Matisse, would no doubt by profitable; cf. I.1.3.). It is only meant to be suggestive of an approach to the reorganization of the perceptual object sometimes effected by pictures.

What we "see in" "Nu bleu IV" is, of course, a human being, and more particularly a woman; and we also see that she is sitting on the ground, holding one of her legs with her left hand, while the right arm is raised above the head; and we could continue for a very long time describing the details of her position. All this is *exhibited* – thanks to the projection onto the picture of the *body scheme* (cf. III.5.1. and fig. 59). But also a *plastic* analysis of the picture is possible (cf. II.3–4–). In a very obvious and immediate way, the picture is, from the point of view of plastic language, made up of seven independent units or elements. We might consider using here the technique employed by Thürlemann (1982:24 ff; 45 ff) in his study of some of Klee's works: the classification of the variously shaped elements in relation to a "représentation typique" or "normalisée" (i.e. a prototype; only that Thürlemann ignores the importance of the particular kind of deviation from the prototype; cf. I.3–4.). But this case is different in many ways. To begin with, in Klee's pictures, there is only a vague, if any iconic content (e.g. the bird and the flower in "Blumen-Mythos"); in Matisse's cut-out, iconicity is omnipresent, though it is particularly anchored, not in the isolated elements, but in their arrangement, i.e. in what Thürlemann terms the "topological features". We will return to these differences below. More importantly, none of the elements in "Nu bleu" are readily assimilable to any known spatial prototype; and they are so different from each other, that there is no justification for ranging them into classes on the basis of shape. However, if the law of continuity (cf. I.2.3–4.) is applied to the elements, prolonging certain border lines into the surface they enclose, as in fig. 61b, subelements close to prototypical in shape will emerge, but ony in one or possibly two cases: 7a is a circle, and 6a might be taken to be a triangle compounded with a rectangle. Even so, no subelement is in any way *similar* to the others. Therefore, we will choose another procedure: since "Nu bleu" is clearly perceived as (the picture of) a woman, it would be important to find out in what way its picture object still differs from the impression engendered by a real woman, and even by a more straightforward portrait; in other words: how it modifies the conventional body scheme (cf. III.5.1. and fig. 59). For purely practical reasons, we will consider first the internal organization of the elements, then their mutual arrangement.

Although there is something distinctly "numismatic" to this approach (cf. III.4.1.), we will suppose (along the lines of Koch and Nöth) that each one of the surfaces separated by white spaces can be regarded as a pertinent unit of plastic language (though not, as we shall see, of iconic language). Our task is then to discover the organization, in terms of *constituency* as well as *dependency*, *inside* each of the elements. This involves determining which subelements belong closer together, and which dominate the others, and, lacking a clear procedure by which to do this, we have to start from a pure-

SF	= *comparative largeness of surface.*		
EQ	= *equivalent extension of the two main axes of the surface (horizontal/vertical, etc.).*		
CA	= *greatest number of appendages.*		
CG	= *contiguity in a vague sense.*	}	*Increased integration of parts.*
X	= *crossing of lines extended from the border lines of two surfaces.*		
CN	= *inclusion of one surface by the lines extended from the borders of another surface.*		
PLL	= *parallelism of border lines in two surfaces.*		
PR	= *closeness to prototype/configuration.*		
EPH	= *appearance (of some of the other properties) in central parts of the element.*		

Table XXII. Principles of hierarchic organization.



a b

Fig. 61. Matrisse's "Nu bleu IV".

ly intuitive evaluation; at a later stage, however, it will be possible to formulate a few general principles, which seem to account for most of these intuitions. These principles, including those needed for the later analysis of the mutual arrangement of the elements, are given below. Their validity must of course be examined in many other analyses (cf. I.1.3.).

The subdivision of the elements follows, as we suggested above, from the prolongation of border lines, according to the law of continuity. We will not go into details to justify the two cases in which an intermediate level of constituency has been added; 6d-e-f is clearly *one* appendage, but small modifications of its central axis, and the narrowing of the surface at some places, suggest a subdivision; and while 7b and 7c resemble each other in general shape, axis of extension, and so on, as well as in their opposition to 7a, they are really mirror images of each other, and thus distinct. As for dependency, the application of principles SF, EQ, CA, and PR, leads to the organization described in the figure below (fig. 62).

Elements 1 and 6 best correspond to that kind of visual concept which interests us here: the *core* dominating its many *appendages* (cf. I.4.5.). In element 3, on the other hand, non of the subelements clearly dominate the other, while in element 5, the third subelement would

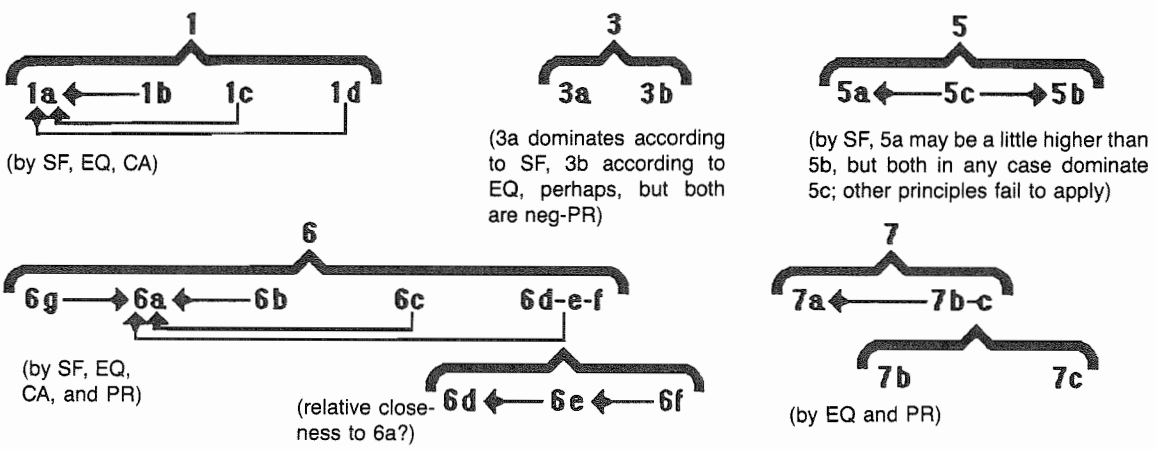


Fig. 62. Hierarchical analysis of the picture object in "Nu bleu IV" (cf. fig. 61; elements 2 and 4 have not been included, since no obvious subdivision suggests itself).

seem to be dominated by the two others (which, strictly speaking, is impossible to state in a directed graph; but, since it seems to be a phenomenological fact, we will take fig. 62 to represent a *set* of different graphs) The importance of principle SF appears to be firmly established, but there may be some doubt as to our need for the others. However, in element 3, SF prove to be insufficient to cause the predominance of 3a; and in element 6, it is not obvious that 6a would gain the upper hand by SF alone, for it seems that all the appendages together, and perhaps 6d-e-f alone, have a larger added surface. There is also the case of element 7, where EQ and PR, to the exclusion of SF, assure the preeminence of 7a; however, it is intuitively unclear, that 7a does indeed dominate this configuration. Actually, the added surface of 7b and 7c may be larger than that of 7a, they are symmetrically arranged, and they even "topologically" include 7a. But this already concerns the second level of our analysis, to which we now turn. Recognizing the tendency towards redundance in pictorial meaning (cf. III.4.1.), we will not abandon any of our principles at this early stage.

Next, we have to find out how our seven elements, and their subelements, combine on a higher level, that of the whole picture. Again, we may need some help, and so we turn to Thürlemann's interesting study of Kleés "Pflantzen-Analytisches", where the only explicitly formulated criterion for discovering the constellations of primitive elements is *contiguity*; as it turns out, however, two other criteria, *similarity* of the *context of occurrence*, and *similarity* of *contextual type*, are tacitly used (thus, some elements are joined because they appear on the same background; and all "isolated" elements, i.e. those which are not united by contiguity to other elements, are counted as one constellation). As mentioned above, similarity criteria do not seem to have any application to our picture; but we can be much more specific about contiguity. As suggested by our table of principles above, such factors as mere contiguity (which is a holistic property, but could be measured), the crossing of the lines which are extended from the borders of two surfaces, the inclusion of one surface in the super-element formed by the extension of the border lines of another element, the parallelism of the border lines of two surfaces, the closeness to a well-known spatial configuration, or prototype, of the shape formed by two or more surface together, are here hypothesized to characterize increasing degress of integration of the elements into a higher-order configuration. So far, the justification for this hypothesis is purely intuitive, and it has to be put to the test in many more analyses. The application of X, CN, and PLL to "Nu bleu IV" is rendered explicit in fig. 63a. Thus, because of X, 3a-2 is "close" to 6e-f; and because of CN, 3a and 2, 4 and 3b, 5b and 1a, etc. join together; while there is PLL, to a smaller or lesser degree, between the borders of 4 and 5a, 6a and 7a, 7b and 5c, and so on (here, it seems, the extension of parallelism, relative to the entire border line of the surface, would also be relevant).

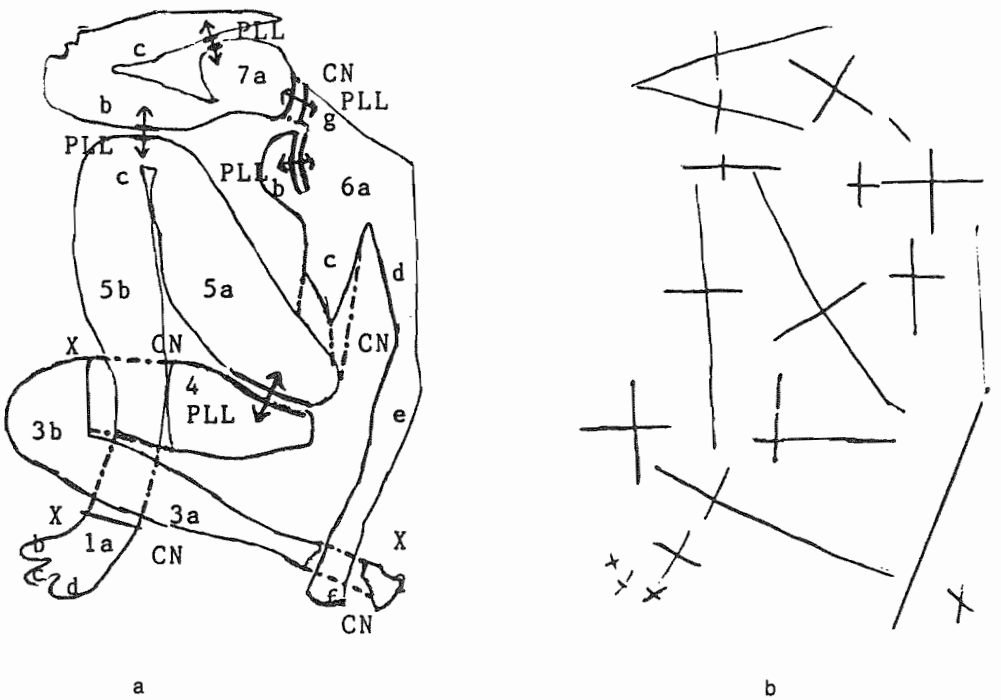


Fig. 63 Contiguities and principal axes in "Nu bleu IV".

The strongest constellation, on account of criteria CG, PLL, PR, SF, CA, and perhaps EQ, is no doubt 5a-b-c-4. Together, these elements come close to forming a triangle, with rounded corners admittedly, but in the prototypical position of triangles, i.e. with the apex pointing upwards. A partially overlapping, but much weaker, constellation is formed by 3a-b and 4, by means of CN and PR, but the effect is counteracted by the lack of simple contiguity, CG. As for PR, 3a-b-4 may be taken to be a triangle lying down, with its apex to the left side, which is not a prototypical position for a triangle; also, there is really little to suggest the base of the triangle, opposite the apex shifted to the left, not even extensions from the right-hand borders of 4 and 3a. Rather weak constellations are also formed by 3a-b and 2, and by 5a-b-c and 1a-b-c-d, by means of CN only, with some help of CG in the first case. Element 7 forms a constellation with itself, because of CG, PLL, and PR; however, the parallelism is slight, and the triangle lying down which can be discovered is rather ill-formed in many respects, and there is little indication of its base, or even of its apex. This is not too serious, since 7 is an element in itself (on account of fig. 62). Because of PLL and CN, 7a also connects to 6g, and thus to 6a. There results the super-constellation 6a-b-c-d-e-f-g-7a-b-c, in which 6a dominates, for the same reasons that made it dominate element 6; mere closeness, CG, could be added, but since, for reasons stemming from the iconic picture object, even more proximity would be expected, this factor is better taken to counteract the relation. There would seem to be two super-constellations, then: 6–7 on the one hand, and 4–5, with their appendages 1, 2, and 3, on the other hand. There are, no doubt, some weak connections between the two super-constellations, too: short parallelism between 7b and 5c, continuity, but at an appreciable distance, from 6c to 5a, and crossing of lines extended from the borders of 6e-f and 3a-2 (PLL, CN, and X). All this happens in peripheral parts of the two constellations, however (neg EPH); on the contrary, their central parts show lack of proximity (EMP, neg CG). Thus, we end up with the following scheme (fig. 64):

Here, dotted lines mark connections which are probably too weak to determine any constituency and dependency. Of course, neither this secondary framwork, nor the several overlapping partitions of $5\text{-}4_1$, are really permitted in formalized graph theory; but, just as in some parts of fig. 62, we may take fig. 64 to represent a whole set of directed graphs.

If we now compare the interpretational scheme of "Nu bleu IV" with the common body scheme, as described in fig. 59, we will find very little *isomorphy* or *conformity* between them; thus, it seems that pictures can do without isomorphy, in the strict sense (cf. III.1.2. and III.4.3.). Under such circumstances, it must seem curious that we do see the woman sitting on the ground in Matisse's cut-out, and that we do so with no apparent difficulty. In some experiment by Sarbin & Hardy (quoted in Argyle 1975: 272 ff), stick figures were successfully employed to convey not only a person's sitting position, but, through this very position, such subtle meanings as "thinking". But if we abstract from Matisse's cut-out only the principal axes of the surfaces, the result will not even serve as a droodle to convey the meaning "a person sitting down" (see fig. 63b, and cf. III.3.). Thus, whatever invariants there may be for the meaning "person sitting down" in the picture we have studied, they are deeply embedded, not only in the arrangement of elements, but in the elements themselves. Our access to the body scheme no doubt helps us to discover the iconic picture object; and it may even be, as Töpffer's law suggests, that the human body scheme is the first interpretation to be tried out on a configuration; but there must be something in the picture that makes this interpretation work.

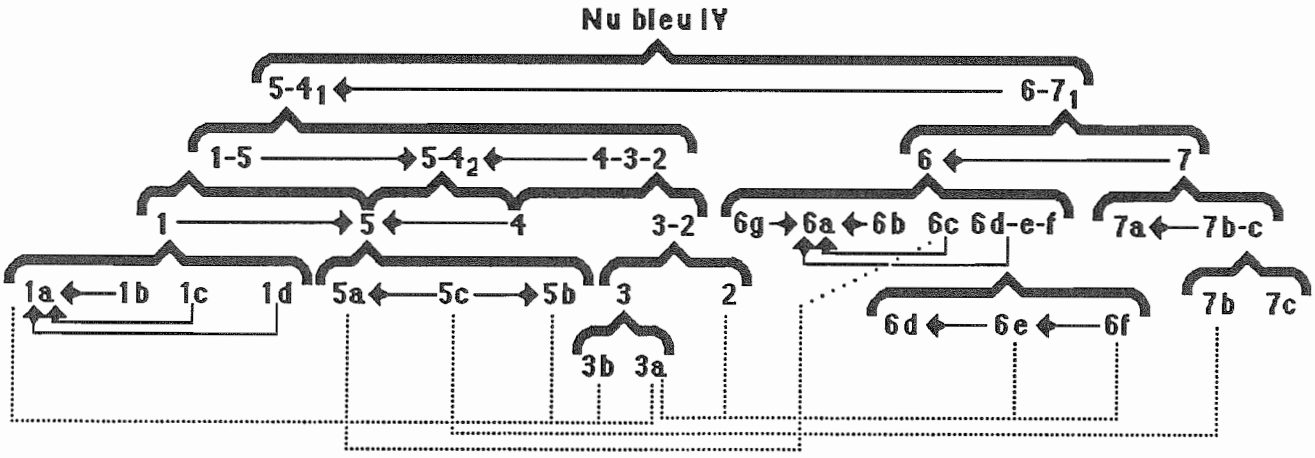


Fig. 64. The picture object in "Nu bleu IV". Complete hierarchical analysis.

Whatever that is, "Nu bleu" is sufficiently different from the common body scheme to contain also a pictorial "statement" in plastic terms (not necessarily possible to formulate in words) about Matisse's own "volupté sublimée", or perhaps about the "état d'âme" of the model.

Nor is it only in its hierarchical organization that "Nu bleu" differs from what the body scheme would make us expect: both the borders of the elements, and their corners, have some curious properties. With the exception of 2 and 6f, all elements have predominantly roundish borders; the shorter sides of 4 also make an exception, but even the borders of 6d, which appear rather straight, on closer inspection turn out to be undulatory, with intermittent changes of direction. All roundish borders have jags, but these are not angles, since they fail to redefine the limits of the surfaces. However, at the same time, there is an appreciable number of sharp angles: in the upper part of 1a, in 1c, the whole of 2, two in 3b, five of the six corners in 4, two in the lower part of 5b, one in 7c, five in 6f, one each in 6b and 6c and so on. Will then the roundish character of the borders or the angularity of the corners gain the upper hand? I suspect that, on the first "reading", the impression of roundness, and thus perhaps softness, will predominate, but later angularity will come to the fore as a qualification.

Under these circumstances, we must ask what remains of *exhibitive import* (cf. III.5.1.). First, let us consider to what extent the woman sitting on the ground can be "seen in" the cut-out. The configurational level at which appresentation takes place must prorably be the picture as a whole (cf. III.4.3.). The elements 5-1, and 4-3-2 are resemanticized as being the legs; 7a is the head; 7b-c is one arm, and 6d-e-f is the other; 6b stands for the bosom; and 6a-c must represent the upper part of the trunk. Other details must be added to the picture subject to produce a possible perception; the woman must have eyes, hair, etc, and we can roughly place them, but we cannot decide on the colour of her eyes, or the length of her hair. It is on the basis of the body scheme that 6a-c, in spite of its curious shape, can be seen as the upper trunk, and that the lower part of the trunk can be intercalated between 6a-c and 5-4; there is a derivation, as in Lambert's syllogism (cf. III.5.1.).

So much for exhibitive import, as it is projected from interpretational schemes onto the picture. But there is also something else: once we have identified the cut-out as an instance of the type "human body", we can directly see in the picture, the particular way in which this body occupies space, i.e. not just *that* this woman is sitting down, but *how* she sits. Curiously, much of what is actually *exhibited* by the picture would make the body depicted an "impossible object" of sorts (cf. III.3.4.). Thus, one arm is seen to emerge from the head; the legs would seem to be joined to each other, and to the bottom, in an anatomically impossible way; and the whole body is cut into pieces at places that would be surprising even to a cannibal (cf. I.3.2.). Indeed, in order for the picture subject "woman sitting" to override the information directly contained in the picture, many adjustments are required, some of which are as follows: the parallel borders of 7a and 7g, as well as those of 6a and 6b, must be taken to be subdivisions inside one single object; but the space separating 7b and 5c has to be considered a pocket of air, the proximity of the two elements being an accidental effect of the sitting position. And while we cannot accept the idea that 5a and 4, and 7a and 7b-c, are related as shown in the picture, their proximity cannot be denied, as cannot, in the first case, the presence of a direct corporal link. The problem of interpretation here is much more formidable than in Kennedy's outline drawings, also when we take into account our own reinterpretation of Kennedy's clam (cf. fig. 48. and III.3.3.).

As an additional exercise, we will now consider the hierarchical organization found in the Charlie Brown figure in Schulz's "Peanuts" (also cf. III.5.3.). Quite apart from the difference of aesthetic value, the Charlie Brown figure is distinguished from Matisse's cut-out by at least three characteristics. To begin with, Charlie Brown is not a unique pictorial "statement", but a ready-made formula, used to form complete and more varying messages, i.e. to act out some scene or other, in an innumerable series of comic strips. Thus, whatever message is conveyed by the hierarchical organization of Charlie Brown's body, this is not the primary message, but its condition of possibility in the particular "code" employed by Schulz – that is, the *connotation* (cf. II.4.). In the second place, Charlie Brown is made all of one piece, not cut up into elements separated by blanks, as is "Nu bleu IV", and so we can dispense with the primary task (handled in fig. 62) of joining the elements together; by-passing synthesis, we go directly to analysis. Thirdly, Charlie Brown is an outline figure, not simply a set of surfaces; as Volkelt (1963: 28 f) would have said, its surfaces are "konturiert", not just "begrenzt", i.e. limited by a pigment line facing on to two directions, instead of a simple change of pigment colour (also cf. III.3.3.); and thus it may also possess inner details and parts. It should therefore not be surprising that only some of the principles employed to determine the hierarchical organization are the same as in Matisse's cut-out; further principles are needed, in addition to SF, EQ, CA, and PR, and all contiguity criteria lack application.

The application of these principles to the constituency and dependency properties of one common variant of the Charlie Brown formula is indicated in fig. 65 below.

Even a superficial comparison of the Charlie Brown hierarchy (fig. 65) with the common body scheme (fig. 59) immediately points to a number of deviations. Most notably, the head completely dominates the Charlie Brown hierarchy, on all criteria except CA. On the other hand, Charlie is made up of three immediate division blocks, as against only two in the body scheme (there

CT	=	*relative amount of common contour.*
ID	=	*identity or similarity of salient properties, such as size, general shape, etc.*
PT	=	*subdivision into parts, i.e. subelements possessing closure; the contours of the lines are taken to be limits of surfaces.*
DT	=	*subdivision into details; the pigment of the lines, rather than the contours, is relevant, and is interpreted to stand for objects instead of just their limits.*
BL	=	*the limits of the surface are only partially marked by lines, for instance deleted on one or more sides.*

Table XXIII. Further principles of hierarchical organization.

may be a variant of the latter scheme that gives of four, but not three primary units: head, trunk, arms, legs; cf. III.5.1.). Indeed, the distinction between arms and body is made on a lower extensional level than that of the legs, because the arms are partly fused with the trunk (criterion BL; this is not true of all Charlie Brown variants, however), whereas the legs are clearly separate elements. Moreover, legs and feet are treated as equivalent elements, as to size and shape (ID), and maybe their distinction should really be raised one more step, to the primary level, for there is not much to unite them – except their very similarity (just like 7b-c in "Nu bleu IV"). There seems to be the same identity of size and general shape between arms and hands, but this is less clear, since the arms merge with the trunk at their upper limits (BL). The elements, as we have distinguished them, can be further divided into *parts*, where lines stand for edges of objects and surfaces, or into *details*, where the pigment itself, of whatever form, represents the object; and a last suggestion would therefore be that elements divided into details are better integrated, and therefore more dominant, than both elements divided into parts and elements lacking subdivision (DTvsPT, DTvsNegPT). In a more complete study of the Charlie Brown hierarchy, it would have been necessary to bring the hierarchical analysis even further down, and hence give a position also to mere pigment-signifiers; for surely, it is not without significance that Charlie Brown's facial features are so exiguous in comparision with his overgrown head.

We shall not try to discover here the precise meanings conveyed by the Charlie Brown formula. Obviously, it relies on a resegmentation of perceptual reality, which is much less radical than that of Matisse's cut-out, already because it does not require the compounding of independent elements for the body to emerge as a picture object; unlike "Nu bleu", which implies a downward shift of extensional base level (plastically, but probably not iconically; cf. III.5.1.), the Charlie Brown formula presents the body as a whole. But it certainly modifies the relative importance of the body parts: notably in the case of the head, the feet and the upper trunk. Here, it would be profitable to make a comparison with other comic strip figures, but such a task can only be cursorily hinted at in the present context. Brétecher's drawings in "Les frustrés" would seem to respect much more closely common understandings of constituency and dependency in the body scheme (at least the strips from "Nouvel Observateur" 963 and 964, April 1983, which we have scrutinized) – but with one interesting exception: the parts of the head. Indeed, already on our criteria SF and EQ, the nose would seem to be the most dominant part of the head; however, its limits in relation to the rest of the face are unclear (BL), parts of its contour must at the same time stand for the upper lip, and the chin would seem to be non-existant, while the forehead dissolves into the root of the nose, where also the eyes are placed. Even more hypertrophied is the nose found in the personages of another French draughtsman, Reiser (as studied in "Nouvel Observateur" 931–945, September to December 1982): here, the head is made up of an enormous nose with an eye placed on the upper limit, and a few strokes added to indicate the hair. The body itself is not very different in shape and size from the nose; the division line between them is the

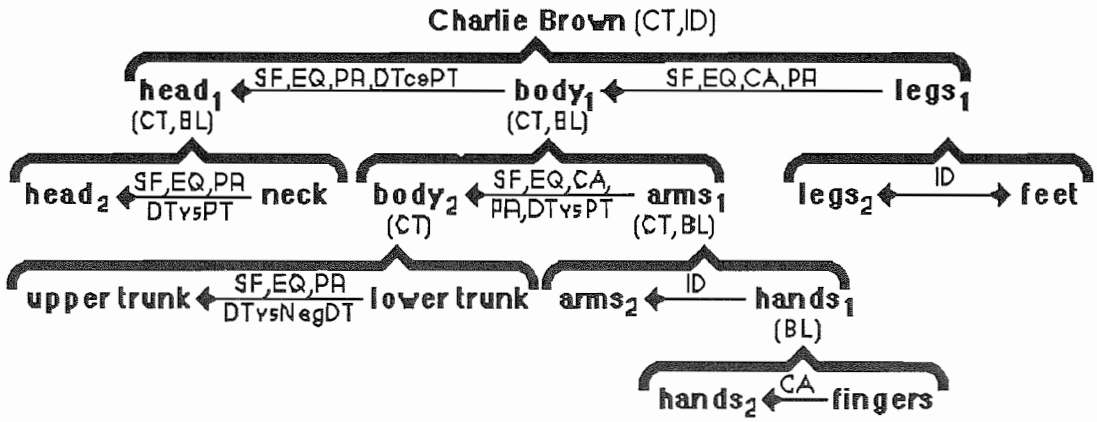


Fig. 65. The Charlie Brown hierarchy.

mouth, and the facial region below the latter is drawn as a part of the body. Arms, and even legs, are diminutive appendages. All this is true of male personnages, and also of ugly, old women. On the contrary, young, beautiful girls are drawn as a quite different species. Their hierarchical organization would seem to reproduce the common body scheme even more closely than Brétecher's personnages, with one exception: the breasts are depicted as concentric semicircles seemingly independent of the rest of the body.

In this section, we have tried to illustrate the way in which pictures sometimes reanalyze, or resegment, the common objects of the perceptual world, as for instance the human body. After a rather thorough examination of Matisse's cut-out "Nu bleu IV", a few more superficial considerations on Charlie Brown and on the personages of Brétecher and Reiser were added. The interest of this discussion has so far only been to suggest procedures of analysis which may be applied to other (kinds of) pictures, and to indicate the types of differences that we may expect to find between them. The real result of this section is, from a semiotic point of view, the principles which we have formulated, in order to account for the intuitive evaluations made; but these will only acquire value, as they are tried out on other pictures and shown to be able to account for them. This is far more than what can be done at present.[5]

III.5.3. Information packages and thresholds of iconicity in Schulz's "Peanuts"

> *"Un signe pour chaque chose. C'est un progrès de l'artiste dans la connaissance et l'expression du monde, une économie de temps, l'indication au plus bref du caractère d'une chose. Le signe. Il y a deux catégories d'artistes, les uns qui font à chaque occasion le portrait d'une main, d'une nouvelle main chaque fois, par exemple Corot, les autres qui font le signe de la main comme Delacroix. Avec des signes on peut composer librement et ornementalement."*
>
> *Matisse 1972: 205*

At least three semioticians have engaged in the study of the well-known comic-strip "Peanuts", by Charles Schulz: Oomen (1975) and Kloepfer (1977), who refers to Oomen; and Gauthier (1976), who neither refers to, nor is referred to by any of the others. This, it would seem, is a good starting point for our metanalytic considerations. In view of the small amount of more thorough semiotic analyses concerned with particular comic strips, and with their pictorial expression plane rather than with their narrative organization, it is at first surprising to discover that Schulz's "Peanuts" has been the object of such extensive study in semiotics. Perhaps there is some particular characteristic of the strip itself that makes it more amenable to semiotic analysis than most other comic strips, let alone other pictures. Kloepfer (1977: 133), who admits Eco's description of iconic languages as being a "weak code" (cf. III.2.6–7.), thinks Schulz has managed, through "abstraction" and "reduction", to transform his still "predominantly iconic code" (p. 131) into a system of discrete signs. Also Gauthier (1976: 116) believes there is something particular to Schulz's drawing techniques that makes the analysis workable, but he adds that numerous contemporary strips would lend themselves as easily to the same type of analysis. Whatever may be the truth of this, it is clear that a comparative study of these two or three different approaches to "Peanuts" must have something to tell us about the intermingling of *iconic* and *categorical* elements in pictures – or, rather, in *some* pictures. For, once again, what we have to propose here is more an illustration than a demonstration.[6]

According to Oomen (1975: 254), the visual code in "Peanuts" carries a predominantly expressive function, while it is the linguistic code that conveys the bulk of the information. Gauthier (1976: 121), on the other hand, distinguishes, in the pictures alone, elements of a code of identification, a code of emotions and a code of movements (He also adds a code of positions, but this is a confusion, for the units assigned to this code are mere elements of expression; they concern the location of a stroke, not of something in the depicted world). The code of emotions, it would seem, is the expressive function of Oomen. Also Kloepfer (1977: 131) cites those features which serve to identify Charlie Brown, corresponding to Gauthier's code of identification. In his article, Gauthier limits himself to an examination of Charlie Brown's head seen from the right side. In his opinion, the expressions of the emotional code differ, not only for different personages (p. 122), but for four different viewing positions (p 117 f; intermediate positions are nonpertinent). Oomen and Kloepfer, on the contrary, consider the emotional code to be identical for all the personages, and to possess variants for only two viewing positions, the profile and the front view (Kloepfer's "Vor-Zeichen", p. 133; the rear view is ignored).

Although Gauthier studies a particular comics book, while Oomen and Kloepfer refer to "Peanuts" in general, there is no doubt that they all intend to describe "the Peanuts code", so it is disturbing to find their conclusions to be so divergent. Without having access to the material studied, we can of course not even begin to determine who is right. However, it is conceivable that the great number of "free variants" for each one of the emotion expressions, which Oomen (1975:251 ff) discovers, results from her ignoring the differences due to the personages having the emotions. But, on the other hand, there are incoherences, or at least a lack of clarity, also in Gauthier's (1976:122 ff) argument. Although he says the emotional expression of the eye is different for different characters, in one particular case, that a Charlie Brown and Lucy, he explains the difference as a result of their having different temperaments; also the

mouth expressions of different personages differ, but again, in the case of Lucy, this is said to be due to a difference in what there is to be expressed. It is not at all clear from where Gauthier derives this information. Originally, Gauthier clearly supposed the *contents* to be identical for all individuals: indeed, no *struktural* procedure can be used, if at least the *content substance,* in Hjelmslev's sense (cf. II.4.), is not the same. This means it is possible that not just the pictorial "labels" of the emotions differ from one personnage to another, but even the range of expressions included in one category, and thus the limits between the categories (cf. I.3.2. and below); but the comparison breaks down, if also the content continuum itself differs in the several cases. This does not show that Gauthier is wrong in his description, only that he employes information from sources which he fails to mention: probably some synthesized reader's knowledge about the personality of Lucy.

According to Kloepfer (1977: 133), there is a "mouth paradigm" in "Peanuts", of the same discrete type as a phoneme system. Curiously, it is Gauthier, and not Kloepfer, who sets out to demonstrate the existence of such a system in practice. In the context "runder Kreis" (sic!), Kloepfer tells us, no matter what is put inside the lower half of it is seen as a mouth; and Gauthier (1976: 129) claims that any line inside the contour will do as well. Something like this was found by Goodnow (1977) to be literally true, when small children were doing the interpreting. It is less obvious, however, that adults are equally liberal, and even if they were, this would not demonstrate the discreteness of the "mouth paradigm". In Kloepfer's view, it is because we have repeatedly seen Charlie Brown with a particular mouth shape as he is saying something which has an identifiable emotional content, that we come to associate each mouth shape with its peculiar emotion – that is, Kloepfer thinks, *indices* transform *icons* into *conventional signs*. This is reminiscent of Lotman's notion of "inner transformation" of a code, and of Lévi-Strauss's Wagner interpretation (cf. I.2.5.), and it is perhaps the kind of operation that may be able to justify Gauthier's feelings about Lucy, but it is most certainly not needed on this elementary level. Cüceloglu (1970) generated 60 even more abstract heads than those in "Peanuts", using three types of eyes, four types of brows and five mouth types, and Americans, Japanese, and Turks agreed on the whole on how much these faces expressed "pleasantness, irritation and non-receptivity". Contrary to Michotte's well-known hypothesis, according to which movement is primary in the expression of emotion, Thayer & Shiff (1969) found that "agressive" movements were reinterpreted when executed by happy faces. In the present context, the first study may be taken to suggest that no meaning transference is needed in order to make "abstract" faces interpretable; and since the second study shows that the emotional meanings of such "abstract" faces are not overriden by movements, it seems very doubtful that static cues could accomplish this. But, of course indices may extend and specify meanings already contained in the faces (as, perhaps, in the case of Lucy).

Under such circumstances, there can hardly be any justification for talking, as Gauthier does, about the "features" (p. 113), the "digital" nature (p. 114) and even the "double articulation" (p. 126) of the "Peanuts" code (also cf. III.4.1.2.). And it is enough to have a look at Gauthier's own schemes (p. 132 ff) to discover that the options of the "Peanuts" code are very rarely dependent on "binary choices", as Gauthier (p. 118) wants us to believe. And yet, there is a sense in which comic strips (and, I believe, all kinds of pictures) are "digital", or rather *categorical* (cf. III.2.4–5.). Let us begin by defending Gauthier against his own self-understanding: he *does* apply a principle of pertinence to his "text. At one point (p. 117), he tells us for instance, that he is going to consider the "graphism", without taking account of the corresponding content. If he had done that, he would never had discovered any "mouth paradigm", for, graphically, the different mouth shapes have nothing in common (shapes such as nothing, stroke, two strokes forming an angle, a halfcircle). In spite of his intentions, he thus avoids making what Jakobson calls a "numismatic", and therefore completely uninteresting analysis (cf. III.4.1.).

A more serious obstacle to *categoricality* in the "Peanuts" strips is their redundancy (cf. III.4.1.). Gauthier's assumption (p. 123) that only the mouth opening is a pertinent feature, while the variations of the nose, the forehead, and the chin are contextually determined, is completely gratuitous. If Gauthier is right, when he later claims (p. 128) that there are many expressions for a single content, then the categorical, or "digital" sign model, cannot be correct. But we need not conclude that pictures are irrevocably "dense", in Goodman's sense (cf. III.2.4–5. and III.6.2.). Even if something similar to the *symptom model* (cf. I.1.2.) applies to pictures, there may be points at which the accumulation of evidence is, for all practical purposes, determinate.

There is, however, yet another way in which categoricality sets limits to "density" or "analogy", at least in "Peanuts" and many other comic strips. Or rather, there are three ways. 1) there is a *lower threshold of iconicity*, below which resemanticization cannot proceed (cf. III.4.3.); 2) there is also an *upper threshold of iconicity*, above which equivalence can only be globally established (which does not mean it must be "conventional"; cf. III.1.4. and below); 3) and, finally, the very form in which "similarity" is conveyed is categorical, i.e. the invariants are embedded in "graphic" material possessing its own organization. We will have a look at these different limiting factors of iconicity in turn.

The explanation of the *lower threshold* is the most straightforward. Quoting Matisse's (1972: 171) critical

remarks about painters using repeated "33"s to indicate foliage, Gauthier (1976: 120, 125; 1982: 28) claims that, in such a case, there is not one feature of the picture answering to each leaf. But we already know that, strictly speaking, there never is (cf. III.4.3.; of course, we suppose that the requirement for features to be "minimal", in some sense or other, is retained; cf. III.4.1.). The real point, however, is that, in a case like this, it is impossible to correlate each feature with a leaf depicted, even when the features have been integrated into the larger whole, i.e. *resemanticized*. The foliage is rendered only on the extensional level "foliage", to the exclusion of all lower levels; but contrary to what happens in the common lavatory logotype, where there is nothing to indicate the levels below that of "man" and "woman", the parts are here represented, not only by their common borders (indeed, these are left out), but by the holistic properties, which they form together: perhaps the irregular lattice made up of numerous overlapping small and rounded shapes (cf. III.5.1.). Matisse's dissatisfaction with painters using this device is, I assume, grounded in his opinion that this way of establishing the equivalence of perceptual invariants has grown all too commonplace, and that new "signes plastiques" are called for. He would probably welcome the use of other invariants of the same perceptual object, or even other plastic variants of the same invariant. In any case, when parts are signified through their holistic properties, there is no way of pointing to the parts; and so we cannot distinguish individual leaves, and not even groups of leaves, in the pictures considered.

Gauthier (1976: 121, 125) contends that, in "Peanuts", hair is rendered in the same way. The different hair-signs can only be further analyzed into features having no meaning of their own, Gauthier claims, for each stroke does not signify a single hair. There are several problems with this parallel. To begin with, no character's hair in "Peanuts" is an autonomous sign, but must be referred for resemanticization, at least to the higher configurational level of the entire head (cf. III.4.3.). This is probably also true of the foliage made up of "33"s. In the second place, that to which the picture refers is a *perceptual* object, and not, as Hermerén would say, some elusive "Ding-an-sich" (cf. III.2.6.), and the assumption that a person's hair, as a perceptual object, is made up of a determinate number of hairs, has not much to commend itself, if we except the case of the old gentleman having only one or two hairs left. Seeing things configurationally is a fact of ordinary life, not only of pictures. And as soon as we abandon the conception, that hair is made up of single hairs, we can see that the strokes standing for "hair" (in the collective sense) in "Peanuts" do carry meaning below that extensional level (cf. fig. 66).[7]

There is no trouble identifying the parts of these hairs, even if the limits between them are scarcely clear-cut. We can point to the fringe of all the personages, and see

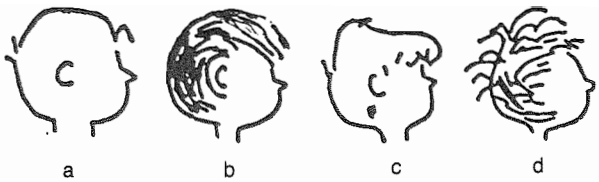


Fig. 66. Abstracted "Peanuts" heads.

how the hair is arranged around the ears. The hair of personage c is combed upwards towards the top of the head. It is also possible to assign a number of properties to the different hairs: the hair of c is well-ordered, that of d is dishevelled, while b's hair could be ranged somewhere in between; they all have a lot of hair, whereas a has a small amount, but probably more than one or two tufts. And a lot more could be said, in particular, if we take the girls' hair also into account. Therefore, the depiction of hair in "Peanuts" is not a good example of the lower threshold of iconicity; but there are such examples, for instance the eyes, to which we will return later in this section.

As compared to the lower threshold, the *upper threshold of iconicity* is much more difficult to establish, and even to explain. It can be demonstrated in "Peanuts", as long as we limit our attention to single figures: the apex of the hierarchy, where the threshold must be situated, is the personage, not the frame. Gauthier (1976: 117) observes, that "dans la configuration 'profil droit de Charlie Brown', la tête peut approximativement s'inscrire dans un cercle, le torse dans un trapèze, les jambes dans un rectangle ou dans un polygone plus complexe". In spite of differences of size, proportions are constant (cf. p. 131). At another point, Gauthier (p. 120 f) calls attention to the fact that the content "profil droit de la tête de neuf personnages intervenant dans 124 séries de 'Peanuts'" does not possess any single graphic expression; and yet all the heads are, as he goes on to say, the result of a process taking its point of departure from the circle. But then, of course, there *is* a common graphic expression for all the heads; as a "good form", and thus a *prototype*, it is implicitly present (cf. Rosch 1973; 1975b; and I.3.1.). If the circle is the "cognitive reference point", then it should also be significant that the heads of Charlie Brown and, perhaps, Linus, come so much closer to the ideal than the others. But in order to appreciate the meaning of this, we must first know what the circle itself stands for. For, of course the different degrees of deviation from a perfect circle in the drawings of the heads are not meant to indicate the extent to which the corresponding "real" heads diverge from circularity; no actual human heads are circular, in any stricter sense of the term.

More plausibly, the different degrees of circularity present in the "Peanuts" heads are "metaphors" for mental properties, as is often the case in caricatures (according to Worth 1981; but cf. Perkins 1975; & Hagen

1980; and III.6.3.). The problem then amounts to finding the *plastic* meaning of the circle. Groupe μ (1980: 249 f), it will be remembered, gives as "connotations" of the circle such contents as "happiness, God, and formal perfection" (cf. II.3.1.); and Gauthier (1982: 147 ff), in a different context, also opts for "forme parfaite". Should we then conclude that Charlie Brown is somehow (perhaps in an ironical sense) more "perfect" than the others?or closer to God? or simply more happy? None of these interpretations sounds particularly convincing. Another line of reasoning would point to the working of biological releasing mechanisms. According to our first variant, the circle is reminiscent of the underlying biological facial scheme, which has been found to elicit the smiling response in neonates (cf. Argyle & Cook 1976; Schaffer 1971; E. Gibson 1969). However, it would seem that even from the beginning, children pay even more attention to real faces (see E. Gibson 1969: 347 ff), the dummy faces actually used were more often oval than circular, and there is no evidence that the scheme is innate (cf. E. Gibson 1969: 356). Therefore, the comparison could scarcely be revealing. A second version relates the "Peanuts" heads to that releasing mechanism, which, according to Konrad Lorenz, is responsible for adults finding children so "cute", or "herzig", and which was experimentally demonstrated to work by Hückstedt (1965). Although all the "Peanuts" personages have comparatively short arms and legs, and generally roundish forms (but only as far as their heads are concerned), they do not seem to possess any of the four other more specific features characteristic of the "Kindchenschema", notably the factor investigated by Hückstedt, viz. the greater height and convexity of the forehead, which exaggerate those of real babies. Moreover, since it is clear from the results of Hückstedt (1965: 433 ff) and Fullard & Reiling (1976), that the supranormal headshapes start to elicit reactions at moments which are socially, rather than biologically important (for men, for instance, when they marry, and even more when they have their own children), there is really nothing to prove that such reactions are biologically programmed, rather than socially and culturally inculcated.

The importance of this point should be clear. If the "Peanuts" heads could be related to an underlying biological mechanism, of whatever type, we would not know exactly what is signified by the relative closeness of the heads to a perfect circle; but we could assume the heads to be more or less reminiscent of primordial, elementary forms (of course, the circle may be an "Urform" for quite other reasons; cf. II.3.6.). The less iconical the head, in this case, that is, the less similar to an actual head, the more it would approach the head *idealtype*, and the more it would be "natural" (cf. III.1.4. and the introduction to III.1.). For when we reach the upper iconical threshold, those meanings which emerge may be biologically grounded or conventional; the important point is that they admit no resemanticization. That is to say, whereas small parts and details of the drawing can readily be taken to stand "densely", in Goodman's sense, for the position of an arm, or the degree of aperture of the mouth (but see below), the general configuration, made up of a circle, a trapezium and a rectangle, must be apprehended categorically, as an equivalent of a human body – more precisely, as equivalent to the three categories "head", "trunk", and "legs" of the body (also cf. fig. 65. and III.5.2.).

Even more subtle is the notion of iconicity itself having a *categorical form*. By now we are familiar with the idea, expressed also by Gauthier (1976: 113 f), that certain semantic features cannot be manifested in an expression without certain other semantic features being chosen concurrently. We know that to Prieto (1975b: 103 ff), such an implicational relationship between features, which he calls a "noema" (in a sense rather different from that of Husserl), is a particularity of verbal language; but that, in Artificial intelligence, the same phenomenon has been claimed to be characteristic of pictures (see III.5.1.). Gauthier, who ignores these parallels, finds a number of examples of such implicational relationships, or, as we said, *informational packages*, in "Peanuts"; but it seems that he is really confusing at least three very different things:

a) that a configuration of lines stands for the eye, without there being any particular lines corresponding to the different parts of the eye (p. 118). This simply means that, in the "Peanuts" code, we can make our choice at the extensional level "eye", not that we have to choose all the features corresponding to the different parts of the eye together. In fact, only the eye as a general shape is depicted, and the information about the parts must be supplied from our knowledge about the picture subject (cf. III.5.1.). The only thing new here is that the extensional level of the eye is not necessarily the same as that of other parts of the body, so that we may have various extensional levels in the same picture (see also note 4 above).

b) quite another thing is that the pictorial expression for "eye" must, at the same time, express such features as "oeil ouvert – vu de face – regarde devant lui – expression légèrement ahurie" (p. 118). Here, the different features are all in the picture object, that is they can be "seen in" the picture (cf. III.3.5–6.). But the examples are yet different in other ways, so we will first consider the first two. It would seem that some implicational relationships are valid, not only for the "Peanuts" code and other pictures, but also for the perceptual world. One of the most fundamental "essential" relations which Husserl has formulated, and which Gurwitsch has insisted upon, is that which makes it impossible to perceive an object, without perceiving it *from a particular point of view* (cf. I.2.1.). Thus, it would seem, it is not only impossible (but only in a sense, as we shall see) to depict something without depicting it from one particular side

(or a few particular sides, as in Cubism and split representation), but there is no other way it can be perceived either. The implications here are simply taken over from the Lifeworld. Not that there are not some less typical kinds of pictures (such as the notation systems used for gestures), in which a thing and the aspect it presents are dissociated; but the more a picture respects the conditions of spatiality in the Lifeworld, the closer it will be to realize the prototypical concept of a picture. The case of the open eye is somewhat different. Like Musset's proverbial door, an eye must be open or closed. In a picture, however, we may choose to render the eye as a simple dot (which means it is an element of a larger whole, in which appresentation takes place at a higher extensional level, perhaps that of the head), in which case we do not have to decide if we want the depicted eye to be open or closed (this is like case a above). At lower levels, however, the decision has to be made. It will be noted (somewhat in Prieto's spirit), that we cannot speak about the openness of the eye without also mentioning the eye, unless it is clear from the context that it is the eye we are concerned with. We can, however, mention the eye without specifying if it is open or closed. In a picture, on the other hand, once we have opted for a certain level of detail, the eye cannot be shown without being shown as open or closed; thus, there is *mutual* implication of the features concerned. In the second place, each time we want to mention its openness, we are compelled to repeat the eye, even if it is absolutely obvious from the context (there are rare exceptions to this, but they are rhetorically marked). All this is to suggest that the prototypical picture is bound up with the "essential relations" of the Lifeworld; and no doubt this was what Husserl meant, when he said that at least some of the similarities in a picture must be "anschaulich" (cf. III.3.5–6.). Although some elements in Klee's pictures can be described, according to Thürlemann (1982), as "things", "pine-trees", and "minerals", the pictures that contain them are clearly much further from the picture prototype than Rembrandts "Bathscheba", or even Matisse's cut-out "Nu bleu IV".

c) then there is the fact, that the same configuration may serve to convey meanings such as the eye of a person and his excitement; or a person's identity and the movement he is presently accomplishing (cf. Gauthier 1976: 118). This is not quite the same case as the foregoing: the strokes that complete the sign of the eye are usually only part of the reason we have for attributing excitement to the personage (and only part of the strokes making up the eye may be relevant to the meaning "excitement"). Unlike what happens in verbal language, *signs are embedded in other signs*, and this is really only a reflection of the *contextuality* already found in the perceptual world (cf. I.2.). Note that this is different from compound words as found in verbal language, for the units which are put together to form complex signs at the same time function independently, to convey their own meaning; in addition, they often contribute concurrently to a number of different complex signs (also cf. I.1.2.). Neither is this like the phenomenon called "connotation" by Eco, and "symbols" by Todorov and Sperber, and which we have preferred to term *contextual implication* (cf. II.1.2.), for the composite sign is in no sense more indirectly given, but can be directly pointed to, and resemanticized, on the expression plane of the picture, as can the identity between it and the elementary signs making it up. Again, the more closely a picture respects these Lifeworld conditions, the more prototypical it is as a picture. Of course, many pictures deviate from this: the difference between Chaplin and Hitler, which, even as appearance is concerned, accrues from an infinite number of details, is reduced by the cartoonist to the binary opposition of the bowler hat and the fringe (cf. III.3.4.). On the other hand, Reiser would seem to exaggerate symptoms of sexual difference, when he attributes an entirely different body scheme to the beautiful young woman and to the man (together with the old hag; cf. III.5.2.). Going in the opposite direction, lavatory logotypes usually reduce sexual difference to a question of hairdo and the wearing of a skirt.

At least the last two factors considered must really be said to favour iconicity, in spite of the possibility of exceptions. In order to see how the form of iconicity may yet be categorical, we will now return to the "mouth paradigm", our point of departure in this section. In fig. 67., the members of this "mouth paradigm", which Oomen (1975: 250 f) claims to have found in "Peanuts", have been listed (those of the side view, which are the only ones we will discuss here).

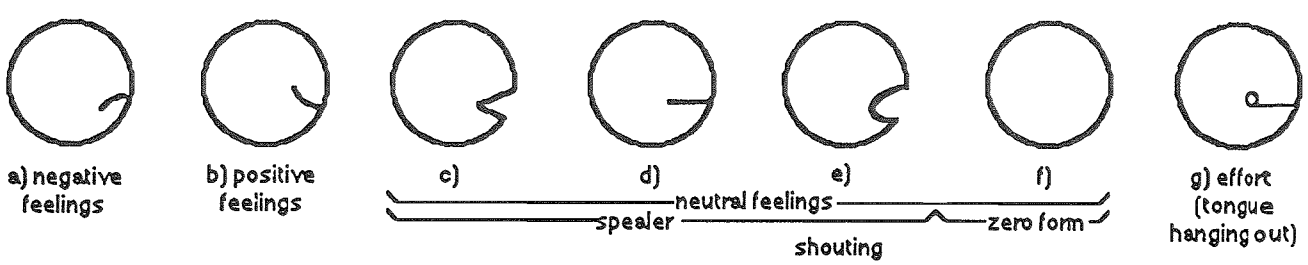


Fig. 67. The "mouth paradigm" (Summarized and reversed from Oomen 1975: 250 f).

From the point of view of the emotional code, Oomen's "mouth paradigm" only comprises four categories: positive, negative and neutral feelings, and effort. Moreover, variants c, d, and e designate a speaker, e at the same time one who shouts, and f is a zero form (apparently also from the point of view of content). Gauthier (1976:118, 132, 138), who exhaustively presents the analysis of Charlie Brown only, and whose classification relies on the degrees of opening, discovers five types, corresponding to f, b, c, and e, together with an even more extreme variant. If we ignore type g, which is too special, the whole "mouth paradigm" can apparently be reduced to the result of combining two dimensions, one comprising neutral, positive and negative feelings, and the other made up of the five degrees of aperture, including the zero position. Since Gauthier (p. 132) does not attend to the first of these dimensions, our reanalysis must also involve substituting fig. 67d for fig. 67b as the neutral variant of degree one aperture. Of course, as can be seen from fig. 68 below, the distinction between the different positions on the dimension of feelings is neutralized at all other degrees of aperture, which explains that Gauthier ignores the former dimension.

Viewed in this way, the "mouth paradigm" is really similar to a linguistic paradigm, not, as Kloepfer suggests, to that of phonemes, but rather to that of grammatical endings, as for instance in the case systems of Latin or Russian, with their largely neutralized expressions for combinations of features. At degree one aperture, the two dimensions are independant, in the sense that they can be selected by separate choices. That is, both meanings must be carried by the single stroke in the head circle, so that they are spatially inseparable; but it is the fact of it being a single stroke that conveys the degree one aperture, while the orientation of the stroke (from the left above to the right below, or the reverse) and the direction of the curvature together mark the quality of the feeling involved. Perhaps this can be compared to the case of suprasegmental traits in verbal language, which are functionally independent of the phonemes, although temporally fused with them in the speech chain. In the case paradigm, such independent features would of course follow each other in time, and so be more obviously distinct. On the other hand, just as in the case paradigm, the values of the two dimensions can be separated throughout the "mouth paradigm", only because they do have independent expression somewhere in the paradigm. If we were to believe Oomen and Gauthier, however, this only happens once in our paradigm: for the other degrees of aperture, only one variant each is attested. Therefore, we are forced to conclude that but for the degree one aperture the emotional dimension is neutralized everywhere.

Why should this be so? It would seem that is has nothing to do with content, i.e. real facial expression, but must be entirely explained from the properties of the graphic expression plane. As for degree zero, it is obvious that any variation on nothing must give nothing. In the case of the other degrees, our hypothetical forms show that, when the expression features of emotion, viz. curvature and orientation, are combined with the features standing for the different degrees of aperture, the result is increasingly similar, and in the end indistinguishable. But let us begin at the beginning, with the iconicity of the mouth paradigm generally.

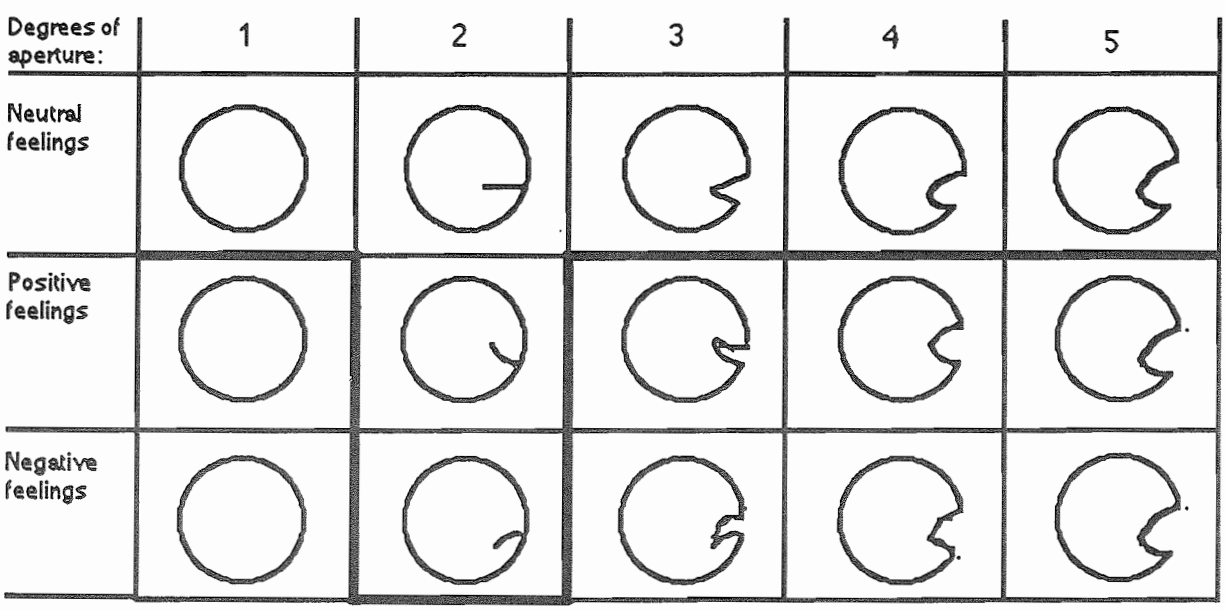


Fig. 68. The complete "mouth paradigm" (neutralized variants below the thick line).

In reality, the openness of the mouth cannot vary so widely as suggested by the cartoon heads. And although there is a movement which could be described as pulling up the corners of one's mouth, and which is taken to convey happiness, to pull the corners down would require the assistance of both hands, and even so it is impossible to bring them much further down. Perhaps, then, this is one of those cases referred to by Darwin and Jakobson, where one sign is motivated, and the other is created to stand for the opposite value, out of the negated features of the first sign. Cüceloglu (1970: 98), in his test using schematic heads (only in front view, admittedly), found that Americans, Japanese, and Turks agree in attributing "pleasantness" to mouths having the corners turned upwards; and while they also concur in taking the *absence* of corners turned upwards to express the opposite of "pleasantness", only the Turks attribute a specific meaning, viz. the negation of "irritation" (!), to corners turned downwards. On the other hand, it would be reasonable to suppose the mouth to participate in a more general, "figurative" dimension, in which the direction upward stands for happiness, and its inversion for depression (cf. I.4.4–5. and Arnheim 1966: 70 f).

How far, then, can we take the degrees of aperture of the mouth to be iconical? To begin with, the variants 2–4 do share one "modal-vectorial" property (in the sense of I.4.5.) with the real mouth, i.e. openness, only transferred to a graphic expression substance. Furthermore, when the degree of aperture of the cartoon mouth augments, this is clearly meant to indicate an augmentation of the same general kind in a real mouth. But while a real mouth increases continuously its degree of opening, the Peanuts code only provides for four (or five) degrees of aperture; thus, it "digitalizes" real-world "density" (cf. III.2.5.). In addition, the zero form, which Gauthier (1976: 119) explains from "child logic", which leaves out that which is not important for the moment, does not depict any possible state of a real mouth, and the degree one forms only acquire that property of closure, which they probably express, in structural opposition to the other variants. There are also curious modifications in the mouth sign itself; for in type 1, the pigment is the mouth, with the contours forming the outer limits of the lips, but in type 2, there is a pigment line with two contours for each one of the lips. Nor do the increasing roundness of the contours, and their perfect circularity in type 4, correspond to reality. It is true that, seen from the side, the mouth may take on a more rounded character when the degree of opening increases; but when it approaches the point of maximal aperture, the side view on the contrary becomes flat. In the rendering of the mouth, as it appears in the Peanuts code, iconicity and categoricality can scarely be dissociated; and when the "similarity" to the real mouth is diminished, this is in part because the graphic means do not permit a closer resemblance (as in the case of the many neutralized variants), and in part because the code relies on other, more physiognomic or "figurative" iconicities (cf. III.6.).

Before closing our discussion of the categorical form of iconicity in "Peanuts", we will now return to Gauthier's claim that features like "eye" and "front view" cannot be expressed separately in the "Peanuts" code. We said (under point b above) that this was due to the Lifeworld principle, according to which anything perceived must be perceived *from a particular point of view*. Indeed, in real perception, the eye seen from the side does not differ from an eye seen from the front in a few details, or in having some particular tag, but the noema of the one is a complete transposition of all the elements of the other. But is this really true about the "Peanuts" code? In fact, when arguing for his "positional code", Gauthier (1976: 121) says it is needed, because the nose is drawn identically from the front and in profile, and only differs through its position from the ear. Thus, the thing and the perspective on it would be separable in the case of the nose and the ear, but not in that of the eye. But in order to understand what is really at issue here, we must begin from another end.

Gauthier's positional code is, as we indicated above, not a code in the same sense as his other codes for its contents are not features of perceptual reality, but of the pictorial expression plane; they only serve to tell us how the expression planes of the other codes are to be taken. Moreover, the code cannot accomplish that for which it was designed, for position as such is unable to disambiguate the "Peanuts" drawings; only relative position, which means position relative to a higher configuration, will do, that is, what we earlier termed *resemanticization* (cf. III.4.3.). Indeed, both fig. 69a and 69b are ambiguous: the former may show a nose in a face seen from the front or an ear in profile; and the latter may show the ear of a face seen from the front or a nose in

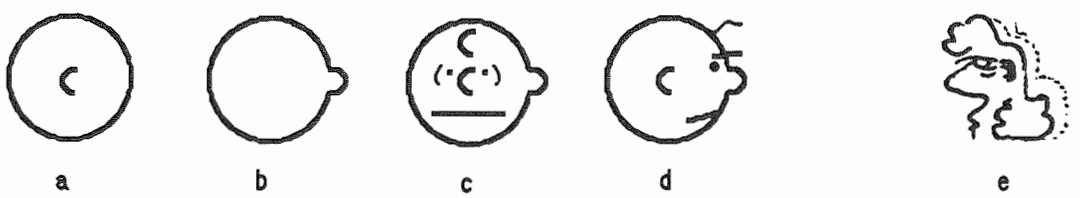


Fig. 69. Perspectives on faces (a-d Charlie Brown; e Brétecher face).

to pictures, as has been taken for granted in Artificial Intelligence (III.5.1.). What *is* characteristic of pictures, or at least of prototypical pictures, however, is that they follow as closely as possible the rules of feature coexistence prevailing in the perceptual Lifeworld. But at the same time as we come across this essential addition to the traditional criteria of iconicity and density, we discover important limits to both the latter criteria, in the *upper* and *lower thresholds* of iconicity, and in the *categorical form* given to iconicity itself. These concepts are elucidated in our discussion of the three analyses of the "Peanuts code", suggested by Gauthier, Oomen, and Kloepfer (III.5.3.).

Thus it becomes clear from our examination of picture types that something more than the mere impression of resemblance, or iconicity, is required, in order for a picture to be a typical picture; and it is precisely by comparing pictures to other kinds of iconical signs that, in our next and final chapter, we will try another approach to the specificity of pictorial signs (in III.6.).

Chapter III.6.: Beyond clouds and mirrors – Pictures and other iconical signs

> *"Le visible au sens profane oublie ses prémisses, il repose sur une visibilité entière qui est à recréer, et qui délivre les fantômes captifs en lui. Les modernes comme on sait, en ont affranchi beaucoup d'autres, ils ont ajouté bien des notes sourdes à la gamme officielle de nos moyens de voir. Mais l'interrogation de la peinture vise en tout cas cette genèse secrète et fiévreuse de choses dans notre corps."*
>
> *Merleau-Ponty 1961: 201*

When criticizing iconicity, Eco proceeds as if pictures were the only iconical signs (if we except the sacharine example and, strictly speaking, the hobby horse; see III.2. 6–7.); and so, it would seem, do most other semioticians (cf. III.2. generally). On the other hand, it will be remembered that, according to Peirce (1: 157, quoted in III.1.2.), there are three kinds of icons, or, more precisely, *hypoicons*: *images*, *diagrams*, and *metaphors*. And if iconicity is to be something which characterizes all signs which are *motivated*, not by contiguity, factorality, or by any other kind of connection, but by (the impression of) *similarity* and/or *identity*, then it seems (with an apology to Peircean metaphysics) that the range of different iconical signs may even be much wider (cf. III.1.4.). Indeed, in the following sections we will have to attend to a handful of terms handed down by tradition, such as *symbol* (in the European sense), *dummy*, and *metaphor* (not just in Peirce's sense) (see III.6.3–5 below). Of course there are many more terms for the varieties of iconical signs, in the sense stated above, and many more senses to the terms that we will consider here. Again, the following treatment is in no way meant to be exhaustive.

Nevertheless, we will start our comparison between pictorial signs and other likenesses from another end: first, in reviewing the limits of Goodmanian "density", we will try both to attenuate and to augment the differences between the *picture* and the *diagram* (in III.6.1.); and then we will take some help from cognitive psychology, to evaluate the general basis of *similarity*, before it is even made the motivational link of a sign (in III.6.2.). However, while the psychological evidence for the asymmetry of at least some similarity relations is a welcome confirmation of phenomenological intuitions, the same theories also claim, without sufficient proof, a continuity between the categories involved in the judgment of comparison, which is not only counter-intuitive, but incompatible with the most illuminating theories of *metaphorical* meaning; and we are thus forced, in contradistinction to cognitive psychology, to posit a fundamental difference between similarity judgments which are internal to well-established categories, and other similarity judgements which transcend the limits of such categories, to suggest a new, never fully consummated organization of reality (III.6.3.).

Are we then to consider the picture just a special case of the *metaphor*? To prepare ourselves for this question, we first have to discuss the nature of *pictorial metaphors*, that is metaphors conveyed by pictures (in III.6.4.). But, as we shall find that the picture differs in numerous ways from the metaphor, we also have to investigate the nature of the *symbol*, as conceived in the European tradition from the Romantics onwards, and ask how it differs from the picture (in III.6.5.). At the end of our discussion, we will have gained some insights into what the picture is not and thus, by implication, into what it is.

III.6.1. The limits of Goodmanian density. The picture as an ungraduated thermometer

When Goodman claims the thermometer is really a kind of picture, we must, from the point of view of common linguistic usage, take him to be making a *metaphor*; but metaphors typically pick out those properties of a thing which are not "criterial" or rather, as we will prefer to say, low on the thematic dominance hierarchy (cf. the discussion of Nida, Kerbrat-Orrechioni, and Klinkenberg in III.6.3.). Thus the thermometer may be said metaphorically to be a "picture of the temperature", or a "picture of the weather", but the properties shared are clearly not those which can be taken to define the objects. It is equally misleading to treat the picture as an ungraduated, multi-dimensional thermometer, as Goodman does by implication. These remarks were already formu-

profile; these possibilities are combined differently in fig. 69c-d (cf. also the frames reproduced in Gauthier 1976: 131).

It would be too simple to say, then, that in the "Peanuts" code, ear and nose have the same expression plane (which in itself would be very counter-iconic), but that they are distinguished by the additional feature of position, the ear being outside the contour and the nose in the middle of the circle (or the reverse). In fact, both identity and perspective of nose and ear can only be determined in relation to all the other dots and strokes standing for the other facial traits. The case of the eye does not seem to be very different: most dots in the head circle are eyes, and front and profile view are distinguished by the former containing two dots, which are relatively more central than the single dot of the latter case. Consider an apparently more subtle case: the characteristic female head of Brétecher's drawings (fig. 69e). Although they look very different, the Brétecher face as seen directly from the side and in a ¾ view (the frontal view is almost non-existent) actually only differ in the latter presenting two circles, rather than one, to indicate the eyes, and the distance between the front and the back outlines increasing. The nose and other facial traits are identical in the two perspectives; there is a zero form of the mouth for non-speakers, and different degrees of aperture, but these seem to be identical for both perspectives. More importantly, the outlines of the head (and at least sometimes of the entire upper body) are identical in the two variants, only that the distance between them is modified. It could therefore be said that, while a particular, comparatively iconical silhoutte line is a sign of a head, and of a particular personage, the distance between the outlines, together with the number of small circles inside the figure, stand quite independently for the perspective from which the head is seen. It is true that in real-life perception too, there is more chance of seeing two eyes from a ¾ angle than from the side; and that, when projected onto a flat surface, a threedimensional body in ¾ perspective will occupy more space, but while these facts are in themselves iconical in the picture, they are used categorically, to the exclusion of the infinite number of other modifications which follow upon a shift in perspective, to indicate personal and bodily identity as a different phenomenon from that of viewing distance.

Once again, we have seen that the very form of iconicity may be categorical. On the other hand, we could perhaps say that this categorical form may, in turn, be iconical. It is not true, strictly speaking, that the "Peanuts" code or the Brétecher drawings override the Lifeworld postulate, that says that all perception is perception from a particular point of view. In both cases, all noses *are* rendered from a particular point of view: from the side. But while this side view is the only one that appears in the expression, and in the picture object, it is made to represent all conceivable referential noses, in all perspectives that may be given to the picture subject.

Taking our point of departure from the valuable analyses of the "Peanuts" strip by Gauthier, Oomen, and Kloepfer, we have delved deeper, in this section, into the intricacies of the interplay of iconical and categorical elements in pictures. We found there were both an upper and a lower threshold of iconicity, at least in some pictures like "Peanuts", and also a categorical form given to the iconical elements themselves. The latter case, as the most complex, was thoroughly discussed using as an illustration the "mouth paradigm" in "Peanuts", as well as some material from Brétecher's drawings. The mutual implication of some features in the perceptual Lifeworld was shown to suffer derogation in some pictures, by being transformed into categorical signs, which can be independently chosen, although they have to be realized in a common graphic substance as part of the same configuration. Just as the results of our Matisse study (in III.5.2), the conclusions of this section cannot easily be generalized beyond the material from which they have been derived. Both studies, however, serve to direct attention to some of the complexities of pictorial signs.

III.5.4. Summary and conclusions

There is no way we can summarize this chapter as we have done with the others; for the properties and dimensions which we have discussed may be present to a greater or lesser degree in different kinds of pictures, and could perhaps even be lacking completely in some picture types; and, inside the limits set by the present investigation, it has been impossible to consider even a reasonable sample of pictorial kinds. Thus, the bulk of this chapter (III.5.2–3.) only serves to suggest what might be accomplished by a real comparative semiotics of picture types.

We did, however, point to some of the ways in which pictures at the same time render and transform the perceptual reality of the Lifeworld: through the "pruning" of some parts of the *intensional* and *extensional hierarchies*, the *downward shift* of both *base levels*, and the *upward shift* of the *extensional base level*. At the same time, we pondered the meaning of Peirce's and Greenlee's concept of *exhibitive import*, which there will be reasons to return to in the next chapter (III.5.1.). All this, and in particular the *partial reorganization* by the picture of the Lifeworld hierarchy known as the body scheme, was studied in the particular case of Matisse's cut-out "Nu bleu IV" (III.5.2.).

Moreover, we explored the parallels between the ways in which some content features implied, and were implied by, other content features in the make-up of pictures and verbal language. Such coming together of content features, variously termed *informational packages*, "chunks" and "noemata" were not, it turned out, restricted only to verbal language, as Prieto claimed, nor

lated above (in III.2.4–5), but we are now in a position to restate the case.

Let us begin with *repleteness*, which is supposedly that which makes the difference between a thermometer and a more ordinary picture. The most favourable interpretation of repleteness is, I believe, one that takes it to imply a scale, all the values of which are also scales and so on infinitely, or at least for a very long time (cf. III.2.4–5.). In order to visualize this, we may perhaps think of the three dimensions of space, multiplied many times over. But all that this would give us would be an extremely complete *diagram*, at lot of "logical analogy" with no "sensous analogy" at all (cf. III.1.2.). As we observed above (in III.2.5.), the thermometer is not only a scale, a series of continuous variations of the expression scheme which correspond to other, continuous variations of the content scheme or the referent scheme, but it is also a *category* subsuming this scale. Thermometers are readily recognized as such from their stereotyped appearance, which permits us to decode the variations of their scale immediately as variations *inside the appropriate category*. Pictures, on the other hand, do not possess any explicit key (on the base level, that is to say; but cf. II.1.), and so the relevant categories must be conveyed in some other way, as part of the pictorial message itself, that is by "sensuous analogy". How, for instance, could Arnheim's droodle (fig. 38a) be turned into a picture of either an "olive dropping into martini glass" or a "close-up of girl in scanty bathing suit" (cf. III.2.1.)? We may go on for a very long time adding new shades of meaning on any number of dimensions, without making the difference between these two interpretations so obvious, that it can be directly "seen in" the design. What is needed is not to augment the delicacy in the rendering of all sorts of dimensions generally, but to add such traits, on whatever scales, as help specify the *category-membership* of the pattern reproced (cf. Gregory's tree, fig. 47; and also fig. 51). In the same way, the "black wiggly line", when isolated by Goodman, is turned into a sheer droodle, but in the context of "The wave", it is undoubtedly a part of a picture, not because it is more "dense", but because inner and outer details make it so obviously a mountain (cf. III.2.4.; and it is only as a second thought that, as Groupe μ points out, we discover its resemblance to the waves; cf. I.3.4.).

We should next turn our attention to the notion of an ungraduated thermometer. Taken literally, an ungraduated thermometer would be virtually useless, because it could only inform us about the physiognomic qualities of *up* and *down*, and perhaps *more* and *less*. Not only would we be unable, when using such a thermometer, to tell the degrees apart, but we would not even know if the highest point of the scale stands for when the cake is ready, or when the nuclear power plant will blow up (cf. III.2.5.). Obviously, this would be a very useless kind of thermometer indeed; but, what is more, this description does not agree with what we know about pictures, for instance, that they may be important carriers of information (cf. III.5.1.). To the extent that a picture resembles a thermometer, the latter, I submit, would have to be an ordinary, *graduated* thermometer: for just as between the degrees inscribed on the thermometer, any perceivably different position can be taken to indicate a different temperature (but cf. III.2.4.), precisely because all positions bracketed by two degrees marked out on the scale maintain a determinate relationship to the latter, so the variations of any line in configurations making up a picture may carry meaning, but *only inside the framework set up by the categories* to which the lines and the configurations are much more directly seen to pertain. This is what has above been called *exhibitive import* (cf. III.5.1.; and also III.4.3.).

It may seem that, contrary to what was suggested at the beginning of this section, we have now managed to make the picture much more similar to the thermometer. This is to forget, however, that whereas the thermometer relies partly on explicit designations, partly on tradition, to inform us about its category-membership, the picture, which has so many more and varying categories to communicate, must convey them all by its own means, that is by "sensous analogy", which I take to imply an experienced similarity of distinctive features, rather than (but not excluding) spatial coordinates (cf. III.3.3.). However, to get to the core of the issue, it is the notion of "density" itself, and thus also that of "repleteness", that we must question.

It is a curious fact that both "density" and "repleteness" are said by Goodman to characterize the typical work of art, as well as the typical picture. And when Goodman (1977) sets out to tell us "when is art", he once again cites the example of that "black wiggly line", that may be Hokusai's Mt. Fujiyama, or an electrocardiogram – but this is of course at the same time an opposition between a picture and a diagram, and between an artless sign and a work of art. Since most pictures produced today are certainly not works of art, it is hardly satisfying that the two categories should be lumped together. However, for the understanding of the epistemology of "density", the relation is probably not accidental.

As Goodman is himself an art dealer, his notion of density no doubt expresses an art dealer's ideology: it is important for the art dealer that the work of art should be unique, that it should be impossible to make an equivalent copy, because the art dealer is (among other things also) interested in selling the work at the highest possible price, and thus will defend his product against the competition of forgers. I hope this is not felt to be a more malicious remark than when Hochberg (1979; 1980) explains the development of modern art from the artist's need of a "signature", a distinctive mark in the competition with his colleagues on the art market. Against the art dealer's ideology may be cited, not only

Benjamin's (1974) and Ivins's (1953) opinion about the reproducibility of art and pictures, respectively, but also the fact that art, and indeed most other pictures, are increasingly experienced nowadays in the form of posters, book reproductions, and so on. Many masterpieces are presently kept in the homes, or more probably the strong-rooms, of private collectors; those that are placed in museums are far away for most people, and, even when the museums are near-by, they may not be particularly suitable places in which to dedicate oneself to the close scrutiny of a picture. As for the majority of pictures, those which are not works of art, they are distributed in millions of equivalent copies all other the world, in newspapers, films, and posters. In the latter case, there is an original having a temporal and causal priority, but no privileged status beyond that; perhaps it is not even seen by anyone.

But we cannot be content to reject "density" because of its causes. We have seen that there is really very little opportunity to experience art in the original, which means some message must be conveyed also when "density" is not left intact. In fact, faced with the original of a masterpiece, most people are probably not able to experience any more than they could get out of a good reproduction. It is true that, with increasing experience of pictures, the ability to appreciate finer details in the execution will probably improve, as it demonstrably does in the case of wine connoisseurship (cf. E. Gibson 1969: 6 ff and Sonesson 1985). But this means density is not given all at once, but has to be reconstructed by successive approximations. And this brings us to the heart of the matter.

Goodman's "density" and "repleteness" are curiously reminiscent of Rickert's notion of the *intensively infinite* (cf. Aron 1938a, b). According to Rickert, the human sciences, contrary to the natural sciences, can never become nomothetic, because, not only are their objects "extensively infinite" (infinite in number), but "intensively infinite", which means the properties of each one of them can never be exhausted (a rather extreme case of this kind of thinking is found in Curonici 1983). In fact however, the objects of the human sciences, which are the phenomena created and experienced by human beings, may really have innumerable properties, considered in themselves, but as human experimental phenomena, they are socially defined, and so only have a limited number of properties (cf. Prieto's 1975a:140 ff important critique of Martinet's confused idea, that a phoneme has infinitely many properties; also cf. I.1.4.). In the same way, both the picture and that which it depicts are subjected to a double, partially overlapping categorization, as perceptual and social objects (and perhaps already as objects for biological beings, cf. Bouissac 1984: 19; Jessen 1983). Reality, in some curious metaphysical sense, may have infinitely many properties; experienced reality, that is the Lifeworld, cannot possess them.

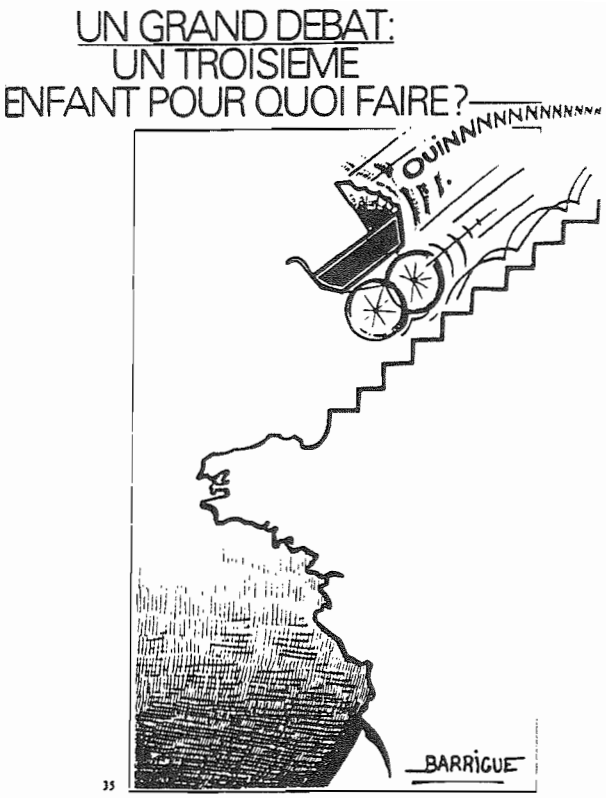


Fig. 70 Three aspects of a French problem.

To end this section with an illustration, consider a case in which "a black wiggly line" does not mean either a mountain or an electrocardiogram, but stands, at the same time, in the manner of a map, for the French Atlantic coast, as a diagram, for France's decreasing population growth, and as a picture, for a flight of stairs, where a pram is tumbling down (fig. 70). Fresnault-Deruelle (1983:122 f), who discusses this cover picture from "Le Tribune socialiste", suggests that this is a Freudian condensation (cf. Lyotard 1971). More importantly, however, the picture requires one particular line to be assigned to a category thrice, and thus to have applied to it three different principles of pertinence, which is to say three different "densities". It can be seen as part of the Atlantic coast, only because of the context of the map of France into which it is placed, and because a diagonal drawn through the wiggly line would trace out the general direction, though not the relative length, of one of the sides in the French hexagone (the truth value of which so much preoccupied Austin); no "continuous aspect" would seem to be present, and thus no density. The diagram is not really a diagram, but a kind of emblematic simulation of one, because (like in Goodman's ungraduated thermometer) no degrees are indicated, and because all phases of the decrease in-

dicated are equal (perhaps with two exceptions), which could hardly happen in a real diagram. We understand what the diagram is a diagram of from the competing picture, and from the text which says "Un troisième enfant pour quoi faire?"; and this also helps us rectify the diagram, which would actually show an increase (it is inverted, to correspond to the direction of the Atlantic coast). Again, it is clear that the picture conveys the category of a diagram, rather than any real diagram, and thus is not dense. But then, neither maps nor diagrams are really pictures.

If the inversion of the rightly decreasing diagram curve is explained by the requirements of the competing map scheme, the regular intervals of the same scheme are no doubt due to the competition of the picture scheme, for a flight of stairs would normally be expected to have parts of equal height. In each of the three interpretations, different parts, and different segmentations of the line, become relevant. Is then at least the picture of the stairs dense? Certainly not: each angle of the line could perhaps be taken to categorize one of the steps, but it is more probable that the line must be taken globally for the whole flight of stairs, without specifying the number of steps. If so, there is a single category for "stairs". It should be noted that the stairs are seen from the side, which is no doubt the *prototypical* aspect (cf. III.3.2.), but also an angle of vision from which the stairs would hardly ever be contemplated in real life. The resulting outline forms a pattern that the stairs must no doubt share with an infinite number of other objects, so the question arises how we identify this particular instance of the pattern as being a flight of stairs. Part of the answer is, I believe, that the flight of stairs is an object rather high up in the hierarchy of prominent things prevalent in our contemporary sociocultural Lifeworld. Another part of the answer is that the figure standing for the pram gives a contextual clue. The picture of the pram is no doubt much more "dense", at least in the sense of containing more details which are relevant to the interpretation, than the flight of stairs (not, however, in the sense that such an interpretation could go on infinitely; cf. III.2.4.). But this "density" is not gratuitous: it does not concern any conceivable property but only those which help identify the pram as such. It is remarkable that the pram depicted appears very old-fashioned in style, but this is perhaps to be more readily identifiable, or to suggest that having children, and thus prams, is a very antiquated business.

It could be said that our example is badly chosen, a photograph or a realistic painting being a much more typical picture; and indeed, we would have to refute the claim that no categories need be involved in a picture separately for each case. However, it should be noted that even the photographer's manual (e.g. Feininger 1973) is quite often concerned with the problem of making the motive recognizable, which shows that the "continuous aspect" as such, which photography will give us in profusion, is not enough.

Yet Janlert (1985: 185) may be overstating the case, when he says continuum analogy, that is syntactic density (cf. III.2.5.), has "very little", meaning no doubt nothing (as it appears from what follows) to do with picturehood. For it seems important to our notion of a prototypical picture that, inside the limits of its categories, it should provide also for some "continuous aspect", that is for some *exhibitive import* – limited as it is by the different thresholds of iconicity, the categorical form of iconicity itself, and other factors contributing to the sign character of the pictorial sign (cf. III.5.1/3.).

We will return below (in III.6.3.) to other aspects of the categoricality of the pictorial sign; first, however, it will be necessary to consider the nature of Lifeworld similarity, before it is even embodied in a sign (in III.6.2.).

III.6.2. The sign of the twin. Symmetrical and asymmetrical likenesses

"Kann ich einen Zwilling als Bild für den anderen nehmen? Ich kann den einen als Bild-Symbol für den anderen nehmen. Ich stelle z. B. vor: ein anderer, mit ihm bis auf geringe Unterschiede gleicher, gleich erscheinender Mensch."

Husserl 1980: 141

Bierman, Goodman, and many others have simply taken for granted the identity of similarity in general, and the equivalence relation of logic, which is a symmetrical, transitive, and reflexive relation (cf. III.2.1/3.). They have therefore concluded that, contrary to intuition, a pair of twins would make up the ideal iconical sign. A solution, which Goodman judges to be invalid (cf. III.2.3.), would be to require the sign relation *in addition* to similarity, and this is indeed what Husserl (1980: 17) and, in a quite different context, Spang-Hansen (1954: 85) have done, although without any direct reference to the problem of symmetry. Interestingly, Husserl (as quoted above) feels a particular relation is necessary in order to make a twin the sign of another twin, but even so, no genuine picture, but only a somewhat degenerate instance, would result (cf. 1980:33 ff, 139 ff, etc; and III.3.6.). Probably because of quite different concerns, Thom (1973: 86 f) tells us the image is produced by perfectly reversible laws, and is yet fundamentally irreversible, like the shadow or the mirror image in the water being caused by the object only under particular conditions of lighting. But this is a causal, not a semantic, relation and would be applicable only to icons which are also somewhat indexical, that is to Maldonado's "hard icons" (cf. I.2.6.). A very different way out would be to deny that similarity is really an equivalence relation.

If we are concerned with understanding the common Lifeworld notion of "picture", then we must take that kind of similarity, which is supposedly a part of it, also to be a Lifeworld notion, and not a philosophically reconstructed concept. It is intuitively obvious, I believe, that similarity

understood in this way is not symmetrical; but, quite recently, this has even been experimentally demonstrated by cognitive psychologists such as Rosch (1975b) and Tversky (1977; & Gati 1978; also cf. Glass, Holyoak, & Santa 1979: 361 ff; and Bouissac 1984). In this section, we are going to review some of the evidence, and also profit from the theoretical framework developed by the authors.

Rosch (1975b: 532) starts out from Wertheimer's idea, that idealtypes, in the Weberian sense (cf. I.3.1.), may serve as "anchoring points for perception". Two tasks, one verbal and the other spatial, were devised. In the verbal task, subjects had to state their perference, in the case of different terms, for either "A is almost (virtually, essentially, etc.) a B", or its inversion (cf. Lakoff's hedges; discussed in I.3.1.). In the spatial task, an object, which was known for other reasons either to be a prototype, or not be one (cf. I.3.1.), was fixed in the middle of a table, and other objects had to be placed at different distances from the central object, according to whether they were more or less similar. Focal colours, determined in earlier experiments of Rosch's (see Rosch 1975c), multiples of ten, as well as vertical, horizontal, and diagonal lines were used as prototypes. Both tests clearly showed similarity judgments to be asymmetrical: a non-focal colour is more similar to a focal one than the reverse; a line of 85 degrees is almost a diagonal, but the reverse is not true; and numbers somewhat above or somewhat below every multiple of ten are judged similar to the latter, much more than the latter is to them. Arguing from her results, Rosch (1975b: 545) even suggests that, besides "anchoring stimuli", there may also be whole "anchoring dimensions", since, in the verbal task, reference to a higher number was preferred. The latter result is, I submit, curious: as is well-known, shop prices are often set at, for example, 9,95 crowns (and earlier even 9,99 crowns) instead of 10 crowns, obviously in the belief that the client will subjectively consider the former to be much less than the latter – which means that the anchoring scale should tend to *lower* numbers. Similarly, short people, who measure, for example, 1,59 meters, often say they are 1,60 tall, because they feel that 1,59 *sounds* much less, as a small variation on 1,50. Perhaps this only shows that the prototypicality of quantities must be determined in relation to that which they quantify (and, of course, anecdotal evidence cannot really be taken to disconfirm test results; however, when we know that it points to wide-spread phenomena, it cannot simply be ignored).[1]

Be that as it may, we are concerned here with establishing the asymmetry of similarity judgments, not the direction that asymmetry may take in particular cases. In a task involving comparisons between countries, Tversky (1977: 333 ff) found that the statement "North Korea is similar to Red China" was chosen in preference to its inversion in 66 out of 69 instances; it was also located higher on a scale. Similarly, other configurations are judged more similar to "good forms" than the reverse (Sander & Volkelt already knew that; cf. I.3.4.), and among "good forms", the least complex were felt to be more similar to the more complex than the reverse. Letters were used as reference points, if their shape included that of the others, as for instance E includes F, making F more similar to E. Among the signs of the Morse code, those having most elements were chosen as reference points. On the whole, that item which is most *prominent* becomes the references point, and prototypicality is only one of the factors making an item eligible for the position, others being frequency, intensity, celebrity, information, and so on. Since Tversky refers to Rosch, he presumably intends to use prototypicality in her sense; perhaps we can take him to mean that the reference point is not always an item already established as prototypical in a "natural category", codified, for instance, in verbal language, but can also be negotiated in a more immediate and provisional fashion, in the on-going practice of the Lifeworld.

According to Tversky (p. 329), similarities do not even have to be transitive. While Jamaica is judged to be similar to Cuba (because of geographical closeness) and Cuba is thought be similar to Russia (because of political affinity), Jamaica and Russia are not at all felt to be similar. Interesting as it is, this observation does not represent such a radical break with common conceptions as that pertaining to symmetry, for obviously the two comparisons concern different dimensions, politics and geography. As long as we consider just a single semantic dimension, it seems that it must remain transitive (If we were right above, in III.1.4. and III.2.1/3., similarity can never be reflexive; only identity is).

The similarity judgment is described by Tversky (p. 329) as a kind of "feature matching", where "features" should be understood in the sense of Jakobson, Neisser, and Gibson (but this sense is not quite the same for them all, we argued above, in III.4.1.). The features do not have to be binary or nominal (i.e. voiced vs voiceless; eye colours) but can also be dimensions (e.g. different pitches); we have, it would seem, the equivalents of Trubetzkoy's privative, equipolente, and gradual oppositions. The similarity between A and B, Tversky suggests, may be considered a function having three arguments: the intersection of A and B, the features appearing only in A, and the features present only in B. In the case of a similarity judgment, common features would then be taken to carry most weight, but in the case of a dissimilarity judgment, the features making the difference would weigh heavier (p. 339 f). This would explain that prominent countries may be judged to be both more similar and more dissimilar to each other than other countries. Thus, 67% of those receiving the similarity task considered East and West Germany to be more similar to each other than Ceylon and Nepal, while, at the same time, 70% of those receiving the dissimilarity

test thought the former countries were more dissimilar to each other than the latter. Tversky does not tell us why the prominence of these countries should be so different, but the explanation is no doubt that to most Europeans, it is much easier to think of both dimensions yielding similarity judgements, and dimensions resulting in dissimilarity judgments, which apply to well-known countries such as East and West Germany. Of course, an Asian would think otherwise.

The subject of comparison is also, in Tversky's opinion, more emphasized in the similarity judgments than the reference point, which means that those features present only in the former carry comparatively more weight (p. 333). Thus, a toy train is judged to be rather similar to a real train, for most of the features of the toy train are present also in the real train; the reverse, however, is not true (p. 333; cf. Tversky & Gati 1978: 85). In sum, then, Tversky seems to hold that in a similarity judgment, common features carry most weight, secondly those features which characterize the subject of comparison to the exclusion of the reference point, and thirdly the distinctive features of the reference point.

Then question is, then, if pictorial signs answer to a variant of this description. About this Tversky has nothing to say (though he does discuss metaphors, as we shall see in III.6.3.). The picture, of course, is not an explicit act of comparison, but it does seem to presuppose something of the sort as one of its constitutive properties (cf. III.1–3.). It is also easy to accept the idea that the referent of the picture, be it a packet of cigarettes, the complete Panzani meal, or Bathsheba, is somehow more *prominent* than the picture itself, but it is certainly not clear which criterion of Tversky's, or of Rosch's, would permit us to arrive at that conclusion. In spite of the differences between a picture and a dummy, to which we have already pointed repeatedly (for instance in III.1.4.), it is conceivable that Tversky's toy train, which is clearly an instance of the latter, may be of some assistance in understanding the former. The question is, however, how far we can go along with Tversky in his characterization of the toy train as an object having fewer distinctive properties than the real train; for it is not too difficult to think of properties possessed by the toy train which the real train does not have (its size, its portability, all the details of its motor, etc.), and it is by no means obvious how the counting of the properties would be accoplished. Again, we could agree that a picture of the toy train is even less *prominent* than the toy train itself, and yet the picture does not necessarily have fewer properties. This is not to reject Tversky's theory in general, for it, or some slight emendation of it, may well be correct in the case of simple similarity judgments: if almost everybody agrees that North Korea is more similar to China than the reverse, then this is probably in part because we *know* so many more facts about China than about North Korea, and so there is really very little that may disturb the feeling of similarity on the part of North Korea, which is the subject of comparison, and thus most heavily weighted (However, China may also be more prominent, already because it plays a so much more important part in Western history books, and also in contemporary politics). The case of the picture and the dummy, however, is very different, for here the subject of comparison is also the expression plane of the sign, and thus directly present to perception (cf. I.2.5.; I.4.2.; II.4.4.; etc.); and this means that, given enough time, we can discover any number of distinctive properties of the subject of comparison. Moreover, at least in the case of the picture, the differences between the terms compared are undoubtedly much more numerous than the similarities, once scrutiny has begun (cf. III.2.6. and III.3.5–6.).

Would there then be any chance of finding one of the Husserlian twins more similar to the other than the reverse? Perhaps if one of them were a friend of ours, so that we knew more about him, we would find the other more similar to him, than the reverse. Both Janet (1935: 214 ff) and Paulsson (1942: 22 ff) compare "l'acte du portrait" to the relationship between father and son; and indeed, we may be certain that the friend of the father will find the son very similar to the father, and not the reverse. That much could be explained by a "causal history" hypothesis, in the narrow sense (cf. I.1.4.); but when, to the friends of the son, the father looks more similar to the son than the reverse, the causal connection must be understood in a wider sense, and we should preferably talk about a *history of meaning*, or of the origin of knowledge. So much for parents and twins – but what about the picture? And what about the toy train?

The child, in any event, usually knows much more about the toy train than about the real train; and there are cases, in which we know at lot about the picture, and very little about the referent; and yet no inversion of the asymmetric relationship ensues, not even to the child, if he has attained the Piagetian stage of the semiotic function. It is clear then, that if there is anything to the idea of a history of meaning, it must be given a different formulation. Before we pursue this line of thought, however, it would be convenient to consider another kind of similarity, the metaphor, and how it relates to the picture (cf. III.6.3–4.).

After reviewing the evidence presented by Rosch and Tversky for the asymmetry of similarity judgments, we inquired into the possibility of extending Tversky's explanatory framework, so as to include also the pictorial sign. However, not only the picture, but also the dummy, which Tversky did claim as an instance of his theory, proved not to fit in with the explanation. We now proceed to discuss Tversky's conception of the metaphor, as well as the implications of other metaphor theories for some aspects of Rosch's theory (in III.6.3.).

III.6.3. Bats out of the belfry. Continuous and discontinuous likenesses

"Les differentes espèces de chauve-souris /. . / offrent une pareille transition entre les oiseaux et les quadrupèdes: elles diffèrent des premiers, en ce qu'elles ont quatre pattes, qu'elles sont vivipares, et qu'elles n'ont ni bec ni plumes; elles s'en rapprochent et diffèrent des autres quadrupèdes, en ce qu'elles volent au moyen d'une membrane qui leur tient lieu d'aîles."
Daube 1805: 329

Rosch's and Tversky's experiments, and the theoretical frameworks they have developed on this basis, have enabled us to see that philosophical argumentation against iconicity (as reviewed in III.2.1/3.) is, to a certain extent, mistaken from the start, when it postulates the symmetry of the similarity relation (cf. III.6.2.). Now however, it will be necessary to part company with Rosch and Tversky, for in each one of the theories there is at least one presupposition, which, on closer scrutiny, turns out to be inacceptable. Rosch's and Tversky's respective postulates sound very different to begin with, but in the end they will turn out to be connected.

Also metaphors are asymmertric, Tversky (1977: 328) claims. Thus we say "Turks fight like tigers", not the reverse; and "My love is as deep as the ocean", not the reverse; and to say that "A man is like a tree" is not at all the same as to say, that "A tree is like a man", for in the first instance, we attribute roots to the man, and in the second instance we give a life history to the tree. In this last example, Tversky is, I believe, entirely right (though many more features may actually be transferred in each instance, as we shall suggest below), but is also seems to me that the two other metaphors, and indeed *all* metaphors, also possess their inversions, which have *a different meaning*. Of course, in examples such as those above, the inversions would probably only satisfy a surrealist. However, what Tversky fails to realize is that, while an ordinary judgment of similarity only possesses one really acceptable version, metaphors are possible in both directions, only with different meanings. Tversky (p. 349) observes that in the judgment of similarity, "a particular features space" is given beforehand, but in the metaphor, this space has to be sought out; but this is, as we shall see, not the only difference. Rather, it is an effect of something else: that metaphorical similarities have to be *created* a new, to a large extent, while judgments of similarity rely on similarities taken for granted.

In respect to Rosch's theory, the problem is of a much wider scope, and in fact concerns what would seem to be a fundamental postulate of the theory. According to Rosch (1975a: 193), "natural categories" are not "Aristotelian in nature", but are "continuous rather than bounded entities" (in Rosch, Mervis, Gray, Johnson, & Boyes-Braem 1976: 433; cf. Rosch, Simpson, & Miller 1976; 491 f). It seems by now to be fairly well established that many "natural categories" are organized around a central prototype, with other instances being located more or less close to it (cf. I.3.1.). Thus, it may be said that similarity serves as a *continuous* measure *inside* a given category (and this is also the basis of ordinary judgments of similarity; cf. III.6.2.). But it does not seem to follow from Rosch's experimental results that the several categories must also merge continuously into each other, although some categories indeed do just that. Interestingly, another important result of Rosch's research is that experienced reality presents "natural discontinuities" (e.g. Rosch, Mervis, Gray, Johnson, & Boyes-Braem 1976: 383 ff). There is no contradiction, however, for what Rosch takes to be separate are those instances closest to, or identical to, the respective prototypes of the categories; but to account for continuity at the same time, she must consider each further step away from one prototype to be a step closer to another prototype, so that in becoming a central instance of one category, a thing continues to be a less central instance of another. This is hardly the case. As Gipper (1959) knew well before Rosch, there are objects which are neither typical chairs, nor typical armchairs, but have some properties characteric of the one and the other category; and yet, it would seem that there is some point where an object becomes such a good example of an arm-chair, that is ceases altogether to be a bad example of a chair. Therefore, I would suggest, categories are not continuous; they are only somewhat *permeable.*

In a discussion of contemporary biological classificatory schemes, Daube (1805: 329) hits upon the idea that animal species have "transitional" members: the bat, for instance, is located somewhere in between the birds and the quadrupeds. Thus, Daube is a Roschian *avant la lettre*. Interestingly, a number of tribes, such as the manwa (Ellis 1977: 346), the kalam (Bulmer 1979: 79), and the rangi (Kewsby 1979: 43) do indeed classify the bat as a bird, and it seems that Europeans did that too, at an earlier period (cf. Kewsby 1979: 43). The possession of feathers, the ability to lay eggs, and so on are less important in this view, than to be able to fly. No contemporary Westerner would agree: to characterize the bat as a bird can only be to make a *metaphor*, for the bat is not felt to be a untypical bird; it is peremptorily considered to be no bird at all (this is not in the least like the whale, which is still categorized as a fish, even by those who know zoology does not agree). Naturally, there *are* similarities between a bat and a bird, but, in our present-day classificatory schemes, these are not given much weight. To compare the bat to a bird is to put it in relation to the prototype of another category than its own; and thus a tension between the categories will result.

Let us now turn to linguistic semantics. Kerbrat-Orecchioni (1977, I:293) objects to Le Guern's idea that the possible metaphors of a word could be used to discover its semantic features, The latter, Kerbrat-Orecchioni

claims, are derived from a comparison of the word with other terms in the same semantic field; other features, which she calls "métasèmes", can be gleaned from the metaphorical extensions of the word, but since a great number of more or less far-fetched metaphors can be constructed, there is no limited number of such features. Similarly, Nida (1975a: 33 ff) gathers features from three sources: "diagnostic components" from the comparison with words in the same domain; "common components" from the domain as a whole, in opposition to other domains; and "supplementary components" from metaphorical expressions. Ordinarily diagnostic components become secondary, and others come to the fore in the word "father", as used in the sentence "He is like a father to the boy". Unfortunately, Nida's example must really be termed a dead metaphor, and so does not serve our purpose well (Also cf. Klinkenberg's 1983: 1172 f answer to Ruwet's critical remarks about "flexibility" as a feature of "young girl" and "birch"; I.2.4. and III.4.1.). In addition to the words used in Rosch's verbal test (see III.6.2.), Lakoff (1972: 183 ff) in his study of "hedges" ("words whose job is to make things fuzzier or less fuzzy") also introduces terms such as "regular", which have the function of picking up "metaphorical properties" of a word, while negating its literal properties. Thus, to say that "Sarah is a regular spinster", is to imply that Sarah is not really a member of the category of spinsters but yet has some properties that spinsters are expected to have: "prizziness and lack of sexual activity" (p. 198). Sarah, as it happens, is married; and neither "prizziness", nor "lack of sexual activity", nor the two of them together are sufficient to define membership in the category of spinsters, although we shall certainly expect the perfect spinster to manifest these properties. In our terms, Sarah does not possess any of the properties hierarchically dominant in the category "spinster", and the properties she does possess are fairly low in that category. She is not even a bad example of a spinster.

Hence, in making a metaphor, we are comparing a member of one category, not, as in an ordinary judgment of similarity, to its own prototype, established in verbal language, or by some other traditional means, nor to any arbitrary member of another category, but to *the prototype of another category*, to the "best instances", having the full set of maximally characterizing properties. Some metaphors certainly do refer to comparatively important properties of the alien prototype, as when a man is compared to a tree, at least on Tversky's interpretation; but they are never sufficiently important to dissolve the category distinction, making a man a "worst instance" of the tree category. The "flexibility" of the girl, and of the birch, is to the other extreme.

The conception developed so far fits in admirably with a well-known theory of the metaphor, usually attributed to Black (1962; cf. Goodman 1968: 68 ff; Ricœur 1975: 109 ff), according to which the two terms brought together by the construction, called "vehicle" and "tenor" by Richards, must persist in a state of "tension" and "resistance"; for, indeed, what could occasion more resistance than the classification of a term under a heading to which it does not belong? There is some psychological evidence for this theory of metaphor: small children, Gardner (1982:91 ff, 158 ff) discovered, simply overgeneralize their terms, and only later come to use real metaphors, where "such tension is sensed, and then overridden" (p. 99; cf. Winner, Wapner, Cicone, & Gardner 1979; Verbrugge 1979). In contrast, there is of course no resistance to be overridden in an ordinary judgment of similarity, as considered by Tversky and Rosch (cf. III.6.2.).

What looks like another theory of metaphor, suggested (perhaps unintentionally!) by Groupe μ (1970: 107), at first seems to contradict our conception of category distinctness. The metaphor, we are told, "extrapole, elle se base sur une identité réelle manifestée après l'intersection de deux termes pour affirmer l'identité des termes entiers. Elle étend à la *réunion* des deux termes une propriété qui n'appartient qu'à leur intersection". Thus, where the Black/Goodman/Gardner tradition posits a non-coincidence of the two categories brought together, Groupe μ suggests there is a partial identity, which is transmuted into a total coalescence. Oddly enough, Groupe μ (p. 108 f) then goes on to claim that this is the same thing as to say that a metaphor is made up of two synecdoches, one of which is generalizing, e.g. from birch to flexibility, while the other is particularizing, e.g. from flexibility to girl (cf. I.2.4.). This, then, is the theory which has been discussed in later literature on the subject. But of course this is a quite different conception: it amounts to forming a single class made up of all things which possess in common the property of being flexible, neglecting all further attributes. The theory therefore only accounts for the intersection, not for the union.

In its original form, however, the theory is interesting, but problematical: if a union of the two sets of semantic features is to result, the metaphorical connection has to be symmetrical, which means that, contrary to Tversky's observation, "A tree is like a man", and "A man is like a tree" would be the same metaphor. But this is clearly unsatisfactory; so let us suppose instead, that in the metaphor, from a partial overlap, meaning is extended to include the complete set of features of the reference point, but not those of the subject of comparison. In the case of the metaphor "A man is like a tree", the man would not only acquire roots, as Tversky suggests, but he would be more generally tree-like, while there is no hint at all that the tree should be seen as man-like (of course, because of the context, or because of peculiar presuppositions prevailing in a given sociocultural Lifeworld, the "feature space" can be so constrained, as to thematize particular features of that space, as, in this instance, the "roots", on Tversky's interpretation). How-

ever, the union of the overlapping parts of the two feature sets, and the remaining features of the reference point is simply identical – to the reference point! The metaphor would be a simple identity; and since this is obviously untrue, we are led back to the first metaphor theory considered above.

We can now try a synthesis. The metaphor thematizes certain properties of the subject of comparison, which are then also sought out, comparatively low on its feature hierarchy, in the reference point. The whole feature set of the reference point is then projected onto the subject of comparison (the man-is-a-tree metaphor is somewhat peculiar, for, literally speaking, a man does not even have roots; already as a first step, then, to secure the "partial identity", it is necessary to have recourse to rather vague, "figurative" meanings; cf. I.4.4–6.). The result is no mere identity, however, for that part of the subject of comparison which does not intersect the reference point remains conscient and resists integration in the new whole; thus, there is *tension* between the new category created and the received categories. As in the ordinary judgment of similarity, the non-intersecting features of the subject of comparison are heavily weighted (cf. III.6.2.), but in this case, this part of the feature set not only contains numerous features, but features directly opposed to those of the new ecumenical category. Indeed, this is exactly what makes us perceive a comparison as a metaphor, rather than as an ordinary judgment of similarity.

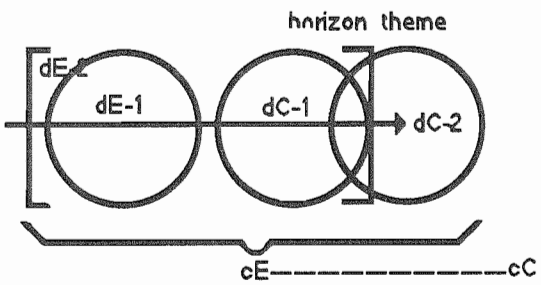


Fig. 71 The connotation of metaphors (cf. abreviations in fig. 24.).

According to Kerbrat-Orecchioni (1977b:149ff), the metaphor is a kind of connotation. Although she is extremely confused about what connotation is, as we noted above (in II.1.2.), many of her analyses are interesting, so let us consider one of them. A metaphor *in absentia* (cf. III.6.4.) employs "faucille d'or", which in the linguistic code is a kind of "instrument agraire" (though then it is normally not made of gold), to stand for "le croissant de lune"; then, in Kerbrat-Orecchioni's opinion, it is the meaning given in the code which is emotional and subjective, and thus connotative, while the newly introduced meaning is conceptual, and therefore denotative (p.155f). It will not be necessary to repeat here our earlier criticism of the *stylistic* notion of connotation (see II.1.2.); but even if the latter notion could be defended, Kerbrat-Orecchioni's way of distributing subjectivity and objectivity would still be gratuitous. What she expresses in this strange manner, however, is probably only that the theme of the sentence is really the crescent, while the contribution of the sickle simply is to transfer some of its features to the former. But this is no connotation, in any sense of the term. In fact, the appresentation here goes directly through the coded meaning of the word (dC-1; "instrument agraire") to its metaphorical meaning (dC-2; "croissant de lune"); the intersection between dC-1 and dC-2 forms the thematic core, and features are transferred from dC-1 to dC-2, which is the theme of the complex sign construction (see fig. 71). The connotation, on the other hand, follows from our having chosen to express the meaning dC-2 indirectly, through the use of the sign dE/C-1, rather than directly, be means of the expression dE-2; the whole of this sign constellation is the connotative expression, and the content of it is, if nothing else, the very category "metaphor" (for other aspects of this organization, cf. fig. 26, II.3.4., and the whole of II.4.).

It would now be apt to state some provisional conclusions, of which there are two, on very different levels of analysis. First, it follows from the workings of the metaphor that categories must be "bounded entities", in spite of Rosch's claim to the contrary, and there does not seem to be any real contradiction between this and the prototypical organization of many "natural categories". Since pictorial categories, like those of perceptual experience, are certainly prototypical, this conclusion permits us to continue using categoricality in opposition to denstity, in Goodman's sense (cf. III.6.1.).

In the second place, we have suggested that the metaphor, as it is at least sometimes understood, involves an initial identity of some of the features in the sets defining the two terms brought together; that the effect of the metaphor is to absorb all the features of the reference point, only some of which may be thematized, into the revised feature set of the subject of comparison; but that tension continues to be felt between the newly created category and those features of the subject of comparison which do not enter the new category. Since we have repeatedly indicated (for instance in III.1.4. and III.2.6.) that the picture is completely different from that which it depicts, the question arises, whether the pictorial sign is a special case of the metaphor. But before we can even begin to answer this question, it will be necessary to examine the nature of pictures which *convey* metaphors – for, if the picture is a metaphor, what, in addition, is the pictorial metaphor? This is the task of the next section (in III.6.4.). Before concluding, we will then also have to clarify the relationship of the picture to the symbol and the dummy (in III.6.5.).

III.6.4. Feline features of a coffee pot. Pictorial metaphors and the picture as a metaphor

> *"S'il est facile, du moins à ceux que n'effarouchent point les marquises qui sortent à l'heure du thé, d'écrire: "elle avait un cou de cygne" (gommant ainsi, sans effort, les plumes du volatile), il sera peut-être moins aisé de* peindre *la chose, en dehors, précisement, d'une volonté délibérée de dérision."*
>
> *Groupe μ 1976: 47*

Is it then possible, it should be asked, for the picture to contain a metaphorical relation not identical to the sign relation of the pictorial sign (if indeed that is a metaphorical relation)? The most notable autority to have denied this is Gombrich (1963: 12 ff), though, explicitly, all he says is that there is no distinguishing a simile from a metaphor in a picture. Thorvaldsen's memorial for the Swiss guards killed during the French Revolution bears the title "the Lion of Lucern", and through this title, Gombrich reports, Thorvaldsen wanted to convey the statement "they died like lions" or "they died, lions". It is reasonable to argue, that the latter two contents cannot be told apart in a picture; but the example itself also suggests that it is only by being "anchored" linguistically, that is by the title, that the picture becomes a metaphor; and indeed, Gombrich goes on to observe that the picture of the lion may take on any of a number of meanings, depending on context. According to Bucher (1977: 43 f), it is only because of the verbal text that we can know that the Pictic tribes shown on one of Le Bry's engravings are meant as a metaphor for the Indians. We are seemingly left with a pessimistic conclusion: that there is no purely pictorial means of constructing a metaphor, perhaps not even to make any other kind of comparison.

Then again, perhaps the examples have been badly chosen. We have, it seems, already encountered examples of pictorial metaphors: the heap of fruits and vegetables which is a crown, the lower trunk which is a face, the jam bottle which is a pile of orange slices, the jetty which is a tyre, and so on (cf. I.2.5.). In addition, Büky (1983: 783, 786) quotes the case of a stormy ocean depicted in the form of a giant with a whip, and also reproduces the picture of a nuclear power plant slowly turning into the Tower of Babel. In their study of a coffee pot picture, which is also a cat picture, Groupe μ (1976:45 ff) observes that a pictorial metaphor differs from an ordinary linguistic one, in that its expression plane must contain the features of both contents involved, in this case, of the cat and the coffee pot. Some features have admittedly been suppressed: in this case, there is nothing to indicate neither the handle, nor the lid of the coffee pot, but it is more difficult to discover any part of the cat which is lacking. Both objects, in any case, may be easily recognized. In the opinion of Groupe μ, it follows that, in the picture, rhetorical figures involving the content cannot be distinguished from those involving the expression (p. 49). Also Kerbrat-Orecchioni (1977a, I:375) believes pictorial metaphors must be, at the same time, *in absentia* and *in praesentia*, as for instance in the double exposure showing a Volkswagen and a beetle. In her view, a pictorial metaphor is discovered as such, because of the contradiction in the expression plane, not because of semantic contradiction, as in linguistic metaphors. It could be concluded, on the basis of these examples, that there are indeed purely pictorial metaphors, which can be distinguished from similes (or perhaps the reverse), which have to be anchored verbally, or otherwise by the context. But this is undoubtedly an all too simple solution.

Following Kerbrat-Orecchioni (1977b: 149 ff), we will introduce a more complex classification of verbal metaphors than that presupposed in Gombrich's discussion. We contribute the distinction of the first two categories, on the analogy of the last two:

Simile in absentia: x is as y ("la terre est comme une orange").
Simile in praesentia: x is p as y ("La terre est bleue comme une orange").
Metaphor in absentia: y ("Nous vivons sur une orange"; a more adequate formula for this may be "y (x)", as we shall see).
Metaphor in praesentia: x is y ("La terre est une orange").[2]

Although Kerbrat-Orecchioni (p. 151 ff) may be right in claiming that all these constructions result in identification, followed by a negation of the identification, metaphors do masquerade as mere identities, and similes as similarities. The apparent identity and similarity are made explicit in the variants *in praesentia*, but are somewhat hidden from view in the other variants. It is reasonable to suspect that the distinction between metaphors and similes cannot be upheld in pictures, since the latter lack all purely grammatical elements (cf. Worth 1981:162 ff; Gauthier 1982:179 ff; Fresnault-Deruelle 1983:131 ff; Gombrich 1982:137 ff). But what about the difference between more or less explicit identifications?

It might be thought, at first, that the equivalent of a *metaphor in absentia* in the picture would be either a traditionally codified, iconographic unit (cf. II.1.3.), or an ordinary picture object, "anchored" by a verbal text, or by the larger context, as suggested by Gombrich. And this indeed seems to be implied by the formula given to this instance by Kerbrat-Orecchioni: "y". Such an interpretation is however contradicted, not only by all common understanding of what a metahpor is (if we except dead metaphors), but also by Kerbrat-Orecchioni's own example. The "selection restrictions", as Katz & Fodor would have said, or the "isotopy", in Greimas's parlance (cf. III.4.1.), severely restricts the class of terms susceptible of entering into the frame "Nous vivons sur ...",

and no metaphor can be entirely semantically anomalous (not even a surrealist one; also "La terre est bleue comme une orange" reposes on the implicit property "roundness"; see Maranda 1980:196). In the sentence, there is a contradiction between the sign context expected, or abduced, and that which is really manifested; and the same thing may happen in pictures, as we saw when discussing indexicality (cf. I.2.5., sign types IIId-e.). Thus, for instance, a bottle of liquor and ice cubes are placed inside the Colosseum, when we should expect to see them in an ice-pail (type IIIe; cf. fig. 8 and pl. X). Here, as in the sentence, besides an unexpected contiguity, there is a partial fulfilment of expectations, because some semantic features remain identical (in the case of the picture, these are visible features, and so, in a way, also expression features; see point two below).

As against this, the *metaphor in praesentia* is exemplified by Williamson's tyre-and-jetty picture (pl. VII), as well as by several of Nöth's examples (pl. V–VI; type IIId in I.2.5.). In this case, both terms of the comparison are directly present (at least on the expression plane of the secondary sign), and the contiguity is posited as such, not in contradiction to another contiguity which is anticipated. There is nothing strange in that we should encounter once again those secondary signs we discussed in our indexicality chapter (in I.2.); there, we were concerned with understanding those particular conditions of the primary expression plane, whether linguistic or pictorial, that gave rise to secondary signs; and here we are paying attention to the sign relation of the secondary sign itself, which, in this case, is the metaphor. But, so far, we have only accounted for the contiguity variants of types IIId and IIIe of secondary signs; perhaps it would be possible to find a place also for the factorality variants. Although the analogy with verbal cases is no doubt much less strict here, we could take the merging of two or more expression planes in the sign to be a pictorial equivalent of the conjunction "as", in which case the pictorial *simile in absentia*, where some parts have to be abduced, is examplified by the cat-as-a-coffee-pot and the orange-as-a-bottle (pl. XI; type IIIe), and the pictorial *simile in praesentia*, where both terms of the comparison are present, but merged, is represented by the heap of fruits forming a crown (fig. 7), as well as by Magritte's female trunk which is also a face (pl. VIII; type IIId).

This is not to suggest, however, that pictorial metaphors are, in all respects, identical to verbal metaphors. Even here, we shall point to a number of differences: 1) pictorial metahors are not necessarily *asymmetrical* (cf. III.6.2.). Put in another way, it is often impossible to decide which term is the "vehicle" and which is the "tenor". Thus, is Magritte trying to tell us that female trunks resemble faces, or rather that faces are similar to trunks? The direction of the comparison is often made clear by the accompanying verbal text, or by the larger context. For instance, once we have identified the pictorial type "publicity", we understand that B&W wants to tell us that their fruits are as valuable as a crown, not to inform us about crowns which, in some curious way, resemble heaps of fruit. In a satirical picture, like Pasch's "Hen painting", showing hens with female faces, at the time recognizable as those of court ladies, we expect the "worst possible" reading to be the correct one, and we know the themes broached to be such things as human beings and human affairs, so there can be no doubt that Pasch's painting is about court ladies being similar to hens, rather than the reverse. In these cases, genre conventions and common sociocultural understandings permit us to discover which of the terms of the comparison is the most "prominent", in Tversky's sense (cf. III.6.2.). But the question is whether there is also some mechanism *internal* to the pictorial sign, which is able to decide the direction of the metaphorical relation. According to Groupe μ (1976: 47), Key's drawing is normally thought to represent a cat disguised as a coffee pot, rather than the inverse, and the reason for this should be that the feline parts and features have been more completely reproduced. But does this make the cat the tenor or the vehicle? Again, we know from the publicity function of the picture that it is to the coffee pot, and thus to the coffee, that the feline properties are to be transferred (cf. II.1.1.). Is then the term most completely rendered in the picture that which is the vehicle of the metaphor, or is it instead the tenor, the internal mechanism having been overriden, in this instance, by the publicly acknowledged function of publicity pictures? In any event, the case of the *metaphor in absentia* seems much clearer: it must be the absent term which was expected, e.g. the ice-pail, that is likened to the term present in its stead, here the Colosseum. If, on analogy with this, that element that has to be abductively suplemented, even if only partially, is the tenor, then, in Key's poster, the coffee pot is the tenor, and the cat is the vehicle. However, the Colosseum picture could well turn out to be too simple for us to draw any more definitive conclusions: if the Colosseum had required any complementary object, which were to substitute for the bottle and the ice, as the latter requires an ice-pail, which substitutes for the Colosseum, the issue would have been much more complex, and there probably are cases like that (cf. I.2.3/5.).

2) It is true that in the pictorial metaphor, expression, as well as content, is involved, and this is rarely the case in the verbal equivalent (although alliteration, paranomas and portmanteau words may combine with metaphors). It should be noted, moreover, that it as picture object, much more than as picture subject, that the content participates in the pictorial metaphor: for the real coffee pot and the real cat have hardly any common features of appearance, and the Colosseum and the ice-pail also have very few, but they are "seen in" the common picture object. But does it follow that in pictorial

rhetoric, no distinction can be made between the figures of expression and the figures of content, as Groupe μ (1976: 48) contends, going on to claim that already in the pictorial sign as such, expression and content cannot be told apart, as they are insomorphous (Spang-Hansen 1954: 85 cited the same Hjelmslevian reason for classifying pictures as "symbols", in the Hjelmslevian sense, which is also a very Pickwickian one; cf. II.3.5–6.). Although Groupe μ fails to adhere to these conclusions in their later work, they have in fact never been repudiated. We have already encountered numerous reasons for denying any strict isomorphy between the different relata of the pictorial signs (see in particular III.4–5.); but we can here add a few more, which concern more particularly metaphors: a) even if expression and content of elementary pictorial signs should prove to be isomorphous, this is certainly not true of the interrelations between such elementary signs inside the complex sign formed by the metaphor: for, as we have seen, a *contiguity* of expressions is taken to signify a *similarity* of contents (also cf. I.2.5.).

b) even supposing there to be no mere figures of content in pictures, there is no denying the existence of figures manifested solely on the plane of expression (at least on the denotative level), and this in itself is enough to make necessary a distinction between expression and content, and between their respective rhetorics. To creats a portmanteau word like the French "chafetière" and "évoluption" quoted by Groupe μ, it is not sufficient to scramble all the letters of a well-known word, and let them fall pellmell into place; for in the resulting new word, at least two well-known words must be *recognizable* (Note that, although there is no "similarity" between expression and content, they do change together in this instance). In the same way, a pictorial metaphor requires there to be at least two categories of different hierarchies, but of the "same" level, which are *recognizable* (though not necessarily directly present; remember the metaphor in absentia) at the same time (as we will see below) and in the same location and/or in contiguous locations in the picture. But a pictorial sign may also contain purely decorative elements, comparable to rhyme and meter, and the like, in verbal language; in which case the content of the pictorial sign is not at all involved, although, as in language, new semantic connections may be *created* by the sign. A somewhat intermediate case is represented by Matisse's cut-out "Nu bleu", in which plastic values alien to the real human body are, literally, embodied (cf. III.5.2.); one may feel that the picture object, resulting from the integration of iconic and plastic language, serves as a metaphoric vehicle for a tenor constituted of the real human body, and that thus the former transfers some of its features to the latter, as conceived through the picture; but the blue body of Matisse's does not correspond to any established Lifeworld category, and so there is metaphor only in an extended sense.

c) even in pictures, it is possible for a metaphor, in the wide sense of the term, to come about without any contribution from similarity. This is obviously true of our *metaphors in presentia* (although there may also be an added tinge of similarity, as in the tyre-and-jetty picture). A curious case, perhaps best viewed as a *simile in absentia*, is the one discussed by Gauthier (1979: 91 ff), where the silhouette of a girder has taken the place of the facial traits in a face. Here, no doubt, similarity is created by the metaphor, as suggested by Goodman (cf. III.2.3.), rather than presupposed by it. As in Dylan Thomas's famous line "a grief ago", position attributes similarity to items that would normally be thought to have none. Because of the *exhibitive import* of pictures, however, the result here is much more impressive (cf. III.5.1.).

3) In yet another way, pictorial metaphors are much more powerful than their verbal correspondents. We have already, following Groupe μ, referred to the portmanteau word in our discussion of the type IIIe factorality sign; and indeed this is a much stricter equivalent of the type IIIe factorality than the simile in absentia, since here, as in the picture, the expression planes of the two signs are merged, instead of being related by means of a third sign. However, portmanteau words are rare phenomena, which are difficult to produce, in part because it is unusual in verbal language for two contents which one wants to relate to possess sufficiently similar expression planes, and in part because the fusion of two verbal expressions tends to hamper recognition. A particularly clear illustration of the last point are the Saussurean "paragrammes", which could be considered portmanteau words of sorts, where one of the expressions has been spread out all over the others; here, it seems, only an explicit code can assure interpretation (see discussion and references in Kerbrat-Orecchioni 1977b:48 ff and passim). In contrast, no problems of this kind would seem to exist for pictorial signs, first because the picture objects of common Lifeworld things can be adapted in numerous ways in order to go together, as we saw in the case of the cat and the coffee pot, and, second, because pictorial signs are easily embedded in other pictorial signs, with no consequences for recognizability (cf. III.5.3., point c). In order to grasp the importance of the last point, consider the possibility of there being also a more direct verbal equivalent to the IIId factorality than the simile in praesentia.An obvious candidate would be the compound word, but, as we have already noted (in I.1.2. and III.5.3.), the parts of a verbal compound lose their independence, and cannot, at the same time as they contribute to the compound, convey the meanings that they carry on their own. In Jakobson's (1963: 219 f) famous example, the slogan "I like Ike", "Ike" is indeed contained in "like", and "I" is contained both in "like" and "Ike", as Jakobson points out; but these containment relations are transformed into sign relations, only because tokens of identical

types are repeated in contiguity with the signs containing embedded signs; and nothing similar to that is required in pictorial signs.

4) On the other hand, it may prove difficult to translate certain kinds of surrealist metaphors from verbal language into pictures. If we want to convey pictorially the idea that the earth is blue as an orange, we have to make a picture in which both the earth and an orange can be recognized, and which, in addition, shows them to be blue. Unlike the sentence, this picture will convey a number of other information as well, notably the fact that both the earth and the orange are spheres, an information which, *pace* Maranda (1980:196) must be tacitly supplied, in the case of the verbal metaphor. As for the blue colour, it is easily discarded as a sheer plastic effect; and anyhow, it is symmetrically attributed to the earth and the orange, not supposedly transferred, as in the verbal metaphor, from the orange to the earth. In another way, however, the picture is easily surrealist, for it permits objects which are extremly dissimilar as picture subjects, to be presented as resemblant, and even coinciding picture objects: the cat and the coffee pot, once again. Interestingly, as we hinted at in our epigraph, even dead verbal metaphors may appear surrealist when rendered in pictures.

Are then also pictures, which are seen to represent different objects, as different features of the expression are taken to be thematically dominant, also examples of pictorial metaphors? That is, is the duck a metaphor for the rabbit, and vice-versa? (cf. fig. 51 and III.3.5.). Intuitively, I find this suggestion completely unconvincing. A metaphorical connection is probably established only when both meanings are concurrently perceived to be there. Hence, I would not agree with Kerbrat-Orecchioni's (1977b: 143) opinion, that metaphors and syllepses (as in "Le rhum, ça donne du punch") cannot be told apart in pictorial signs. The syllepsis, Kerbrat-Orrecchioni says, refers to two dictionary meanings in the same context, while the metaphor introduces a content unknown in the dictionary; but since pictures have no dictionary meanings, this distinction breaks down (p. 159). At another point, however, Kerbrat-Orecchioni has already recognized that the metaphor presents one phenomenon in analogy to another, whereas the syllepsis refers to two independent phenomena, without comparing them; and in this sense, our ambiguous pictures, where the two interpretations cannot be grasped at the same time, are like syllepses, but the other cases discussed in this section are like metaphors.

So far, we have considered pictorial metaphors; but the fundamental goal of our inquiry is to find out if all pictures, not to the extent that they convey metaphors, but because of the very sign relation that relates expression and content of the pictorial sign, are special cases of metaphors. We are not going to conclude on this issue at this point. However, it is clear form the preceding discussion, that, if pictures are metaphors, they are more like verbal metaphors than like pictorial ones, if only because the former two are asymmetrical, while the latter may be symmetrical. In the last two sections, we have examined a number of particularities of both verbal and pictorial metaphors, and of their varieties, and this will be the basis on which we are to contrast the picture and the metaphor; but before we proceed, it will be advantageous to introduce yet two more elements of comparison: the dummy and the symbol (see III.6.5.).

In this section, we have been investigating the similarities and differences between verbal and pictorial metaphors, once the existence of the latter had been established. The pictorial equivalents of *metaphors in absentia* and *in praesentia* turned out to be the secondary signs analyzed earlier in this study (in I.2.5.) because of the real and potential contiguities of their expression planes; and the corresponding factorality signs could be seen as rough equivalents to the *simile in absentia* and *in praesentia*, though closer parallels in fact exist in the rather exceptional phenomena of "portmanteau words", " paragrammes", and the like. Contrary to verbal metaphors, on the other hand, pictorial metaphors may well be symmetrical, and essentially external mechanisms seem to be needed in order to fix the direction of the metaphorical connection, even though some internal mechanisms could well turn out to exist, at least in some metaphor types. Both expression and content are involved in the production of the pictorial metaphor, and the content intervenes as picture object, rather than as picture subject. It does not follow, in spite of this, that expression and content cannot be told apart in pictorial rhetoric, for there certainly are mere expression figures, and the two planes are far from being isomorphous. What is more, the possibilities and limitations of surrealist metaphors are very different in pictorial signs. Ambiguous pictures, of the duck/rabbit type, are not metaphors, for in the latter the relata of the metaphorical connection must be concurrently present to consciousness, not alternatively. At least with regard to the fundamental issue of symmetry, the pictorial sign turns out to be more similar to the verbal metaphor, than to the pictorial one. That, however, may not be much of a similarity.

III.6.5. Olympia and the lion. The picture, the dummy, and the Goethean symbol

"Das ist die Wahre Symbolik, wo das Besondere das Allgemeinere repraesentiert, nicht als Traum und Schatten, sondern als lebendig-augenblickliche Offenbarung des Unerforschlichen."

Goethe, "Aus Kunst und Altertum", as quoted in Schütz 1967: 356

In many pictorial metaphors, there is, as we have seen, only a similarity (and sometimes only a contiguity) of expressions, but they are only metaphors, to the extent

that this similarity is projected, in our experience, onto the picture object, and sometimes, as in advertisements, also onto the picture subject. But there are also other types of signs, which are motivated, or, at least are *experienced* as being motivated (cf. III.1.4.). This *impression of similarity* as the motivating force is common also to the dummy, and to the symbol, in the sense (or the senses) which this term has most commonly received in Europe since Romanticism, if we ignore the more recent incidence of Peircean terminology, or more generally, of American parlance. We will first briefly return to the dummy, and contrast it with the picture; then we will systematically review the differences between the metaphor and the picture; and lastly, the symbol will be contrasted to all other motivated signs.

Both the dummy and the symbol seem to be concerned with what Goodman calls exemplification (cf. I.2.4. and II.2.2.). The dummy is however a limiting case of exemplification, because it only possesses few, and actually inessential, properties of that which it exemplifies; or rather, it is a limiting case of self-identification, because, although it is another, and indeed an entirely different object as to general type, its own identity is completely exhausted in the process of signification (cf. our remarks about Franklin and Rumford as Americans in III.1.4.; this is an important difference to the symbol which is an object in its own right). It will be remembered that we agreed with Prieto, in taking both signs and tools to be *alter-functionally* determined, but that we rejected the idea that signs were a subclass of tools (as well as the inverse conception), essentially on the grounds that signs are defined by appresentation, while tools take their meaning from situations and action contexts of which they are a part (see II.2.1.). Interestingly, the dummy is, in this sense, partly a sign and partly a tool. In some of its properties, it is *identical* to what it stands for; and there is a set of situations, in which it may be used as if it were the object it refers to. Thus, from the point of view of the child, the hobby horse is as good for riding as the real horse; the artificial food stuff made of plastic or wax in the show-window of the Japanese restaurant serves as well as the real food in the show-window of the Greek restaurant to indicate the range of dishes accessible to the client of the establishment; and Olympia accomplishes the function of making Hoffmann love-sick as well as a real girl could have done it (at least up to a point). In sum, the dummy shares some of the tool-like properties of the object for which it stands proxy. But the whole point of the dummy is that, at the same time, it is *a sign for those properties of which it does not partake*, and indeed *a conventional sign* for them.[3] The wax food only has meaning to the extent that it stands for edible food, not made of wax, having less unappetizing colours, and so on. The similarity is asymmetrical: the wax food resembles the real food, but the real food – hopefully – does not resemble the wax food; and indeed, if it does, we will feel that we have been deceived. It also seems clear that the owners of the restaurant do not believe we will perceive their food to have become any more wax-like, because of the wax-food in their show-window, so, unlike in the case of the metaphor, no transference of properties from the vehicle to the tenor is thought to take place (cf. III.6.3.). It is not true, however, that the dummy does not possess any more properties than those shared by the object signified; indeed, some such properties are essential to its function as a dummy. The wax food, for instance, does not decay, or deteriorate in any other way, in the window; and the hobby horse is cheaper to fodder and easier to handle than any real horse; while Olympia more willingly lends herself to Spalanzani's machinations than most real girls, at least in the sense of being entirely predictable, as long as she is wound up.

Two additional, related points should be made here. The conventionality of the sign part of the dummy does not necessarily mean a referent has to be individually appointed (cf. III.2.2.); and there is no tension between the categories involved, as we found there to be in the metaphor (cf. III.6.3.). To understand this, we must again have recourse to the idea of a Lifeworld hierarchy of core objects, in which dummies are comparatively low-ranking, although, like the objects they stand for, they are normally three-dimensional, independent objects when considered in themselves. But they are never considered in themselves, and thus, unlike the objects they refer to, they lack folk ontological independence. But why should this be so? What they share with the "real" objects is essentially perceptual predicates (not only visible properties: Olympia's voice, as well as her lifelike eyes); such properties, however, are often used for *recognizing* objects as members of particular categories, but they are rarely central to the definition of the categories themselves (but cf. our discussion of illusions in III.3.5.). In an ordinary *self-identification* (see II.2.2.), the former properties would ordinarily be used as the expression, while the latter would dominate the content hierarchy; but the dummy only possesses the former. Just as a bat is not even an untypical bird, but no bird at all (cf. III.6.3.), so Olympia is not felt to be an untypical girl, but no girl at all (except, of course, by Hoffmann at the beginning, but that is because she is no dummy to him). There is tension, however, in the bat metaphor, because the bat has its own prototype, to which it is normally referred, and so there is a transgression of ordinary category limits; but nothing comparable happens in the Olympia case, for while there may be a doll prototype, this prototype is itself defined in relation to the human being prototype. Since it shares at least some perceptual properties with its object, the dummy does not always have to be specifically appointed as such; and since it does not have any independent category prototype, its sign function does not give rise to any tension between categories.

The case of pictures is, in some respects, very differ-

ent. According to Janet (1935: 214 ff), the portrait in part provokes the same behaviour as the person which it represents, and in part quite different behaviour. Thus, we may smile at the person, as well as at his portrait, but it is only the latter that we can then put away in a drawer. If Janet were right, pictures would thus be like dummies. But how ever we choose two objects, there will probably always be one set of behaviour that we could, or would normally have in relation to both, and other sets of behaviour that differentiate them; and there is behaviour that we could have vis-a-vis any object, without this behaviour being in any way characteristic of the objects. As far as I understand, it is not a characteristic function of the portrait to be smiled at, nor, perhaps, of the real person (though the latter may at least respond to the smile). Hence, apart from such behaviour as we may have with anything, no characteristic function of the picture seems to exist which is also a function of its subject matter; just as in the case of verbal language, the Fido-Fido theory of meaning must fail. This difference of functions is really only a correlate of the fact, which we noted earlier (in III.2.6., notably), that pictures and their referents have no parts or attributes in common, except, of course, some higher-order invariants, that are also deeply embedded in different plastic qualities (cf. III.2.2–3., III.4.3., and III.5.2.).

An equivalence of relational properties is, in Peirce's theory, typical, not of "images", but of "metaphors" (cf. III.1.2.); and independently of Peirce, it would seem, Worth (1981: 148 ff) invokes the Lévi-Straussian proportionality (cf. I.4.1.), as an explanation of at least the pictorial metaphor (which is an ambiguous case, in view of III.6.4.). Although we have so far found little use for such a relational conception of the metaphor, this could possibly be a similarity between pictures and metaphors (in opposition to Peirce's conception of "images", no doubt). But it already seemed to us (in III.6.3.) that the joining together of two normally separate categories could be another similarity of metaphors and pictorial signs. However, it is easy to come across differences between metaphors and pictures:

1) the pictorial sign function is always *asymmetrical*, no doubt in part because pictures are made to signify other objects, whereas metaphors make use of pre-existing categories, and thus join together two otherwise well-delimited conceptual worlds.

2) even verbal metaphors, which are normally asymmetrical (the exception would be "portmanteau words"; cf. III.6.4.), then transfer meaning from the vehicle to the tenor, but nothing similar takes place in the picture: the picture subject does not become more like its picture, neither the picture thing nor the picture object (though the picture object of course takes on the semblance of the picture thing; also, it is true that landscapes in themselves may begin to seem "picturesque" and that, generally, as Oscar Wilde said, Nature may seem to imitate Art; but this is not an obligatory consequence for an object, each time a picture is made of it).

3) indeed, something similar to the inversion of this process would seem to take place: the vehicle receives meaning from the tenor, e.g. real colours are substituted in our perception – or at least in our conception – for the "photographic colours", as Husserl terms them (cf. III.3.5–6.).

4) the metaphor, unlike the picture, does not depend on the process of *resemanticization*, i.e. the point-to-point correlation of expression and content, produced indirectly over higher configurations (cf. III.4.3.). When it is said that the man is like a tree, the suggestion is, as Tversky indicates, that also the man has roots, and he may even seem more generally treelike: but neither the roots, nor other parts of the tree are correlated point-to-point with particular parts of the man. It is true that in developed metaphors ("metaphor filée") and in allegories, something of the sort may happen, but then each one of the correlations must be made *directly* and *individually*. An interesting test case is, in this respect, the pictorial metaphor (cf. III.6.4.), for, as a picture, it must of course be resemanticized, and doubly so, if it is a metaphor *in praesentia*, but it is not clear if this property carries over to the metaphor. Both the cat and the coffee pot are undoubtedly resemanticized in the cat/coffee pot picture; nevertheless, the picture may be read as a statement about the resemblance of cats and coffee pots, but does not seem to contain any suggestion that individual parts of the cat have anything in common with individual parts of the coffee pot, except of course in that particular picture object "seen in" the picture.

5) in the case of the *metaphor in praesentia*, both relata are directly present and are, at least in the pictorial variant, given before their interrelation; however, the *metaphor in absentia*, just like the picture, directly presents only one relatum of the sign. Nevertheless, there is a difference between the latter two sign types, for it is only because of our acquaintance with general, socio-cultural abductions, that we can reconstruct the second term of the *metaphor in absentia*, and through that, the sign relation itself, whereas, on the other hand, it is from the general category of the expression plane itself, that, in the case of the picture, we discover its nature as a pictorial sign, and thus, at the same time, the second relatum (cf. III.2.1–2.). and III.3.1.).

6) we should expect, from what was said above about the dummy, that there is no *tension* in the picture between the relata, as there undoubtedly is in the metaphor (see III.6.3.). But, on the other hand, it has often been said, by for instance Pirenne, Gibson, and Hochberg (see II.2.3. and III.3.2.), that there is a contradiction, or tension, between the two-dimensional pictorial surface and the three-dimensional scene that it presents to our view. But the latter tension takes place in the immediate perception of the sign, between the picture thing and the picture object (cf. fig. 53. and III.3.6.), and, if anything, will arise from identification followed by

dissociation, instead of the reverse (cf. III.6.3.). The metaphor, by comparing the young girl to a birch, will tend to create a new category of flexible things, of which the girl and the birch are members, and which thus cuts across and creates tension with the two traditional, well-established categories: "girl", defined by such traits as "human", "feminine", and "non-adult" and "birch", which has among its features "animate", "plant", "tree" and so on. But there is certainly no tendency to see Cezanne's apples, considered as picture thing or picture object, as members of the category of apples (although Hermerén 1983: 85 ff would seem to suggest that in some passages); it is actually only the picture subject, as the projection onto a possible reality of the picture object, that could be counted as a new brand of apples, and thus included in the apple category, but then with no inappropriateness whatsoever. The tension between the picture thing and the picture object, however, arises from the fact of the same "material" object being able to enter, according to different principles of relevance, into two different categories, without there being any suggestion that these categories could fuse.

Before we conclude, we will introduce yet another candidate: the symbol. Even excepting the quite different American usage, there have been numerous, and in part contradictory, defintions of the symbol, by such important thinkers as Goethe, the Schlegel brothers, Creuzer, Schelling, Hegel, Vischer, Johannes Volkelt, and so on, and we cannot pursue their analyses here, Instead, we will concentrate on the examination of some examples of what, following the remnants of this tradition, are considered symbols today. To begin with, we will still accept Goethe's suggestion, in the definition quoted as an epitaph to this section, that a symbol is a particular standing for something more general (later, we will return to some other details of the definition); and we will add that the symbol is felt to be a motivated sign. This being so, it is reasonable to suppose that the universal for which the particular stands, is represented in it as one of its parts or attributes, which means the symbol is a kind of exemplification (cf. II.2.2., in particular our types IIa-b; however, we will elaborate a more specific concept of symbol below).[4]

According to Wallis (1975: 21 f), a symbol is "a sensually perceptible object, made by man or not, which is able to evoke in a recipient a thought neither on the basis of resemblance, nor on the basis of a custom or convention, but on the basis of some analogy between it and the object symbolized, an analogy not seldom vague and difficult to grasp". Interestingly, "resemblance" and "analogy", often more or less identified (cf. our discussion of Degérando, Goodman, and Eco, in III.1.3. and III.2.4–7.), are here opposed to each other; later, however, rephrasing his point, Wallis (p. 28) tells us that "there is no resemblance of *appearance* between power or courage and the lion" (my italics); and yet, he pursues, the relation is not conventional, for the lion cannot arbitrarily be exchanged for something else (Saussure 1968: 155 ff makes the same point about the scales and justice). One may have doubts about the force of this argument, since even conventional links may be felt to be necessary (as shown by Benveniste's 1966 argument against Saussurean arbitrariness); and yet I think Wallis has a point, for whatever "analogy" there is between the symbol and what it stands for, in the examples so far considered, there is nothing "perceptible" (in the sense of Husserl's "anschaulich") about it; and there is no "density", in Goodman's sense, at least if the "continuous aspect" referred to is the spatiality of the Lifeworld. It will be noted that these are differences to Goodman's favoured examples of exemplification, not only the samples, but also at least some cases of "metaphorical exemplification": Yves Klein blueness, for example, is clearly perceptible and dense; and even sorrow may be perceptible, if not dense, if Arnheim (1966) is right.

Now let us examine Wallis's lion case. It is important to observe here that Wallis makes a clear distinction between the symbol, which is the lion, and the picture of the symbol, in this case the lion picture; and we are going to follow that distinction, although, as well shall see, there is an intimate relationship between symbols and pictures. Just like the metaphorical operation, the symbolic operation amounts to a cross-classification of reality. However, there are at least two important differences. While the metaphorical operation is essentially a reclassification of signs, the symbolic operation applies to *things* (as implied by Wallis's distinction). In the second place, whereas metaphors transgress borders between established categories, symbols rather seem to invoke a secondary but at least as traditional organization of the world of our experience as that of the official categories (there could be some relation to *figurativity* here; cf. I.4.4–6). Neither power nor courage are properties contained in the zoological characterization of the lion; and yet, when the lion is established as a kind of *prototype* of a category, which will also normally contain human beings, there is no sense of transgression. What we have is a parallel but secondary organization of the Lifeworld, not a revolutionary one.

The metaphorical revolution takes place at the level of signs; symbolism, since it is not subversive, may inhere in things. Like the dummy, the symbol is based on independently existing objects; but unlike the dummy, it makes use of objects which have their primary justification elsewhere, and which are valued, first of all, as "selves". So far, Wallis in undoubtedly right when he distinguishes the symbol and the picture of the symbol. And yet, it is, I believe, only through the intermediary of some other sign that the symbol will function as such. It is not when we encounter the real lion that the symbolic operation, causing it to represent power or courage, will take place; not any scales will represent justice, but only those that have been manufactured in same special way

to invoke it; and so on (Of course, we will ignore religious symbolism, to the extent that it is mere magic; in this respect, cf. Honzl's 1982 discussion of ritual and theatre). Of course, the symbol may also be embodied in words. The picture, and any other kind of visually-based sign, must thus use *visual* properties of, for instance, the lion, to invoke some subset of the lion's *non-perceptual* properties. Similarly, the verbal sign must use the "pertinent" semantic features, or, as we would say, those features highest on the thematic hierarchy of the word (cf. III.4.1.), to refer to properties of the lion which are low-ranking in the thematic hierarchy, or even of doubtful existence (cf. fig. 72).

No matter if the symbol begins from perceptual attributes, as in the symbolic picture, or from thematically high-ranking, mostly conceptual properties, as in the symbolic word, in both cases it makes a semantic connection to low-ranking, conceptual properties of the corresponding cultural object, and these are then used to create a *prototype* of a new category. In the Goethean symbol, as our epitaph suggests, something more is required: perhaps that the prototype should be treated as if it exhausted the class, reducing all other members to its likeness, and thus givning the class an appearance of absolute necessity. Otherwise, symbols would seem to be asymmetrical in the same sense as metaphors; and apart from the fact that they produce no tension between the categories, they differ from pictures in the same way as metaphors.

As we have already indicated (in II.1.2.), Todorov (1972a; 1974) and Sperber (1974; 1979) use the term "symbol" to mean simply contextual implication (but cf. Todorov 1977). However, it may be worthwhile investigating if in Todorov's (1972) putatively symbolic sentence "Les personnes nées à la lune rouge deviendront rois", there are any real symbols. Todorov, opposing the symbol to the (conventional) sign, treats this sentence as a series of consecutive equivalencies, but that hardly does justice to its complex symbolic import. First, there is a spatio-temporal *contiguity* between the new-born child and the red moon (astrologically reinterpreted as a causality); but, of course, numerous other things were contiguous with the child at the moment he was born, so the moon is chosen, first, because of its great visibility in the sky (which in itself is a very important "semantic domain"), and second, because it is red, which both makes it deviant as a moon and intrinsically conspicuous a second time. The moon, therefore, is redundantly marked as a conspicuous object of the world, and thus it is used to form the class of conspicuous things, or, more exactly, of *red*, conspicuous things, for the red colour remains with us, as we shall see, although it has already been translated into conspicuousness. Inside the class of red, conspicuous things, there is then a projection from the sky to something closer at home, the central Lifeworld object, which is the human body; and there, redness and conspicuousness are represented by the blood. But it so happens that blood, besides being conspicuous to human beings and red, is also reputedly powerful; and so it is used to form a new prototype class, that of powerful things. We have already been out in cosmos and inside the human body, and now we pass on to a third, intermediate domain, that of human society, where power is represented by the king. In conclusion, then, it is rather by means of a series of partially overlapping prototype categories than through mere equivalences, that certain new-borns are associated to kings. Of course, the "logic" of all this is heavily "figurative" (cf. I.4.), not to say, in Lévy-Bruhl's terms, "participative" (cf. Blondel 1926) – but that is another story.

We will end this section with a table resuming the differences between the different iconical signs discussed in this chapter (knowing well that there are many more types):

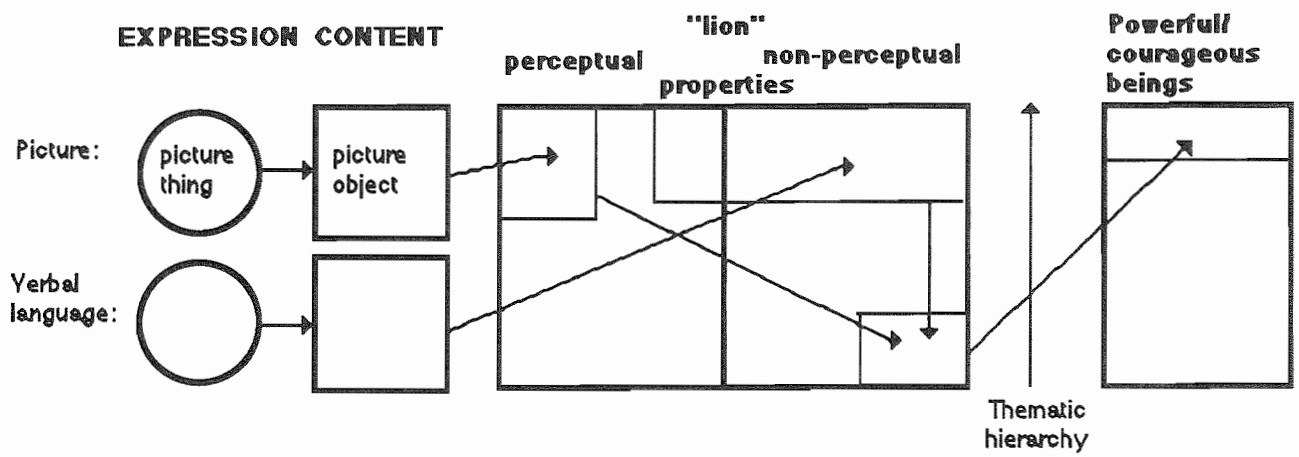


Fig. 72 The anatomy of symbols.

	DUMMY	PICTURE	METAPHOR	SYMBOL
Nature of E:	*a "self", but low-ranked*	*only exists as an E*	*other signs*	*high-ranked "self"*
Nature of C:	*shares high-ranked perceptual properties with E, but only low-ranked, if any, nonperceptual ones*	*fictional object (PO) referring to spatial and other properties of the Lifeworld*	*properties comparatively low-ranked in E*	*universals low-ranked in E*
Nature of relation E/C:	*overlap, in particular in tool functions*	*total separation of categories (as to elementary properties); no tension*	*tension – separation and identification*	*generalized synecdoche (exemplification); no tension*
Asymmetry:	*always*	*always*	*sometimes*	*always(?)*
Feature transference:	*no*	*C → E (?)*	*E → C*	*E → C (?)*
Type of motivation:	*identity + convention from usage context*	*resemanticization*	*different kinds of similarity*	*factorality; prototype formation*

Table XXIV. Varieties of iconical signs.

In this section, we first returned to the dummy and showed it to be based on partial identities, along with conventions stemming from a context of usage, reproducing some of the tool functions of the object for which it substitutes. We also showed it to be based on an independent object, in the sense of not being entirely derived from the principle of relevance defining the sign; but, at the same time, an object so low-ranked in the categorical framwork of the Lifeworld, that it could only serve as a sign. Next, the picture was contrasted with the dummy, as lacking any immediate kind of identity, and with the metaphor, since, unlike the latter, it is always asymmetrical, does not imply any feature transference from the expression to the content (but, in a vague sense, the reverse), takes on its meaning through resemanticization and does not involve any tension between expression and content, of the kind known from the metaphor. We also discussed the symbol in one common interpretation of the term, and suggested that, unlike the metaphor, it operated on things rather than on signs, and yet was characteristically conveyed through another sign, and that, unlike the dummy, it was based on objects which were in themselves high-ranking in the Lifeworld. The interaction of the symbol and the sign which is its carrier, whether word or picture, was then discussed, and variously illustrated. We ended this section with a table, included to summarize the similarities and differences of a number of iconical signs: picture, dummy, metaphor, and symbol. The problematics of iconicity then appears to resolve itself into a series of separate issues. The key problem, in the end, may remain the specificity of pictorality, or picturehood.

III.6.6. Summary and conclusions

Just as in the last chapter (III.5.), we touched on a number of varieties of pictures, and dimensions of pictoriality, here we have been concerned with placing pictures in the context of other iconical signs. To begin with, returning to the issue of Goodmanian density, as illustrated by the hypothetical ungraduated thermometer, we indicated that the difference between diagrams, in Peirce's general sense, and typical pictures were not to be found where Goodman would make us believe; both, we argued, contained categorical aspects, but while the dominant category of the picture had to be conveyed by purely pictorial means, the diagram, like the droodle, had recourse to other semiotic systems, and even to the tacit understandings of the Lifeworld (III.6.1.). Our argument against any absolute sense of density was supplemented later (III.6.3.) by the demonstration that also prototype categories must be, in a sense, "bounded entities".

There is psychological, as well as phenomenological, evidence, of similarity being ordinarily taken to be an asymmetric relation, we reported (III.6.2.). However, when it comes to the understanding of the picture, the dummy, and the metaphor, the framework suggested by cognitive psychology was found lacking, although it did provide a very good point of departure for our considerations. Relying on metaphor theories evolved in philosophy and literary criticism, as well as in semiotics, we tried an integration of the tension model and the feature transference model, according to which the metaphor accomplishes a new segmentation of the Lifeworld, based on different categories which conflict with, but absorb, the traditional ones. Since the metaphor involves an opposition of categories, the question arose, be-

cause of our earlier investigations, whether the picture could be a special case of the metaphor (III.6.3.).

But before this issue could be properly examined, it was necessary to characterize the ambiguous case of the pictorial metaphor. Contrary to accepted opinion, we first established the existence of pictorial metaphors, produced by purely pictorial means, and indeed found there to be four different types. Then we demonstrated that pictorial metaphors are different from verbal metaphors in several respects, most notably in being, at least sometimes, symmetrical (III.6.4.). Before turning to a comparison between metaphors and pictures, we opposed the dummy to them both, as being, on the one hand, devoid of tension and always asymmetrical, and on the other, based on an independent but low-ranked object and constructed by means of identities and conventions. As for the picture in contrast to the metaphor, it is always asymmetrical, fails to transfer features from the expression to the content, derives its meaning from the process of resemanticization and does not involve any tension between expression and content. Also the symbol was compared to the picture and the metaphor, as well as to the dummy. The expression plane of the symbol is an independent object, not a sign, as in the case of the metaphor, and not an object created by the very sign relation, as in the picture; and unlike in the case of the dummy, this independent object is relatively high-ranked in the common Lifeworld. The content plane of the symbol, on the other hand, is factorally related to its expression plane, but is there comparatively low-ranked (III.6.5.).

Thus, if iconical signs are all types of signs felt to be *motivated*, which derive this justification from intrinsic properties of the expression plane, rather than from a nexus between expression and content preexisting to the sign relation (cf. III.1.2/4.), then the *picture*, the *dummy*, and the *metaphor* are genuinly, but only partially, iconic signs; and the *symbol* is a limiting case, since it clearly also involves factorality. These are, it would seem, four independent kinds of iconical signs; but the diagram is probably only the other extreme of a continuous scale the first end point of which is occupied by the prototypical picture.

As for the notion of prototypical picture, which we have taken for granted all along, we should now be ready to give it at least a rough characterization. To this issue, and to the idea of a Lifeworld hierarchy of core objects, on which we have relied heavily in this chapter and in many earlier ones, we shall turn in the conclusion to this third part of our inquiry into the semiotic heritage, as it relates to the analysis of the visual world.

Part III and general: Conclusion and further tasks

In this long and tortuous third part, we have examined the notion of iconicity, in particular as it applies, or does not apply, to pictures. In the first chapter, we had a look at some less familiar aspects of Peirce's theory, confronted his conception with the Saussurean concept of sign, encountered one of Peirce's predecessors in the business of sign classification, reflected on the ambiguities of reference, and finally, considered the possibility of similarity being an effect, rather than a motivation of pictures, as well as the fesability of there being other kinds of motivation than those mentioned by Peirce. The second chapter, then, was entirely dedicated to an examination of the criticism directed at the notion of iconicity, by such thinkers as Burks, Bierman, Greenlee, Goodman, Eco, and others. Though all these theories do indeed contribute important insights, they are seriously flawed by their initial presuppositions, as for instance the identification of common sense similarity with the equivalence relation of logic, or, in the case of both Goodman and Eco, comparisons of the picture with verbal language, employing a model of the latter contradicted by modern linguistics. Eco is certainly at his best, when simply *pointing* to the fact that, on closer scrutiny, the painted nose turns out to have nothing in common with the nose of the real world. Therefore, we went on to consider, in our third chapter, the evidence bearing on our problem which can be culled from perceptual psychology, and the curiously divergent theories to which it has given rise. At the end of this third chapter, we also discussed the picture theories of Wollheim and Husserl, which, although proposed by philosophers, seemed compatible with the findings of the psychology of picture perception. In terms of the latter discipline, we finished by taking a relatively constructionist stance, though we also tried to give German *Ganzheitspsychologie*, but not only the Berlin school, its due.

In later chapters, we went on to scrutinize some more particular issues. Chapter four compared the concept of feature in linguistics and in perceptual psychology, and proposed an explication of pictorial features closer to the conception of the latter discipline. Eco's notion of the triple articulation of the cinema was shown to be based on a serious misunderstanding of the concept of articulation, as used in linguistics, as well as leading to a complete misconstrual of the nature of pictorial meaning. The double articulation of the picture, as proposed by Eco and many others, was also rejected, and a very different account of the semiogenesis of pictorial meaning, in terms of levels of configuration and levels of appresentation, was given. A few of the parameters along which pictures, while still being pictures, may vary, were considered in chapter five, in particular by way of case studies: we looked at Matisse's "Nu bleu IV", in order to

discover how the perceptual world may be hierarchically reorganized by a picture, and we considered Schulz's comic strip "Peanuts", to familiarize ourselves both with the idea that pictorial features tend to come together in packages, and with the different limitations to iconicity, as epitomized in the upper and lower thresholds of iconicity, and in the categorical form often given to iconicity itself. Finally, in chapter six, we contrasted the picture with other iconical signs, as the dummy, the metaphor, and the symbol, but separated it less radically from the logotype, the Peircean diagram.

All in all, we have been looking at pictorial signs, and more generally visual meanings, from three points of views: to begin with, in our first part, *indexicality*, derived from the general contextuality of the sociocultural Lifeworld; then, in the second part, the multiple layers of meaning, exemplified by *connotation*, and by *plastic language*; and, finally, in this third part, *iconicity*, that kind of motivation which is derived from the properties which the relata possess in themselves, and not in relation to each other.

We have been less intent upon establishing a new doctrine of pictorial signs than to show where earlier efforts in that sense went wrong, and to pursue some of the lines of reasoning of these earlier conceptions, which turned out to be a fruitful exercise. Even in this last of our many conclusions, therefore, no final synthesis should be expected. But since something seems to have been learnt along the way, we shall try to summarize both what has been said about the prototypical notion of the picture, and about the Lifeworld hierarchies, in such as way as to suggest some further tasks.

The prototypical picture is a surface, which has been covered with textures foreign to it, in such a way, that it conveys the idea of a scene, which could possibly take place in the ordinary perceptual Lifeworld (cf. III.3.2.), and which, at the same time, creates the impression that there is a similarity between the surface and the scene (III.1.4. and III.2.2.). In the words of the proverbial man in the street, it is possible to see what is represented in the prototypical picture. Thus the picture must be a sign, not because there is any need of adding asymmetry to similarity, for many similarities are asymmetrical (III.2.1–3. and III.6.2.); but because it implies *appresentation*, one member of a coupling which is directly present but not thematized indicating another, which is only indirectly present but thematized (I.2.5. and I.4.2.). However, the pictorial sign is really more complex than that, for one has the impression of "seeing-in" a content directly in the expression, or, as we said, following Husserl, of discovering a *picture object* in the *picture thing*, which then points on to a possible real-world *picture subject*. In absolute terms, the picture object seems to be more directly given and more thematized than the picture thing; but only the picture thing is consistant with the environment. The correlative of this is that it is possible to point directly to the different parts and attributes of the picture object in the picture thing (III.3.5–6.).

The picture, in this prototypical sense, gives rise to an impression of *similarity*, which must not be confused with *identity*: indeed, similarity is discovered on the background of an awareness of a fundamental distinction of categories (III.2.1–3., III.1.4., III.6., etc.). Also other iconical signs, such as the metaphor and the symbol, would seem to suppose a difference of categories between the sign relata, but the picture differs from them in numerous ways, for instance, in not supposing any tension (III.6.5.). The impression of similarity in the picture concerns relatively low-ranked properties, and certainly not the "most important" ones (III.2.3., III.2.8., III.6., etc.). In fact, on closer scrutiny, the picture is not similar at all to what it represents (III.2.6.). No proper parts, perceptual parts, or attributes are normally the same (III.1.4.). What is at stake, rather, must be "invariants", as Gibson terms them, or perhaps rather *holistic properties* (III.3.2–3. and I.3.4.). Even configurations, though normally not directly rendered, have a part to play, for meaning of parts would seem to be mediated through meaning of wholes, which is what we have called the process of *resematicization* (III.4.3.). Even layout features, which refer to the spatiality of the scene depicted, would seem to be of some importance, as the Lifeworld which is rendered by the picture is itself fundamentally spatial, but they are hardly sufficient to account for pictorial meaning (III.3.2. and I.2.1.).

It is the ordinary perceptual and sociocultural Lifeworld, we said, which is rendered by the prototypical picture – not other ways "the world is" (III.2.3.). Of course, the picture may show objects which have never existed, and indeed does so, as often as it does not scrupulously imitate a model (III.1.3.); and it may even refer to objects which do not exist as to their general category, like the unicorn, if they can be reduced to a combination of familiar categories; and even objects, which cannot exist more than as an illusion produced by a single perceptual part (III.1.3. and III.2.2–3.). But the scene evoked by the picture is of the same general type as that ocurring in the Lifeworld; indeed, most conventions which have been attributed to pictorial signs are really not conventions of the pictures themselves, but of the particular sociocultural Lifeworld, which they take for granted (III.2.2/7.). In addition, pictures also take for granted all the general principles of all possible Lifeworlds, as for example spatio-temporality, and the general contextuality of experience (I.2.1. and I.2.6.). What is more, it seems that pictures, for their very existence, must take for granted a Lifeworld hierarchy of essential things, and that in two different ways.

For something to be a picture, it seems that the experience of there being a similarity between the expression and the content must be at least a partial reason for taking it to be a sign (III.2.3.). But how, then, do we discover

the similarity in the first place, in particular if the properties concerned are really comparatively low-ranked ones in the definition of the categories involved? What makes this issue even more problematical, is the fact that prototypical pictures, contrary to droodles, are not seen to be similar only after some guess-work has been done, but immediately (III.2.1.); and, contrary to diagrams, in the ordinary sense, and maps, they do not carry any keys with them, but convey, at the same time, both the invariant and the variable part of their information (III.2.4–5. and III.6.1.). Since, for a variety of reasons, the conventionalist theory, according to which each picture is mapped separately onto its meaning, is unacceptable (III.2.2. and III.3.1.), there must be some foundation in the Lifeworld itself for the emergence of pictorial meaning. This has to be discovered in the Lifeworld hierarchies. First, the expression plane of the picture must itself be made out of materials comparatively low-ranked in the particular sociocultural Lifeworld, so that it is seen not primarily as a "self", but as something susceptible of standing for something else (III.3.1.). And, in the second place, as Töpffer recognized, the message will be the more easily conveyed, the more central the object depicted is to the core of Lifeworld objects (III.3.3/6.). Thus, if the impression of similarity is a precondition for discovering the particular sign relation of the pictorial sign, the Lifeworld hierarchy, which establishes the general sign character of the expression is presupposed by the impression of similarity (III.2.3.).

The task set by this characterization of the prototype concept of the picture is to discover also the limiting cases of the concept. On the one hand, there are those cases, in which the surface only conveys vague or ambiguous information about a Lifeworld scene, or connotes a sign character, without indicating any precise information. We are concerned with certain types of "nonfigurative" art, which come close to the ornament or the painted surface (III.1.4.). On the other hand, there are also those cases, in which the expression category is less clearly distinct from the content category, as is increasingly the case in the sculpture, the dummy, the happening, the event, the theatrical play, the entertainment and the play-acting of the social world. And there are of course also a number of other scales on which the variations from the prototypical case may be investigated.

A very different, more phenomenological kind of investigation is suggested by the Lifeworld hierarchies, which have variously entered at different points of our discussion. Indeed, the very idea of a Lifeworld hierarchy would seem to be a new principle common to all conceivable Lifeworlds (cf. I.2.1.). In our context, the Lifeworld hierarchy, or perhaps different Lifeworld hierarchies, have been invoked in three different ways: a) the objects of the Lifeworld have themselves certain properties which are more important for their definition than others, as suggested by the Prague notion of the *dominant* (I.3.1.), and by our reanalysis of the features of the content plane (III.4.1.); also, the idea that properties pertain more or less to certain objects proved important in our characterization of similarity in the picture (III.2.2.), and in the dummy, the metaphor, and the symbol (III.6.). b) the objects of the Lifeworld must be ordered as to their general type, if certain materials, as pigment on paper for instance, can immediately be experienced as signs (cf. III.2.1., III.2.3., III.3.4., III.3.1., III.3.5., III.6.2–3. and III.6.5.). c) the particularly easy recognizability of some Lifeworld objects, as for instance the face, must be due to some less general categories defining objects closer to the core of the elementary Lifeworld; interestingly, this is implied also by Tversky's and Rosch's ideas about "prominence" (cf. III.6.3.; also III.2.1., III.3.1., III.3.3., III.3.6., III.4.1., and III.6.1.). Here, it would be important to understand the nature of these hierarchies, as well as their relationship to each other.

Although we have spanned a wide territory is this investigation, there are of course a number of other tasks which we have left undone, and probably, in the end, the most important ones: to understand the varieties of pictorial kinds, the different rhetorical devices apart from the metaphor, and the functions and effects of pictures in present-day society. They all, and particularly the last, lead on to questions of power and ideology, in the most current sense of the term, and thus have implication for our real life in the world which, according to certain commentators, is already, or is in in the process of becoming, the *society of information* – in the opinion of other social critics, just another avatar of the world dominated by the industry of consciousness. Our only excuse for having started at the other end, is that the issues treated here must be presupposed resolved when the other questions are discussed. Here, then, we leave the real world as seen in pictures, and approach the pictures as they appear in the real world. That, however, sets the task of another investigation.

Notes:

Part I, Chapter 1:

[1] On the history of semiotics, from Antiquity to the present, cf. in general Aersleff 1982; Bailey, Matejka, & Steiner, eds. 1978; Dascal 1978; 1983a, b; Eisenring 1942; Eschbach & Trabant, eds. 1983; Helbo, ed. 1979; Holenstein 1974; 1976; Jakobson 1979; Malmberg 1977; Sebeok 1976; 1979; Steiner, ed. 1981; Todorov 1977, etc. On the ideologues, cf. also Pincavet 1891, Kennedy 1978; Lane 1976; and volume VIII, 1978, of Gusdorf 1966ff. Bouissac 1976 coined the expression "the golden legend of semiotics" for the projection of contemporary semiotic concerns onto by-gone times.

[2] Aron 1938a,b, and von Schelting 1922, 1934 analyse Weber's conception of causality in history. The meaning of the act considered as a retrospective view is thoroughly discussed in Schütz 1932. More and more recent considerations on this tradition may be found in Ricoeur ed. 1980. To a certain degree, the present conception may be equivalent to that of Dascal 1983b, when he argues for "a semiotically relevant history of semiotics" which permits us to learn from "the ever resuming confrontations between problems, theories and data" throughout history (p62). But there is no suggestion that this history is *arbitrary*, only that real History is cut through by different strains of meaning.

[3] Also the linguist Benueniste (1969) has argued in a similar way against the possibility of pictorial semiotics, confronting his theoretical concept of language with his Lifeworld notion of painting. Cf. the discussion in Thürlemann 1982.

[4] The definitions, as given here, are my own, but the work of Prieto has been particularly helpful in arriving at their formulation. They will be further explored later, in this part and in part III, in connection with the Schützian notion of relevancies (Schütz 1970). The concept of function, as used by the Prague school, Martinet, and Prieto, stems from Bühler 1934. It seems to have been used in other than the present sense in the Prague school; cf. Fontaine 1974. Also cf. Holenstein 1974; 1976; Mukařovský 1974, etc. The difference between the sign function and alterfunctionality generally will be touched upon in I.4.2. and II.2.2. A discussion of the linguistic model in semiotics from a different point of view will be found in Garroni 1973.

[5] The criticism of the Katz & Fodor model formulated by Coseriu & Geckeler 1974 and Geckeler 1971 points to the difference between a logical and a (structural) linguistic model in semantics. See III.4.1. Eco seems quite unaware of this difference!

[6] Some support for one of my points may be gained from Kleinpaul (1888:106), according to whom the symptom is "eine Erscheinung, die mit einer Krankheit *zusammentrifft* oder *zusammenfällt*", if this is meant in more than an etymological sense. Kleinpaul also seems to suggest the use of the medical model in semiotics, since he regrets there is no "*Semiotik* der Gesundheit", (ibid.) and calls Hippocrates "der Vater und Meister aller Semiotik" (p103). – Since I will argue later (I.2.) that ordinary perception follows the symptom model, and since even linquistic signs are given in perception, it is important to forestall a confusion of levels: as any text book in linguistics tells us, no phenomenon could be such a thing as "more or less the phoneme /p/" or "something in between the phonemes /p/ and /b/", betause of the categorial nature of linguistic phenomena (Cf. III.4.1.), but when the conditions of hearing are extremely bad, the decision as to whether a /p/ or a /b/ was produced may have to depend on a probablistic judgment founded on the interpretation of symptoms. This is a question of *form* and *substance* (in the sense of Hjelmslev, see further chapters), i.e. of pertinence, so the distinction may come out differently in the case of pictures, and in the visual world generally.

[7] The best guide to structuralist methodology continues to be the work of the linguist and proto-semiotician Louis Hjelmslev (1943; 1959; 1973). Narratology or the "grammar of stories" still appears to be the only branch of semiotics outside linguistics which has managed to find a real system behind the "texts". Cf. Barthes 1966; Bremond 1973; Genette 1983; Rumelhart 1978; van Dijk 1980; & Kintsch 1978; etc. It is not at all obvious, however, that this approach is *structural* in the stricter sense defined later in this paragraph. A few elements of opposition and binarity may be found in the analyses of Greimas 1966, Bremond 1973, and Todorov 1978, but the relations are here hardly fully constitutive of their terms.

[8] A few simple exemples from linguistics to illustrate these principles: in Swedish "i fjor" and "i fjol" mean the same thing, i.e. "last year", so one may think that "r" and "l" are variants of the same phoneme, as in Japanese, until more words, in which the exchange of the one for the other produces different meanings, are taken into account. The problem of finding the limits between the units of analysis may be illustrated with the case of the phoneme /č/ (as in Eng. "church"), which in English can be separated into the two unites /t/ and /š/, which occupy the same position in other words, but which have to be left unanalysed in Spanish, since there is no separate phoneme /š/. Outside of linguistics, however, I have found no clear instances of the application of these procedures, though Floch (1981a) does mention the fact of his segmentation being provisional. Cf. part II. Since most of our analyses will be revisions of earlier ones, we will in fact go a little further in that "structuralist" direction.

[9] According to Jakobson (1942), the same elementary phonological distinctions always emerge first in the child, are the last ones to disappear in the aphasic, and also characterize those languages with a small repertory of phonemes. This generalization, which Malmberg (1963; 1977;271ff) has termed "Jakobson's law", is said by Holenstein (1974:50f) to be an example of what Husserl calls a *foundation*, the time dimension being added: whereas Husserl recognizes the possibility of a reciprocal or unilateral presupposition between two elements, Jakobson argues that the existence of an element *a* at the present times implies the earlier appearance of the element *b* in the language acquisition of the child as well as the posterior deterioriation of this element in the mind of the aphasic. Clearly, Jakobson's law has the same *logical form* as Husserl's foundations, but so have the "functions" in the semiotic system suggested by Hjelmslev (1943;31ff) and the syntactic universals formulated by Greenberg. However, Jakobson obviously considered his theory to be empirically, not phenomenologically based, i.e. that it concerned relations of the kind which might obtain, in Husserl's exemple, between the dog and the bone. There really are three theories implied by Jakobson's law: one about language development, another about aphasia, and a third one about the structure of all the world's languages, so evidence for the first two theories will have to be psychological, that for the third one linguistic. Admittedly, a master theory may be needed to explain *why* the same order of presupposition obtains in the three cases. But these presuppositions are certainly not of the "essential" kind: nothing would change, no contradiction would result in our concept of language, if some languages turned out to have the vowel /ö/ but not the vowel /a/, or if a child happened to learn them or a aphasic lose them in that order. That is exactly why Jakobson's law, if true, is a formidable discovery. Only the child development part of the theory has, as far as I know, been extended to other semiotic domains. What Lévi-Strauss (1966) calls the "culinary triangle" seems to me to be a case of muddled "visual thinking", since nothing here corre-

sponds to the use made by Jakobson of the triangle figure to suggest the way in which the pole of one opposition split into another opposition, either in time or in the taxonomy of possibilities. Instead of that, Lévi-Strauss himself considers the triangle to be comparable to the binary opposition and the proportionality (Cf. the interview with Lévi-Strauss in Bellour & Clément 1979:157ff), i.e. a way in which the system behind the "texts" (here the myths) may be organized. That would be a fourth theory, which Jakobon certainly could not hold without ceasing to be a structuralist. If the synchronic system is a "structure", the element /a/, though learnt at the same time, will have quite a different value in a language, where there is also an element /ö/, than in those which lack this element. The same observation should apply to the "culinary triangle". According to the psychologist Gardner (1980:43ff), Jakobson's law is a particular case of the child's tendency to favor maximum contrast: if the teddy bear is not held close to the child's own body, it is cast out of the crib, intermediate positions being later acquisitions. In the child's early drawings, a first opposition separates "roundish" forms from more angular ones, or rather the corresponding muscular efforts. Quite independently of Gardner and basing himself on Piaget rather than Jakobson, Olivier (1974) has in fact managed to discover a whole system of successive differentiations in the child's early scribbles (Also cf. Krampen 1983b). Part of this work was really anticipated by Lurçat (1968; 1970; 1974). Though important, these historical concerns cannot be further pursued in the present work. See, however, I.3.4. and II.3.6.!

[10] There is a limiting case, however, since the only thing which takes place in reality may well be the judgment, or the expression of the judgment, based on an intuitive grasp of the problem. This is usually the case in psycholinguistics. But the number of times a certain judgment is given is then quantified, exactly as is the frequency with which the dog runs to get the bone.

[11] On the notion of commutation, cf. the work of Hjelmslev, Martinet, and Prieto. In particular, Prieto 1975b:203ff points to some differences between the conceptions of Hjelmslev and Martinet that will not concern us here. The judgments required of the informants in Chomsky's generative grammar are really of the same general kind, though the units which are to be held constant are either more extended, as in the case of synonymity, or they are at a connotative level, e.g. grammaticality and acceptability. In a terminology we will adopt later (I.2.), these are different kinds of *indirect* though *qualitative operations.*

[12] As Prieto has often insisted, the informant is only required to tell us if the meaning is the *same* or *different* after a feature of the expression has been modified, not *what* the meaning is. Quite similiar arguments may be found in Chomsky 1957. But clearly, there is no way of knowing *that* two meanings are identical or not without also knowing *what* these meanings are. However, there is certainly a practical advantage in avoiding one's informants giving a practical advantage in avoiding one's informants giving a *verbal* expression to that second aspect of semantic knowledge, in particular since new judgments of synonymity would then be needed, to decide if their first judgments were in agreement and so on.

[13] On ideation, also cf. Kockelmans 1969:154ff, Drüe 1963:122ff. Since nominalism is certainly the reigning philosophy of the day, most readers will object that ideation really concerns the meaning of words, and so is more similar to commutation than I have argued. Concepts can easily be distinguished from verbal meanings, since a given discourse may define quite different relations between the word meanings than those presupposed in the language system. Cf. Baldinger 1980! More to the point, the opposition between nominalism and "realism" or whatever seems to me to be simplistic: if a particular word is chosen in a community to refer to a certain type of phenomena, no Platonic heaven is needed to explain it, but there must be profound reasons originating in their particular Lifeworld for that choice. In *that* sense, there is nothing arbitrary to language. The same thing holds, I contend, in other semiotic systems.

[14] Gurwitsch 1947: 350 aptly points out, using a term of James's, that the measurements are really a part of "the psychologist's reality", that is, also a mental phenomenon. However, in the psychophysical experiment, this mental phenomenon really functions *as a physical one*, like a quotation, in which the content, and not the author is the important factor.

[15] In commutation, the relation to the object of study is direct; it is the object of study which is in itself indirectly defined, through alterfunctionality. Cf. also I.1.4.

[16] Cf. the distinction between "schéma, norme" and "usage" in Hjelmslev 1959:80ff and, more clearly, that between "sistema (functional)" and "norma" in Coseriu 1958; 1973. The norm renders obligatory certain of the possibilities of the system, according to Coseriu 1973: 98 and passim. One is reminded of the difference between "set" and "subset" in Garner's theory, which is discussed later in this section. In the cases considered by Coseriu and Hjelmslev however, alterfunctionality would normally prevail.

[17] Some psychologists, like Arnheim and Kennedy, most of the time use the kind of method we have termed "philosophical", i.e. they work from intuitions fortified by examples.

[18] Gombrich 1960: 368 also points out that an expression can be understood only when the range of its possible alternatives are known. This is exactly the "associative relations" of Saussure, the "paradigm" of Hjelmslev and the French structuralists.

[19] We only discuss here the first half of the Lévi-Straussian proportionality, though we will touch later on the alterfunctionality that it might be thought to imply. On the proportionality itself, cf. I.4.1.! The present criticism also applies to the work of Lévi-Strauss's disciple Bernadette Bucher (1977; 1979), who studies the Olf World ideology in the Le Bry engravings purportedly showing the New world.

[20] Many of the "expressive properties" mentioned by Arnheim, as well as the "modes and vectors" discussed by Gardner are reminiscent of the relationships studied in mathematical topology. Cf. I.4. Interestingly, Boudon (1981) bases his architectural semiotics on similar topological properties, and the mathematician René Thom (1973) wants to found semiotics on mathematical topology. For Boudon, also cf. discussion in Sonesson 1981a.

[20a] According to Hirsch (1976:6, 9, 31 ff), the hermeneutic circle has been shown by psycholinguistics, developmental psychology, and Gombrich to be an inadequate model for what actually happens in interpretation, since the circle has proved to be "breakable", the scheme to be "corrigible". For the probable sources of this contention, cf. I.2.2. and part III. First of all, the theory of hypothesis-testing is, as the expression tells us, a *theory*, and a contested one at that, and not an experimental finding, and so cannot prove anything against the hermeneutic circle, which at least is favoured by phenomenological evidence. If anything, however, the hypothesis-testing theory *confirms* the hermeneutic circle: in both cases, there is a reciprocal determination of the whole and its parts in the very act of understanding. In any case, to tell us the circle is breakable is to admit the circle in the first place. In fact, the hypotheses-testing theory does not really solve the intricate problem of how to get into – and out of – the circle. Ironically, the psychologist Hagen (1980b) criticizes Gombrich for being unable to explain how the scheme can ever be corrected.

[20b] Coseriu 1958:108 also rightly remarks that one of the errors of glossematics, i.e. Hjelmslev's theory, is to pass off the conventional conception of language as a hypothesis.

[21] This account is based on Husserl 1962a, b. For the historical con-

text of "the Galilean revolution", cf. Gusdorf 1966. The two obstacles to science are, according to Rickert, that there is an infinity of things in the world ("extensive infinity"), and that each thing has an infinity of properties ("intensive infinity"). See Aron 1938a:113ff. In fact, the *experienced* world is far from infinite, and categorization is primary, as shown by the Gestalt school (Cf. Arnheim 1966; 1969; Sander & Volkelt 1962; Weinhandl 1960). Interestingly, the ideologue Degérando (1800,I, 100f; II,22ff) maintains that ordinary people, in contradistinction to the philosopher, begin their classification from "l'idée la plus générale", and Daube (1805:44ff), clearly anticipates the notion of a *Gestalt* when he tells us that certain "notions" that have many parts must be conceived prior to these parts!

[22] For the contradictions of these theories, cf. Merleau-Ponty 1945; 1964; Strasser 1967, etc.

[23] Husserl 1962a suggests a reduction to the merely psychic, as an inversion of the reduction to the purely corporeal effectuated by natural science.

[24] Schütz (1932; 1967) considers the social sciences to be using *idealtypes*, in Weber's sense. We will have a little more to say about these in I.3.1. It should be noted that the somewhat confused references to the humanities, the social sciences, and semiotics in these pages are due to the changed context in which the authors which we discuss are placed: to us, they are all *semiotical sciences*, that are concerned with meaning, and a separate discipline called *semiotics* could be reserved for the most general questions.

[25] An interesting example of the confusion still possible in the discussion about the epistemology of the humanities is the strange suggestion of the historian Ginzburg (1983:93), that linguistics, sole among the humanities, has managed "to avoid the qualitative, that prime hazard of the humanities". The natural sciences are *nomothetic and quantitative*, so apparently these properties must be thought to go together, even to be identical, if I understand Ginzburg (p. 82) correctly. Actually, the situation is much more complicated: phonetics, being a natural science, i.e. *quantitative*, is able to measure the minutest details in the composition of a sound and so capture its *individuality*, well beyond the capacities of the human ear. Phonology, which is a part of linguistics, introduces those kinds of discontinuities, i.e. *qualities* or *categories*, which are perceived by man, in particular as a social being, and so must fail to note the individual case. I do not want to reverse Ginzburg's proposition: there may be individual qualities, too, though maybe only in a relative sense. Ginzburg suggests linguistics is quantitative because it retains only the "reproducible features of a text" (p. 93): that is a strange conception of what a quantity is, because each of the repeated instances will be quantitatively different but qualitatively identical. An individual quality, I suppose, would not be susceptible of repetition: that poses the problem of how it could ever be understood, since it could not be repeated from the mind of the creator to the mind of the interpreter. Cf. on the qualitative nature of linguistics: Prieto 1975b: 215ff; Trubetzkoy 1939; Gurwitsch 1939. The real difference between the native speaker and the linguist would seem to be that the former but not the latter uses a plurality of principles of relevance.

[25a] Martinet's confusion is reminiscent of the one found in Rickert's notion of the "intensive infinity". According to Aron 1938a, Rickert thinks values are needed to operate a choice among these innumerable properties, and then goes on to confuse the values of the cultural member with the values of the researcher, just like Martinet. The same point as Prieto's was also made by Coseriu 1958: 48f: phonology, broadly conceived, represents the "'saber natural' de los hablantes", that is, he adds, the phenomenological in Husserl's sense.

[26] For the relations between explanation and understanding, cf. in particular Ricœur, n.d. "Folk antology" as the subject matter of semiotics was considered in Sonesson 1978a: 24. For an example of the subjectivity and arbitrariness of the scientific process in the first conception, the notorious case of the distinction between voiced and mute consonants could be mentioned. In many languages there is, besides the difference in sonority, a concomitant difference in the articulatory tension, and structural linguists have adduced many reasons, completely foreign to the "natural knowledge of the speaker", for taking one of these differences to be the unique "distinctive feature". However, if the structuralist postulate is taken seriously, and if the two differences always go together, there could really only be *one*, indissoluble feature which is such-and-such-a-tension-with-such-a-sonority. On the other hand, if, as seems to be the case, one of the differences or both together may serve to constitute the distinction between the phonemes, then we will have three "variants" for the same features, and the difference between them will only be one of probability, as in the symptom model. The problem will be reconsidered later, with other examples, in relation to prototype concepts. – For the second conception of the relation between the levels, cf. the notion of sedimentation and passive synthesis in Husserl 1939 and Schütz 1932.

[27] On the categorical nature of perception and the qualitative discontinuities of certain "high-spots", cf. besides Arnheim 1969: 182ff, Rosch 1973 and most of Sander & Volkelt 1962.

[28] Cf. the example in note 26! The phrase "Hocus pocus or God's truth" was coined by the ethnolinguist Burling. See also our discussion, in I.4. about Lévi-Strauss's "logic of qualities". A problem with this approach is that history sometimes shows the "system", in Coseriu's sense, to emerge behind the "norm". This may have something to do with "*protoschemes*", as discussed in I.2.1.

[29] This same reduction is claimed for cognitive psychology by Glass et al. 1979:6, but another proponent of cognitive psychology, Gardner, clearly considers at least the biological substratum, the brain, to be highly relevant for his science.

Part I, Chapter 2:

[1] The following account is based on Husserl 1928; 1929; 1962a, b; 1973; and Gurwitsch 1957; 1974b. Useful overviews and some discussion of phenomenological psychology and the Lifeworld are to be found in Drüe 1963 and Kockelmans 1969. Other aspects of our subject, hardly touched on here, are treated in Janssen 1970; Luckman 1980; Schütz 1932, 1967. Most other texts are seriously misleading, notably the existentialist interpretations – cf. Gurwitsch 1974b – though the early Merleau-Ponty comes quite close to Husserl, if I am not mistaken.

[2] Cooking generally, and the menu in particular, discussed in Barthes 1964a; Douglas 1972; Goody 1977; 1982; Lehrer 1973; Lévi-Strauss 1966; etc., are different matters, to which we will return in another publication.

[3] In this sense, Piaget distinguishes "intensional" and "causal" predicates, which he takes to be at least partly parallell.

[4] Pierce's notion of iconicity has of course nothing to do with the way the term is used in cognitive psychology and in aritificial intelligence, for instance by Glass et al., quoted above; cf. in particular III.1.-2.

[5] Eco 1976: 210ff, 315ff does not seem to have any bearing on our problem; however, Eco 1983a: 211 distinguishes "imprints" and "symptoms", on the ground that the former, but not the latter, imply a kind of "point-to-point correspondence", i.e. I believe, iconicity. Also cf. the introductory examples of Prieto 1966: 16ff, though his

notion of "index" later turns out to be closer to the sense "indicator", for which term see I.2.4.

[6] The case of aesthetic "reflexion" is repeatedly invoked in Husserl 1980; see our discussion in III.3.5-6.

[7] Some problems for this conception are posed by such cases as the teacup equations, the anthropometric measures, and the fingerprints, which, in different ways, are not properties or parts of the objects in themselves, but only as considered in relation to something else; which means a sheer analysis of the perceptual object will not be enough. We will return to these issues in discussing the concept of structure, cf. I.3.4.

[8] Hagen 1980b: 4ff and Winner 1982: 84ff distinguish constructionism, Gestalt psychology, and direct registration theory, according as the percept is related to its cause by means of a conventional construct, innate laws of organization, or directly: Cf. III.3.3. It is however, Gurwitsch 1974b, who repeatedly points to the fact that the object perceived is normally a cultural object.

[9] Strangely, Eco 1983a:211 claims that symptoms, contrary to clues, are necessary instead of probable. But this is certainly contrary to the use of the term in medicine. Also cf. Degérando 1800, III: 430f, where medicine is characterized as "presqu'en son entier une science de probabilités".

[10] See discussion of isometric perspective in Bresti 1985 and the different perspectival stages of children, as described by Gardner 1980 and Winner 1982. Gibson claims that only traditional Western perspective allows a consistent use. It seems, however, that so far no entirely consistent use has ever been made of Western perspective – and that makes the argument somewhat difficult to sustain.

[11] See further discussion of holistic properties in I.3.4. and in I.4.4-5. Typical exponents of the curious idea that children's drawings, and those of "primitive tribes", are somehow more "conceptual" than other pictures, are Hermerén (1983:119ff) and Deregowski (1970), respectively. See discussion in III.3.2. and in III.2.2.

[12] It should be noted, however, that, according to Peirce, there are also "imaginary objects". Indeed, perhaps the "object" is best understood, with Savan 1976:15ff, as "that specific item within its context to which all interpretants of that sign are collaterally related" – although that would seem to make the object a "third", and the interpretant a "second". See III.1–2.

[13] In a way, our "performative indices" could be said to do just that. Cf.I.2.5.

[13a] It should be noted that, according to Peirce, indexicality is a relation between "representamen" and "object", not between any of these and the "interpretant" – that is, we will suppose for the moment, between expression and referent, not content (but cf.III.1.2.). On a wider understanding of indexicality, see I.2.5., and on iconicity, see III.1.4.

[14] Simon, as quoted by Hunt 1982:251ff, expresses much the same surprise at the precision of "everyday logic". Also cf. Bartell 1958: 83ff about "extrapolation". Our understanding of "abduction" is derived from the articles and quotes from Peirce in Eco & Sebeok 1983. However, Savan 1976:5 seems to give the term a more limited import: an abduction he claims is when, from the fact that both ravens and the birds in Jones's field are black, we conclude that the latter must possess the full range of raven qualities. This is reminiscent of the "high correlational structure" of prototypes, noted by Rosch, for which see I.3.1. and I.4.1.

[15] Other instances where a similar interplay of contiguity and factorality is found are the drawings which the experimental subjects have to complete, used by, for instance, Carothers & Gardner 1979; and by Sander & Volkelt 1962. Cf. II.3.6.

[16] Hochberg's "horizon" is of course only a particular case of what is so denominated by Husserl; cf. I.2.1. The noema, apart from being cut off from its physiological correlate, is not only a "glance", in Hochberg's sense, for in addition in contains the anticipations of what is to come, and the memories of what has been seen, more precisely, the protentions and retentions.

[17] Hintikka's (1975:191ff, 223ff) strange conception, according to which the noema is like a cubist painting (and thus, also somewhat like a "split-representation-drawing"), is of course contradicted by every line of Husserl's work. Cf. Gurwitsch 1957 and Sonesson 1978a:68.

[18] Perception is often considered to be "intensional" (for instance by Hintikka), and so are "intensional isomorphism" (in Carnap's sense) – but this seems to make intensionality into a very varied wastebasket indeed. Cf. III.5.1.

[19] A real contiguity is made into a factorality, or, as Gombrich (1982: 113) puts it, "the mask swallowed up the face". Cf. the types IIIc and IIIe in section I.2.5.

[20] This advertisement appeared in Scania, that province of Sweden of which willows are considered to be typical. Thus, the willows of the picture are parts of the whole Scania; in a complex way, the local, almost intimate character of the bank's service has been suggested. But the "indexicality" of this is quite another issue.

[21] Perhaps the important (figurative? cf. I.4.4-5.) distinction of the core and its appendages, which we will encounter in our analysis of Matisse's cut-out, in III.5.2., is a generalization of the egocentre in its relation to the environment.

[22] French "voile" means both "sail" and "veil"; for speakers of other languages, the metaphor is by no means obvious.

[23] The problem with such conceptions of the sign as found in the theories of Saussure, Hjelmslev, Goodman, etc., is that they fail to isolate the specificity of the sign, confusing it with any kind of duality (or triad, as in Peirce's case).

[24] Thus, "shifters" and "performatives" have something in common; cf. Sonesson 1978a, b. One may of course want to say that the referent is given, but only the content is created; but the referent in this sense seems to be entirely dispensable here. However, the abductive preconditions of some performative indices, noted below, could make room for the referent again.

[25] Of course, in this case, the "dirt" is really there, in the vessel, before it is made the content of a sign, and it can be demonstrated to exist by other, convergent operations. This is like the length of the strings, and the tone, which can even be perceived at the same time, and which, being an indirect Galilean operation (cf.I.1.4.), form together an index. In these cases, it would seem, only the direction of the sign relation is really created anew. But, by being singled out, the property transmuted into content itself may become different. – In some respects similar to our conception of performative indices is Eco's (1976: 210ff) "componential analysis of the indices"; however, in excluding the referent entirely from consideration, Eco denies himself the possibility, both of conceiving the index as an act of referent-creation, and of taking account of the failure of the indexical act, when the abductive prerequisites for the act do not obtain.

[26] Or conceptual contiguity, in the sense of Groupe μ; cf. the discussion of metaphors and metonymies in I.2.4.

[27] Is there a protained factorality? A case in point would be the "mise en abyme", in the strict sense, at least; cf. II.3.3., in particular the quotes from Metz used as an epitaph.

[27a] Referential factorality has the same form as type IIIa, in I.2.5., only that the referent takes the place of the content; both are "metonymies", in Porcher's sense. Intuitively, however, the case seems rather different; this will be clearer, when, in III.1.3. and III.3.5-6, we substitute the concepts "picture object" and "picture subject" for the ambiguous terms "content" and "referent".

[28] In this respect, also cf. the experimental implementation of semiotical models of narrativity, as referred to in Winner 1982, and employed in Leondar's contribution to Perkins & Leondar, eds. 1977.

Part I, Chapter 3:

[1] Itard's texts are reprinted in Malson 1964. The work of Itard, and its background in the Ideological school (cf. I.1.1.), is described by Lane 1976. Brown 1968 relates this work to that of modern cognitive psychology.

[2] Yet another kind of concept may be Wittgenstein's "family concept", and Vygotsky's "chain concept". See Rosch & Mervis 1975.

[3] According to Prieto's way of distributing "denotation" and "connotation" in tools, such features as these are "connotative". But cf. our analysis of Prieto's theory in II.2.1.

[4] The old hag with drooping breasts is, in Ripa's Iconology, a symbol of heresy and famine, and generally of the morally reprehensible (Bucher 1977:46); but Bucher (p. 56f) argues it is wrong to give the motive this meaning here, even though cannibals may be considered cruel, and thus morally reprehensible, for the Tumucaus tribe, whose practices are as cruel, are shown in classical beauty. Of course, this is, as Aristotle's would have said, an invalid syllogistic figure, even though the reasoning is easily justifiable from the dominance concepts of common sense thinking (cf. beginning of this section). If we accept the rest of the terms of Bucher's argument, her fig. 8., showing a woman with drooping breasts bringing a gift, would make the reasoning valid.

[5] A propos of the possibility of seeing in pictures objects which are not there, one is reminded of the wrist-watches and similar objects that von Däniken discovers in prehistoric rock paintings. Cf.III.2.1.

[6] The other property, which configurations could possess more or less of, according to von Ehrenfels, was "Gestalthöhe", which seems to be the degree of order.

[7] How, one may well ask, is Barthes's immediate level compatible with his claim that pictures must by verbally "anchored"? Either too much is seen immediately, or it is only the "connotative" level which needs "anchorage". Cf. II.1.1.

[8] For our use of these terms, see also II.1.2. It should be noted that, as the terms are used here, they apply to single objects, not to classes, as is nowadays customary.

[9] According to Deregowski, persons unaccustomed to pictures interpret first the details, and then propose an meaning for the whole picture (cf. III.4.3.). Here, however, we refer to details already seen as parts of the whole.

[10] What is redetermined here is a similarity, rather than a difference; but this extension will be justified below, point a.

[11] If, as has been repeatedly suggested by semioticians, we take Wölfflin's conceptual pairs to be structural oppositions, in whose "code" are they to be found? The classical and the baroque represent different historical moments, and can thus exist as interpretations only for a view, which is retrospective to at least the first of them. Alternatively, as Sander (in Sander & Volkelt 1962:383ff) must believe, the poles of at least this pair are derived from central, biological tendencies (cf.I.3.1.). A similar problems is posed by the features derived by Gauthier (1982: 139ff) from the opposition of two posters by Mucha and Cassandre – the result may well be a reader's code, or even Cassandre's code, if he created in opposition to Mucha – as applied to Mucha's poster, however, it is a retrospective view, derived from a later "principle of relevance" in the sense of I.4.6.

[12] As for the relationship of this to right and left brain abilities, cf. I.4.4. and table VII.

[13] The same curious "deductions", in the case of myths, are found for instance in Lévi-Strauss 1983: 232.

Part I, Chapter 4:

[1] Although, according to Prieto 1975a:13, it would be possible to conceive a broader semiotics, coextensive with all the humanities, which would have his semiotics of communication as a part. Even so, the sign models would apparently gain the upper hand, as we can see from Prieto's analysis of tools. Cf. II.2.1.

[2] According to the Gelb/Goldstein theory, always defended by Gurwitsch (for instance 1957), signs are required in order to be able to keep one's distance to the situation, and thus to think "abstractly". If true, this can only apply to general concepts derived by formalization or generalization, not to those given directly to perception. Cf. I.4.4. However, Goldstein's theory is rejected both by Gardner 1982 and Arnheim 1966.

[3] Similar ideas about the child's first experience are found in Volkelt 1963 and Merleau-Ponty 1964.

[4] Since Gardner has not written about his "modal/vectorial properties" lately, it is important to note that he still believes the general idea to be valid (personal communication).

[5] Properties like these, in particular proximity and separation, would seem to be essential to proxemics. Cf. also Sonesson 1981a.

[6] Although Levy-Bruhl is one of the strawmen of Lévi-Strauss 1962, and although the stated doctrines of the two great French anthropologists do indeed appear extremely opposed, many of the examples adduced and analyzed in the two œuvres are quite similar. There is perhaps more of a tendency in the work of Levy-Bruhl to discover chain-concepts, but also see such examples as that given in Lévi-Strauss 1984: 269, where the eagle's blood is associated to piles, with the result that the eagle becomes a symbol of menstruation!

[7] Sperber 1974: 59ff observes that in the Lévi-Strausian proportionality, unemployed oppositions are not rejected, as in the case of verbal ambiguity; and the second pair does not appear instead of the first, but is directly manifested too, and articulated to the first pair.

[8] Thus, in the case of "jour" and "nuit", the phonemes are deprived of meaning in the system of the French language, and therefore pertinent; but they are or can be made meaningful in poetry and in the personal imagination of Lévi-Strauss and other Frenchmen, and then become relevant.

[9] We are of course simplifying matters here, ignoring that this "canonical notation" is conveyed by a pictorial sign. The same "canonical notation" could indeed by realized as a kind of masquerade attire.

Part II, Chapter 1:

[1] Barthes's idea that, besides the anchorage function, there is also a relay function, is hardly compatible with his general conception of pictorial meaning, as should be obvious.

[2] Todorov claims, in Ducrot & Todorov 1972:134, that Hjelmslev discusses phenomena similar to his symbols in terms of connotation, but this is certainly untrue as a general case; rather, it seems that connotations may lead on to symbols. Cf. II.4.2.

[3] Actually, "Judith" and "Salome" function here as symptoms, the accumulation of features making a particular interpretation more and more probable. However, Panofsky (1955;37) himself seems to take the sword to be criterial.

[3a] Also Porcher (1976:144ff) proposes a parallel between Barthes and Panofsky, but, while he identifies Barthes's denotation and Panofsky's pre-iconographical level, just like Larsen and Floch, he believes Panofsky to be making a distinction between an empirico-psychological level and a historico-cultural level, "à l'intérieur même de la connotation" (that is, I take it, inside iconography). But the passage which he quotes to establish this would seem to be concerned with the distinction between the pre-iconographic and the iconographic level. Cf. also Kaemmerling (1979), who, in his overview of the different versions of Panofsky's model, does not mention any such distinction.

[4] As far as I understand, Barthes's notion of "écriture" in 1965 refers to a connotative phenomenon, in Hjelmslev's sense, but his "myth" is something rather different. We will return to the latter concept in a later investigation. Cf. note 6 to III.4.

[5] However, cf. Genette's distinction between "imitation" and "transformation", which may in the end amount to the same thing, though confusing classes and concepts.

Part II, Chapter 2

[1] The full passage, on which we base our analysis, is as follows: "La fonction-signe est le témoin d'un double mouvement qu'il faut analyser. Dans un premier temps (cette décomposition est purement opératoire et n'implique pas une temporalité réelle), la fonction se pénètre de sens; cette sémantisation est fatale" (1964a:113). After the epitaph quoted above, our text goes on, a few sentences later, on the next page: "Cette sémantisation universelle des usages est capitale: elle traduit le fait qu'il n'y a de réel qu'intelligible et devrait amener à confondre finalement sociologie et socio-logique. Mais le signe une fois constitué, la société peut très bien le re-fonctionnaliser, en parler comme d'un objet d'usage: on traitera d'un manteau de fourrure come s'il ne servait qu'à se protéger du froid; cette fonctionnalisation récurrente, qui a besoin d'un langage second pour exister, n'est nullement la même que la première fonctionnalisation (d'ailleurs purement idéale): la fonction qui est représentée, elle, correspond à une seconde institution sémantique (déguisée), qui est de l'ordre de la connotation." (p.114).

[2] Prieto 1975a:59ff and 1975b:235ff takes a different stand on Hjelmslev's contribution. Cf. II.4.

[3] Those properties of the kitchen utensils which are employed in the classification described in I.3.1. are of course connotative, formally or substantially, in relation to the use of the utensils.

[3a] However, as we read Greimas (see above), there is no overlap of two content planes, but of one content plane and one expression plane from different systems.

[4] or rather, the subclass of this class currently found in the stock of the tailor in question. The same restriction also applies to the tin cans with tomato sauce.

[5] Thus, although the tin can in the show-window may be embossed, this attribute is not exemplified, due to the social model for tin cans.

[6] According to the association test of Lindekens (1971b:144ff), the circle is felt to be soft, natural, friendly, unified, etc., whereas the square is adult, developed, closed, serious, static, etc. In combinations, the values of the outer shape were found to dominate. Also cf. II.3.6. It should also be noted, that our usage of the term "contour", in this section, and in II.2.3., is rather "metaphorical": only drawings have real contours. Cf. III.3.3. and Volkelt 1963:28f.

[7] However, Goodman's and Elgin's use of the term "metaphoric" is too wide to be covered by our determination of the metaphor concept in III.6.

[8] "Contoured" should not be taken literally here. Cf. note 6. Also, there may be some suggestions of a "contour", in this derived sense, in the tomato; but since there is no continuity, the impression never becomes determinate.

Part II, Chapter 3

[1] The psychologist Gibson (1980) uses the term "graphic" in this sense, reserving the term "plastic" for sculptures and the like.

[2] Historically, only the first variant is correct (cf. Dalby 1954: 32), but, to judge from present-day graffiti, both variants are now equally acceptable.

[3] According to the heraldic expert Jan Raneke, who I have consulted, "mis-en-abime" is a particular cross shape arrangement of the figures inside the shield; however, Floch (p. 11, 13, etc.), Metz, and other French critics, whould seem to use the terms "en abime" (or "en abyme") and "mis-en-abime" interchangeably.

[4] For something to be "pulsing", it would appear that it has to be repeatedly discontinuous. Perhaps continuity, just as pure colour (cf.II.3.3.), possesses two different opposite terms, according as the opposed quality is distributed in one or more configurations.

[5] This is a rewording of Hjelmslev's definition. However, it must be noted that for instance the term "correlation" is not used in the very specific sense given it by Hjelmslev.

[6] There seems to be a contradiction between this analysis and Prieto's (1966: 101f, 160) earlier contention that the ordinary numeral system only possesses signs and no figurae; for, clearly, 67, 49, 0 and 0 are ordinary numbers, applied to the counting of departments, and of telephone units and their respective rows and columns. Unfortunately, we cannot know if the number system does indeed possess figurae until we have decided on the difficult philosophical question as to the nature of numbers.

[7] That is, a system in which figurae recur from sign to sign, and there are no figurae which only appear once (second articulation), whereas the same does not apply to the signs, i.e. to the elements carrying meaning (first articulation), the result being that "le sème", i.e. the proposition, can be segmented into iterable figurae, but not into iterable signs (cf. Prieto 1966: 107ff, 157ff, etc.). If we suppose figurae to be of the general type of phonological features, rather than like phonemes (cf.III.4.1.), i.e. to be attributes rather than configurations, then numerous systems, which according to Prieto (p. 156) lack both articulations, turn out to be of this type: so, for instance, the indication system of the railways (his fig. 71, p. 157). In the case of Greimas's head gestures, this characterization applies only partially, for the two planes also have numerous properties which are in no way parallel. – That which in Prieto's conception corresponds to Hjelmslev's "symbol systems" is not only the systems having the first articulation alone, i.e. having only signs (for instance, "Barbara" in fig. 28a, if we take this to be a proposition), but also such systems as lack both articulations, those which have only one proposition, as well as those whose propositions lack common features.

[8] Thürlemann (1983:393), contrary to Floch, would seem to accept synaesthesia as a real factor, not just an illusion, in the constitution of "semi-symbolism".

[9] Or perhaps we should say "relatively amodal" attributes, in E. Gibson's (1969) sense, for also touch is involved.

[10] In Prieto's sense, the first or the second articulation, not both of them!

Part II, Chapter 4

[1] Thus, Barthes 1964a:165 is wrong in suggesting that ideology is the form of connotation.

Part III, Chapter 2

[1] Being cataphoric, the first instance is of course also indexical: its meaning would have been different, if the last seven words on the page had been different. But the cataphoricity of the first instance is in fact due to the exact wording of both instances, whereas, in the second instance, self-reference results from the very position it occupies on the page; and thus, indexicality is more fundamental in the second instance.

[2] In this and the following section, we are basing our interpretation essentially on Goodman 1968, 1970, 1977, and 1984. In addition, we have used Gardner et al. 1974, and, at a later stage, Elgin 1983, which has been "authorized" by Goodman himself. Also the more critical expositions of Scruton 1974, and Roupas 1977, as well as, in the concluding stage, Janlert 1985, have proved to be useful.

[3] The differences between speech and writing show, according to Elgin, that similarity cannot be a criterion for something belonging to the same character. However, it does not seem intuitively very satisfying to have both a phoneme and a grapheme belong to the same character: and if we allow it, the result will be to make verbal language syntactically non-disjoint, not only in its entirety, but in most of its sub-systems. This is particularly true of English, where the same phoneme may be spelled in numerous ways, and vice-versa; and much less true of Spanish.

[4] Elgin (p.101) describes the difference between the picture and the diagram as a question of syntax; Goodman discusses this example much later in the text, but does not specify if he is concerned with syntax or semantics, but it seems probable that he is actually thinking of both. That Goodman often takes syntax to mirror semantics is pointed out in III.2.5. It should be noted that the difference between our type b and type c diagram can only stem from semantics. In any case, expression cannot be defined without taking account of content, as was observed above. Also cf.I.1.4. and III.4.1.

[5] Note here that Goodman's "characters" must really be complete signs, with expression and content, for otherwise these consequences will not ensue: if not, semantic density (but not syntactic) would give rise to a content, e.g. the weigh measure, for many expressions; instead, what we have is one content corresponding to many referents. It is also only in this way that we can make sense of Elgin's (p.102) claim that the possibility of making ever new combinations of predicates (i.e. expressions) in verbal language, results in "our semantic resources / . . ./ outrun/ning/ our ability to make discriminations". It should be observed that the generativity of verbal language, in Goodman's example "halfway between a and between a and b", etc., does away with vacancy and ambiguity; but the problem of mapping a particular expression (or sign) onto a particular referent remains.

[6] Janlert (1985:177f) claims that in Goodman's (1968:136) example concerning the rational numbers, there is density and yet finite(?) differentiation, even if the gap in the number series is filled in. Although Janlert talks about the "symbol scheme" (p.178), which in Goodman's parlance suggests the expression plane, he is clearly not concerned with the many different ways in which a digit may be written, so it must be semantic, rather than syntactic density which is at stake here. Janlert's argument would seem to hold good, if we take the numerals to be the expressions, and the numbers themselves the contents, in which case the structure of mathematics permits us to generate an infinite series of expressions having univocal contents. However, we know by now (from the beginning of this section and note 5), that Goodman's expressions are really complete signs, which means that, in this case, they will comprise both the numerals and the numbers. The referents, on the other hand, stay outside the signs and are, in this example, the things being counted, as in the other cases cited by Goodman and Elgin and refererred to above. As we also know, it is from the referent to the sign that we have to make the projection, not the reverse. But in that case, given a dense scheme, and an object which is to be projected onto it, it is impossible to decide onto which one of an infinite number of signs, generated by the scheme, the object is to be projected. Thus, as long as we accept Goodman's construal of the expression and the referent, density and finit differentiation cannot go together. The only way to make sense of Goodman's "symbol scheme" with a gap is to suppose that it contains just two expressions (i.e. signs), one corresponding to all referents which measure less than 1, and another one corresponding to all referents measuring 2 and more; and there will thus be an intermediate zone of referents measuring something in between, and therefore impossible to project onto the one or other expression. However, if the introduction of a third expression for this intermediate zone is to destroy density, we certainly also need a proviso for when we are to give up ascertaining ever more precise measurements.

[7] Janlert (1985:176, 185) thinks that Goodman (1968:227) only requires syntactic density of the picture, but admits that semantic density will normally follow suit. But in the following, and in Goodman 1984, double density would seem to be taken for granted.

[8] We follow here the Swedish translation of Eco 1968, revised by the author in 1971, when he was perhaps already preparing Eco 1976; this may explain the curious incoherences of our version of Eco 1968, which could, for all I know, be absent from the original.

[9] Neoplatonism may have held that opinion, however. Cf. in particular Yates 1966 and Gomez de Liano 1982.

[10] There is a convention applying to certain maps, according to which a red spot is related to a black spot, as the capital relates to other cities in a given country. But two spots in a picture differ in so many ways, that no similar convention is feasible.

Part III, Chapter 3

[1] Phenomenological investigation is not like that "analytical introspection" rejected by Hochberg 1978a, because the former does not have any analytical (or other) presuppositions.

[2] Perspective does not necessarily mean linear perspective. Even without the latter, there may be a geometrically determinate position of the implicit observer, as Hagen 1979:209 rightly observes.

[3] The fact that blind people, as Kennedy (1980; & Fox 1977) found, are able to identify objects in "haptic pictures", may be taken to

show that perspectival cues are sufficient for identification. However, it should be noted that the process was very slow, that a lot of figures were not recognized, that very few person participated and that the confusions resulting were not, in spite of Kennedy's claim to the contrary, of the sort that "make sense to vision".

[4] These research manuscripts, written between 1898 and 1925, and not prepared for publication though recently published, have in part the character of thinking out aloud; thus, it is not surprising that these manuscripts, written during a period of so may years, while Husserl's general doctrine changed, contain a number of outright contradictions and many hesitations, some of which we will encounter below. Our reading has been geared to one single theme, the picture in the strict sense, and we have thus neglected a number of other, fundamental issues. So far, no secondary literature seems to exist on these texts, apart from the introduction to Husserl 1980.

[5] There is no depth in fig. 51a-b, but there is nonetheless a distinct impression of "seeing-in" the picture object; as long as no guesswork is required to discover what the drawings represent, they are not droodles.

[6] In fact, there are limits to what may be depicted, even when only visible objects are considered. Those who have tried to make a photograph of an impressive landscape know that, even in purely visible terms, the result is something quite different. Cf. also Feininger 1973.

[7] Interestingly, Gardner 1980:169ff and Edwards 1982 observe that it is easier to copy correctly, when the model to be imitated is turned upside-down; that is, when the picture thing is not seen as a picture object.

Part III, Chapter 4

[1] The relation of coins to finance is of course not a sign relationship, but it may be compared to a tool relation. Cf.II.2.1.

[2] Koch's and Nöth's use of "white spaces" for the segmentation of pictures represents such a "phonetic" or "numismatic" approach to pictorial semiotics; the same observation would seem to apply to the plastic language of Groupe μ. Cf. II.3.1.

[3] Perhaps we could take Bucher's technique to be contextual; but then it is not clear what the syntax is she is basing her argument on. Cf.I.2.5. and I.3.1.

[4] According to Greenberg's analysis quoted above (in the beginning of III.4.1.), semantic configurations just as phonemes, cannot be exclusively partitioned, that is, they lack a "unique mapping onto each other". This certainly also applies to pictorial configurations. But in the latter cases, this is really an advantage, since the combination of features in both verbal and pictorial configurations tend to be the same as those in the perceptual world. Cf. the "correlational structure" of Rosch's, discussed in I.3.1. and I.4.1.

[5] Costa's (1977:77ff) discussion about the denotation and the connotation of a picture really concerns what features are necessary for identification; however, it seems obvious that many other feature combinations than those considered by Costa would be able to identify the ballerina.

[6] Dorfles and Jencks clearly do not have the faintest idea about what is meant by the term "articulation" in linguistics, but think any duality will do. Altman (1981) thinks literature as such is doubly articulated, because it is somehow secondary to verbal language, and then goes on to identify the articulations with denotation and connotation, a distinction which he also misinterprets (Cf. II.1.2.). The latter confusions may be traced back to Lévi-Strauss, though he used the term "metalanguage" in this sense, in conferences held 1954–55, and thus may have inspired Barthes's (1957) curious use of this term. On the "double articulation" of myths, see Lévi-Strauss 1983:198ff; 1984:104, 249, 257 (conferences held 1952–61). About "double articulation" in art, according to Lévi-Strauss, cf. Brenner 1977.

[7] Prieto (1966:112f; 1975a:40f) uses the term "third articulation" in a different, quite legitimate sense: it refers to the possibility of there being a secondary segmentation of the content plane, independent of the expression plane, in the same way as the phonemes result from a segmentation, which is (but only in a sense) independent of the content plane. Cf.III.4.1. In more common terms, however, this is simply another instance of the second articulation.

[8] Like other pictures showing events, those of the photo novel are of course not random choices from the temporal slices of the corresponding real-world happening, but this is exactly what the film camera produces. Cf. the discussion of the Laokoon problem in Gombrich 1982; Ward 1979: 246 ff; Friedman & Stevenson 1980: 225 ff; Sharf 1974, etc.

[9] Vilches (1983: 75) rightly observes that Eco's characterization of the cinema from the "triple articulation" has the curious effect of making the latter something entirely distinct from the television medium, since video recording does not admit any segmentation into "photograms". This is made particularly strange by Eco's (1973) claim that the cinema and the television are not different as media, but only as to the contents which they traditionally accept.

[10] The term "figurae", in this sense, appears in the work of Hjelmslev and Prieto, the term "sema" must be "le sème" of Buyssens and Prieto. It should be noted that "iconic" is used here to mean "visual", not in Peirce's sense; or rather, it is apparently taken in both senses at the same time!

[11] Gombrich (1960:59; 1982:137ff) denies the possibility of pictures conveying any statements or propositions. Just as Gombrich, Worth (1980:174) and Bucher (1977:42f) claim that pictures may not contain negations, but at least Bucher does not conclude that there can be no pictorial statements. Both pre-semiotic authorities such as Arnheim and Ivins, and semioticians such as Floch (1984:110), Gauthier (1982:180), and others talk about pictorial propositions as a matter of course. Developing Gombrich's line of thinking, Kjørup (1978a:110ff; 1978b: 1974) suggests pictures are similar to predicates (like "... is a horse"), but are transformed into statements by the pictorial act which manifests them. Both Gauthier and Vilches clearly take for granted that, in the case of pictures, like in that of verbal language, the information conveyed by the act of enunciation is different from that of the sign itself. Perhaps what all this amounts to is the triviality, that pictures do convey meaning, but that they convey it in a way which is not quite the same as that employed by verbal language. We could then maybe settle for Williamsons's (1978) term "quasi-propositions" (which is however never really explained).

Part III, Chapter 5

[1] According to Hayes (quoted in Janlert 1985: 106f), it is impossible to add to a map information about a new city without modifying the whole map, contrary to what is the case in verbal language; but as Janlert rightly observes, the modifications follow automatically, in the case of relations such as "the nearest neighbouring city of A", and thus must not be independently made (cf. below). We will return to these kinds of properties later in this section.

[2] "Structure", as used here, has a much more general sense than we gave it in I.3.4. Janlert's remark (p.98), that in "5 decimeters wide, 5 kilometers long", "5" is context-dependent (in the same way as are, according to Sloman, the lines of a perspectival picture, which stand for different length), is seriously misleading. All semiotic systems are, in a very general sense, context-dependent, but pictures are so in a deeper sense, for an identical line is not only capable of standing for different lengths, but for quite different phenomena, for instance, for boundaries or bodies (cf. III.4.3.; and the argument relating to fig. 48 in III.3.3.). Since mathematics only applies to quantities (cf. our discussion of Goodman's system for measuring lengths, in III.2.5.), "5" will always stand for "five-ness", both in the case of decimeters and kilometers.

[3] It is not clear if the relevant base level is "human being" or "man" and "woman"; "averaging" would probably work also with "human being". However, I am inclined to think that, just as the base levels in some classificatory systems are modified, according to Rosch, for experts and owners of domestic animals, they can also shift a little, depending on circumstances.

[4] Different extensional parts may apparently be rendered in pictures on different intensional levels, as is often the case in caricatures and comics. Dennett (quoted by Janlert 1985:115f) claims a picture must have a "uniform level of detail", so that a picture of a man with a wooden leg, contrary to the corresponding verbal phrase, must also tell us either that the man is wearing a hat, or that he is not wearing a hat. This is of course an observation related to our point about "informational packages", in this section and in III.5.3. Janlert (p. 116) opposes this claim with the following drawing (fig. 73), where the wooden leg is indicated, but which is non-commital as to the presence of headgear. However, it should be obvious that the same demonstration could not be repeated for an object made less famous by adventure films and comic books than the wooden leg. Consider the fact that in "Peanuts", even the mouth may be left out, whereas in other parts of the drawing, very specific details are rendered. Even if the notion of "level of details" (or our notions of intensional and extensional levels) could be more clearly defined, it is likely that such requirements as those formulated by Dennett have much more to do with the degree of "realism" of a picture than with the rules of the pictorial semiotic system as such. Also, when the general delicacy of the rendering is high, as in certain of Picasso's prints, the contrasts in "levels of details" inside the picture become much more conspicuous.



Fig. 73

[5] Remarkable efforts in this sense are Arnheim's (1986:74ff, 226ff) analyses of one of the figures from the Rorschach test, and of the yin/yang symbol. Curiously, when Arnheim (p. 258ff) then sets out to analyze one of Picasso's works, the result is much poorer, and hardly as convincing.

[6] What makes it difficult to compare the two (or three) analyses is that Gauthier says he has examined one album, while Oomen and Kloepfer fail to specify their "corpus".

[7] Not only perceptually, but also cognitively; for how else are we to explain that the strokes may stand for the hairs, which we do not ordinarly see? Or is cognition, as Arnheim (1969) argues, only more precise observation?

Part III, Chapter 6

[1] Also cf. Sperber 1979: 37 about the title "1001 nights" expressing something which is not contained in such putative titles as "1000 nights" or "1247 nights".

[2] For these examples, variations on a poem by Eluard, also cf. Maranda 1980:194ff.

[3] There is of course also something of an abductive index here, for properties lacking in the dummy, but present in a more prominent, although in some respects comparable object, are simply filled in.

[4] See our criticism of Walther's conception of "symbols", in this sense, in III.1.2. Interesting examples of metaphor analysis, many of which would concern symbols in our sense, are made by Elgin 1983 along Goodman's lines.

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Göran Sonesson **Pictorial concepts**

Inquiries into the semiotic heritage and its relevance to the analysis of the visual world

Pictorial concepts is the first book-length survey in any language of the burgeoning new field of **pictorial semiotics,** a science setting out to discover the laws and regularities attendant on each and every case of depiction. While the book accounts for results stemming from all the warring factions of semiotics, and brings the insights of cognitive psychology, linguistics, and philosophy to bear on the issues involved, it steers free of eclecticism, delineating in a number of detailed analyses a general framework for semiotics which is capable of absorbing other theories as its variants.

Pictorial concepts critically reviews the full array of extant methods for analyzing pictures. It considers the pictorial sign from three complementary vantage points: the way in which it points to the world of perceptual experience *(Iconicity),* the internal and external connectedness of the visual fragment it frames *(Indexicality),* and the surplus of meaning contributed by the picture itself *(Plastic language* and *Connotation).* While demonstrating the inadequacy of the linguistic model generally, the book suggests that semiotics, the general theory of meaning, may still have something left to learn from linguistics, most notably **the relevance of relevance.**

Göran Sonesson presented his linguistic dissertation to Malmberg at **Lund University** in 1978, and in the same year received his doctoral degree in semiotics from **Ecole des Hautes Etudes en Sciences Sociales,** in Paris, under the direction of Greimas. He subsequently worked in Greimas's *Groupe de Recherches Sémio-linguistiques*, and then, from 1981 onwards, did research in semiotics and linguistics in Mexico, particularly as applied to Mayan cultures. Since 1983, he has been in charge of the only Swedish research project in semiotics, the **Seminar of Pictorial Semiotics** at **Lund University.**

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