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Abstract

Today, design is the concept of fashion. This article is focusing on the notion that there is one ideal design of society. The search for ideal solutions of societal problems has been the habit of utopianism. With the purpose to clarify how a student understands prescription and the design of a perfect society, a discourse on Huxley's "Brave New World" is studied. This implies that the student as text producer is expected to communicate a particular intention and orientation, since certain viewpoints are chosen and expressed intentionally. Intention presupposes that a particular perspective must be present throughout text production. Since the presented approach is founded on the controlling function of text production, founded on the Agent-action-Objective (AaO) paradigm, it implies a two-fold and complementary description of the underlying structures. These structures are assumed to reflect noticeable structural invariance. It will be demonstrated that certain regions in the state spaces of the produced discourse can be manifested through the realisation of multiple trajectories. Their distinctiveness provides the condition for the treatment of the relation between autonomously developing landscapes of information synthesis. Concerning the constraining impact of Huxley's utopian society on the emergent state attractors, it is shown that the termini of the attractors support information structures, which are coherent with an understanding of the emerging critical factors of disorder.

The present experiment concerns the invariant formulation of the Agent-action-Objective (AaO) kinematics in the context of Huxley's "Brave New World". The term invariant refers to a coordination-free establishment of language structures. The approach will make evident that natural language employs its own intrinsic system of coordinates, but these are unknown. Therefore, the experiment has been focused on the results of the dynamics in string rotation and particularly on the results of a geometric description of textual movement patterns.

Abstract spaces will be presented, which give weight to the hypothesis that string rotation and the resulting pattern dynamics is basic to the effects on selective textual movements. Furthermore, when text is considered as context, the productive cooperation between intention and orientation is no longer the objective of physical conditions. It is the metaphysical determination of a natural language expression that comes into focus. Thereby, new constraints are produced, which pass the limits of physical reality.

As a consequence of transcending physical reality, abstract spaces are evolving, which have metaphysical properties. In demonstrating the invariant A-O-kinematics of a student's discourse on Huxley's novel, patterns of string movement have been studied on the basis of a scalar component, which has been introduced in the form of radians (B. Bierschenk, 2001). These are corresponding to the rotations in the A- as well as the O-component of the established A- and O-functions (Bierschenk & Bierschenk, 2002). But "spinors" (Hestenes, 1993, p. 30) are specifying the unique orientation of a particular string rotation and give a precise measure to the direction in their changing attitudes.

Through the evolutionary development of text, it will be shown that direction and rotational angles carry ecological validity. Here, the direction concerns integration through layering of properly adapted slices of patterns into composites. It follows that the sequencing of the locally defined string movements is influencing the entanglement of macroscopic "super-strings". They appear always in pairs. The presented approach is concerned with their dynamics as outcome of the subtle interplay between intentionality and orientation. In particular, the [AaO] units of the Agent-action-Objective (AaO) paradigm are shown to embed structurally the text producer's point of observation as well as his points of view. Conceived of as systems, it will be demonstrated that the processed [AaO] units carry the super-strings and contain information, which guarantees the abstraction of the quality. Furthermore, the geometric treatment of super-strings has made it possible to approach the space of a discourse as different subspaces. Hence, the morphological properties of a subspace can be disclosed on the basis of determined geometric distances.

From the structural point of view, the experimental design of the present study is expected to produce multiply stable trajectories, which are adapted to the reader's proper adjustment to the given task, namely understanding the "affordance" (Gibson, 1979) of an utopian society. In binding the dynamics of strings to processes at the kinetic level and super-strings to processes at the kinematic level, it is assumed that the developed procedures are manifesting the flow in a produced text. Furthermore, at the kinematic level, the quality in the flow must be made the foundation for the establishment of corresponding landscapes of information synthesis.

In agreement with the latter, it is expected that the implemented algorithmic operations are producing detailed kinematic information on the working of the A- and O-functions. But it will also be shown that the structurally significant aspects of the produced super-strings can be captured conceptually only in the sequential naming of the attractors of the corresponding state spaces. The process of naming has been shown to provide a sound theoretical basis for the communication of meaning. Hence, what kind of meaning a particular reader exactly has picked up will be established and made visible, partly through the information carried by the contours of the obtained landscapes, and partly through the naming of their regions.

Method

Participant

A student with special interests in pure literature and essay writing has been the participant of this study. The student was enrolled at a gymnasium program of Fine Arts in Lund and had completed five out of six terms of study in class. At the end of the fifth term the student wanted to leave class and try to fulfil the last term by means of a special curriculum. The main reasons for this were the student's feeling of uneasiness in several courses, and also a wish to make the studies more effective due to high ambition and achievement level. Thus one of the courses was exchanged with a course on "The Science of Literature", picked up from another program to suit the overall purposes of the student, who was about 18 years of age at the test occasion.

Materials

As part of the special curriculum described below Huxley's novel "Brave New World" was used for testing purposes. This novel has previously been characterised (Bierschenk & Bierschenk, 2004). An alternative account may be found in Ridley (2003, pp. 149-150), while McKibben (2003, p. 105) is writing: "Forget Jules Verne; it is Aldous Huxley who turns out to have set the style for the genre with Brave New World, his 1932 account of a world of dehumanised by soma and centrifugal Bumble-Puppy, a land beyond meaning".

Design and Procedure

The special program to be reported here has the task to give due context to the test item. Designed for the student was a particular curriculum that contained three tasks, namely:

(1) Evaluative presentation (listing) of some of the Western world's most famous novels (of the student's own choice), of which five should be particularly considered in writing.
(2) Analysing a novel with respect to its qualities in being expression of some modern decade and comparing this analysis with one presented by a professional critics.
(3) After an introduction into some scientific methods, making a comparison of two modernistic novels, namely Huxley's "Brave New World" (1932) and Atwood's "Oryx and Crake" (2003), both of which tell about a future society, based on scientific technology.

The course was introduced to the student in the beginning of January 2004 (week 3). As the student wished to do the studies as home work to hand in, only a few lessons were needed for summing up and starting the next following part. Part (1) was discussed in a private seminar (in week 9). At the same occasion, task (2) was commented by the student and handed in. The next task (3) was divided into two parts, the first one was to read Huxley's novel and to be examined orally. At this occasion the student was initially asked to write a comment on the novel. The instruction of the previous study (Bierschenk & Bierschenk, 2004) is repeated here:

> The word 'brave' in the title of Huxley's novel "Brave New World" may among other things mean 'challenging'. Comment on what you think is particularly challenging with this novel.

The second part of the examination was a discussion of the novel, which was governed by written questions on e.g. milieu, societal control, characters, personal relations, existence of

cultural life, language and style, message of the author and the like. The second part of task (3) was started up by the teacher's introductory remarks on some scientific methods in use. The task given was to reflect on which aspects to concentrate on while comparing Huxley's novel with Atwood's, written 60 years later. This comparison was a written examination, which was handed in by the course of week 20. This special curriculum course lasted for about four months, as did the ordinary course given in class.

Results

The Shapes of the Unfolded Spaces

In stressing the non-linear and dynamical behaviour of the language mechanism as well as its complexity implies a stress on "true" rotations. Hence, the rotational dynamics of natural language production must be conceived of as depending on inherent rhythmic driving forces and on correspondingly intrinsic dynamical changes in the verbal flows. Even more important is the text producer's ability to "re-produce" its morphogenesis. On the basis of the discourse on the novel, it will be shown that a system of produced [AaO] units has the capacity to keep track of intention and orientation and to fuse the textual segments that temporarily are fitting into the information structure, developed over the particular task.

> *Original Swedish text production.* En sak som kan anses utmanande i boken är att den gör narr av traditionella värderingar som med all säkerhet var ännu starkare på trettiotalet än idag. Detta rör framför allt föräldraskap, monogami och syn på samhällsklasser. I Huxleys bok är allting tvärtom; det är oanständigt att prata om barnafödsel, ordet mamma får alla att rodna, det är märkligt och fel med monogami. Och istället för att möta svårigheter flyr man det med hjälp av soma. Klassamhället påivras och det är inget konstigt att vissa är mindre värda.
>
> *Literal English translation*. One thing that can be considered to be enticing in the book is that it makes fun of traditional values, which with all certainty have been even more powerful in the thirties than today. This concerns foremost parenthood, monogamy and opinion on social classes. In Huxley's book is everything reversed, it is indecently to speak about childbirth, the word mammy makes everyone blush up, it is strange and wrong with monogamy. And instead to meet difficulties, one is escaping it with the help of soma. The class society is supported zealously and it is nothing strange that some have lesser value.

Experimentally, it will be shown that text develops on the basis of rhythmic and clock-like textual movement patterns. From the precision in the working of the involved clocks, topological consequences of rhythmic movements in text production can be extracted. The rotations, derived from the discourse of the student are producing the particular textual pattern dynamics, which has resulted in the spaces of Figure 1 and 2. The first one is showing the layout of the unfolded O-space. Its topology is carrying the text producer's orientation. The X-axis of the presented surface marks the number of produced variables. Correspondingly, the layout of the unfolded A-space is shown in Figure 2. How the alpha and beta variables are sliding within a particular interval, is made apparent with the controlling parameter of the Y-axis. The latter depicts the intervals, which are characterising the naturally occurring periods and fractions of periods the way they have become manifest during language production.

Figure 1.

Huxley's "Brave New World" in the Perspective of a Fine Arts Student

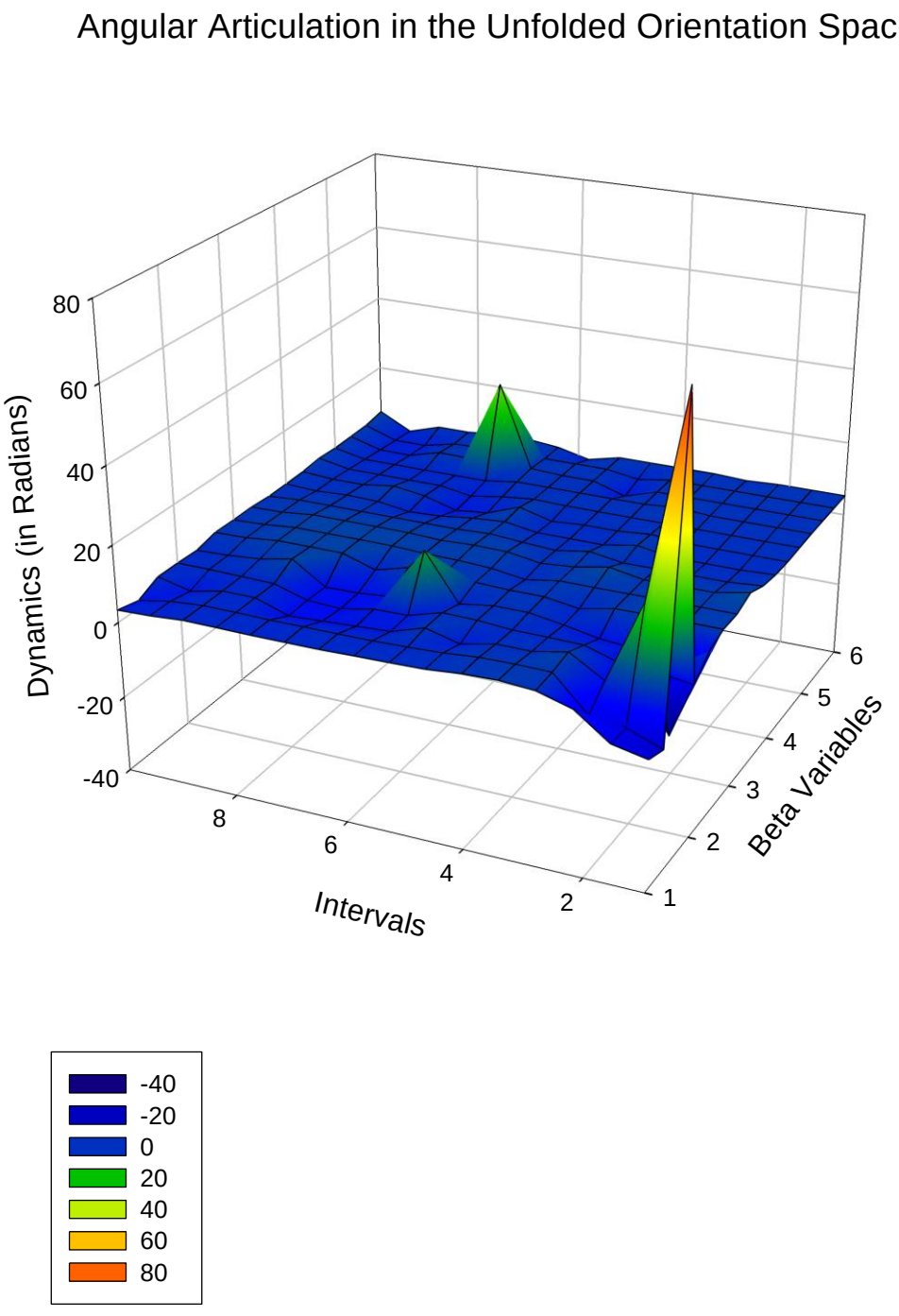
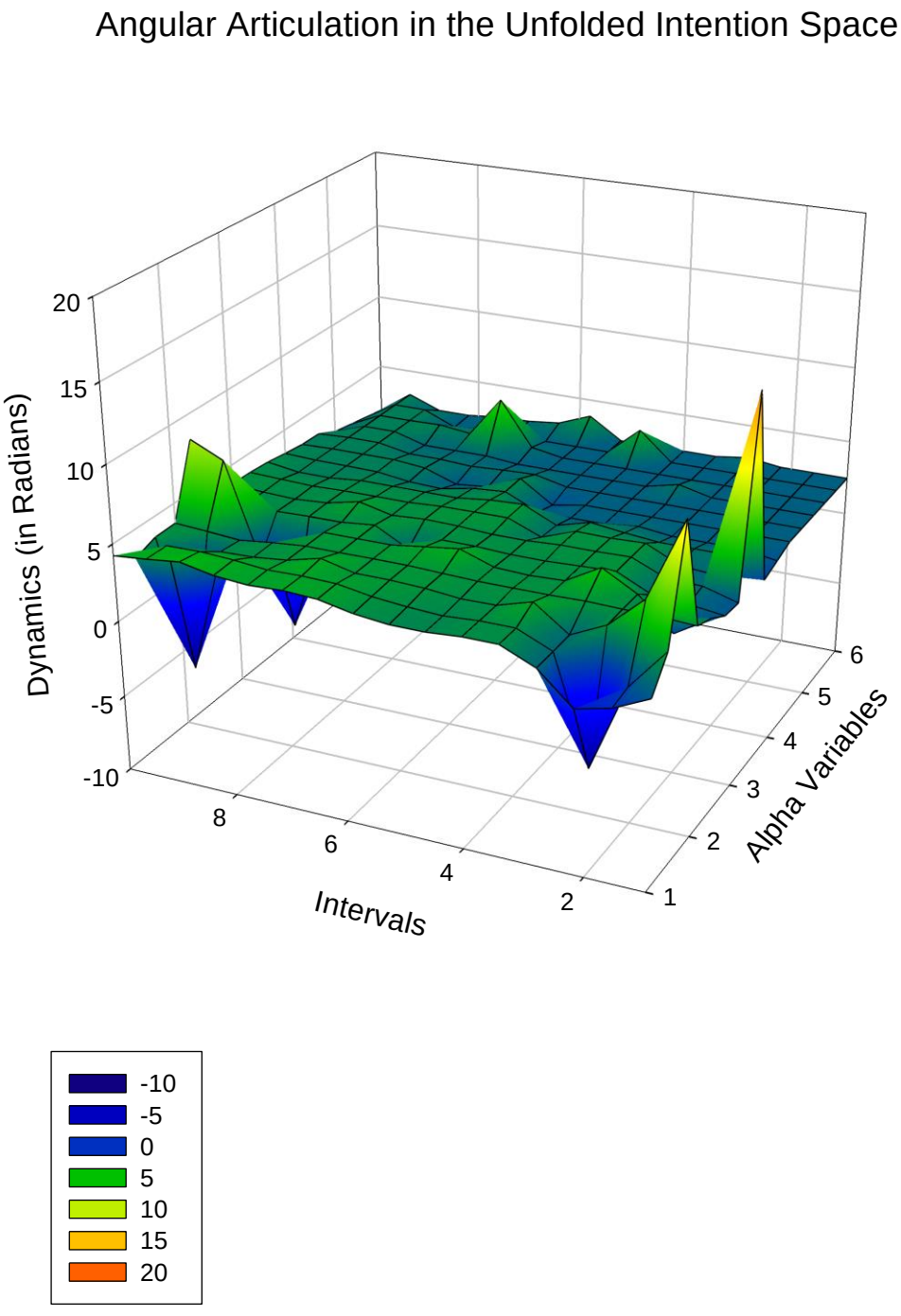


Figure 2.

Huxley's "Brave New World" in the Perspective of a Fine Arts Student



If the context for text production is conceived of as part of the resulting information synthesis, related space generation may be viewed as development of a system that is evolving on the basis of lawful regularities. Hence the reproduction of the involved order parameters is the result of the strict dependency, which is characteristic of the componential entanglement of bonded A-O-pairs. Relative phase stability in the autonomous development of corresponding spaces is shown to manifest an overall symmetry. This kind of symmetry is made evident through the A-O disparity. The apparent componential asymmetry has important theoretical implications for the extraction of the roots of the A- and O-component. The result of the Figures 3 and 4 demonstrates this principle of disparity, since the shapes of their landscapes are underlining the observed morphological asymmetry.

The extent to which a graph can give expression to the degree of curvature of a shape has been made evident in terms of the Gaussian curvature, i.e., the product of curvature in orthogonal directions. Moreover, the interpolation of the radians has been carried out with the negative exponential function. The applied local smoothing technique is using polynomial regression and weights, computed from the Gaussian density function (SigmaPlot 2004, Version 9).

The flat shapes of the Figures 1 and 2 have come into existence, because Gaussian curvatures are evolving just above sea level. However, since the spin structures of the variables are always winding in a certain direction, some developing tips are arrested and the corresponding shapes are winding up as cusp-shaped contours. From a biological point of view, breaking or lowering spatial and temporal symmetries is only natural, since evolving structures depend on the generation of discontinuities and asymmetries all the time. This becomes evident in the form of a positive Gaussian curvature, which means that the complexity of a variable is developing more slowly at its borders, compared to its centre. Conversely, if a variable is rolling helically at its tip, the shape of the resulting complexity will buckle. Hence, the characteristic form of this kind of shapes implies a rolling wave, which in the Figures 1 and 2 is describing a curvature below sea level.

Thus, what has been expressed explicitly relates to some sloping upward in an otherwise flat landscape. Obviously, the operations that are unfolding this kind of curvature are mainly depicting an overall path with some profiled topical locations. In contrast, the implicit specification of a change in the discourse is depicted as a steep below sea level. A steep above as well as below sea level appears at the right hand side of Figure 1. Another kind of drifting in the phase relations can be illustrated on the basis of the space of Figure 2. Obviously, this emerging landscape gives expression to a higher degree of successively increasing and decreasing shades of articulation. It follows that a bubbling landscape can be identified with variations in distance, which are shown to have corresponding effects on the specification of morphological variations.

The Shapes of the Folded Spaces

The resonance in the spaces of the Figures 3 and 4 is presented with the selection of five termini, respectively. The locality of the first terminus to be discussed appears at the peak, which is described with “Corruption”, i.e., the absence of societal justness. Respecting individual integrity and treating a person as an end and not as a means, seems to be fundamental for a “Sense of Justice”, which is the descriptor of a region that relates to fairness. The terminus “Motherhood” appears between both. The corresponding singularity very clearly marks the obligations, which stem from the consideration of the fundamental reciprocity in human relations. In this respect, being a mother means having the capacity to establish a maternal relationship to another person.

Figure 3.

Huxley's "Brave New World" in the Perspective of a Fine Arts Student

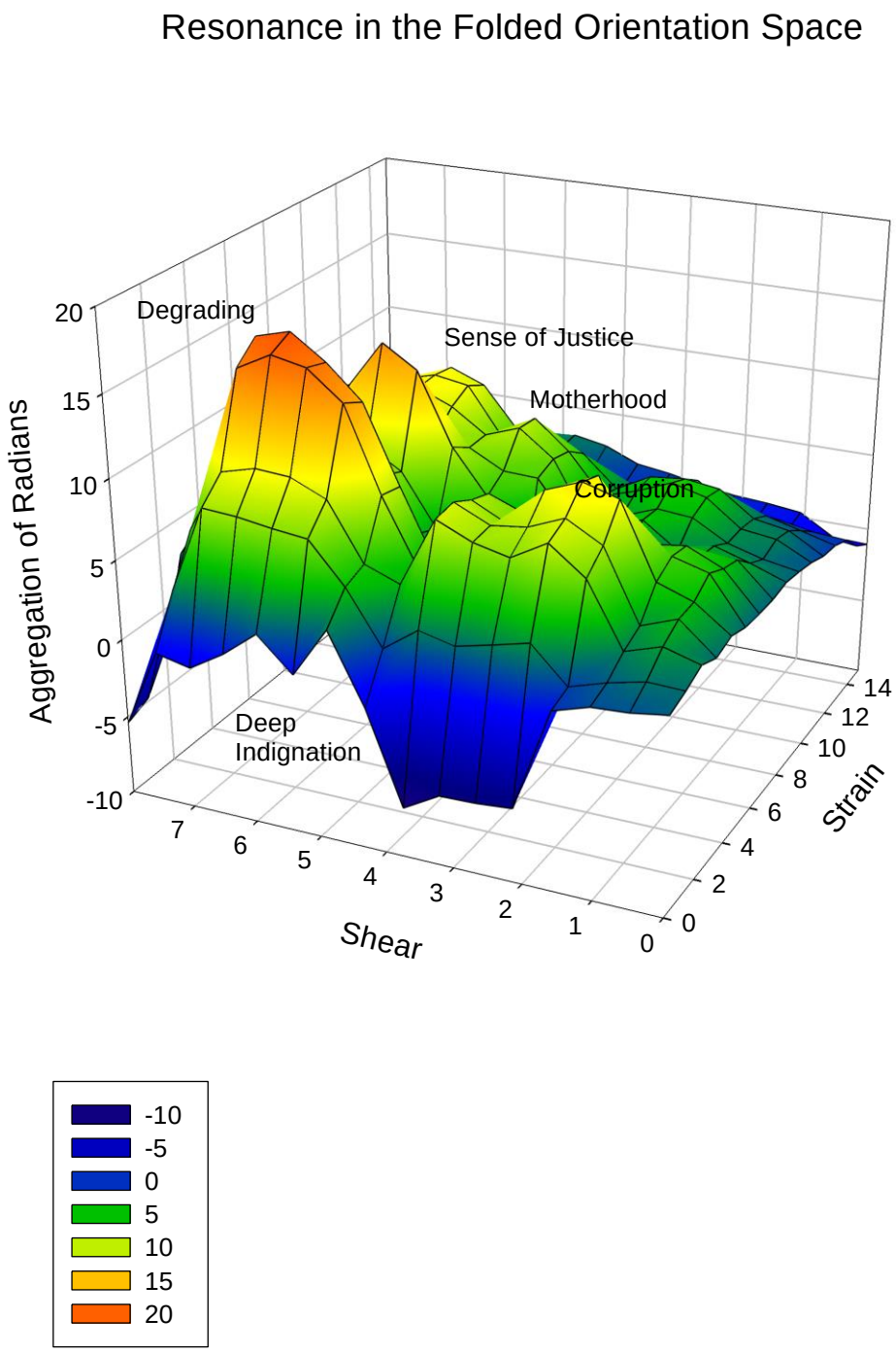
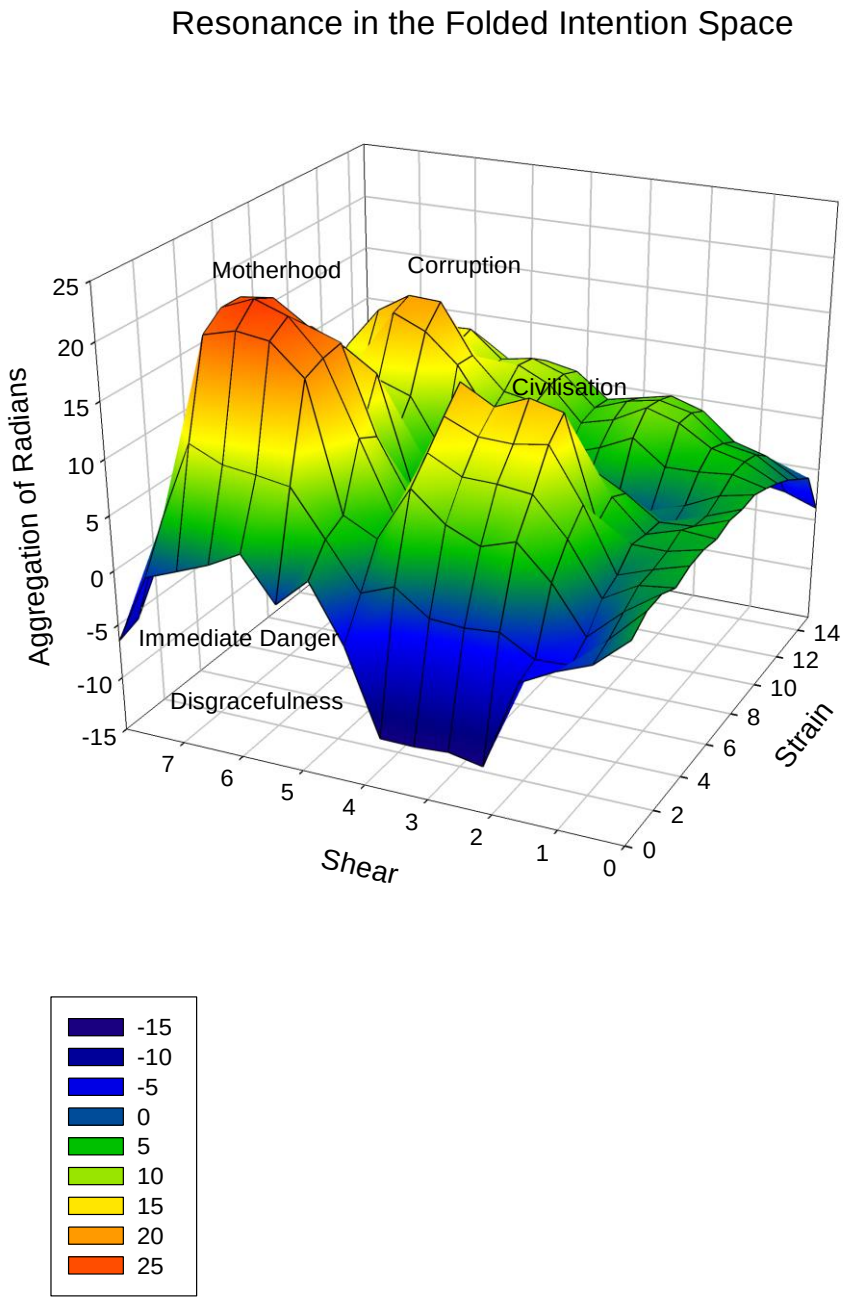


Figure 4.

Huxley's "Brave New World" in the Perspective of a Fine Arts Student



Thus far, the distinctive features of the designated mountain peaks are addressing responsibility. Taking on responsibility and accepting the obligations of "Motherhood" appears to be central, but is conceived to be corrupted in the described society. Corrupting the fitness of motherhood implies "domestication", which is Konrad Lorenz's term (Ridley, 2003, p. 174) for produced dullness. The transformational effect appears as "Degrading". This terminus underlines the seriousness of compromising individual uniqueness and the fitness of a pair of parents. Biogenetic engineering cannot substitute for the loss of the essence of an individual, that is, the loss of its naturalness. Utopians can only continue to insist on the meaningless construction of individuals as artefacts.

With reference to the fashion of "biological baby design" in an attempt to utilise human resources, it implies that any utopian civilisation is characterised by its investment into the biological sciences and medical technology. Like modern cell-therapist, its "designers" like to think that nothing can go wrong with bio-medical engineering. The gateway is from pre-implanting diagnosis to genetic manipulation and artificial incubation. Since utopian societies are constructed on the premise that the quality of individual life can be improved, "utopianism" is part of present debates.

Reports on the present-day discussion in the Western world imply an orientation in agreement with a booming assisted-reproduction industry, which was envisioned already in the 1930's when Huxley proposed an "incubating utopia" (Ridley, 2003, p. 149). Despite the worries Huxley tried to communicate, those who frame biomedical research of today in utilitarian terms, as for example Caplan (2004, p. 1142), see no "reason to glorify a particular phase in the evolution of human nature". According to him, "nature is not static; it lacks any recognised 'essence' and has elements that have proven maladaptive in the past". However, there are others, who are concerned with the serious consequences of corrupting motherhood and to merge biological knowledge with the knowledge provided by medical technology. Holden (2004, p. 188) reports on ethical guidelines that would prohibit future research projects to attempt to "conceive a child from fetal tissues". However cell biologists and neuroscientists are extremely eager to materialise a "pluripotent human embryonic stem cell line derived from blastocyst" (Gazzaniga, 2004, p. 388).

The immediate implication of the attractor "Deep Indignation" is attesting the loss of honour, which refers to the corruption of the meaning of individual life. Obviously, the conditions, marking the stages of progress of a technologically very advanced society are arousing anger about the unjust and consequently unworthy treatment of humans. The deepness represents the student's intense sensitivity to a need of "moral priorities over science" (Sperry, 1983). At some deeper level of processing, this means that cues have been picked up concerning the effects of a civilisation ideology based on science alone.

As it appears through the mainstream in the international scientific literature, genetic engineering is conceived of as an "ethical obligation". To control the genome is conceived of as the scientist's responsibility, since it allows him to eliminate genetic diseases through germ-line engineering. By the way, in the beginning of the year, Swedish legislation has approved research on stem cells for therapeutic purposes. (Forskning på stamceller godkänd [Research on stem cells passed], 2005, p. A6). The law is drawing a moral line between somatic therapy and any new human techno-eugenic procedures. McKibben (2003), however, is questioning this line of reasoning, since the line between repair and enhancement is too slippery to be meaningful, he is debating "our ability to stay human in an engineered age". In concentrating on the application of these new technologies, he is forecasting a new world, which appears to be "on the slope toward modifying humans out of existence" (Lenoir, 2003).

According to McKibben (2003, p. 44) "meaning has been in decline for a very long time, almost since the start of civilisation". In Figure 4, the terminus "Civilisation" refers to

the artistic design of a society in which meaning has been replaced with drugs. Since the "Civilisation" is founded on an extreme hereditarian approach, it is an "attack on nature" (Ridley, 2003, p. 149) and the ultimate assault on human dignity. This injustice is obviously picked up and appears in the discourse as an intuitive sense of "Impending Danger". In Huxley's world, meaning is dependent on the idea of genetic improvement. The link to heredity and drug-dependency is turning the world into "Disgracefulness". With respect to its biological roots, it implies that a corrupted society is characterised by highly emotional individuals that are sensation seeking.

The prospect that the complexity of human reproduction will be taken over by laboratories alone implies the design of babies. Hence, a line of tension between what is original and what is artificial seems to be conceived, which may lead to seriously diseased brains and infirm citizens. Moreover, the explicitness of corrupting the individual's dignity right from the beginning of incubation on one hand and the intention of producing a corporate society on the other has special consequences. Without doubt, the landscape of Figure 4 is demonstrating the apprehended dependency between "progressive breeding" (Ridley, 2003, p. 74) and "a world of dehumanised" (McKibben, 2003, p. 105).

Since "physicians, researchers and regulators are wresting with how fast to push cell therapy forward and how to design trials with the best shot of success" (Couzin & Vogel, 2004, p. 192), their intentions neither in the 1930s nor today are concerned with preserving individual uniqueness. Searching for adjustment of strategic purposes, like "South Korean Scientists" have made, forms the basis for expected smooth operations of therapeutic cloning (Gazzaniga, 2004). When brilliant inventions, like viral vectors and DNA-based artificial chromosomes are limited to repair mechanisms, this line of reasoning is expected to contribute to the enhancement of life quality. But it appears also to lead to seamless genome articulation at the edge of the boundaries of somatic therapy and human hereditary materials.

In McKibben's scenario, it is the notion of "techno-eugenic" procedures and "ideal design" that can be derived from adaptation and natural selection (Williams, 1966; Zimmer, 2004). In the context of the market forces of any consumer culture, these advancements in manufacturing fundamental germ-lines appears to lead to a situation where everybody is exposed to strain of reaching the "Good Life". As it appears in Figure 4, there is a guarding conduct concerning the possibilities of engineering a new world, developing from bio- and nano-technology, which may prevent people from crossing the line between the natural and the artifical.

As Atwood (2003) is envisioning the implied impending danger of crossing the line would mean that no one longer knows what is under significant genetic control and what is artificially constructed. In her novel, she is anticipating a drastic revision of human kind and a future that builds on the proposition that the designers of humans are constraint only by those instincts that have not been purified and reinforced in the laboratories. Still, a powerful intuition may be at work against the intention of disgracing people and consequently any biological revision of the human species.

Literally speaking, Atwood is concerned with the modification of all living systems, including human beings. In her novel, feelings and thoughts have been extinct with the purpose to produce perfect environmental adaptation. In contrast to the classical utopian societies, both McKibben and Atwood draw attention to two vital factors, namely the first factor is the reality of germ-line production and increasing demands of a consumer culture "that might easily overcome our instinctive doubts about such technologies" (McKibben, 2003, p. 21). Likewise, the other factor is not science fiction but "science vision" (McKibben, 2003, p. 108) . As Atwood notes, her novel is a "tale meant to inform, not to amuse" (Squier, 2003).

Taken together, especially the disparity, shown through the attractors below sea level, is demonstrating the mutual dependency between deep indignation and conceived immediate danger concerning the central values of life. The complementarities of the termini of the state attractors is reflected in the overall symmetry of the landscapes. Therein lies the essence of information similarity. Apprehended impending danger for the violation of human dignity seems to have provoked a deep indignation. Hence, to master the functional disparity of the A- and O-components the way it is synthesised through the symmetry of their complementary landscapes requires the capacity to establish their mountains and valleys simultaneously.

Validation and Verification

What shall be validated through Huxley's novel is in fact appearing as an "undercurrent". And that, which indeed is a current, constitutes the stream in a verbal flow. Hence, a current implies a spin, which is producing the "vertex" of a string. But equally important is the observation that the Latin verb ('verto') implies the process of "becoming" text (in German 'werden'; in Swedish 'varda'). Furthermore, the second meaning of this Latin expression involves a whirl in something flowing ('flumen'), namely the textual flow. Since the super strings of the A- and O-components are firmly fixed with their tails in the a-component of the [AaO] units, the textual segments of the components must revolve around the (a). But the rotation in their winding and twisting transforms the strings of graphemes in that they are "becoming" strands. Strands appear with helical properties at the kinematic level and are constitutive of their contextualisation as well as of the helical property of an entire AaO-configuration.

When text is conceived of as an object that behaves as "superfluid solid" (Hurtley & Szuromi, 2004, p. 1869), its strings are assumed to flow without dissipation. The validity of Greene's space-tearing hypothesis (Greene 1999, p. 278) can be related to this fact. Furthermore, the space hypothesis implies that an evolving language space is restricting flow and string-rotation as well as the movement of grapheme patterns. Through the spin behaviour of a string, emerging super-strings can respond in an elastic way to evolving string movements. However, the requirement is that text contains cues to its capacity of stretching and straining, as well as winding and curling. Thus under the spin condition, it is possible to validate space tearing. Moreover, in studying the discourse as a superfluid solid this approach has produced an impressive overall space symmetry, which must be regarded as a very radical test of the hypothesis. The termini of the state attractors are reflecting this symmetry in their complementary import.

With a focus on the verifiability of the produced informational invariants, an informal procedure will now be applied to the process. Seven weeks after the initial discourse, the following analytical task was assigned as homework:

> In what respect are Huxley's "Brave New World" and Atwood's "Oryx and Crake" similar and in what way do these novels differ from each other?

In short, the student's ability to differentiate between both should give a hint on a contrasting perspectivation. After the analysis was handed in, it was revised and translated as follows:

> Aldous Huxley wrote his "Brave New World" in the 30's – then a somewhat crazy futuristic novel, which later turned out to be something of a prophecy. Margaret Atwood has adopted his style of approach and written her own novel on the future; how realistic it is, only future can decide on. [Thereafter follow the technical details of the stories, which include the basic conditions.] Concerning Huxley, most important in

this account is an awareness of the absence of a physical milieu description. Instead, the focus is on the psychic milieu and on the major role the drug 'soma' plays in the arousal of the experience of pleasure. With reference to Atwood, it is clearly noticed that the physical milieu is of paramount import. The main character in her pictured environment is Snowman, which in the old world was named Jimmy. He has modified all living things in a way that they have a greater chance of survival, compared to old-fashioned humans. Since the physical environment is dominating, it is described in a very artistic style of writing.

Society. According to Huxley's story, the people are coming from a hatchery, but they have in theory their own free will as well as freedom to act but not in practice. In the hatchery they get their social status imprinted. Therefore, the way they get to think is also made dependent on the treatment they got in childhood. Furthermore, in this society, it is strange to be private or to become fond of another person. This kind of behaviour is interpreted as mockery. Youth as well as adults are judged to be promiscuous and extremely extrovert. Huxley makes use of exaggerations in order to put his point independent of the group of his contemporary society he is aiming at.

According to Atwood, Crake's children, as the people are calling themselves after the extinction of the old world, have freedom both in theory and in practice. What possibly constrains them, are their instincts. Crake has reinforced their instincts in order to function like the instincts of wild animals. In fact, another circumstance that may be conceived of as constraining for the people is Snowman. He has appointed himself and has been accepted as Crake's prophet. For the people, Crake together with Oryx is the creator of the universe after the great flood. Crake is responsible for the people and Oryx for the animals. Therefore, Snowman can tell people whatever he likes and they obey and believe him blindly. As it appears, Atwood takes no ironic position, since this is her prediction about how the world will look like some hundred years from now.

Relations. In "Brave New World" the course of action is circling around relations, especially those of Lenina Crowne. She has three men, who together with herself, constitute the main characters and shape the course of action. Without the development of human interaction, no novel would have come into existence. By and large, only love and sexual relations are allowed to materialise. There is only one friendship relation, which takes up some greater space. This relation is formed between the uncivilised John Savage and the citizen Bernard Marx. But this relation is ending very quickly after that John Savage has made his entry into the civilised world. Bernard is in John seeing his chance to become "someone" after all. He is aware of his chance to get finally the respect a person of his social rank deserves.

The relations in "Oryx and Crake" have not the same central role as in "Brave New World" but there is nature and the surrounding environment is of greater import. Most significant is the relation between Snowman and Crake and Snowman and Oryx, when he is sitting and remembering. Everything else mirrors the Snowman's loneliness. The only thing he has in the present is his relation to Crake's children, in which he is the prophet. Hence, this relation is not on a par, since they look at him as God-ness.

Realism. Neither is it particular realistic that only one individual survives a catastrophic flood nor that only one human being would be able to reshape genetically the entire human species, like Crake is doing in "Oryx and Crake". More realistic appears the vision that a few scientists, who are struggling for supremacy, would fight for the right to reshape humans, as they are today, into something else. Nor is it very realistic to assume that the total human reproduction would be taken over by the

> laboratory, if only for the simple reason that reproduction is altogether too pleasant an occupation in order to become bad manners. Because of her reproductive drives, the human species is feeling some solidarity with the rest of the lower ranking animals. All have sex, all are female, which become pregnant, all give birth to descendants, and irrespective of what kind they may be.

The purpose with the section on validation and verification has been to give weight to the invariant properties of the produced landscapes and to show that complex geometric contours are carrying information, which is valuable. It follows that its validation means that the informational value of the produced termini can be mirrored in the perspective of biogenetic engineering. Furthermore, the comparison of the two novels implies that Huxley has been highly successful in the communication of ideas that appear to be reflected in contemporary Western societies. At the edge of presence and futurism are the consequences of primitivism and fanaticism emerging. Or, as a student in another study (I. Bierschenk, 2000, p. 12) formulated his comprehension: "Just think, if as a matter of fact, he isn't critical or moral but is suggesting a solution to a world wide problem?" – i.e., the way in which science may be a means to deliberate humanity, for good and evil. Finally, the discourse of the student of the present study is verifying that a powerful intuition is at work against any biological revision of the human species. Both studies give evidence to the production of the necessary constraints that will prevent people from crossing the line.

Discussion

The study of text(ure) as context for angular articulation and gradient dynamics has been the prominent aspect of the presented approach. Furthermore, it is worthwhile to point out once again that the rhythmic driving of biological dynamics is common to all living systems. Hence, primary goal of all scientific approaches is to discover the coordinate systems of nature and "the biological clocks that control the daily lives of every living thing" (Foster & Kreitzman, 2004). For example, Karl von Frisch (1967) has discovered the coordinate system that governs the communication language of bees. In this context, he has shown that the language of the bees must be conceived of as a self-organising system, which develops on the basis of the AaO-axiom. Plainly, this axiom is responsible for the dynamic changes, flows and rhythms, which are producing the complex structure of organism-environment interactions. However, what is even more important is the ability of a biophysical system to reproduce the morphogenesis of its language with every new generation cycle.

It follows that one of the major obstacles for the attainment of a sustainable development of human values appears at the edge of nature and society, that is, an understanding of the critical factors of any civilisation are bound to language production. Therefore, the focus of the presented study has been on a text, which has been produced by a Swedish student at the Gymnasium level. Thereby, it has been possible to manifest information invariants. Experimentally, it is demonstrated that natural language must be treated as an evolutionary phenomenon, which is governed by its own internal driving forces.

Thus, it has been possible to study the discourse of the student as an evolving system, which depends on its clocking mode as well as on the intrinsic coordinates of all the constituents that contribute the evolution of a language space. Understanding the non-linearly functioning of the underlying mechanisms explains many of its kinetic as well as it kinematic properties. However, being able to approach language as a natural phenomenon requires a global understanding of the involved dynamics.

With the purpose to illustrate and explain the properties of an idealised society as well as its perspectivation, a few termini have been used. Together, they describe the landscapes of information synthesis, which represent the reader's sensibility to the phenomenon of human dignity. In addition, the landscapes demonstrate that the utilitarian methods for generating life quality are insensitive to moral concerns as necessary part of any comfortable social climate. The implied premise is without doubt *"Moral Priority"* over science and technology. Morality from the natural scientist's point of view as well as morality from the citizen's point of view has a crucial function in forming a sustainable strategy of ethics.

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