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VERBAL SYNTAX AND CASE IN ICELANDIC

In a Comparative GB Approach

Halldór Ármann Sigurðsson

Lund 1989

**Department of Scandinavian Languages
University of Lund**



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Reykjavík, December 1988
Halldór Ármann Sigurðsson

VERBAL SYNTAX AND CASE IN ICELANDIC
In a Comparative GB Approach

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Introduction

The major goal of this work is to investigate the interrelations between verbal syntax and Case in Icelandic. I shall consider the question within the larger context of another closely related question, namely how pronominal phi-features in general (Case, number, gender and person in European languages) relate to syntactic structure (the X-bar system).

The work is written within the comparative paradigm of modern theoretical syntax. Thus, comparison with other languages, above all other Scandinavian languages, English and German, plays an important role in it. Being my mother-tongue however, Icelandic is naturally the principal object of my investigation. This puts me, in fact, in a rather privileged position. Icelandic is a highly inflectional language, thus bearing more directly on syntactic inflectional features than other Indo-European languages in the Western world.

In recent generative literature, Icelandic has a rather prominent position. It probably belongs to those European languages that count as well known to the international linguistic community. However, having only a tiny quarter of a million native speakers it is, in a sense, a micro-language. A natural consequence of this is that Icelandic syntacticians are exceedingly few. Few as they are, it is urgent that they do basic research in Icelandic syntax and present it to an international audience. Accordingly, the second goal of this work is a descriptive one: I strive towards a coherent description of all the major syntactic phenomena that bear on the Icelandic phi-feature system. This includes, above all, verb movement, null-subjects, oblique or 'quirky' subjects, passivization, NP-movement, and various types of agreement, not only verbal agreement but also phi-feature agreement of nominals, both NP-internal agreement and several types of long distance phi-feature agreement.

As it turns out though, the descriptive goal of this work has become subordinate to its more general theoretical goal. Doing science without a theory is like travelling without a map. Most probably, one travels in circles and ends up nowhere. Having a map, of course, does not secure that one ends up in the right place. The map might be wrong. But one will at least end up someplace, perhaps even someplace where one can get a better map.

The general theoretical framework of this dissertation is the Government Binding (GB) Theory, roughly as outlined in Chomsky (1981, 1982), incorporating Kayne's (1984) theory of binary branching. Many proponents of the various syntactic models of today seem to 'believe' in their particular syntactic framework. I must admit that I do not 'believe' in GB or binary branching in this sense. Thus, for instance, I do not 'believe' in traces. Perhaps, they have some content in the real world; I don't know. They are theoretical tools to me, no more and no less. Also, I do not know if the human mind, hence language, is modular. In fact, I find any strict version of the 'modular hypothesis' intuitively implausible. But to a considerable degree, the matter clearly lies beyond the present-day scope of

my discipline. - GB simply suits my general purposes in the present work.

The dissertation presupposes a rather substantial knowledge of GB on behalf of the reader. Holmberg (1986), a work that has had great influence on this work, was the first dissertation written in the framework of GB in Sweden. For background information about the theory, I refer the reader to Holmberg's dissertation (especially chapter 2) as well as to the first four chapters in *Lectures* (Chomsky 1981). See also, for instance, Hoextra (1984, chapter 1), Burzio (1986, chapter 1), Riemsdijk and Williams (1986), and Radford (1988).

By the terms 'GB' and the 'standard theory' I shall always mean Chomsky (1981, 1982) and closely related works. In so far as Chomsky's most recent ideas can be said to be 'standard', this includes Chomsky (1986a) and Chomsky (1986b).

The subpart of the standard theory I wish to test here, in particular, is the Case Theory. To make a long story short, the standard Case Theory will be revised and extended somewhat here. The dissertation combines two interrelated major hypotheses: the well-known idea that Infl or Comp assigns structural nominative Case and the hypothesis that Case is a structural head-feature, assigned by percolation (and not necessarily under government) like other non-inherent phi-features. Furthermore, I subsume the so-called Null-Subject Parameter under a parametrized version of the Case Filter and derive NP-movement by a general condition on the relation between argument positions, the Subject Command Condition.

At first sight, I might seem to be breaking rather sharply with the standard Case Theory. In fact however, I only deviate minimally from Chomsky's (1986b) approach to Case assignment, by dissociating m-command and government (and by slightly relaxing or relativizing Chomsky's Minimality Condition). Chomsky incorporates m-command into his definition of government. I suggest that the two should be kept strictly apart, m-command, and not government, controlling the distribution of Case. This has the conceptual advantage that we can account coherently for structural relationships that are partly different and partly alike, most important, the head-complement relation and the head-Spec relation: they are alike in that the head m-commands both the complement and Spec (hence being capable of assigning Case to both). But simultaneously, they are different in that the head governs only the complement, not Spec, thus directly theta-marking only the complement.

The distribution of Case and other phi-features in Icelandic also illustrates two things particularly clearly: First, Case percolates in basically the same way as other non-inherent phi-features; thus, any theory that does not relate Case and other 'spreading' or percolating phi-features in some natural manner is not even descriptively adequate. I shall accomplish this in terms of m-command, thus illustrating that Aoun and Sportiche's (1983) and Chomsky's (1986b) introduction of the notion 'm-command' into

the standard theory is a well-motivated step. Second, however, the Case properties of oblique subjects in Icelandic, and the agreement properties of sentences containing such subjects, illustrate that NP-movement should not be explained in terms of Case assignment, clearly not in Icelandic and probably not in other languages either.

I shall proceed in the following manner: In chapter 1, I briefly outline my general approach to sentence structure in Icelandic and other Germanic languages. In this approach, called the Generalized Comp Analysis (GCA) here, the derivation of the finite sentence in Icelandic crucially involves a movement of the finite verb to Infl, *V-to-I*. In main clauses in all V2 Germanic, the finite verb moves further, from Infl to Comp, *I-to-C*. In my approach, *I-to-C* does not interact with Case assignment in Icelandic: presumably, it must apply in order for the main clause to function as a predicate (Holmberg 1986), but since this has nothing to do with Case, I do not consider *I-to-C* in any detail. *V-to-I*, on the other hand, applies in order for Infl to be able to assign nominative Case in Icelandic. Hence, I study *V-to-I* in some detail in chapters 2 and 3. In chapter 2, I consider the interaction of Verb Fronting (i.e. *V-to-I* and *I-to-C*), government and Case as well as three possible explanations of *V-to-I*. Infinitivals, studied in chapter 3, bear on the question in an interesting way. They indicate, rather strongly, that the explanation of *V-to-I* is indeed that it must apply in order for Infl to be able to assign Case to the subject position (*V-to-I* applies in control infinitivals in Icelandic). This is somewhat surprising since it means that PRO must bear Case in Icelandic. I present some evidence in favor of this conclusion already in chapter 3, but postpone further discussion of the matter until in 5.5, where I offer more evidence indicating that Infl (containing V) does indeed assign Case in Icelandic infinitivals. Moreover, since PRO is ungoverned, the Case explanation of *V-to-I* calls on a Case theory that dissociates Case and government. In chapter 4, I therefore outline a Feature Percolation Theory of Case in which zero-level heads (that do not dominate an inherent non-assigner of Case) have a Case feature which they percolate within their *m-command* domain. In this theory, a Case assigner crucially protects its maximal category from external Case (a slightly relaxed version of the Minimality Condition). Thus, I actually replace Chomsky's (1986b) barriers approach to government by a protection approach to Case (the approaches being empirically equivalent for the core cases, but not for 'long distance Case percolation'). Feature percolation accounts for postverbal nominatives and various agreement phenomena in a strikingly simple manner. However, any Case theory has to be able to account satisfactorily for nonlexical NPs, e.g. *pro*. Hence, I study null-NPs in Icelandic and other Germanic languages in chapter 5. Somewhat surprisingly, it turns out that all Germanic languages seem to have referential null-subjects. However, these null-arguments are not 'genuine *pro*' but variables (bound by a null-topic), like

null-arguments in many Asian languages. Icelandic also makes an unusually extensive use of nonreferential (expletive or arbitrary) *pro*. I shall argue that Icelandic *pro*, like Icelandic PRO, is always Case-marked. The fact that these null-NPs bear Case indicates that all NPs must bear Case in Icelandic and other null-subject languages, i.e. that the Null-Subject Parameter is deducible from a parametrization of the Case Filter. - In this chapter, I also argue that there are no 'lexical nulls' in Universal Grammar, basing my arguments on the general assumption that the lexicon can only link pronominal phi-features (or grammatical features in general) to some phonetic substance. Therefore, *pro* and PRO must be 'recovered' or identified by interpretive means.

As in the standard theory, Infl can only assign nominative in my approach. This (as well as Theta Theory) forces an ergative analysis of oblique subjects in Icelandic, that is, they must be derived by NP-movement. In chapter 6, I study these oblique subjects and other instances of NP-movement, e.g. passive NP-movement. As it turns out, the Case Filter does in fact not force NP-movement. Rather, it is enforced by the above mentioned Subject Command Condition, which says, roughly, that objects must be commanded by an argumental subject. The ergative analysis developed in this chapter is more extensive than most similar analyses in the literature in that it extends to predicative adjectives (i.e. sentences like *He is big*. involve NP-movement of the subject). In this chapter, I also develop a partly new lexical theory and compare NP-movement and lexical role promotion, involved in many word formation processes. As it turns out, NP-movement normally preserves lexical or 'inherent' Case, whereas lexical promotion 'bleeds' (D-structure) assignment of lexical Case.

1 The sentence structure in V2 Germanic

1.1 The Generalized Comp Analysis (GCA)

As is well known, main clauses in all the Germanic Verb-Second (V2) languages normally have the word order properties illustrated in (1). *XP* stands for 'any phrasal category' ([+wh] in constituent questions) and *Fin* stands for 'the finite verb'; when the subject (S) is not in the initial XP-position, it usually is in the position immediately after the finite verb:

- (1)a. Declaratives and wh-questions: XP - Fin - (S)
b. Yes/no-questions and imperatives: Fin - (S)

This is 'Germanic V2' (frequently referred to as 'the verb-second constraint'). Disregarding Dislocation structures and certain other phenomena,¹ we may also formulate Germanic V2 in the simple manner of (2):²

- (2) A main clause tolerates at most one preverbal constituent.

Icelandic observes Germanic V2. Thus, the sentences in (3) conform to (1) and (2):

- (3) a. Hann fór þá til Íslands.
he went then to Iceland
'He then went to Iceland.'
b. Hvert fór hann þá?
where went he then
c. Fór hann þá til Íslands?
went he then to Iceland

Sentences that violate Germanic V2 as formulated in (2) are generally ungrammatical:

¹ It is possible that left-dislocated constituents adjoin to CP (for a slightly different suggestion, see Koster (1978) and, for Icelandic, Zaenen (1985, p. 19)). Note however that various discourse dependent elements such as 'vocatives' and *já* 'yes', *nei* 'no', *jæja* 'well', *nú* 'well, now', etc. also occur sentence-initially in V2 Germanic without triggering V2. It seems questionable that phenomena of this kind, 'dislocated' or not, should be treated in the syntax or in 'sentence grammar proper' (see also Dik 1978, p. 132 ff.). In any case, I shall not take them into account in this work.

² Since Icelandic has V1 main clause declaratives (cf. e.g. Sigurðsson 1985a), (2) is actually more precise than (1). Note, however, that all the Scandinavian languages have some verb-post-second main clauses (cf. Thráinsson (1986a) and Sigurðsson (1985a, 1986a) on Icelandic). I do not believe that such cases are real violations of 'Germanic V2', but I shall not pursue the matter here.

- (4)a. *Hann þá fór til Íslands.
 he then went to Iceland
- b. *Hvert þá fór hann?
 where then went he

In this regard, Icelandic is just like all other Germanic languages and dialects, except English.

Germanic V2 has fascinated linguists for a long time. The oldest 'roughly coherent' descriptions of it that I know of are those of Erdmann (1886, p. 182 f.) and Braune (1894).³ More than 40 years ago, Diderichsen (1941, 1946) proposed an analysis of V2 that comes close to being descriptively adequate (cf. also Basbøll 1976; Platzack 1985b, fns. 5 and 6; Heltoft 1986). In the last decade, generative linguists have taken great interest in the phenomenon. Within the framework of EST, Koster (1975) argued that Dutch is underlyingly an SOV language, which entails that the finite verb is fronted in root sentences (in German and Frisian as well as in Dutch; within a transformational framework, this is in fact postulated for German already by Bierwisch 1963, p. 111). Den Besten (1977, 1983), elaborating upon Koster's proposal, was the first to identify the landing site of the fronted verb as the Comp-position (marked as *Fin* in (1) above). Koster's and den Besten's basic insights have been widely discussed and developed in various respects by many other generative linguists. A particularly important step was the extension of their ideas to the Scandinavian languages (Holmberg 1983, Platzack 1983b).

Extremely rapidly, Germanic V2 has become a vast field of inquiry within generative syntax. See, for instance, Thiersch (1978), Evers (1981), Safir (1982a), Haider (1984a, 1986a, 1986b), Scherpenisse (1984, 1986), Holmberg (1985a, 1986), Platzack (1986b), Taraldsen (1986a), the contributions in Haider and Prinzhorn (1986), and the overview in Platzack (1985b) - to mention only very few works that are inspired by Koster (1975) and den Besten (1977, 1983). These and other contributions to the ongoing discussion about Germanic V2 differ in various details, of course. To a considerable degree, however, there is a consensus in the recent transformational literature on three crucial assumptions about word order and sentence structure in the Germanic V2 languages:

1. The finite verb moves from VP to Infl in all finite clauses = *V-to-I* (i.e. 'Verb-to-Infl', cf. Holmberg 1985a; 1986, p. 84 ff.).

³ Braune (1894, p. 42) says:

Für das altnordische und hochdeutsche gemeinsam lässt sich demnach die Regel der Verbalstellung in den Hauptsätzen etwa so fassen: Das Verbum strebt nach dem Anfange des Satzes und bildet sehr häufig das erste Satzglied. Es kann aber jedes höher betonte Satzglied vor das Verbum an den Anfang treten, dann muß dieses die zweite Stelle erhalten.

2. In main clauses, there is a second movement of the finite verb, that is, the finite verb moves from Infl to an empty Comp. This is the 'Verb-Second Rule', called Infl-to-Comp or *I-to-C* here.
3. Declarative main clauses and constituent main clause questions have an 'extra' pre-Comp node that is not usually found in yes/no-questions, imperatives or subordinate clauses. This position is the landing site of topicalized and *wh*-moved elements. It is often referred to as the XP-position (cf. (1a) above) in the literature (e.g. Holmberg 1983, 1986). For reasons that will become clear in the next subsection, I shall call it [*Spec, CP*].

Together, these three assumptions constitute what I shall call the GENERALIZED COMP ANALYSIS (GCA) of Germanic word order and sentence structure. Holmberg (1986, p. 3 ff.) calls it 'den Besten's description' (which is not quite accurate) and it has also been called 'the V-XP-movement analysis' (Hellan and Christensen 1986, p. 3). My term contrasts GCA with a competing approach to Icelandic word order, suggested by Rognvaldsson (1984a). As we shall see in 1.3, the natural term for this alternative approach is the GENERALIZED XP ANALYSIS. In addition, my term underlines the basic assumption of GCA that all finite clauses in V2 Germanic have a Comp node (an idea first suggested for English by Bresnan (1970, pp. 301, 319; 1972) and further explored by e.g. Emonds (1976) and Chomsky and Lasnik (1977)).

In 1.3, I shall illustrate how GCA works for Icelandic. But first it is necessary to outline the X-bar system assumed in this work.

1.2 The X-bar system

Although most recent transformational approaches to Germanic V2 adopt some version of GCA, there is no general agreement about further details of Germanic sentence structure. A wide variety of proposals is found in the literature (some of these are listed in Haider and Prinzhorn 1986, p. 4; see also Platzack 1985b). For the most part, the differences between these varying proposals are unimportant here so I shall not review any of them. Thus, I shall only sketch the the X-bar system to be pursued here. Apart from labelling conventions, it is the same system as that of Holmberg's (1986). It is also very similar to Chomsky's *Barriers* approach (1986b; see also 1986a, p. 160 ff.), the only difference being that I assume binary branching, thus following Holmberg (1985a, 1986) and Kayne (1984) (whereas

Chomsky (cf. 1986b, p. 3) does not take a stand on the question).⁴

By hypothesis, the distribution of heads and complements and of specifiers (Specs) and 'specifiees' is determined by the schemata in (1). There are only two bar-levels above X^0 (cf. e.g. Stowell 1981). Order is subject to variation ((1) representing the most widespread order in English and the Scandinavian languages):⁵

- (1)a. $X' = X Y''$
 b. $Z'' = Q'' Z'$

X' expands to a head (X) and a complement (Y''), whereas Z'' expands to a Spec (Q'') and a specifiee (Z'). Note that this formulation makes the explicit claim that Specs never affect the categorial status of their mother node; that is, the categorial status or the 'projection type' of the mother node (Z'') is always determined by the head (Z) of the specifiee (Z').⁶

Following Stowell (1983, p. 295), Platzack (1984, 1986b) and Chomsky (1986a, 1986b), I assume that the X-bar system extends to nonlexical categories, that is, I(nfl), C(omp) and their projections. By hypothesis, I and C are heads of the sentential categories conventionally labelled S and S'/S'', respectively:

- (2)a. $S = I'' = IP = [NP [I' I VP]]$
 b. $S' = C' = [C IP]$
 c. $S'' = C'' = CP = [XP C']$ (or $[Spec C']$)

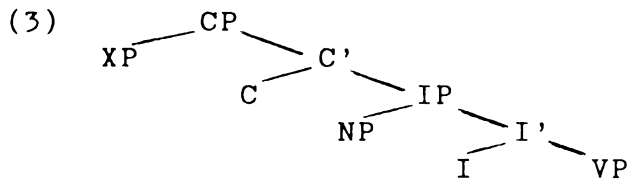
Note that C and I are X^0 , like lexical heads.

Given these assumptions, Icelandic (and English, I assume) has the sentence structure sketched in (3):

⁴ This, of course, presupposes that the Double Object Construction can be successfully analyzed as a binary branching construction, cf. e.g. the discussion in Kayne (1984, chapter 9), Holmberg (1986, pp. 33 ff., 180 ff.); see also section 6.5.2 here.

⁵ It is often suggested that UG has some relatively simple linearization or directionality parameter (e.g. Chomsky 1986b, p. 2; Holmberg 1986, p. 12). However, prepositional OV languages ('PO-OV languages'), like German, show immediately that sensitivity to syntactic categories must be built into the Directionality Parameter of UG (cf. e.g. Hoekstra 1984, p. 71 ff.; Abraham 1986a, p. 9 f.; Sigurdsson 1988b).

⁶ Although perhaps not explicit, this is at least implicit in Chomsky's (1986b) approach too. Note also that it follows from the feature theory developed in Holmberg (1986) if we make the natural assumption that heads are always marked for some categorial feature: those features, which are (positively or negatively) marked on a head, X , percolate up the whole X -projection and cannot be overridden by the features of complements or specifiers (the only features of these that can percolate up the X -projection are features that are not marked on the head); see further section 2.1.



C and I are the heads of (C' and) CP and (I' and) IP, respectively (in accordance with the convention that X^0 is the head of the whole X-projection). The subject NP is the Spec of I' (= [Spec, IP] or [NP, IP]) and XP is the Spec of C' (= [Spec, CP] or [XP, CP]). Furthermore, I adopt Chomsky's convention (1986b, p. 4) that Specs may be missing in maximal categories, complement clauses thus being CPs even when C' is not specified by XP.⁷ Finally, it should be mentioned here that I follow Holmberg (1986, cf. p. 12) in allowing 'base generated adjunction' (see also Chomsky 1986b, p. 79). In Holmberg's approach (1986), the structures in (4)-(6) are all permissible:



(4), of course, is the case of an auxiliary plus a VP. As argued by Holmberg (1986), sentence adverbs also seem to be adjoined to VP in the base in Icelandic (= (5)). In Mainland Scandinavian, on the other hand, sentence adverbs appear, at first sight, to adjoin to I' (= (6)).

As noted in Holmberg (1987) however, the structure in (6) violates Chomsky's Adjunction Principle (1986b, p. 6):

- (7) Adjunction is possible only to a maximal projection (hence, X'') that is a nonargument.

There are various possibilities of maintaining the Adjunction Principle and accounting for the different status of sentence adverbs in Icelandic and Mainland Scandinavian (which I shall consider in more detail shortly). See the discussion in Kosmeijer (1987), Holmberg (1987) and Platzack (1987b). I shall return to the problem in 2.5, where I will suggest a slightly revised version of Holmberg's (1987) solution. As we shall see, this solution entails that Mainland Scandinavian does not have the 'straightforward' sentence structure (3). Until in 2.5 however, I shall assume the structures (3) and (6) for Mainland Scandinavian - for expository purposes.

⁷ This has the positive effect that all clauses are maximal categories. Furthermore, it allows that e.g. N and V be the immediate heads, respectively, of NP and VP in the absence of [Spec, NP] and [Spec, VP]. - For a discussion about the possibility that subjects are actually VP-internal, that is [Spec VP] (at least in some languages), see e.g. Webelhuth (1986), Contreras (1987), Diesing (1987), and Rögnvaldsson and Thráinsson (1988).

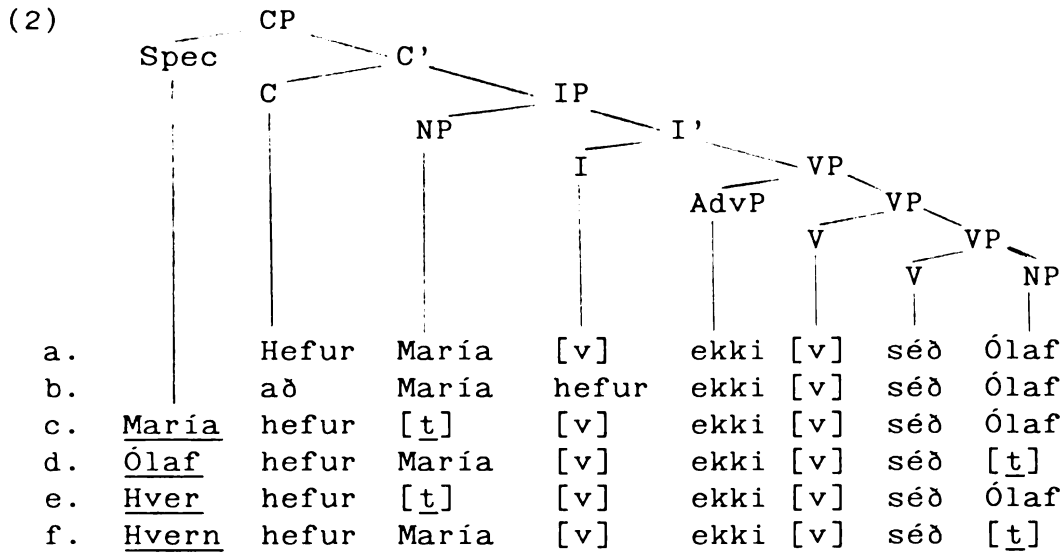
1.3 Adapting GCA to Icelandic

Icelandic has several types of V1 order in declarative main clauses (cf. Sigurðsson 1983, 1985a, to appear). Apart from these V1 declaratives, it shows almost exactly the same V1 and V2 properties in main clauses as the other Germanic V2 languages, as already mentioned. It thus seems natural to extend GCA to Icelandic as first suggested by Platzack (1983b) and further argued for in e.g. Platzack (1984, 1986b), Holmberg (1984a, 1985a, 1985b, 1986) and Sigurðsson (1984, 1985a, 1986a) (but for some problems involved in this, see below).

The examples in (1) illustrate some of the most normal word order patterns in Icelandic:

- (1)a. Hefur María ekki séð Ólaf?
has Mary not seen Olaf
- b. ... að María hefur ekki séð Ólaf.
that Mary has not seen Olaf
- c. María hefur ekki séð Ólaf.
Mary has not seen Olaf
- d. Ólaf hefur María ekki séð.
Acc Nom
Olaf has Mary not seen
- e. Hver hefur ekki séð Ólaf?
who has not seen Olaf
- f. Hvern hefur María ekki séð?
who(m) has Mary not seen

The approach outlined in section 1.2 accounts for these patterns as shown in (2); NP- and *wh*-traces are marked as [t] but verb traces as [v] (since the binding relations between moved verbs and their traces are always obvious, there is in general no need to show these relations by indices or underlining):



Note that the finite verb moves from I(nfl) to C(omp) in all cases except in (2b), where Comp is occupied by an overt complementizer (*að*) which blocks I-to-C; hence, the verb stays under Infl in (2b) (but for an additional explanation, in terms of syntactic features, see the discussion around (5) in 2.2).

Now, consider another set of facts, namely sentences with the expletive *það* 'there, it'. As argued by Thráinsson (1979), this *það* is not a subject, 'grammatical' or whatever. Rather, it is inserted or generated in [Spec, CP], the subject position (typically) being empty (cf. e.g. Zaenen 1983, 1985; Rögnvaldsson 1984a; Platzack 1983a). That is, expletive *það* occurs clause-initially, typically in certain types of null-subject sentences. The types involved in this are quite numerous (cf. 5.3.1), but the best known are existential/presentative sentences, the 'weather construction', and impersonal passives, cf. (3) (since *það* is not generated in the subject position, the latter does not contain a trace, but *pro*, denoted as "[e]"):

- (3)a. *það er* [e] *sennilega enginn hérna.*
 there is probably nobody here
- b. *það rigndi* [e] *í gær.*
 it rained yesterday
- c. *það var* [e] *sofið í öllum herbergjunum.*
 it was slept in all the rooms
 (i.e. 'All the rooms were slept in.')

In 5.3.1 and 6.3.1, I shall discuss these types in more detail. As we shall see there, sentences like (3) seem to be constructed in much the same way as other V2 main clauses in the language, that is, they seem to involve a filled [Spec, CP] and a movement of the finite verb into the second

position.

Our model will also have to account for the word order asymmetry between main and subordinate clause *wh*-interrogatives, illustrated in (4) and (5):

- (4)a. [Hvern sá María]?
 whom saw Mary
 'Who did Mary see?'
 b. Ég veit [hvern María sá].
 I know whom Mary saw
- (5)a. [Hvenær sá María Jón]?
 when saw Mary John
 'When did Mary see John?'
 b. Ég veit [hvenær María sá Jón].
 I know when Mary saw John

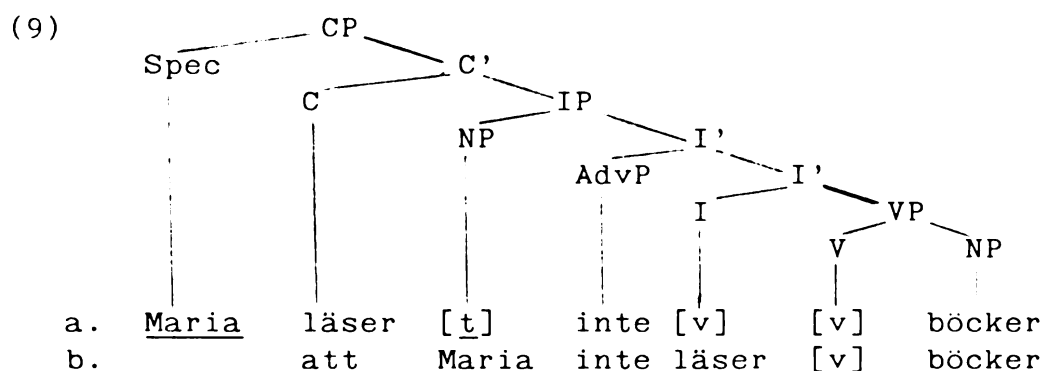
As suggested by Thráinsson (1984b, 1986a), this is accounted for if *wh*-phrases move to Comp in indirect questions in Icelandic (these not having any [Spec, CP]), whereas they move to [Spec, CP] or the XP-position in main clauses, as we have already seen. An alternative is to assume, with Platzack (1986b), that *wh*-phrases always move to [Spec, CP] in all V2 Germanic (as they clearly do in Mainland Scandinavian), Comp, for some reasons, being obligatorily empty in embedded interrogatives in Icelandic (and German). See also Chomsky (1986b). The difference does not really matter here so I shall not pursue the (interesting) question.

In short, it seems clear that we can apply GCA quite successfully to all the most canonical sentence structures of Icelandic, including declarative main clauses (subject-initial or not), normal subordinate clauses, *yes/no*-questions, main clauses with expletive *það*, and *wh*-interrogatives. However, adapting GCA to Icelandic is not as simple and straightforward as all this might seem to indicate. The principal reason for that is that Icelandic is generally 'V2' not only in main clauses but also in subordinate clauses (with the exception of *wh*-clauses). The great appeal of GCA is that it does not only account for V2 and V1 in main clauses; it also accounts for the well-known word order asymmetry between main and subordinate clauses typical of most V2-Germanic. As for Icelandic, however, the problem is that there does not seem to be any such asymmetry to be explained by I-to-C in main clauses.⁸ This is illustrated in (6), which should be compared to the Swedish (7) and the German (8):

⁸ In this respect, Yiddish is very much like Icelandic, cf. den Besten and Moed-van Walraven (1986). See also Diesing (1987).

- (6)a. *María les ekki bækur.*
 Mary reads not books
 b. ... að *María les ekki bækur.*
- (7)a. *Maria læser inte böcker.*
 Mary reads not books
 b. ... att *Maria inte læser böcker.*
- (8)a. *Maria liest nicht Bücher.*
 b. ... daß *Maria nicht Bücher liest.*

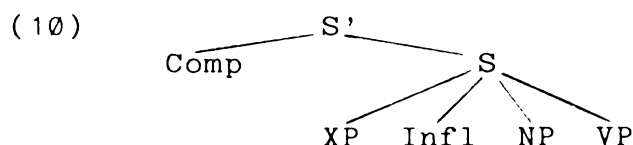
Obviously, if we assume, with den Besten (1977, 1983), that the finite verb moves to an empty Comp-node in (second position in) the main clauses, we have an account for the asymmetry in (7) and (8): whenever Comp is occupied by an overt complementizer (*att*, etc.), like in (7b) and (8b), I-to-C is blocked (as first argued by den Besten 1977). The S-structures in (9) show how our system works for the orders in (7) (as we shall see in 2.5, Mainland Scandinavian actually does not have exactly this sentence structure and does not apply V-to-I, but this is immaterial for the moment):



Given that German has object-verb and VP-Infl order, the asymmetry in (8) is accounted for in a parallel manner.

Now, we do not expect such central phenomena as V2/V1 in main clauses to show up in almost exactly the same manner in closely related languages without there being any relation between the languages with respect to the phenomena in question. Therefore, the null-hypothesis would seem to be that V2/V1 should be explained in the same manner in all V2-Germanic. Icelandic constitutes an interesting challenge to this hypothesis. More specifically, the absence of a general asymmetry in word order between main and subordinate clauses in Icelandic raises the question whether I-to-C actually is operative in the language. Rögnvaldsson (1984a, 1987) and Thráinsson (1984b, 1986a) suggest that it is not and propose an account

for Icelandic word order along the lines sketched in (10), where only subordinate clauses have Comp and the S'-level:⁹



Since this alternative postulates an XP-position in normal subordinate clauses, as well as in main clauses, we may refer to it as the Generalized XP Analysis. As discussed in Sigurðsson (1985a, 1986a, to appear), it has some empirical drawbacks. However, it also has certain empirical virtues. Thus, it allows for both Topicalization and insertion of expletive *það* in subordinate clauses (into the XP-position). Both phenomena are clearly much more heavily constrained in subordinate clauses than in main clauses. All the same, there are many instances of grammatical Topicalization (of non-subjects) and of grammatical *það*-insertion in Icelandic subordinate clauses, cf. e.g. Zaenen (1983) and Rögnvaldsson (1984a). As argued by Platzack (1983b, 1986b), though, these problems for GCA are at least technically solvable.¹⁰

According to the Generalized XP Analysis, there is only one Verb Fronting involved in the derivation of both main and subordinate clauses, viz. V-to-I. Not surprisingly, however, this simplification leads to complications elsewhere in grammar. For example, it forces us to assume that normal subject-initial subordinate clauses involve Subject-Topicalization.

As argued by Platzack (1983b; 1984; 1986b, p. 210), it is quite simple to adapt GCA to Icelandic if we assume that the relative order of Infl and the sentence adverb position is different in Icelandic and Mainland Scandinavian, as shown in (11):

- (11)a. Icelandic: Infl-AdvP-VP
 b. Mainland Scandinavian: AdvP-Infl-VP

This gives the desired result (cf. also (2) and (9) above). Consider again the examples in (6) and (7):

⁹ In a recent article, Rögnvaldsson and Thráinsson (1988) develop the same basic ideas in a binary branching approach, suggesting that the subject is generated in [Spec, VP] and normally moved to [Spec, IP], the XP-position (in subordinate clauses as well as in main clauses); for similar ideas about other languages, see e.g. Webelhuth (1986) and Contreras (1987). In this form, Rögnvaldsson and Thráinsson's ideas are more challenging and interesting, I find.

¹⁰ For a much more serious problem for GCA, raised by the extremely free Topicalization in Yiddish subordinate clauses, see Diesing (1987).

- (6)a. María les ekki bækur.
 Mary reads not books
 b. ... að María les ekki bækur.
- (7)a. María läser inte böcker.
 Mary reads not books
 b. ... att Maria inte läser böcker.

There is no difference between the main clauses, since I-to-C applies to both (after V-to-I, moving the finite verb from Infl to Comp in second position). In the subordinate clauses, on the other hand, only V-to-I applies. Given (11), this inevitably leads to the order *verb-adverb* in Icelandic but to *adverb-verb* in Mainland Scandinavian.

We might also argue that the apparent word order symmetry between main and subordinate clauses in Icelandic is only illusory: Clearly, the order *subject-verb* is preceded by a subordinating conjunction in the latter, that is, the normal subordinate clause in Icelandic is actually verb-third and not verb-first or verb-second like main clauses.

However, it must be admitted, Platzack's approach to Scandinavian word order suffers from some theoretical and explanatory shortcomings (noted by e.g. Kosmeijer (1986, 1987), Sigurðsson (1986c, 1988a), Holmberg (1987), and Platzack (1987b)). First, it presupposes that there is a fixed order in the base, i.e. that phrase structure rules have an independent status. This is a theoretical drawback, given the program to derive the effects of the phrase structure rules in earlier transformational frameworks from general principles of Universal Grammar, such as those of X-Bar Theory and the Theta-Criterion (cf. Stowell 1981; Hoekstra 1984, p. 23 ff.; Chomsky 1986a, 1986b). Second, and more important for us, it does not *explain* why the order of Infl and sentence adverbs should be different in Icelandic and Mainland Scandinavian. It thus seems clear that it would be a substantial improvement if we could dismiss (11) as a stipulation, and derive it, instead, from some general principles.

Perhaps the difference in (11) is only accidental (cf. Holmberg 1985a, p. 192). But since all the Old Scandinavian languages had the 'Icelandic order' in subordinate clauses as a rule (cf. e.g. Larsson 1931 pp. 77 ff., 138 ff., 175 ff.; Wessén 1956, p. 328 ff.), this seems highly implausible. It presupposes that all three Mainland Scandinavian languages changed independently in the same direction, without any particular reason. Moreover, if it was diachronically possible to shift the order of Infl and sentence adverbs in a free and an unprincipled manner, then there is no reason to believe that this should not also be synchronically possible, that is, we could then expect the order of Infl and sentence adverbs to

be free in Modern Scandinavian, which, however, is clearly not the case.¹¹

With respect to Infl and the finite verb, there are two striking differences between Icelandic and Mainland Scandinavian: First, the finite verb in Icelandic regularly shows an almost complete inflectional paradigm for (first, second, and third) person and (singular and plural) number, whereas the Mainland Scandinavian languages are the only Germanic languages that show no traces of subject-verb agreement. Second, there is abundant evidence for V-to-I in Icelandic (cf. e.g. Thráinsson 1984a, 1986b, 1986c), as opposed to Mainland Scandinavian. That is, if V-to-I takes place in Mainland Scandinavian, then it must apply string-vacuously (as pointed out by Holmberg (1985a; 1986, p. 85); see also (9) above). Compare the Swedish examples in (12) to the Icelandic ones in (13) (because of the masking effects of I-to-C, I use subordinate clauses for demonstration):¹²

- (12)a. ... att María inte läste boken.
 that Mary not read the book
 '... that Mary did not read the book.'
 b. ... att María inte har läst boken.
 has read
 c. ... att María inte skulle ha läst boken.
 should have
- (13)a. ... að María las ekki bókina.
 that Mary read not the book
 b. ... að María hefur ekki lesið bókina.
 has read
 c. ... að María skyldi ekki hafa lesið bókina.
 should have

Moreover, as pointed out by Holmberg (1985a, p. 177), V-to-I must leave a trace in Icelandic, whereas it would not have to do so in Mainland Scandinavian, "neither ... for the purposes of Case assignment, nor for satisfaction of the Projection Principle." This makes it rather suspicious that the finite verb should move to Infl in Mainland Scandinavian (see

¹¹ Faroese seems to be rather free in this respect, though. According to Platzack (1984, p. 196) "the finite verb can be found both before and after a sentence adverbial in subordinate clauses" in Faroese. Lockwood (1955) is rather unspecific on this point, but says, among other things, "if the adverb is stressed, it must come in front of the verb" (Lockwood 1955, p. 157). It is unclear whether this may be interpreted as meaning that the adverb is normally postverbal if it is unstressed. Barnes (1987) contains a very useful survey of word order in Faroese subordinate clauses, but unfortunately it does not shed much light on this particular question.

¹² The strict pattern seen in cases like (13) clearly undermines Andrews' suggestion (1982a, p. 428) that Icelandic has no VP. For further (convincing) arguments against Andrews' proposal, see Thráinsson (1986b).

further 2.5).

In chapters 2 and 3, I shall consider, in some detail, how we could solve this problem. My solution involves three basic assumptions: First, Infl assigns nominative Case in Icelandic, whereas Comp is the nominative Case assigner in Mainland Scandinavian. Second, a Case assigner must m-command its Case assignee. Third, all Case assigners must contain some lexical feature. It follows that the Icelandic Infl must be lexicalized by V-to-I and situated such that it m-commands [NP, IP]. In Mainland Scandinavian, on the other hand, V and Infl amalgamate by means of an 'adjacent' or a local 'I/V Reanalysis'. This is possible because V-to-I is not forced for the purpose of successful nominative Case assignment in Mainland Scandinavian (Comp being the nominative Case assigner).

Before this approach can be developed, however, it is necessary to consider the interrelations between Verb Fronting, Case, and (proper) government, and look into some initial evidence that V-to-I indeed applies in order for Infl to be able to assign nominative Case in Icelandic.

2 Verb Fronting, Case and government

2.0 Introduction

In other works (Sigurðsson 1984, 1985a, 1986a, to appear), I have presented various evidence that I-to-C applies in main clauses in Icelandic, as in other V2 Germanic. I shall not repeat my arguments for this standpoint here, nor shall I add further evidence in favor of it.¹ What matters here is not so much the empirical evidence for I-to-C, but rather the more general question why it should be the case that normal 'simple' main clauses should be derived by two verb movements. The question why V-to-I should apply in finite clauses (and some infinitivals) is one of the fundamental questions to be dealt with in this work. However, I-to-C also raises some intriguing questions that are relevant here. In particular, we would like to have some answers to the following questions about V2 Germanic:

1. Why must (at least) all finite clauses have Comp?
2. Why must Comp be filled in main clauses?
3. Why is the finite verb the only element that can (and must) move to Comp in main clauses?

There are numerous (and widely differing) attempts to explain I-to-C in the recent generative literature. However, most of these attempts are insufficient in some rather obvious ways. Thus for instance, Scherpenisse (1984) and Travis (1984, p. 135) suggest that I-to-C is explained by the Empty Category Principle (ECP, cf. Chomsky 1981, Kayne 1981a): Comp is base generated empty in main clauses and since it is ungoverned it must be filled at some stage in the derivation if an ECP-violation is to be avoided (unless, of course, heads are exempted from ECP, cf. the discussion in Holmberg 1986, chapter 6). - Obviously, however, this only answers question 2 above, and not questions 1 and 3.

Since I-to-C is a main clause phenomenon it links, in all probability, to some inherent difference in nature between main and subordinate clauses. What could this be? The most plausible suggestion, in my opinion, is that of Kayne's (1982) as further developed by Taraldsen (1986a) and, in particular, Holmberg (1986), namely that I-to-C should be explained 'functionally': main clauses typically function as predicates and subordinate clauses as arguments or modifiers. The function of I-to-C is to provide the main clause with a 'predicative' or a verbal head (so that the clause

¹ However, let me mention one further argument: Recall that one of the differences between GCA and the Generalized XP Analysis is that subjects in initial position of subordinate clauses are topicalized in the Generalized XP Analysis, but not in GCA. As we shall see in 5.2, the distribution of referential null-subjects supports GCA rather decisively in this point. Referential null-subjects must be topicalized in Icelandic and other V2 Germanic, that is, GCA predicts that missing referential subjects should only be able to 'drop' from the [Spec, CP] position of main clauses in these languages. This is borne out, cf. 5.2.

can function as a predicate). Moreover, Holmberg (1986) argues, the function of V-to-I is parallel to that of I-to-C, i.e. by providing I' (and IP) with a verbal head, it enables I' (and IP) to function as a predicate. Before we consider this in more detail, it is necessary to review the explanation of I-to-C developed by Platzack (1983b, 1986b).

Platzack suggests that I-to-C should be explained in terms of nominative Case assignment (basically the same idea was independently developed by Koopman 1984). By hypothesis, nominative Case is assigned by a *lexicalized* head that is [+Tense]. Also by hypothesis, Comp is always [+Tense] (and the head of S) in finite clauses in V2 Germanic. In clauses that have an overt complementizer in Comp (which absorbs [+Tense]), this will ensure nominative Case assignment to the (immediately following) subject. In main clauses, on the other hand, Comp is (normally) not lexicalized in D-structure. Hence, if nothing further happens, it will not be able to assign nominative Case to the subject of the clause and the sentence will be ruled out by the Case Filter (cf. Chomsky 1981). Since, however, the finite verb of the clause is [+Tense], it may move to Comp. Subsequently, Comp, now being supported by lexical material, may assign nominative Case to the subject, and the sentence is rescued.

I-to-C is probably necessary for successful nominative Case assignment in Mainland Scandinavian (as well as for proper predication). See section 2.2. As for Icelandic, on the other hand, Platzack's approach is not compatible with the analysis developed here (Infl and not Comp being the nominative Case assigner in Icelandic). Moreover, it is not clear why nominative Case should be inherently related to [+Tense] - in fact, there is evidence that it is not in Icelandic. See 3.4.2 and chapter 5. Hence, I shall adopt Holmberg's (1986) approach to I-to-C as a general explanation of 'Verb-Second'. However, it seems clear that the status of Comp and Infl with respect to Case needs to be clarified. To do so will be my major task in this chapter. The organization of the chapter is as follows: First, I shall briefly sketch Holmberg's explanation of Verb Fronting (i.e. V-to-I and I-to-C). In 2.2, I develop an initial theory of nominative Case assignment (to be supplemented in chapters 3.3 and 4). In 2.3, I consider government and Case, and in 2.4, I discuss how V-to-I and I-to-C relate to proper government. It will be argued that Case is assigned under m-command rather than government; on the other hand, both verb-movements seem to be subject to the Empty Category Principle (i.e. the verb traces must be properly governed). Finally (2.5), I deal briefly with the Mainland Scandinavian counterpart to V-to-I, a process which I call I/V Reanalysis. An important achievement of the proposed analysis is that it forces the word order differences between Icelandic and Mainland Scandinavian as well as nominative Case assignment by Comp in Mainland Scandinavian but by Infl in Icelandic.

Many of the problems addressed here 'project' into later parts of this

work. A coherent explanation of V-to-I requires that infinitivals be studied in some detail (chapter 3). The problems raised by infinitivals, in turn, call for a coherent theory of Case (chapters 4-6).

2.1 Holmberg's hypothesis

As pointed out by Holmberg (1986, p. 136), clauses typically fulfill or perform the same 'grammatical-logical functions' as phrasal categories, being either predicates, arguments, or modifiers. Canonically, arguments are NPs, predicates are VPs, and modifiers are APs or PPs (or AdvPs). Clearly, clauses may perform all these functions: complement clauses are arguments, relative clauses and adverbial clauses are modifiers, and main clauses are typically predicates. It thus seems natural to generalize over phrasal categories and clauses in terms of syntactic features. Holmberg (1986, chapters 3 and 5) discusses in considerable detail various possibilities of executing this and comes up with the following proposal (1986, p. 141):

- (1)a. **The Predicate Principle:** A predicate must be [+V].
 b. **The Argument Principle:** An argument must be [-V].
 c. **The Modifier Principle:** A modifier must be [%V].

"%" means 'neutral'. Holmberg (cf. 1986, p. 58 ff.), basically following Reuland (1986), assumes that the syntactic features, [V] and [N], are ternary, and not binary, "%" effectively being a third value.

As pointed out by Holmberg (1986, p. 141 ff.), the formulations in (1) are quite strong, perhaps too strong. Thus, for instance, the Double Object Construction seems to involve a secondary predicate (where the direct object is predicated of the indirect one, see e.g. Herslund 1986); as far as I know, however, there is no reason to believe that these secondary predicates (and many small clauses, cf. 3.4.1) are [+V]. Also, PPs may exceptionally function as arguments in English (for an interesting study of this, see Jaworska 1986); (2) is a well-known example:

- (2) Under the table is a good place to hide.

Holmberg (1986, p. 66) argues that PPs may either be [%V] or [-V] (hence, modifiers or arguments). All the same, it seems that we have to distinguish between primary and secondary predicates and arguments, the principles in (1) only holding for the former.² Conversely, these principles are perhaps

² Precisely how this distinction should be drawn is, of course, not obvious; perhaps, Dahl's (1985) theory of prototypes is the appropriate framework.

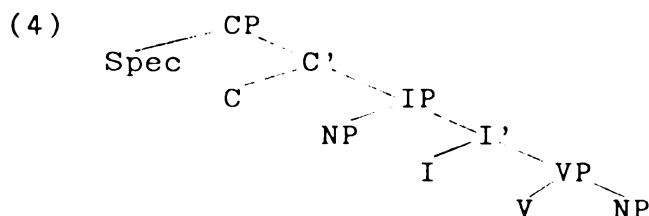
also too weak. It seems rather clear, for instance, that arguments are canonically [+N] as well as [-V], and that predicates are canonically [-N] as well as [+V]. We shall return to this in 2.3 and 3.2.3 (suggesting a somewhat more traditional approach).

Holmberg explains Verb Fronting (V-to-I and I-to-C) in terms of the Predicate Principle in (1a) and a fairly well articulated feature theory. Vitally important are the following percolation conventions (Holmberg 1986, p. 60):³

- (3)a. **Percolation Convention 1 (PC1):**
The features of a head a percolate to the first branching node dominating a.
- b. **Percolation Convention 2 (PC2):**
If a head a is neutral with respect to some feature (F), and a (non-head) sister b of a is specified (F), the specified feature value of (F) may percolate to the first branching node dominating a and b.

- where we understand 'head' as being either the X-node or the X'-node of the X-projection in question.

Now consider the structure of CP in Icelandic:



C(omp) is the head of C' and I(infl) is the head of I'. In turn, C' and I' are the heads (with respect to [Spec, CP] and [NP, IP]) of CP and IP, respectively. Hence, if Comp and Infl are [+V], C'/CP and I'/IP will be so too by PC1. According to Holmberg (1986, ch. 5), the function of V-to-I and of I-to-C is to ensure that I'/IP and C'/CP, respectively, will be [+V] (thus able to function as predicates, cf. (1a) above).

³ Holmberg (personal communication) points out to me that arguments are probably barriers to percolation of syntactic features. This would account for e.g. the fact that [+wh] of the Comp of subordinate interrogatives does not percolate to the matrix by PC2. More generally it seems clear to me that *maximal categories* block percolation of syntactic features (percolation of [+wh] thus being blocked if subordinate interrogatives are CPs). This follows if all percolating features percolate within that part of the m-command domain of the 'percolator' that is not 'protected' by another more local 'percolator', in a sense that will be pursued for Case percolation in chapter 4.

However, as soon as we consider PC2 in (3b) above, a complication arises: If Infl is [%V], the [+V] feature of VP should be able to percolate to I'; in the same manner, the [+V] feature of I (after V-to-I) should be able to percolate to C' if Comp is unspecified for [V]. Also, of course, if Comp and Infl were [+V], the verb movements could not be obligatory, given that their very function is to provide Comp and Infl (and their projections) with this feature value. Hence, Holmberg (1986, p. 147) postulates, both Infl and Comp are [-V] by default in all V2 Germanic. This will force V-to-I and I-to-C, in order for I' and C' to satisfy the Predicate Principle: both I'/IP and C'/CP would stay [-V] and thus violate the Predicate Principle if it were not for the verb movements. In English, on the other hand, Infl and Comp are [+V] by default, which means that neither of the verb movements is obligatory.

As for I-to-C, I find this solution rather attractive. Clearly, given some version of the Generalized Comp Analysis, Comp (and C'/CP) may either be [+V] or [-V]: complement clauses, hence their Comp, are [-V], and main clauses, hence their Comp, are [+V]. Thus, it seems rather natural to assume that the default value of Comp may be subject to a parametric variation.⁴

For V-to-I and Infl, on the other hand, Holmberg's solution is less feasible, I find. First, it seems plausible to assume that V-to-I must apply in Icelandic in order for Infl to be able to assign nominative Case. Second, Infl-projections (I' and IP) seem invariably to be predicates. However, neither of these initially plausible assumptions are self-evident. Thus, it is not clear that all infinitivals that are arguments are CP rather than IP or VP (cf. section 3.4.1). Also, if we wish to argue that V-to-I applies in order for Infl to be able to assign nominative Case, we have to motivate, first, that a lexically empty (or a V-less) Infl is incapable of assigning Case, and second, that Comp cannot normally replace Infl as a nominative Case assigner in Icelandic.

I will return to this in 2.4, where I consider the possibility that V-to-I be explained in terms of ECP. As we shall see in 3.3, however, an explanation in terms of nominative Case assignment seems to be the only explanation that accounts for the *obligatoriness* of V-to-I in Icelandic CPs. But before we proceed any further, it is necessary that we consider nominative Case assignment (2.2) and government (2.3) in more general terms.

⁴ But of course, the basic assumption that English differs from other Germanic languages with respect to the default values of C and I is stipulative, and it is probably very difficult to come up with any independent evidence for it. In this, however, Holmberg's analysis is no different from other parametric analyses. Stipulating a parameter is always the same as saying that the variation dependent on the parameter cannot be fully explained in terms of general linguistic principles (as, for instance, pointed out by Adams (1987, p. 29)).

2.2 Nominative Case assignment

First, let us briefly consider the feature system proposed by Holmberg (1986, chapter 3). It consists of six feature values: $[+V, -V, \%V]$ and $[+N, -N, \%N]$. For English, thus, Holmberg suggests the following system (cf. Holmberg 1986, p. 58):

(1)a.	Name, Det:	$[-V, +N]$
b.	Complementizer	$[-V, \%N]$
c.	V (tr)	$[+V -N]$
d.	V (intr./Aux)	$[+V, \%N]$
e.	P (tr)	$[\%V, -N]$
f.	P (intr)	$[\%V, \%N]$
g.	N, A, AGR	$[\%V, +N]$

To this, we may add that passive past participles seem to be $[+V, +N]$ (adjectives and adjectival participles, on the other hand, are probably $[\%V, +N]$, cf. 6.4.3).

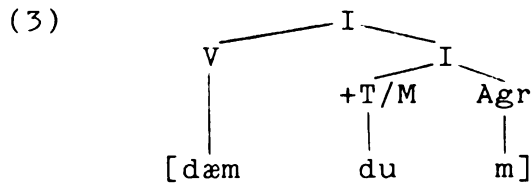
It seems obvious to me that this must be worked out in more detail if we are to capture further refinements in the categorial system. Thus, for instance, we would like the features to reflect not only the fact that adjectives and nouns have much in common but also the fact that they very often diverge. But what matters, for the moment, is that the system in (1) enables Holmberg to maintain the following generalization:

- (2)a. Only $[-N]$ categories can assign Case
 b. Only $[+N]$ categories can receive Case

However, consider the standard assumption that the $[+N]$ Agr element in Infl is a nominative Case assigner (cf. Chomsky 1981, p. 52). If that is correct there must be something wrong with the generalization in (2a).

On the other hand, there is probably also something wrong with the standard view that Agr is $[+N]$. As we shall see, $[+N]$ elements generally must bear morphological case and gender in Icelandic. Since Agr bears neither, this indicates that it is not $[+N]$. Second, consider the structure of the tensed Infl (cf. e.g. Haegeman 1985; Kosmeijer 1987). It seems clear that it is headed by I rather than V in Icelandic (see also Kosmeijer 1987, p. 88 ff.). Affixes, and not stems, usually head words. In addition, if the tensed Infl were headed by V, the finite clause would be a V-projection rather than an I-projection, thus violating our approach to sentence structure. Moreover, it seems natural to assume that the tense and mood of the basic Infl are head-features of the clause. Consider also Platzack (1987b) on the conceptual drawbacks of assigning different categorial status to the clause in different languages. All in all, then, it seems

highly preferable to assume that the tensed Infl in Icelandic is a complex I rather than a complex V. I therefore assume the structure (3) for 1st person plural subjunctive preterite *dæmdum* of *dæma* 'judge'. I do not specify +T(ense)/M(ood) as "-present" and "+subjunctive"; although this would be the proper analysis, it would mask the generality of the pattern:⁵



V is [+V,-N]. However, since it is not the head of the complex Infl, it only projects these features in so far as they are not in contrast with the features of the head-I (immediately dominating +T/M and Agr). Now, the tense-mood marker is presumably unmarked for [V] and [N], i.e. [%V,%N] (like e.g. temporal adverbs). Thus, no matter whether I itself is headless or headed by +T/M or Agr, Agr will project its marking for [N] if it is positive, [+N].⁶ Since I, in turn, is the head of the whole complex, it will project this marking, the result being that the complex Infl is [+N] (as well as [+V]). Accordingly, I'/IP would be [+N]. Moreover, both Comp and its projections would be so marked in main clauses after I-to-C. Following Kayne (1982), I take it that predicates must not be [+N], which means that Agr must either be [%N] or [-N].⁷ If that is correct, the complex Infl in (3) must have the purely verbal specifications [+V,-N]. If Agr is [-N], the complex Infl gets this value by Homberg's Percolation Convention 1 in 2.1(3a). But if Agr is [%N], the complex Infl gets [-N]

⁵ In traditional Icelandic grammar, the tense-mood marker is taken to be only the suffix *d*, *um* being the person-number ending. This seems to be incorrect (cf. Sigurðsson 1981b). It is clear, though, that there is a very high degree of syncretism in all the inflectional categories in the verb endings. However, there is nothing that blocks the percolation of the Agr specification to the lower I and from there to +T/M, Agr thus affecting the actual form of +T/M (or vice versa). Note also that the T/M specification may percolate up to the higher I and from there to V. This regularly triggers certain umlaut and ablaut variations in the verbal stem of certain verb classes. In short, I believe (3) can be maintained.

⁶ On two provisions, however, Agr might 'be allowed' to be [+N]: if +T/M were the head of the basic Infl, and if it were [-N] (the head [-N] feature of +T/M blocking projection of the [+N] of Agr). The latter assumption is implausible, I find.

⁷ As already mentioned, passive past participles are [+V,+N] (cf. 6.4.3). If Agr were [+N] the tensed Infl would have the same feature constellation. As we shall see however, there are striking differences between passive participles and the tensed Infl. First, the participles inflect for gender and Case like other [+N] elements. Second, they absorb or incorporate an external theta role. Third, they lose their ability to head a [+V] projection (hence require insertion of the copula). All this indicates that it is highly implausible that Agr, hence the tensed Infl, should be [+N].

from the verbal stem by Holmberg's Percolation Convention 2. I shall assume that Agr is [%N]. It then follows that (2a) cannot be maintained (see further below).

As we saw in (1), Holmberg assumes that intransitive prepositions and intransitive verbs are [%N], hence not Case assigners. However, in chapter 4, I shall argue that intransitives are potential Case assigners. Thus, I shall assume that they do not differ in syntactic features from transitives, verbs and prepositions generally being [-N]. An interesting possibility that I shall not pursue here is that auxiliaries are [+V,%N].

Now, consider the fact that Mainland Scandinavian does not seem to have any Agr. This is not only indicated by the fact that Mainland Scandinavian has no subject-verb agreement. As argued by Taraldsen (1983, 1986b), the tensed Infl in Mainland Scandinavian does not seem to involve any element that counts as an accessible SUBJECT with respect to the Binding Theory for empty categories. That is, empty anaphors in the subject position of finite clauses in Mainland Scandinavian do not seem to have the minimal finite clause as a governing category. Similar phenomena with respect to overt anaphors are found in several languages that also have no subject-verb agreement, e.g. Malayalam and Kannada (Mohan 1982a) and Chinese (Huang 1982; Battistella 1985).⁸ In the standard theory, Agr is an accessible SUBJECT in finite clauses (Chomsky 1981, p. 211 f.). Thus, the binding phenomena described by Taraldsen (1986b) follow directly if Mainland Scandinavian has no Agr (a fact not noted by Taraldsen himself).⁹

Provisorily, I now suggest that the tensed Infl assigns nominative Case iff it contains Agr (I shall revise this rather radically in 2.5 and 3.3). It then follows that Infl cannot be a Case assigner in Mainland Scandinavian. Following Platzack (1986b) and Holmberg (1986, p. 188 ff.), I therefore assume that Comp assigns nominative Case in Mainland Scandinavian.¹⁰ This has some consequences elsewhere in grammar.

First, what are the possible nominative Case assigners in Universal Grammar? Lexical heads assign Case to their complements. Since subjects

⁸ To a certain extent, similar facts are even found in English, cf. Huang (1983), Manzini (1983), Mohan (1985), and Bouchard (1985).

⁹ Taraldsen's (1986b) analysis is highly interesting, but it leaves many problems unresolved (cf. Sigurðsson 1988a). One obvious problem is that it does not extend to lexical anaphors in Mainland Scandinavian. It would take us much too far to go into the details of Taraldsen's theory of empty categories here. What matters here is that there are good reasons to believe that Infl does not contain any element that qualifies as an accessible SUBJECT with respect to empty anaphors in Mainland Scandinavian as opposed to Icelandic (Sigurðsson 1986c).

¹⁰ Consider also Stowell (1983), who assumes directional government. On the assumption that languages like English always have rightwards government and that Case is assigned under government, he is forced to assume that Tense assigns nominative Case from Comp in English (cf. 1983, p. 295).

are not complements, (4) suggests itself:

- (4) Only nonlexical zero-level heads can assign nominative Case

That is, only the 'sentential heads' Infl and Comp. - In passing, note also that this approach enables us to dissociate nominative Case and [+Tense], a fact to which I shall return.

Second, are there any featural restrictions on nominative Case assigners? It is not obvious that they should be subject to any special featural restrictions as compared to other Case assigners. Thus, both the tensed Infl in Icelandic and the main clause Comp in Mainland Scandinavian must be [+V,-N] if I am correct that verbs are generally [+V,-N], that is, they have the same feature values as verbs.¹¹

Holmberg (1986, p. 188 f.) suggests that all finite clause complementizers are [-N] (thus upholding the generalization in (2a)). However, this contradicts his analysis of English *that* as [-V,%N], cf. (1b) above. Historically, complementizers like *that*, Icelandic *að*, Swedish *att*, German *dass*, etc. seem to be degenerate nominal elements, that is, they are historically related to 3rd person singular demonstrative pronouns like *that*, Icelandic *það*, Swedish *det*, and German *das* (cf. Wessén 1956, p. 274, and the references cited there). It seems unnatural to me to assume that these elements have been totally 'denominalized'; as we shall see in 3.2.3, they are probably either [%N] or [+N]. Also, I see no reason to assume that adverbial complementizers like Swedish *när* 'when', *sedan* 'since' and English *because* are [-N]. Rather, they are [%V,%N] like adverbs. On the other hand, 'transitive' complementizers like English *for* (cf. *For him to win would be nice.*) and Arabic *'inna*, *'anna* are perhaps [-N], like prepositions.¹²

More seriously for Holmberg's (2a), there is clear evidence that some [+N] categories, viz. some adjectives ([%V,+N]) and some passive participles ([+V,+N]), are capable of assigning lexical or 'inherent' Case (see 4.3, 5.5.2.1, 6.1, 6.2, and 6.4). Thus, it seems that (2a) is not verified (whereas

¹¹ In Mainland Scandinavian, this follows directly if Infl contains no Agr, the complex Infl (or the I/V complex, cf. section 2.5) thus inevitably bearing the [+V,-N] specifications of the verbal stem, the main clause Comp subsequently inheriting them by I-to-C. In Icelandic, the tensed Infl must be [+V,-N] if Agr is [%N], as we saw above.

¹² Complementizers of this sort assign objective/accusative case to the [NP, IP] position (cf. Holmberg 1986, p. 188 on the Arabic complementizer). However, this does not tell us anything about the relationship between syntactic features, transitivity and Case assignment since we talk about these complementizers as 'transitive' precisely because of this property. We could just as well say that Mainland Scandinavian [%N] complementizers are 'transitive' assigners of nominative Case (which they are, in fact, in Platzack's (1986b) analysis).

(2b) is).

In short, I see no compelling reasons to assume any special category--featural restrictions on nominative Case assigners, or indeed on Case assigners in general. In so far as Case is a structural phenomenon (see chapter 4), we do not expect categorial features to interfere with Case assignment.¹³

Third, must (nominative) Case assigners be lexically filled (or contain a trace) at S-structure? This is, for instance, suggested by Platzack (1986b, p. 188 f.). As we shall see directly, our approach to 'lexical nulls' forces us to adopt (a slightly relaxed version of) this 'lexicalization hypothesis' of Platzack's. However, if Comp is a Case assigner in Mainland Scandinavian, this might seem to have undesirable effects. For example, it forces us to assume that the relative *som* 'that' is present (at S-structure) in Norwegian sentences like (5):

- (5) Vi vet hvem (*som) Marit snakker med.
 we know who that Mary talks with
 'We know who Mary is talking with.'

But at the same time, we also have to assume that it is absent, or else the sentence will violate the Binding Theory, at least in Taraldsen's (1986b) theory of empty categories.¹⁴ Note in passing that Holmberg's explanation of I-to-C correctly excludes Verb Fronting to an empty Comp in subordinate clauses that are arguments, like the one in (5): If I-to-C applies, the clause improperly turns into a predicate.

¹³ On the other hand, the Case Filter only applies to [+N] categories, 'Case receiving' thus being affected by categorial features (see chapter 4 and 5.3.2).

¹⁴ The reason is that *som* is an expletive element in (5). According to Taraldsen (1986b), empty categories that are locally bound by an expletive are anaphors (but variables if they are locally bound by an operator). If the EC in (5) is locally bound by *som*, it is thus an anaphor that is free in its governing category. The relevant structure is shown in (i):

- (i) *[hvem [som [Marit snakker med [t]]]

The governing category of the EC is the minimal IP (since it contains the EC, its governor *med*, and an accessible SUBJECT *Marit*). The grammatical *som*-less version presumably contains an empty complementizer that inherits the operator properties of *hvem*. Being locally bound by an operator, the EC is then a variable, hence properly free in its governing category. - Note, however, that this analysis obviously does not work as smoothly for Swedish as for Norwegian since sentences like (5)/(i) are acceptable in (at least colloquial) Swedish, cf. (ii):

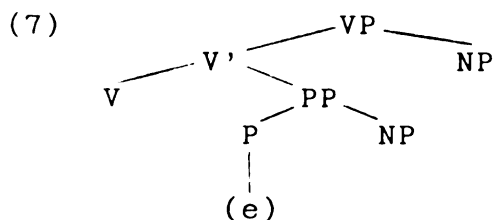
- (ii) Vi vet vem som Maria pratar med.
 we know who that Mary talks with

For further problems with Taraldsen's analysis, see Sigurðsson (1988a) and fn. 15 below.

Holmberg (1986, p. 177) proposes the following principle:

- (6) A head is Case-visible iff:
- a. it has a phonetic matrix
 - b. it is Case-marked, or
 - c. it is properly governed.

- where 'Case-visible' means "can assign Case" (the term thus being slightly misleading). As noted by Holmberg (1986, p. 190), this is not without problems. As far as I can see, also, the empty complementizer in (5) does not meet any of the visibility conditions in (6): it is neither Case-marked (given that CP is a barrier to Case assignment, cf. 5.5.3) nor is it properly governed by *hvem* (at least not under our conception of proper government, cf. the next subsection). As we shall see later, both the X-bar system assumed here and the Feature Percolation Theory of Case developed in chapter 4 suggest that some constructions involve insertion of an empty preposition which inherits and assigns a lexical Case feature of some lexical category (similar analyses are proposed by Kayne (1984) and Homberg (1986)). The most typical case is the Double Object Construction, where an empty preposition inherits a lexical Case feature of the verb, cf. 6.5.2. The result is normally a structure like (7):



In the present approach, the empty P is neither Case marked nor properly governed. If that is correct, Holmberg's 'Case-visibility Theorem' cannot be maintained.

One of the most central claims of this work is that there are no 'lexical nulls' (cf. chapter 5). It follows that the empty preposition in (7) must be inserted in syntactic structure (where it inherits the lexical Case feature which it assigns), see further 6.2.2 and 6.5.2. Moreover, it also follows that *som* is present in (5) for the purpose of successful Case assignment, i.e. its absence must be due to a PF-deletion.¹⁵ Note that the empty Comp in (5) necessarily 'corresponds directly' to *som*, that is, it necessarily

¹⁵ Note, however, that this undermines Taraldsen's (1986b) analysis: it seems rather implausible to assume that *som* must be deleted in order for the sentence to meet the binding principles at PF. As pointed out to me by Jan Koster (personal communication), it might be more promising to look out for an ECP explanation of the peculiar (near) complementary distribution of *som* and a null-complementizer in Mainland Scandinavian.

has the same syntactico-lexical features as **som**. For example, it must be [-V] or else the subordinate clause would not be able to function as an argument. In addition, it must contain some feature that distinguishes it from the empty declarative **at(t)** 'that' complementizer in Mainland Scandinavian.¹⁶ In the light of this, I adopt Platzack's lexicalization hypothesis in a slightly weakened form:

- (8) A Case assigner must contain some lexical feature
(either inherent or inherited)

(- I take it that traces of lexical categories satisfy this condition.) Accordingly, I assume, with Platzack (1986b), that Verb Fronting provides the Mainland Scandinavian main clause Comp with the necessary lexical feature(s) and extend this to Infl in Icelandic. - If this approach is on the right track, it obviously means that I-to-C must have a double function in Mainland Scandinavian, being necessary for successful nominative Case assignment as well as for proper predication. The emerging picture is thus like this: There are no categorial restrictions on Case assigners. On the other hand, all Case assigners must contain some lexical feature. However, there is a basic difference between lexical and nonlexical zero-level heads (in the sense of X-bar Theory): lexical heads assign non-nominative Case, whereas nonlexical ('sentential') heads assign nominative Case.

As mentioned above, this approach dissociates (nominative) Case and [+Tense]. Instead, structural Case relates directly to syntactic structure, namely the X-bar system (see further chapter 4). This is a desirable conceptual improvement.

2.3 On government

What are the consequences of our approach for Government Theory? The answer depends on how we conceive of the relationship between Case and government. Borer (1986) suggests that Infl assigns nominative Case to the [NP, IP] position by virtue of being coindexed with it. I shall start out by taking the stronger conventional viewpoint that Case can only be assigned under government. As we shall see, however, this overgeneralizes over complements and specifiers in a rather unfortunate manner, that is, it masks important differences between the head-complement relation and the head-Spec relation. This will eventually lead us to suggest that Case

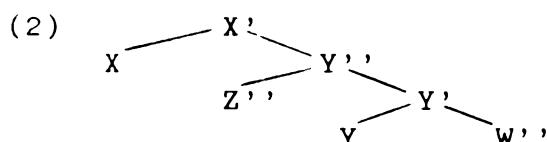
¹⁶ In Mainland Scandinavian, the empty complementizer might be [-V] by default. However, an analogous approach to empty complementizers in English is excluded if Holmberg (1986) is right that Comp is [+V] by default in English. Thus, given Holmberg's approach, we are forced to assume the possibility of complementizer deletion in UG in any case.

is dependent on m-command rather than government (thus deviating from Chomsky (1986b) in assuming that m-command and government should be kept strictly apart).

In an X-Bar Theory that incorporates nonlexical heads, Comp and Infl, we seem to have a strong motivation to propose a unified Government Theory, applying to all zero-level heads. However, Case relations, hence government relations in the standard theory, that involve lexical heads differ considerably from those that involve the nonlexical heads. In the core case of lexical government, government is simply a sisterhood relation between a lexical head and its complement, that is, a lexical head governs and is the sister of its complement:

- (1) A lexical head X governs its sister Y''

A question that often arises is whether a lexical head can govern anything inside its complement. Consider (2):



The natural assumption is that government is, at least canonically, a local relation and that no category may be doubly governed. In other words, local government takes precedence over non-local government, and no governor may penetrate into the governing domain of another (more local) governor, cf. Reuland (1983, p. 122), Stowell (1983, p. 295), and Taraldsen (1984). Call this the DOMAIN PRINCIPLE OF GOVERNMENT (DPG):¹⁷

- (3) No category can govern into the domain of another governing category

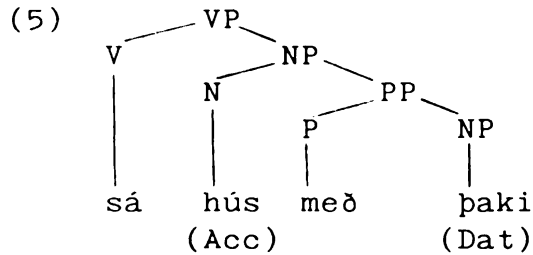
(As we shall see, this actually follows from the constrained approach to government outlined below, i.e. DPG is not an independent principle.) Assuming that Y in (2) is a lexical head, it follows that W'' cannot be governed by X since it is locally governed by Y. The question is whether X in (2) can govern Y'/Y and the specifier Z''. Consider (4):

- (4)a. Ég sá hús.
 Acc
 I saw a house

¹⁷ The same basic idea is embodied in Chomsky's (1986a, p. 42) Minimality Condition.

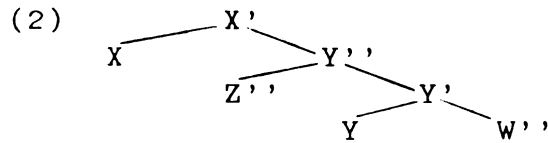
- b. Ég sá hús með þaki.
 Acc Dat
 I saw a house with a roof

The VP sá hús með þaki has the structure (5):



That is, *sjá* 'see' assigns accusative to the head N of its complement NP, but it does not penetrate into the government/Case assignment domain of the preposition *með* 'with'. This seems to indicate that a lexical head governs the head of its complement, cf. the approach in Belletti and Rizzi (1981, p. 123).¹⁸ As we shall see, however, the Feature Percolation Theory of Case developed in chapter 4 accounts for data of this sort in a much simpler manner than does Belletti and Rizzi's approach to government.¹⁹

What, then, about the specifier Z' in (2)?



The Exceptional Case Marking (ECM) of the subject position of Acl or SOR infinitivals is standardly (cf. Chomsky 1981) taken to constitute evidence that a lexical head (=the matrix verb) may govern the specifier (=the subject position) of its complement (=the infinitival). Consider (6):

- (6)a. I believe [that he is intelligent].
 b. I believe [him to be intelligent].

Thus, if Case is essentially assigned under government the notion 'govern-

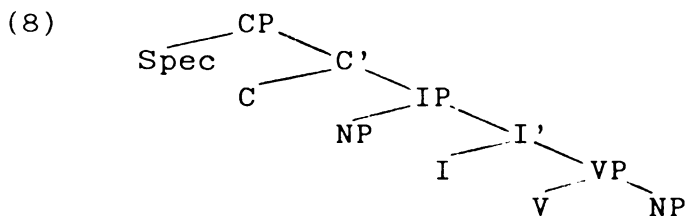
¹⁸ This approach is explained in an aesthetically clear manner by Roberts (1985, p. 25 ff.).

¹⁹ In the approach pursued in chapters 4-6, the verbal head assigns accusative to the object NP in both (4a) and (4b), the accusative percolating to the N-head in both cases (whereas the P-Case blocks the accusative from percolating to [NP, PP] in (4b)).

ment' must be formulated so as to cover at least the cases in (7):²⁰

- (7) A lexical head X governs:
- a. its complement Y''',
 - b. Y and Y',
 - c. Z''', the specifying sister of Y'

The (alleged) government relations that involve the nonlexical heads, Comp and Infl, are partly different but no less complex. Consider the structure of CP:



Given that both Comp and Infl are possible nominative Case assigners in UG, it seems that we have to accept the following:

- (9) A nonlexical head X may govern at least:
- a. its complement Y''' (we assume),
 - b. Z''', the specifying sister of Y',
 - c. Q''', the specifying sister of X'

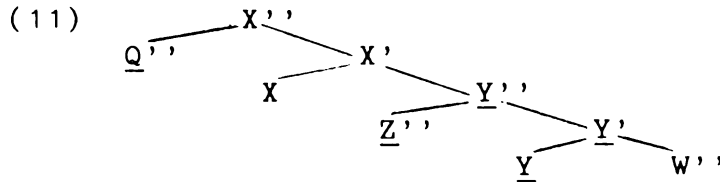
In the case of nominative Case assignment by Comp, (9b) holds ($C = X$, $I' = Y'$, $[NP, IP] = Z'''$), but in the case of Case assignment by Infl, (9c) holds ($I = X$, $I' = X'$, $[NP, IP] = Q'''$). (9b) is the same relation as (7c), of course.

If (7) and (9) are to be subsumed under a coherent notion of government, it will have to be formulated such that (10) holds:

- (10) A zero-level head X governs (or may govern):
- a. its complement Y'''
 - b. Y and Y'
 - c. Z''', the specifier of Y'''
 - d. Q''', the specifier of X'''

This is illustrated in (11), where the categories potentially governed by X are underlined:

²⁰ It might seem to be the case that (7c) only follows if we assume, with Holmberg (1986, p. 160), that Acl infinitivals are Cs (or CPs). However, it also follows in our small clause analysis of Acl infinitivals (see 3.4.1).



(11) is thus equivalent to (12):

- (12) A zero-level head X governs anything except:
- a. itself and its own projections,
 - b. a category that is governed by another more local governor (= the Domain Principle of Government in (3))

Moreover, if X'' is the sister of a potential governor T , there is no way to predict whether $[\text{Spec}, X'']$ (= Q'' in (11)), will be governed by T or X ; they are equally local with respect to $[\text{Spec}, X'']$. Unless, of course, we make the (plausible) extra stipulation that X is 'more local' in the sense that it protects $[\text{Spec}, X'']$ from being governed by the 'external' governor T .²¹ The same comments apply to Z'' with respect to X and Y .

This is certainly not the ideal situation. We obviously want to be able to distinguish between the structural relation between a zero-level head and its complement, on the one hand, and the relation between a zero-level head and the Spec of its projection on the other hand. By making no conceptual distinction between these relations we mask the clear difference between them in a rather unfortunate way. At the same time however, we also want to be able to generalize over Case assignment, that is, we also want to express the fact that the above mentioned relations have something important in common.

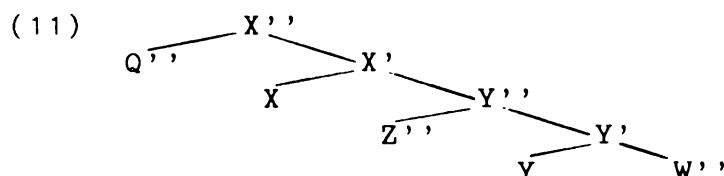
There is a simple way to achieve this ideal goal. In the past few years the notion *m-command* has become more and more important in GB theory, cf. Aoun and Sportiche (1983, p. 224 ff.) and Chomsky (1986b). This notion generalizes over the head-complement relation (plus the head-head of complement relation) and the head-Spec relation in the following manner (cf. Chomsky 1986b, p. 8):

- (13) \underline{a} m-commands \underline{b} iff:
- a. \underline{a} does not dominate \underline{b} , and
 - b. every maximal category Y'' that dominates \underline{a} dominates \underline{b}

²¹ This is in fact the core idea of Chomsky's (1986b, p. 42) Minimality Condition (discussed below and in chapter 4). As we shall see, however, the Minimality Condition is much too strong for Case assignment (and too weak or permissive for 'true' government).

(13b) means, simply, that *a* and *b* are within the same minimal maximal category. If *a* is a zero-level head, then, it m-commands everything within (but nothing outside) its maximal projection *a'*'.²²

Taking it that Case is assigned under government, Chomsky (1986b, p. 8 f.) incorporates m-command into his definition of government. However, let us assume that the two should be kept strictly apart. If that is correct we can account for Case assignment in terms of 'local' *m-command of a Case assigning zero-level head*. Consider (11) again:



X m-commands the whole structure. However, *Y* is also a zero-level head and m-commands the *Y*-projection (i.e. the whole structure under *Y'*'). What we want to secure is that *Q''* belongs to the 'canonical Case domain' of *X* and that *Z''* and *W''* belong to the 'canonical Case domain' of *Y*.²³ In certain instances, however, we also want maximal categories to be transparent to external Case. As we shall see, this happens precisely when the (zero-level) head of the transparent maximal category is defective in not being a Case assigner. That is, a zero-level head protects its maximal projection from external Case assignment iff it is a Case assigner itself. Thus, if *X* is a Case assigner, it protects *X''* (and everything under *X''*) from, say, an external T-Case. In the same manner, *Y* protects *Y''* from *X*-Case iff *Y* is a Case assigner; *X*-Case penetrates *Y''* (*X* m-commanding *Y''*) iff *Y* is a non-assigner of Case. On the other hand, of course, *Y* can never assign Case to any category outside *Y''*, e.g. *Q''* and *X''* (since heads do not m-command out of their maximal projections).

I shall illustrate this in more detail in chapter 4. An important achievement of the present approach is that it enables us to state the following theorem:

²² Accordingly, *a* m-commands its '*a*-road' (*a*, *a'*, and *a''*), whereas, for example, *a'* does not m-command *a* (cf. Chomsky 1986b, fn. 12, p. 92). Therefore, Holmberg's (1986) Percolation Conventions, discussed in 2.1 (and fn. 3) above, are actually m-command relations. Since Case assignment is also an m-command relation (subject to 'protection' restrictions discussed below and in chapter 4), it is tempting to assume that m-command (plus 'protection') controls all feature percolation.

²³ Note that this entails that the subject must not be generated or situated in [Spec, VP] (where the subject or the subject chain would get V-Case).

(14) **The Minimal Government Theorem:**

A head \underline{a}^0 governs \underline{b} iff \underline{b} is the sister of \underline{a}^0

This is the only type of government we accept (but on 'antecedent government', see 2.4). To avoid confusion however, I shall occasionally refer to it as 'minimal government'.

This is, in fact, rather similar to the *Barriers* approach. Here, the desirable results are achieved by keeping government and m-command apart from the outset. Chomsky reaches much the same results by postulating a special Minimality Condition on government (1986b, p. 42 ff.), thus withdrawing most of the unfortunate consequences of defining government in terms of m-command. An important difference is that I do not make any reference to Chomsky's concept of Exclusion (cf. Chomsky 1986b, p. 9), the two approaches therefore not being equivalent with respect to Specs: In the present approach, all Specs are ungoverned; hence, the [NP, IP] position is always ungoverned (cf. also Belletti and Rizzi 1981, p. 122).²⁴ This captures, in a natural manner, the difference between Specs and complements, the latter always being governed (whereas both stand in an m-command relation with the head of the maximal category to which they belong). As we shall see in chapters 3 and 5, the [NP, IP] position indeed bears Case (in Icelandic) even when it is ungoverned in the standard theory, namely when it contains PRO. - Another very important difference between the two approaches is that I allow external Case to penetrate maximal categories that are not headed by a Case assigner, see chapter 4, whereas this is excluded by Chomsky's formulation of the Minimality Condition.

Government, then, is a highly constrained subcase of c-command: the structural relationship between a zero-level head and its complement. In the case of lexical zero-level heads, this relationship controls L-marking, I assume, that is, direct theta-marking of lexical heads (cf. Chomsky 1986b, p. 13). Case, on the other hand, 'marks off' the 'domain' of a Case assigning zero-level head (this domain, in fact, being the same as that of direct plus indirect theta-marking).

2.4 Verb Fronting and proper government

Now consider the notion 'proper government' and the Empty Category Principle (ECP). (1) is the standard formulation of ECP (cf. e.g. Kayne

²⁴ This might seem to raise problems with respect to ECP. As we shall see in chapter 5, however, empty (nominal) categories need not be governed or antecedent governed if they are properly Case marked. See also Chomsky (1986b, p. 22).

(1981a, p. 93); Kayne's revision (1981a, p. 105) is not adopted here):

(1) An empty category (EC) must be properly governed

- where EC is not PRO.

Proper government is actually not an independent notion. Rather, it is a 'mechanism' that licenses empty categories or makes them 'visible' (to Theta Theory, i.e. the Projection Principle, and to Binding Theory). Whatever this mechanism may be, it is called 'proper government' in GB. For us, it is sufficient to note that it standardly involves two disjoint conditions (each condition being sufficient to satisfy ECP): government by a lexical head and so-called 'antecedent government' (cf. e.g. Kayne (1981a, 1983a), Aoun and Sportiche (1983), Lasnik and Saito (1984), Chomsky (1986b, p. 17)). Antecedent government, in turn, involves c-command, coindexing and some locality condition. Tentatively, I assume the rather severe locality condition in (2). It differs markedly from Kayne's approach (1981a, section 2.1; 1983a), but it is almost identical with Lasnik and Saito's proposal (cf. 1984, p. 248):

(2) a may antecedent govern b if a (minimally)
governs a projection of b

- the major difference being that (2) is only relevant for NP- and S'-projections of *b* in Lasnik and Saito's theory. However, since our conception of government differs from that of Lasnik and Saito's (cf. 1984, p. 240) the two approaches give somewhat different results for proper government also. Both approaches are rather appealing, I find, in that they link government and antecedent government in a natural manner.²⁵ Note also that (minimal) government entails c-command in our approach (as opposed to Lasnik and Saito's theory (cf. 1984, p. 240)). Thus, (2) enables us to simplify the definition of antecedent government in that we need not incorporate c-command into the definition.²⁶ As a working hypothesis, I shall thus conceive of 'proper government' in the following simple but

²⁵ The locality condition in (2) is actually built into Ballelli and Rizzi's definition of government (1981, p. 123), see the discussion around 2.3(5) above.

²⁶ Where, by c-command, I mean c-command in the classical sense of Reinhart (1976, 1981): *a* c-commands *b* if the first branching node dominating *a* also dominates *b* but *a* itself does not dominate *b* (nor vice versa). - Under the definition in (3), *hvem* does not antecedent govern the empty complementizer in sentences like 2.2(5), repeated here as (i):

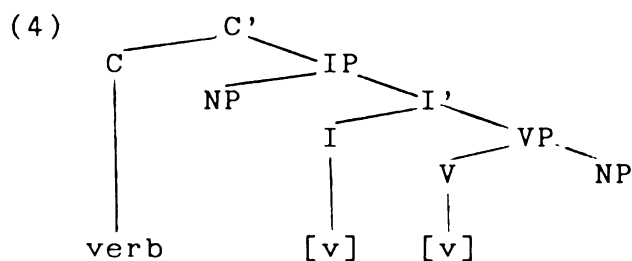
(i) Vi vet hvem (*som) Marit snakker med.

- for the simple reason that *hvem* is not a governor. This means that the empty complementizer does not satisfy Holmberg's (1986) 'Case-visibility Theorem', as discussed in 2.2.

severely constraining manner:²⁷

- (3) a properly governs b iff:
- a. a (minimally) governs b, or
 - b. a and b are coindexed, and a (minimally) governs a projection of b

Now, consider the structure of C' (or CP) after V-to-I and I-to-C:



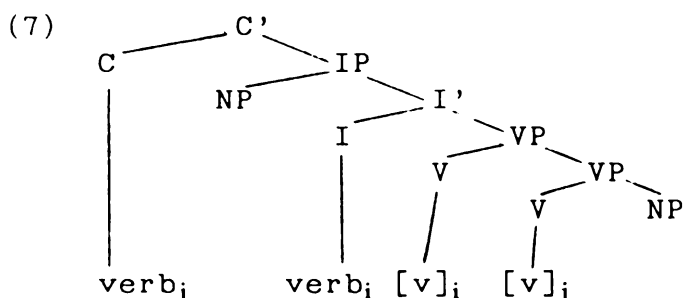
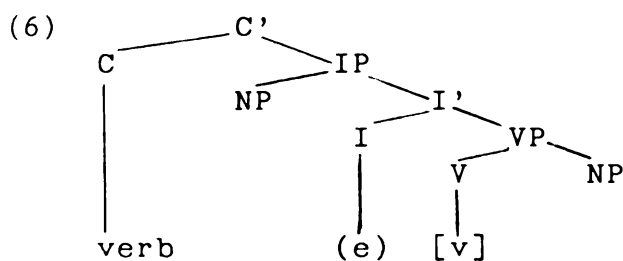
The verb in Comp antecedent governs the verb-trace in Infl. That is, it is coindexed with the trace and satisfies the locality condition in (2)/(3b): Comp (minimally) governs IP, a projection of Infl. In a precisely parallel manner, the verb trace in Infl antecedent governs the verb trace under V (and so does the finite verb when it stays in Infl). Thus, Verb Fronting conforms to the Head Movement Constraint (HMC) as formulated by Travis (1984, p. 131):

- (5) An X^0 may only move into the Y^0 which properly governs it

See also the discussion in Holmberg (1986, p. 87 f.). Note that we can only state HMC this simply if we assume (2) and (3b). Chomsky (1986b) does not and is therefore forced to incorporate the locality condition in (2)/(3b) into his more complicated formulation of HMC (cf. Chomsky 1986b, p. 71).

ECP and HMC exclude that V moves directly to Comp (cf. Chomsky 1986b, p. 69). That is, they exclude structures like (6) and (7):

²⁷ This is a simplification, though. As we shall see in chapter 5, *pro* is licensed by virtue of being Case-marked. That is, it is 'proper licensing' rather than 'proper government' that matters: An EC is properly licensed if it is Case-marked or meets (3).



In (7), the lower verb trace, $[v]_j$, is not properly governed (because its antecedent in Comp does not (minimally) govern a projection of $[v]_j$). Hence, the structure is ill-formed, cf. the ungrammatical (8):

- (8) *Lesið María hefur bókina?/.
 read Mary has the book

In (6), the verb trace under V is not properly (antecedent) governed by the verb in Comp: Comp does not (minimally) govern a projection of V. In addition, Infl contains no trace, that is, it is not coindexed with Comp and therefore not properly (antecedent) governed by Comp (or anything else). Precisely the same is true, of course, if the verb does not move at all, no matter whether Comp contains a complementizer or not. This is an important observation. It means that even if Infl did not assign nominative Case in Icelandic, V-to-I (or some other amalgamation of V and I) would have to apply. Conversely, however, Infl would be incapable of assigning Case to $[NP, IP]$ if V-to-I did not apply (since it would then not contain any lexical feature, as discussed in 2.2). On the other hand, we cannot explain V-to-I by a requirement that Agr (and $+T(ense)/M(ood)$) amalgamate with a verbal stem (as pointed out by Holmberg 1986, p. 146). This is certainly an 'extra reason' in finite clauses, but as we shall see in chapter 3, V-to-I also applies in some infinitivals.

Thus, ECP/HMC and nominative Case assignment seem to offer two independent explanations of V-to-I in Icelandic. This suggests that the Predicate Principle in 2.1(1a) is responsible for only I-to-C, and not for both verb-movements as argued by Holmberg (1986). I shall consider how

to explain (the obligatoriness of) V-to-I in more detail in 3.3.

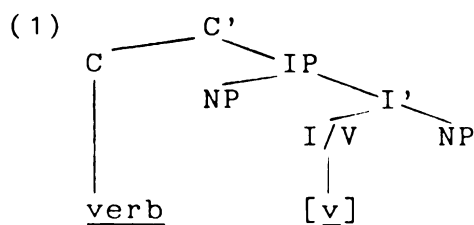
Finally, reconsider the questions we posed in 2.0 for V2 Germanic:

1. Why must (at least) all finite clauses have Comp?
2. Why must Comp be filled in main clauses?
3. Why is the finite verb the only element that can (and must) move to Comp in main clauses?

Holmberg's Feature Theory and Predicate Theory answers questions 1. and 2. directly: Comp is the head of the clause and the clause will not be able to function properly (as a predicate, an argument, or a modifier) if its head does not contain the proper syntactic features. It also answers question 3. partly, i.e. it predicts that only a verbal element ([+V]) can move to Comp in main clauses. That this should be precisely the finite verb is explained by ECP and the Head Movement Constraint. As we have just seen, they exclude that non-finite verbs move directly to Comp.

2.5 I/V Reanalysis and Comp-Case

The analysis above applies to Icelandic. For Mainland Scandinavian, on the other hand, I assume reanalysis of Infl and V, yielding a complex Infl, [_I[V]+I] (like Icelandic V-to-I). Following Platzack (1986b, p. 197 ff.), I also assume that this results in a pruning of (the highest) VP and refer to the complex Infl as "I/V". Given our assumptions so far, the relevant structure (after I-to-C (or I/V-to-C)) is (1):

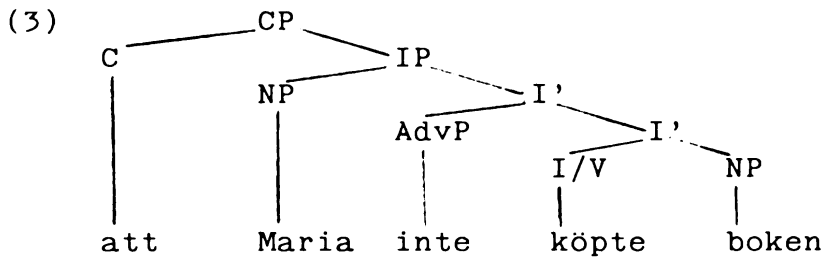


The structure observes HMC since Comp properly governs the verb trace by virtue of governing IP, IP being a projection of (the Infl head of) I/V. Second, it satisfies the Predicate Principle, that is, the [+V] feature of I/V percolates to I'. Third, as pointed out by Holmberg (1985a), the structure also satisfies the Projection Principle (by observing the subcategorization properties of the verb, cf. Chomsky 1981, p. 29).²⁸

²⁸ In more recent approaches (e.g. Chomsky 1986a), the Projection Principle is taken to require observation of 'theta-selection properties' at syntactic levels (instead of 'subcategorization properties'). This is immaterial in

Now, recall that I left the status of sentence adverbs in Mainland Scandinavian as an unresolved problem in 1.2. Consider the Swedish (2) and the structure in (3):

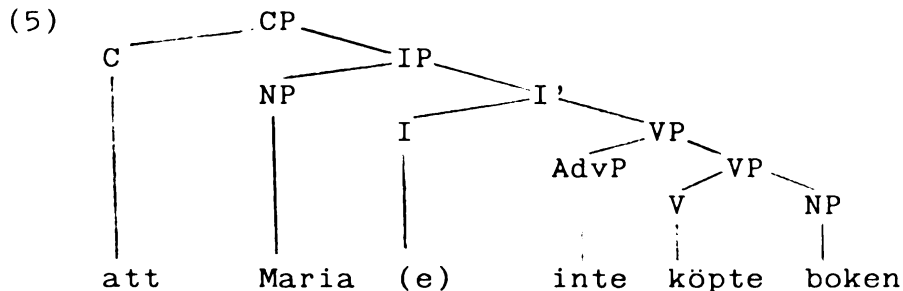
- (2) att Maria inte köpte boken.
that Mary not bought the book



As mentioned in 1.2, the adjunction of the sentence adverb to I' violates Chomsky's (1986, p. 6) Adjunction Principle:

- (4) Adjunction is possible only to a maximal projection ... that is a nonargument

Kosmeijer (1986; 1987, p. 99 ff.; see also Platzack 1987b) develops an analysis of Mainland Scandinavian sentence structure that would seem to solve this problem, namely (5):

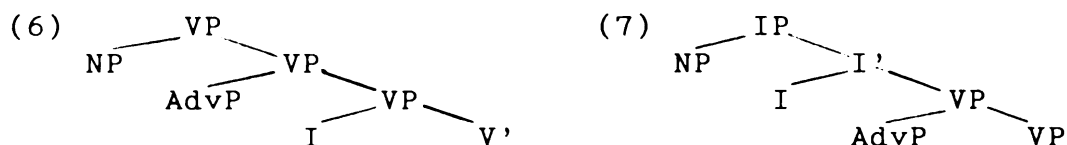


- where Infl stays empty throughout the derivation, thus not amalgamating with V. According to Kosmeijer, the adjacent VP licenses the empty Infl. The advantage of the Kosmeijer/Platzack analysis in (5) is, of course, that it assumes the same 'basic sentence structure' in all Scandinavian. In other respects, however, this solution is rather problematic: First, an empty Infl violates ECP. Second, this analysis presupposes that the finite verb moves directly from [V, VP] to Comp in main clauses (cf. Kosmeijer 1987, p. 125 ff.). As we saw in the last subsection, this would violate

context, but I shall discuss the matter in 6.2.

both ECP (with respect to the verb trace in [V, VP]) and the Head Movement Constraint. Third, it is unclear how tensed verbs in Mainland Scandinavian get their overt tense-suffixes under this approach (tense presumably being a head feature of the clause, i.e. an Infl-feature, in Mainland Scandinavian, as in Icelandic).

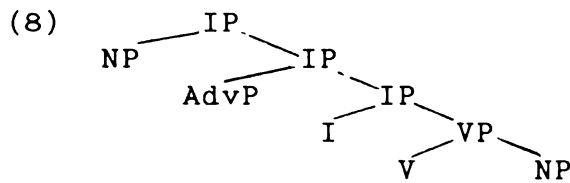
Holmberg (1987) suggests a solution that escapes these problems of the Kosmeijer/Platzack analysis. According to Holmberg, the Mainland Scandinavian sentence is actually a V-projection, and not an Infl-projection like the Icelandic sentence. Accordingly, the Mainland Scandinavian sentence takes the general form in (6), whereas Icelandic applies (7):



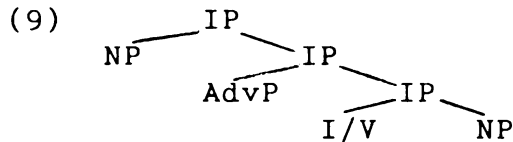
Thus, sentence adverbs adjoin to VP in Mainland Scandinavian, as in Icelandic, and the Adjunction Principle is not violated.

As argued by Holmberg (1987), see also Platzack (1987b), this analysis has certain empirical virtues. Thus, for example, (6) predicts that the 'finite VP' (i.e. the VP dominating I and V' in (6)) may move in Mainland Scandinavian, being a maximal projection (only X'' and X⁰ categories can move, cf. Chomsky 1986b, p. 4 ff.). In Icelandic, on the other hand, this should be impossible since the 'finite part' of the sentence, I', is neither a maximal nor a minimal projection. As is well known in Scandinavian linguistics, this is borne out (for a demonstration of this, I refer the reader to Holmberg (1987) and, for example, Cooper (1986, p. 46)). Another advantage of (6) is that it excludes nominative Case assignment by Infl in Mainland Scandinavian: Infl does not m-command the subject NP in (6) (as opposed to (7)). Thus, (6) forces Comp-Case in Mainland Scandinavian, a desirable result.

Suggestions to the effect that there is a parametric difference between languages with respect to the head of S are not new in the generative literature (cf. e.g. Taraldsen 1982, Platzack 1986b). If possible, however, we would like to avoid this, thus being able to maintain that there is a universal sentential category, IP. Moreover, even if this would turn out to be untenable, we would at least want to avoid postulating a variation with respect to the 'head of S parameter' for so closely related and so typologically similar languages as the Scandinavian languages (cf. also Platzack 1987b) - unless, of course, we are forced to do so for some urgent reasons. I do not believe that we are forced to take this radical step. Therefore, I suggest that Mainland Scandinavian has the sentence structure (8), rather than Holmberg's (6):



After I/V Reanalysis (and subsequent pruning of VP), we get (9):

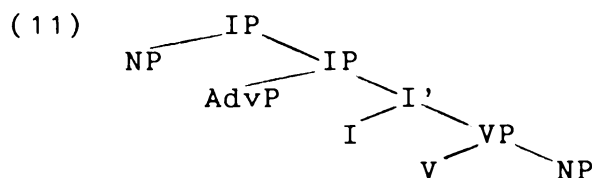


Like Holmberg's (1987) analysis, this approach assigns a different status to the subject NP in Icelandic ([Spec, IP]) and Mainland Scandinavian ([Adjunct, IP]) (cf. Platzack 1987b on Holmberg's analysis). As we shall see in 6.5.3, 'subjects' or NPs bearing structural nominative Case seem to have yet another status in German.

A problematic question, raised by (8)/(9), is why Icelandic does not allow adjunction to IP (cf. the discussion in Holmberg 1987). This is illustrated in (10) (where the brackets are IP-brackets):

- (10)a. að [Pétur las sennilega ekki bókina pá].
 that P. read probably not the book then
 b. *að [sennilega [Pétur las ekki bókina pá]].
 c. *að [ekki [Pétur las sennilega bókina pá]].
 d. *að [pá [Pétur las sennilega ekki bókina]].
 e. *að [bókina [Pétur las sennilega ekki pá]].

I have no clear answer to this question, but consider Chomsky's discussion of IP-adjunction in more general terms (1986b, e.g. p. 82). As noted by Chomsky "certain operators, including *wh*-phrases, cannot adjoin to IP" (1986b, p. 88). Perhaps, all maximal and minimal projections (X'' and X^0) that are in A'-positions and c-command IP are operators (compare 6.3 and Taraldsen 1986b). If that is correct, then we could exclude (9b-e) by a general ban against adjoining operators to IP. Then, however, the adjunction of sentence adverbs to IP in Mainland Scandinavian is a problem. A possible way out is to assume that sentence adverbs in Mainland Scandinavian are actually not [Adjunct, IP] but [Spec, IP]. If that is the case, we get (11), instead of (8):



But then, in turn, we would not expect the 'finite part' (= I' here) of the Mainland Scandinavian sentence to be able to move, cf. above. Therefore, even though (11) would do for our purposes, I shall assume (8)/(9) here.

In spite of these potential problems, (8)/(9) has some clear advantages. First, it avoids stipulating a parametric variation within Scandinavian with respect to the 'head of S parameter'. Second, it observes the Adjunction Principle (IP being a maximal category that is a nonargument). Third, it escapes the ECP-violation of the above mentioned Kosmeijer/Platzack account. Fourth, it accounts for the amalgamation of tense-suffixes and verbal stems in a simple manner. Fifth, it has much the same empirical advantages as Holmberg's analysis. Most important for our purposes, it forces Comp-Case in Mainland Scandinavian, like Holmberg's analysis: I/V does not m-command the subject NP, thus being incapable of assigning Infl-Case to it.²⁹

Now, consider the fact that Icelandic allows 'the Mainland Scandinavian order' in some adverbial and (more reluctantly) relative clauses (cf. e.g. Maling 1980, Thráinsson 1986a, Sigurðsson 1986a). This is illustrated in (12):

- (12)a. ... þegar María loksins keypti bókina.
 when Mary finally bought the book
- b. Það er nú það sem ég ekki veit.
 that is now it that I not know
 'Now that is (exactly) what I don't know.'

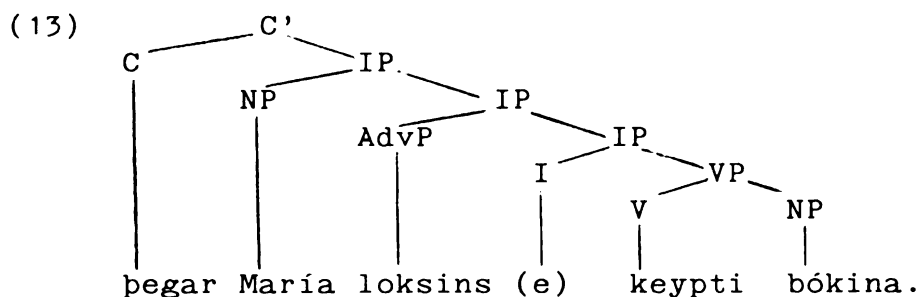
The construction is rather informal, but it seems to be on the increase in the language. The basic structure of (12a) is presumably the 'Mainland Scandinavian' (13):³⁰

²⁹ Even in the absence of sentence adverbs ([Spec, IP]), this is also true of (11). If I' is not specified it is a maximal category, IP (Infl thus not m-commanding [NP, IP]).

³⁰ As in Mainland Scandinavian, the corresponding V3 main clauses are ungrammatical:

- (i)a. *María loksins keypti bókina.
 b. *Ég ekki veit það.

However, Icelandic does have some types of verb-post-second main clauses (cf. Thráinsson 1986a, Sigurðsson 1986a), e.g.:



The question is whether (12a) is derived from (13) by reanalysis yielding I/V or by a string-vacuous application of V-to-I. As far as I can see, there is no empirical evidence that favors either analysis (but for some conceptual considerations, see below). In the absence of such evidence, I shall assume I/V Reanalysis, as in Mainland Scandinavian. But no matter which derivation is the correct one, we are forced to assume that Comp takes over the Case assigning role of Infl: under both analyses, Infl does not m-command [NP, IP], and is therefore incapable of assigning Case to it. Since the construction is restricted to modifying sentences we conclude that only 'modifying Comps' ([%N,%V]) are capable of assigning Case in Icelandic.

Why is this so? As we shall see in 3.2.3, there is evidence that the declarative complementizer in Icelandic, *að* 'that', is in fact [+N] (and not [%N] like the (tensed) declarative complementizer in Mainland Scandinavian). Thus, if all [+N] elements must bear Case in Icelandic (cf. chapter 5), and if Case assignees cannot be Case assigners, then it follows that the declarative *að* cannot assign nominative Case, as opposed to non-declarative [%N] complementizers in the language.

Our analysis entails that the Case assignment power of Infl is actually not directly dependent on presence vs. absence of Agr. Instead, it seems to be structurally determined (in combination with the general lexicalization condition on Case assigners). In our purely structural approach to Case this is a welcome result, as we shall see. At the same time, though, it seems fairly uncontroversial that Agr at least makes Infl a more 'prominent Case assigner', in some sense. Therefore, I shall assume the following principle:

-
- (ii) Jón sennilega kemur á morgun.
John probably comes tomorrow

For reasons I cannot go into here, I believe this type is derived by a cliticization of the sentence adverb onto the verb when it is still under VP; subsequently, *adverb+verb* are fronted by ('Big') V-to-I and ('Big') I-to-C (this differs rather radically from my analysis in Sigurðsson 1986a). If this is correct, sentences like (ii) are quite different from modifying subordinating clauses with the 'Mainland Scandinavian order'.

- (14) If Infl contains Agr and meets the general conditions on Case assigners (i.e. m-commands its Case assignee and has some lexical feature), then Infl-Case always overrides Comp-Case

Thus, the Case assignment power of the tensed Infl in Icelandic relates at least indirectly to its containing Agr. Moreover, this allows us to assume that the introduction of Comp-Case and the 'Mainland Scandinavian word order' into Mainland Scandinavian was due to the loss of Agr (on the disappearance of Agr in Mainland Scandinavian, see Platzack 1987a): in the absence of Agr in Infl, Comp-Case is free to apply, V-to-I thus becoming superfluous.

This analysis, of course, raises the question why Mainland Scandinavian does not apply string-vacuous V-to-I (plus Comp-Case). In fact, it even raises the question why it does not apply 'distant' V-to-I of the Icelandic type (plus Comp-Case). However, neither process would have any virtues not shared by I/V Reanalysis, i.e. they would only serve to amalgamate V and I. Appealing to the 'last resort theory of movement' (cf. Chomsky 1986a, e.g. p. 143), I therefore assume that both derivations are excluded: movement only takes place when it is forced by some principle (see also 6.5.3).

It seems clear to me that any explanation of the word order dichotomy between Icelandic and Mainland Scandinavian must, somehow, relate this dichotomy to nominative Case assignment and the status of Agr/Infl vs. Comp as Case assigners. At the same time, however, the fact that Icelandic allows some cases of the 'Mainland Scandinavian order' illustrates that there is no simple connection between the word order facts and the presence vs. absence of Agr, nor is there any simple relation between Infl-Case and Agr.³¹

2.6 Conclusion

The word order dichotomy between Icelandic and Mainland Scandinavian results from the different nominative Case assignment strategies in these languages. Icelandic, having Agr, normally applies Infl-Case. This forces 'distant' V-to-I to a position where the lexicalized Infl m-commands [NP, IP] (or else Infl would not meet the general conditions on Case assigners).

³¹ This is, in fact, illustrated still more clearly by Faroese. Faroese has Agr but seems to allow the 'Mainland Scandinavian order' (as well as the 'Icelandic order') quite freely, even in subordinate clauses that are arguments (cf. fn. 11 to chapter 1, Lockwood (1955, p. 157), and Barnes (1987)). This suggests that the declarative complementizer may either be [+N] or [%N] in Faroese.

Mainland Scandinavian, having no Agr, applies Comp-Case, hence 'adjacent' I/V Reanalysis (V-to-I, not enforced by any principle, being excluded by the 'last resort theory of movement').

As yet however, I have not presented any decisive evidence that V-to-I and nominative Case assignment are necessarily interrelated in Icelandic: in finite clauses, V and I must amalgamate (somehow) in any case or else ECP would be violated and Agr and +T/M would not amalgamate with a verbal stem. The major task of the next chapter is to bring forth evidence that 'distant' V-to-I does indeed apply in order for Infl to be able to assign nominative Case. This evidence also illustrates that Case assignment is independent of government.

3 Infinitivals

3.0 Introduction

In this chapter, I shall study Icelandic infinitivals in some detail. The strongest motivation for doing so is that they bear, in an interesting way, on the question how we should explain the obligatoriness of V-to-I: it applies in certain infinitivals in Icelandic, most clearly in control infinitivals. Another (but related) controversial topic we would like to be able to shed some light upon is the internal structure of infinitivals: Do all infinitivals have the same structure, are they full-fledged sentences, etc?

Section 3.1 presents some (well-known) data which indicate that control infinitivals differ from other infinitivals in Icelandic, both in structure and with respect to V-to-I. In 3.2, I consider how we can delimit control infinitivals from other *að* 'to'- infinitives in Icelandic. In 3.3, I return to the question how to explain V-to-I; as it turns out, an explanation in terms of nominative Case assignment seems to be the only explanation that accounts for its obligatoriness - but if that is correct, PRO must bear Case in Icelandic. Finally (3.4), I deal with raising infinitivals, Acl ('Accusative with Infinitive') and two types of Ncl ('Nominative with Infinitive'). Acl and one of the Ncl types involve small clauses, whereas the second Ncl type (optionally) involves bare IPs, that are subject to V-to-I. As it turns out, this second Ncl type does in fact tolerate overt (i.e. 'non-raised') nominative subjects in the infinitival, a fact that is to be expected if V-to-I applies in order for Infl to be able to assign nominative Case.

3.1 V-to-I: Control infinitivals vs. other infinitives

As mentioned in 1.3, the evidence for V-to-I in Icelandic is uncontroversial.¹ Compare again the Swedish sentences in (1) and the Icelandic ones in (2) (= 1.3(12)-(13)):

- (1)a. ... att Maria inte läste boken.
 that Mary not read the book
 b. ... att Maria inte har läst boken.
 has read
 c. ... att Maria inte skulle ha läst boken.
 should have

¹ For a detailed exposition of a wide variety of facts that confirm this, see Thráinsson (1986b). As shown by den Besten and Moed-van Walraven (1986) and Diesing (1987), Yiddish is much like Icelandic in this respect.

- (2)a. ... að María las ekki bókina.
 that Mary read not the book
- b. ... að María hefur ekki lesið bókina.
 has read
- c. ... að María skyldi ekki hafa lesið bókina.
 should have

Now, consider the fact, demonstrated by Thráinsson (1984a, 1986b), that V-to-I also applies obligatorily in control infinitivals in Icelandic. Compare the grammatical (3) to the ungrammatical (4); the inner brackets mark off the (relevant) D-structure VP of the infinitival:

- (3)a. María lofaði [að lesa ekki [v bókina]].
 Mary promised to read not the book
- b. María vonaðist til [að hafa ekki [v lesið bókina]].
 Mary hoped (for) to have not read the book
- (4)a. *María lofaði [að ekki [lesa bókina]].
- b. *María vonaðist til [að ekki [hafa lesið bókina]].

As pointed out by Holmberg (1986, p. 156), V-to-I does, on the other hand, not take place in raising infinitivals, it appears.² Compare (5) and (6) to (3) and (4). The infinitivals in (5) are Acl or Subject-to-Object Raising (SOR) infinitivals and the ones in (6) are Ncl or Subject-to-Subject Raising (SSR) infinitivals:

- (5)a. *Ég taldi [Maríu lesa ekki [v bókina]].
 I believed Mary read not the book
- b. Ég taldi [Maríu ekki [lesa bókina]].
 I believed Mary not read the book
- (6)a. *María virtist [lesa ekki [v bókina]].
 Mary seemed read not the book
- b. María virtist [ekki [lesa bókina]].
 Mary seemed not read the book

² Hellan and Christensen (1986, p. 27) have got this wrong. They give the following example (their (73)):

- (i) Ég tel hana vera ekki gáfaða.
 I believe her be not intelligent

In so far as this marginal example is an acceptable sentence, it involves a constituent negation, not the sentence negation. That is, the negation and the adjective form a constituent meaning 'unintelligent', the sentence thus meaning 'I believe her to be unintelligent.'

Some languages that do not have the *believe*-type 'raising' have AcI after causative verbs corresponding to English *let*, *make*, and with perception verbs like *hear* and *see* (cf. Kayne 1981b, 1981c). This seems, for instance, to be the case in German (but for a more complex analysis, see Harbert (1977); cf. also Hawkins (1986, p. 75 ff.)). When no distinction between the two types is necessary, I shall refer to both as AcI. But when a distinction has to be drawn, I shall use the terms 'B-verbs' and 'B-infinitivals' for the *believe*-type (cf. Postal 1974) but 'L-verbs' and 'L-infinitivals' for the *let*-type (cf. Kayne (1981c, p. 334 ff.)). Icelandic L-infinitivals behave like B-infinitivals with respect to V-to-I, as illustrated in (7) and (8):

- (7)a. *Ég lét Maríu lesa ekki bókina.
I made Mary read not the book
b. Ég lét Maríu ekki lesa bókina.
- (8)a. *Ég sá Maríu lesa ekki bókina.
I saw Mary read not the book
b. Ég sá Maríu ekki lesa bókina.

Normally, then, there is no difference between raising infinitivals and infinitival complements of modals with respect to V-to-I, cf. (9) and (10):

- (9)a. *María mun lesa ekki bókina.
Mary will read not the book
b. María mun ekki lesa bókina.
- (10)a. *María þarf að lesa ekki bókina.
Mary needs to read not the book
b. María þarf ekki að lesa bókina.

In fact however, these data are not sufficient to establish that V-to-I does not apply in Icelandic AcI and Ncl infinitivals. I shall return to the matter in 3.4.1. In passing note the absence of the infinitive marker *að* in (5)-(9), a fact to which I shall also return.³

³ Icelandic has many more verbs that take raising infinitivals, both AcI and Ncl verbs (see 3.4.2.2 on the latter); it is clearly rather rich in this respect. For a discussion of various aspects of Icelandic infinitivals, see, for instance, Andrews (1976, 1982a), Friðjónsson (1977), Thráinsson (1979, 1984a, 1986b, 1986c), Bernódusson (1982), Rögnvaldsson (1983), and Holmberg (1986).

3.2 Control infinitivals vs. other *að*-infinitives

With respect to control infinitivals, three controversial issues need to be settled: First, how do we properly distinguish them from other *að*-infinitives in Icelandic? Second, what is their internal structure? Third, why does V-to-I obligatorily take place in them? In this subsection, I shall deal with the first two questions, returning to the third one in 3.3.

3.2.1 Control verbs vs. aspectuals and modals

As argued by Platzack ((1986b, p. 215 ff.; 1986c); see also Holmberg (1986, p. 154 ff.)), Icelandic seems to be like Swedish in having the infinitive marker (*að*) in Comp in control infinitivals. Danish and Norwegian, on the other hand, pattern with English in having the infinitive marker in Infl (as also argued by Platzack, see also Christensen (1983) on Norwegian). Thus, sentence adverbs are situated in front of the infinitive marker in these languages even when they take scope over the infinitival (and not over the matrix clause):

- (1)a. He promised [not to read the book].
 b. Han lovede [ikke at læse bogen]. (Danish)
 c. Han lovet [ikke å lese boken]. (Norwegian)

This is in fact the strongest empirical argument there is for the claim that Danish and Norwegian indeed do have Infl.

In Icelandic and Swedish, on the other hand, the sentence adverb must follow the infinitive marker if it is to have a narrow scope (directly in Swedish but after the fronted infinitive in Icelandic). Consider the Swedish (2) and the Icelandic (3); the negation takes scope over the matrix clause in the *a*-sentences but over the infinitival in the *b*-sentences:

- (2)a. Han lovade inte [att läsa boken].
 he promised not to read the book
 'He did not promise to read the book.'
 b. Han lovade [att inte läsa boken].
 he promised to not read the book
 'He promised not to read the book.'
- (3)a. Hann lofaði ekki [að lesa bókina].
 'He did not promise to read the book.'
 b. Hann lofaði [að lesa ekki bókina].
 'He promised not to read the book.'

Consider also (4)-(5):

- (4)a. Hann lofaði ekki [að lesa ekki bókina].
 he promised not to read not the book
 'He did not promise not to read the book.'
 b. *Hann lofaði ekki [ekki að lesa bókina].
- (5)a. Ég vonast alltaf til [að sjá aldrei drauga].
 I hope always (for) to see never ghosts
 'I always hope never to see ghosts.'
 b. *Ég vonast alltaf til [aldrei að sjá drauga].

Here, Icelandic stands in a particularly clear contrast with Danish and Norwegian, cf. (4b) vs. (6):

- (6)a. Han lovede ikke [ikke at læse bogen]. (Da)
 he promised not not to read the book
 'He did not promise not to read the book.'
 b. Han lovet ikke [ikke å lese boken]. (No)

These facts indicate, rather strongly I find, that *að* is in Comp in control infinitivals whereas *at/å* are in Infl. For arguments against analyzing the Icelandic infinitive marker as a complementizer (in control infinitivals), however, see Thráinsson (1986b, fn. 4, p. 261), (see further the discussion in Thráinsson 1979, p. 344 ff.).⁴ It is rather hard to decide the issue on purely empirical grounds because the infinitive marker *að* also shows up in infinitive complements of some modals, where it is either only some kind of a proclitic on the nonfinite verb or a lexicalized Infl, like English *to* and the infinitive marker in the Danish and Norwegian examples above. The matter is still further complicated by the fact that the modals are heterogenous in this respect, as we shall see directly.

⁴ Thráinsson (1986b) seems to find some examples like (4b) and (5b) grammatical. As indicated, they are unacceptable for me, and I have not been able to find any informants who accept them. In fact, Thráinsson (personal communication) tells me that he finds (4b) and (5b) "quite bad". However, he also points out to me that it is possible to come up with some examples like (i):

- (i) Ég ætlaði nú stundum aldrei að gera þetta aftur.
 I intended well sometimes never to do this again
 '(Well,) I sometimes intended never to do this again.'

I agree that this is an acceptable sentence. But as we shall see, *ætla* 'intend, will' is a modal verb (as also mentioned by Thráinsson in his comment), hence does not take a clausal complement (i.e. *að* is a lexicalized Infl in (i)). - However, it should be emphasized, Thráinsson does assume that control infinitivals are full clauses; in fact, he argues at great length for this viewpoint (1979, chapter 5; 1984a; 1986b). I am only deviating from his analysis in details.

Thráinsson (1986b) contains a detailed and, for the most part, a solid study of Icelandic modals. In two respects however, I find his conclusions suspicious. First, he assigns a special status to **munu** 'will' and **skulu** 'shall', arguing that they are base generated under Infl as opposed to all other auxiliaries/modals in Icelandic. I do not find this convincing, but I shall not pursue the matter here.⁵ Second, Thráinsson (cf. 1986b, p. 239) classifies **munu** and **skulu** as the only Icelandic modals that take bare infinitives. As we shall see directly however, **mega** 'may, be allowed, can' and **vilja** 'want, like' do so also. Thráinsson is of course well aware of this, but he points out that **að** shows up in the infinitive complements of these verbs in **það**-relatives and dislocations. He gives the following examples of this (cf. fn. 5, p. 261; see also the discussion in Thráinsson 1979, p. 277 ff.):

- (7)a. það sem ég vil er að fara heim.
 it that I want is to go home
 'What I want is to go home'.
 b. Að fara heim, það mátt þú.
 to go home that may you

But since **vilja** and **mega** normally take bare infinitives, this is hardly a very strong argument for classifying them as taking **að**-infinitives. Besides, this is also marginally possible in 'my grammar' with **munu** and **skulu**:

- (8)a. ?Það sem ég mun er að fara heim.
 it that I will is to go home
 b. (?)Að fara heim, það skal ég.
 to go home that shall I

More important, we cannot actually analyze the **að**-infinitives as complements of the modals in examples of this sort. The modals in question take bare VPs. In (7) and (8) on the other hand, the infinitives are non-predicates. That is, the infinitive marker probably heads the infinitives and serves to 'deverbalize' them (cf. 3.2.3). Thus, I believe that Icelandic infinitive-taking modals are properly classified as follows:⁶

⁵ Thráinsson himself (1986b, p. 260) admits that this is perhaps the weakest point of his analysis. However, he is certainly right that **munu** and **skulu**, along with the perfective **hafa**, are more 'auxiliary like' than other Icelandic modals. Thus, for instance, these auxiliaries are the only Icelandic verbs that do not form a supine or a perfect, cf. 6.4.3.1.

⁶ The status of **fá** 'be allowed to' as a modal is perhaps not entirely clear. The perfective **hafa** 'have' takes the (uninflected) supine (cf. 6.4.3.1) and is thus not taken into account here. Icelandic also has one modal that takes the supine regularly, **geta** 'can, be able' (**skulu** 'shall', and **fá** in the meaning 'be able to', may also do so but this is somewhat literary and rather rare). Thráinsson (1986b, p. 239) classifies the passive **vera** 'be' (which takes a past participle and

CLASS I: Auxiliaries/modals that take bare infinitives:

munu 'will'
skulu 'shall'
mega 'may, be allowed, can'
vilja 'want; like (to have/get)'

CLASS II: Modals that take að-infinitives:

eiga 'shall, ought'
fá 'be allowed to'
hljóta 'be bound to, have to'
kunna 'know, may'
þurfa 'need, have to'
verða 'must, have to'
ætla 'intend, tend, will'

Apart from these, Icelandic also has several aspectual verbs that always take að-infinitives, that is:⁷

CLASS III: Aspectual verbs (with að-infinitives):

vera 'be' (progressive, cf. *be* + *-ing*)
fara 'go, be going, begin'
byrja 'begin'
taka 'begin' (old fashioned, literary)
hætta 'stop'
klára 'finish'

not a supine) with **hafa** and **geta**. However, passive **verða** (= progressive/futuritive 'be(come), will be') and **vera** are purely copular, I believe. Being [+N], past participles ([+V,+N], cf. 6.4.3) are like adjectives ([%V,+N]) and nouns ([-V,+N]) in being unable to head a predicate, hence require the copula (in order for the predicate to satisfy Holmberg's (1986) Predicate Principle in 2.1(1a)).

⁷ There are also various 'complex verbs' (V + particle) that are aspectual and take an að-infinitival which are not taken into account here (**ljúka við** 'finish', **byrja á** 'begin', etc.). Moreover, there are several aspectual combinations of **vera/verða** and an inflected participle:

ver(ð)a búinn '(will) have finished, (will) have (done)'
ver(ð)a farinn '(will) have begun'
ver(ð)a byrjaður '(will) have begun/started'
ver(ð)a hættur '(will) have stopped'

These aspectual combinations take an að-infinitive:

- (i) Páll verður búinn [að gera við bílinn] þá.
 Paul will-be finished to repair the car then
 'Paul will then (already) have repaired the car.'

In these combinations, **ver(ð)a** is an ergative perfective auxiliary. As we shall see in 6.4.3.1, the use of **ver(ð)a** as a perfective auxiliary is heavily constrained (**hafa** 'have' being the unmarked perfective auxiliary in the language). - More generally speaking, the Icelandic aspectual system is extremely complex for a Germanic language. See Friðjónsson (1987, p. 81 ff.).

The distribution of *að* in the infinitive complements of these verbs is illustrated in (9)-(11):

- (9)a. Þeir munu (*að) lesa bókina.
 they will read the book
 b. Þeir skulu (*að) lesa bókina.
 c. Þeir mega (*að) lesa bókina.
 d. Þeir vilja (*að) lesa bókina.
- (10)a. Þeir eiga *(að) lesa bókina.
 b. Þeir kunna *(að) lesa.
 they know to read
 'They know how to/can read.'
- (11)a. Þeir eru *(að) lesa bókina.
 they are to read the book.
 'They are reading the book.'
 b. Þeir fóru *(að) lesa bókina.
 they went to read the book
 'They began reading the book.'

In compositional aspects (cf. Friðjónsson 1987, p. 94 ff.), for instance the 'compositional progressive/inchoative aspect', *að* is also obligatory:

- (12) Þeir eru *(að) fara *(að) lesa bókina.
 they are to go to read the book
 'They are going to read the book (right now).'

3.2.2 Aspectuals

In this subsection, I shall consider the aspectuals and how they should be distinguished from other verbs that take *að*-infinitives, that is, control verbs and modals.

Thráinsson (1986b, p. 239) classifies the aspectuals with the modals. In fact, though, most of them seem to be ambiguous. With the exception of *klára* 'finish', they are often modals, but they may also be control verbs (in which case they take a clausal *að*-infinitival, like 'pure' control verbs in the language). The evidence for this comes, e.g. from the passive and the so-called Stylistic Inversion or Stylistic Fronting (SF) (described by Maling (1980); see also Smári (1920, p. 249) and Platzack (1985c, 1987a)).

I shall proceed as follows. In 3.2.2.1, I illustrate that aspectuals behave

like (prototypical) control verbs, and not like modals, with respect to SF. As we shall see, this is accounted for if aspectuals, as opposed to 'pure modals', (may) take a CP-complement, like control verbs. In 3.2.2.2, I show that aspectuals also behave like control verbs with respect to passive NP-movement. Again, this is accounted for if aspectuals take (or may take) a clausal complement. Third (3.2.2.3), both aspectuals and control verbs undergo impersonal Passive Formation (see further 6.4.2), whereas modals do not. I shall argue that this follows from the fact that aspectuals may select an external theta role, while modals cannot. Fourth (3.2.3.4), however, aspectuals sometimes behave like modals. I shall suggest that they do so when they do not take an external role. That is, the dual nature of aspectuals is a reflection of the fact that they select an *optional* external role: When they do take an external theta role, they are control verbs (capable of passivizing and taking a clausal complement that is opaque to SF and passive NP-movement); when they do not, they are modals (incapable of passivizing and taking a non-clausal complement that is transparent to SF and (ergative) NP-movement). This peculiar complementary distribution, as we shall see, is probably of the same nature as phenomena that are standardly attributed to the so-called 'Burzio's generalization'.

3.2.2.1 Stylistic Fronting of infinitives

SF may shift any category (sentence adverbs, past participles, particles, etc.) into a 'subject gap'. Hence, it applies to the 'modal infinitives'. Consider the relatives in (1), where SF has not applied:

- (1)a. Menn sem [[e] munu lesa þessar bækur] ...
 people who will read these books
 b. Menn sem [[e] þurfa að lesa þessar bækur] ...
 people who need to read these books

In these cases, it is possible to apply SF to the infinitive *lesa* 'read', as shown in (2) (where [e] denotes the 'base position' of the infinitive):

- (2)a. Menn [sem lesa munu [e] þessar bækur] ...
 b. Menn [sem lesa þurfa (*að) [e] þessar bækur] ...

- and the same facts are found for all the other modals in CLASS I and CLASS II above. In passing, note that the infinitive marker (cf. (1b)) obligatorily disappears when the infinitive is fronted (cf. (2b)). It can neither be fronted with the verb nor left behind. The same phenomenon

is seen in cases like (3) (which seem to have the same basic structure as subordinate interrogatives, hence no V2 effect, cf. 1.3):

- (3) Hvernig [lesa á (*að) [e] bækur].
 how read shall to books
 'How to read books.'

Compare (3) to the subordinate impersonal interrogative in (4); in (4), the infinitive is not fronted and *að* is obligatory:

- (4) Páll veit hvernig [[e] á *(að) lesa bækur].
 Paul knows how (one) shall to read books
 'Paul knows how to read books.'

I shall return to this peculiar byproduct of infinitive-fronting in 3.2.3.

As Maling (1980) argues, SF seems to be strictly clause bounded (as opposed to Topicalization), that is, it cannot apply across CP-boundaries. Thus, the sentences in (2) imply that modals take VPs or IPs, and not CPs. If control infinitivals, on the other hand, are CPs, we expect that SF cannot apply to their infinitives. This is borne out. Consider (5)-(6) (where the subordinate CP-boundaries are shown):⁸

- (5)a. Menn sem [[e] reyna [að lesa þessar bækur]]
 people who try to read these books
 b. Menn sem [[e] lofa [að lesa þessar bækur]]
 people who promise to read these books
- (6)a. *Menn sem [lesa reyna [(að) [e] þessar bækur]]
 b. *Menn sem [lesa lofa [(að) [e] þessar bækur]]

As indicated, the sentences in (6) are not rescued even if *að* is not deleted (in fact, they are still worse with it than without it). The same facts are found for infinitives of all the aspectual verbs in CLASS III, cf. (7) and (8):

⁸ In contrast with (6), the sentences in (i) are not totally unacceptable:

- (i)a. ??Menn sem þessar bækur reyna að lesa ...
 men who these books try to read
 b. ??Menn sem þessar bækur lofa að lesa ...
 men who these books promise to read

Presumably, these sentences involve 'long distance' Topicalization. Topicalization is usually rather bad in relative clauses (cf. Zaenen 1985), but somewhat better, though, than SF that crosses CP-boundaries.

- (7)a. Menn sem [[e] fara [að lesa þessar bækur]]
 people who go to read these books
 'People who begin to read these books ...'
 b. Menn sem [[e] eru [að lesa þessar bækur]]
 people who are to read these books
 'People who are reading these books ...'
- (8)a. *Menn sem [lesa fara [(að) [e] þessar bækur]]
 b. *Menn sem [lesa eru [(að) [e] þessar bækur]]

3.2.2.2 (Passive) NP-movement

In this subsection, I shall illustrate that aspectual infinitivals are opaque to passive NP-movement, like control infinitivals.

When passivized, control verbs do not, of course, take an external theta role in the [NP, IP] position. Hence, the [NP, IP] position should be available as a landing site for NP-movement (cf. chapter 6). In case the control verb takes an NP-object, the NP-object indeed ends up in the [NP, IP] position:

- (1)a. María bað mig um [að PRO senda bréfið].
 Mary asked me for to send the letter
 'Mary asked me to send the letter.'
 b. Ég var beðinn [t] um [að PRO senda bréfið].
 I was asked for to send the letter

See further chapter 6.4 on the passive in Icelandic. On the other hand, the infinitival object cannot possibly move to the matrix, not even when the infinitive verb is passivized, hence cannot assign accusative to the infinitival object (cf. 4.3 and 6.4). This is shown in (2):

- (2)a. *Bréfið var beðið mig um [að PRO senda t].
 the letter was asked me for to send
 b. *Bréfið var beðið mig um [að t verða sent t].
 to be sent

The passive participle *beðið* is incapable of assigning accusative Case (to *mig* 'me'), cf. 6.4.3. Moreover, it seems clear that local NP-movement always takes precedence over distant NP-movement (cf. 3.4.2.2 and 6.1.4). Each of these facts would suffice to explain the ungrammaticality of (2). However, neither explains the behaviour of control verbs that do not take

an NP-object, e.g. *reyna* 'try' and *tala um* 'talk about':

- (3) *María reyndi* [að PRO moka snjóinn].
 Mary tried to shovel the snow
- (4) *María talaði um* [að PRO moka snjóinn].
 Mary talked about to shovel the snow

As I shall discuss in the next subsection, verbs with subcategorization or theta-selection properties like *reyna* and *tala um* undergo impersonal passivization:

- (5) *Það var reynt* [að PRO moka snjóinn].
 it was tried to shovel the snow
 'People tried to shovel the snow.'
- (6) *Það var talað um* [að PRO moka snjóinn].
 it was talked about to shovel the snow

But even in cases like this, the matrix [NP, IP] is unavailable for the infinitival object:

- (7)a. **Snjórinn* var reyndur [að PRO moka t].
 the snow was tried to shovel
- b. **Snjórinn* var reyndur [að t verða mokaður t].
 to be shovelled
- (8)a. **Snjórinn* var talaður um [að PRO moka t].
 the snow was talked about to shovel
- b. **Snjórinn* var talaður um [að t verða mokaður t].
 to be shovelled

That is, all control infinitivals are categorically opaque to passive NP-movement, as to SF. In this respect aspectual infinitivals behave precisely like control infinitivals:⁹

⁹ In fn. 6 above, I mentioned four aspectual combinations of the type *ver(ð)a byrjaður* '(will) have begun', etc. which take an *að*-infinitive. As stated in fn. 6, these combinations are perfective and not passive. Hence, (i) is quite different from (9b):

- (i) *Snjórinn var byrjaður að bráðna*.
 the snow was begun to melt
 'The snow had (already) begun to melt (away).'

Formally, the perfective construction is indistinguishable from the passive but the semantic difference between the two is quite clear (i.e. the perfective construction does not imply any agentive or performative role, as does the

- (9)a. Það var byrjað [að PRO moka snjóinn].
it was begun to shovel the snow
'People began to shovel the snow.'
- b. *Snjórinn var byrjaður [að PRO moka t].
the snow was begun to shovel
- c. *Snjórinn var byrjaður [að t verða mokaður t].
to be shovelled
- (10)a. Það var hætt [að PRO moka snjóinn].
it was stopped to shovel the snow
- b. *Snjórinn var hættur [að PRO moka t].
the snow was stopped to shovel
- c. *Snjórinn var hættur [að t verða mokaður t].
to be shovelled
- (11)a. Það var klárað [að PRO moka snjóinn].
it was finished to shovel the snow
- b. *Snjórinn var kláraður [að PRO moka t].
the snow was finished to shovel
- c. *Snjórinn var kláraður [að t verða mokaður t].
to be shovelled

Modals/auxiliaries, on the other hand, behave quite differently, that is, it is possible to passivize out of their infinitival complements (cf. Thráinsson 1979, p. 283; 1986b, p. 253 f.). This is illustrated in (12); note that it does not matter whether the modal takes a bare infinitive or an að-infinitive:

- (12)a. Snjórinn mun [verða mokaður t].
the snow will be shovelled
- b. Snjórinn kann [að verða mokaður t].
the snow might to be shovelled
'The snow will perhaps be shovelled.'
- c. Snjórinn þarf [að verða mokaður t].
the snow needs to be shovelled
- d. Snjórinn hlýtur [að verða mokaður t].
the snow must to be shovelled
(i.e. 'It must be the case that the snow will be shovelled.')

We have an account for this if aspectuals (may) take a clausal complement, like control verbs, whereas modals/auxiliaries take non-clausal complements:

passive, cf. 6.4.2). Note also that *vera kláraður* (cf. (11)) only exists as a passive ('be finished').

as is well known, *NP-movement never crosses CP-boundaries*. This can be illustrated further by comparing finite clauses and AcI infinitivals. As we shall see in 3.4.1, AcI infinitivals are small clauses (i.e. not CPs), hence transparent to NP-movement. Consider (13):

- (13)a. *Pétur var talinn [að t væri gáfaður].
 Peter was believed [that were intelligent
 b. Pétur var talinn [t vera gáfaður].
 Peter was believed be intelligent

As first shown by Maling and Zaenen (1978) the *That-trace Filter* is not operative in Icelandic. That is, WH-movement (Topicalization, *wh*-movement) extraxts freely out of subordinate subject positions in Icelandic (consider also Engdahl 1984; 1985, p. 122 ff.). This is illustrated in (14):

- (14)a. Hver telur þú [að t elski Maríu]?
 who believe you that loves Mary
 'Who do you believe loves Mary.'
 b. Pétur tel ég [að t elski Maríu].
 Peter believe I that loves Mary
 'Peter, I believe loves Mary.'

That is, (13a) is not out because it violates the *That-trace Filter*. Rather, it is out because NP-movement, as opposed to WH-movement, cannot cross CP-boundaries. Since AcI infinitivals are small clauses, cf. 3.4.1, (13b) does not involve any 'NP-crossing' of a CP-boundary.

Like (13a), the sentences in (14) apparently violate the classic Subjacency Condition on movement (cf. Chomsky 1973; 1977; 1981, p. 57 f.): The moved elements cross two bounding nodes, the source NP itself and CP. However, if WH-movement makes use of the subordinate Comp (or even a subordinate [Spec, CP]) as an escape hatch, that is, involves a successively cyclic movement, then subjacency is not really violated. For NP-movement, on the other hand, this strategy is not available. Being an A'-position, the subordinate Comp (or [Spec, CP]) would break the A-chain, thereby rendering it ill-formed (cf. Chomsky 1981, p. 332 f.). Moreover, Case Theory would actually suffice to make the desirable distinction between (13a) and (14)/(13b). (14) involves a movement from a Case position to a non-Case position (the matrix [Spec, CP]), i.e. the A'-chain involves only one Case position. Conversely, the passivized subject in (13b) moves from a non-Case position (as we shall see in 3.4.1) to a Case position (the matrix [NP, IP]), the A-chain thus involving only one Case position. On the other hand, the NP-movement in (13a) relates two Case positions: the subordinate Infl-Case position and the matrix Infl-Case position, the result being a Case conflict, i.e. an ill-formed chain (cf. Chomsky 1981, p. 334).

Given that [NP, IP] is a Case position in Icelandic control infinitivals, Case conflict also excludes the ungrammatical examples in (7)-(11) above. This perhaps indicates that the Subjacency Condition is not an independent principle. If that is correct, we can drop it (the desirable result being that we do not have to appeal to successive cyclicity in order to account for non-clause-bounded WH-movement). However, I shall not pursue this. What matters for our purposes is that non-clause-bounded NP-movement always leads to an ill-formed Chain, either by involving an A'-position or Case conflict (or both). Thus, if aspectual infinitivals, like control infinitivals, are clausal (when the aspectual verb itself undergoes impersonal Passive Formation, cf. 3.2.2.4), then we have an account for the fact that they are opaque to passive NP-movement.

3.2.2.3 Passive Formation

Now, as we saw above, both aspectuals and control verbs may undergo Passive Formation. Once again pure modals and auxiliaries behave quite differently, always being unable to passivize. I shall illustrate this below.

As I shall show in some detail in 6.4.2, the Icelandic passive applies to all and only those verbs that assign or select an external theta role (agent, performer), no matter whether they are transitive or not.¹⁰ If the verb is intransitive we get the impersonal passive (no NP-movement), cf. (1):

- (1)a. Það var dansað í hlöðunni.
it was danced in the barn
b. Það var hlegið að ráðherranum.
it was laughed at the minister

This extends to verbs that take only a clausal complement, that is, they behave like intransitives with respect to passivization, cf. (2):¹¹

¹⁰ In chapter 6, especially 6.1.2.2, I shall discuss the notions 'external role' and 'internal role', as well as the relationship between syntax and theta structure in general. In the ergative analysis developed in chapter 6, nonagentive or nonperformative S-structure subjects are derived, either by lexical promotion of an internal role (e.g. subjects of middle verbs) or by NP-movement (e.g. subjects of ergative verbs). - In this chapter, I use the notions 'theta selection' and 'theta role assignment' as if they were nondistinct, but as we shall see in 6.1.2.2, it is in fact necessary to draw a distinction between the two.

¹¹ An alternative (perhaps a more appropriate one) is to analyze the construction as an existential passive, i.e. to analyze the complement clause as a non-raised 'logical subject', cf. 6.3. However, this is immaterial in the present context. What matters here is that the verb passivizes.

- (2) Það var sagt [að mýsnar væru í baði].
 it was said that the mice were in bath
 'People/Somebody said that the mice were
 taking a bath.'

As we saw in the last subsection, aspectuals and control verbs that do not take an NP-object also behave this way. This is illustrated further in (3) for control verbs and in (4) for aspectuals:

- (3)a. Það var reynt [að PRO moka snjóinn í gær].
 it was tried to shovel the snow yesterday
 'People/Someone tried to shovel ...'.
 b. Það var talað um [að PRO moka snjóinn ...].
 it was talked about to shovel ...
 c. Það var lofað [að PRO moka snjóinn í gær].
 it was promised to shovel ...
- (4)a. Það var farið [að PRO moka snjóinn í gær].
 it was gone to ...
 'People began shovelling the snow yesterday.'
 b. Það var byrjað [að PRO moka snjóinn í gær].
 it was started to ...
 c. Það var hætt [að PRO moka snjóinn í gær].
 it was stopped to ...

All the auxiliaries/modals in CLASS I and II in 3.2.1, as well as the perfective *hafa* 'have', differ sharply from aspectuals and control verbs in that they cannot ever passivize:

- (5)a. *Það var haft lesið.
 it was had read
 b. *Það var skulað(?) lesa.
 it was should/shalled(?) read
 c. *Það var kunnað að lesa.
 known
 d. *Það var viljað að lesa.
 wanted
 e. *Það var ætlað að lesa.
 intended
 f. *Það var átt að lesa.
 ought

- etc. This is accounted for if modals/auxiliaries, as opposed to aspectuals/

control verbs, never select an external role, cf. 6.4.2.¹²

To this analysis, it might be objected that the aspectual verbs need not assign or select an external role. In this respect they differ from prototypical control verbs:

- (6)a. Það byrjaði að rigna.
it began to rain
b. *Það reyndi að rigna.
it tried to rain

However, this does not mean that the aspectual verbs cannot select an external role. It only means that they take an optional external role, whereas prototypical control verbs take an obligatory external role.¹³ The same kind of optionality is seen in cases like (7) and (8) (where, however, the optional role is internal, cf. 6.2.1):

¹² As illustrated by Thráinsson (1986b), however, it is necessary to distinguish between epistemic modals and 'root' modals (that are not obviously deontic, however). *Munu* 'will' and *skulu* 'shall' are probably always epistemic and so are the aspectual verbs when they are modals. But other Icelandic modals may either be epistemic or root. Thus, e.g. epistemic *kunna* has (roughly) the meaning 'may/might', whereas it has the meaning 'know (how to), be able to' when it is a root modal. Consider (i) and (ii):

- (i) Það kann að rigna.
it can to rain
'It might rain.'
(ii) Ég kann að synda.
I can to swim
'I know how to/can swim.'

Thus, as argued by Thráinsson (1986b, p. 250), there seems to be no doubt that root modals do assign a theta role to their subject, whereas epistemic modals do not. However, the role in question is neither agentive nor performative, that is, it is not an external role (cf. 6.1.2.2 and 6.2.4). Rather, it is a sort of a theme role. In the present approach, this means that root modals are much like ergative verbs (taking an optional *internal* role). Possibly, however, modals and auxiliaries are inherent nonassigners of Case, whereas ergatives are clearly not (see chapters 4 and 6).

¹³ This only holds for 'prototypical' control verbs. Icelandic has some control verbs that take an oblique subject (and cannot passivize). Consider (i):

- (i) Mig langar [að lesa þessa bók].
me(Acc) longs to read this book
'I would like to read this book.'

As we shall see in 6.1, the accusative subject bears an internal role. In this case, however, the internal role is obligatory:

- (ii) *Það langar [að lesa þessa bók].
it longs to read this book

Thus, it holds for all (non-passivized) control verbs that they select some obligatory role.

- (7)a. Það rigndi.
it rained
b. Gullinu rigndi yfir okkur.
the gold(Dat) rained over us
- (8)a. Það er kalt.
it is cold
b. Vatnið er kalt.
the water is cold

Moreover, the same kind of optionality of the external role is seen in so-called 'ergative pairs', as is well known. I shall discuss this in detail in chapter 6, so I only illustrate this with one example here:

- (9)a. Það suðu þrjú egg í pottinum.
there boiled three eggs in the pot
b. Þeir suðu þrjú egg í pottinum.
they boiled three eggs in the pot

This is not to say that it is insignificant that the aspectuals need not select an external role. As we shall see soon, they are modals precisely when they do not.

There is a second apparent objection against our analysis of the aspectual verbs, namely the fact that their complements often do not seem to be subject to V-to-I (recall that V-to-I applies in all Icelandic CP-infinitivals). Consider (10):

- (10) *Ég hætti [að lesa ekki bókina].
I stopped to read not the book

However, non-application of V-to-I does not make the sentence any better; if anything, (11) is still worse than (10):

- (11) *Ég hætti [að ekki lesa bókina].

Thus, what renders (10) unacceptable is not V-to-I, but rather the fact that infinitival complements of the aspectuals cannot usually contain any sentence adverb. The reason for that, in turn, is probably semantic: one does not usually 'stop *not* doing something', 'begin *probably* doing something', etc. Exceptionally, though, examples of this sort are possible. As shown in (12) (pointed out to me by Höskuldur Thráinsson) and (13), V-to-I is then obligatory, like in other control infinitivals:

- (12)a. Ég hætti [að lesa aldrei undir tímana].
I stopped to read never for the classes
b. *Ég hætti [að aldrei lesa undir tímana].
- (13)a. Ég byrjaði [að reykja ekki fyrir hádegi].
I began to smoke not before noon
'I began not to smoke before noon.'
b. *Ég byrjaði [að ekki reykja fyrir hádegi].

3.2.2.4 The dual nature of aspectuals

Finally, let us look at some evidence that the aspectuals (with the exception of *klára* 'finish') may also be (or behave like) epistemic modals, taking VP or IP.

Thráinsson (1986b) demonstrates the interesting fact that two basic properties of epistemic modals and auxiliaries are interrelated: They are *transparent* to the properties of the main verb they take and they do not assign or select a theta role (whereas root modals select an internal theta role, cf. fns. 10 and 12 above).

Auxiliaries and epistemic modals do not affect the selectional restrictions or the theta role assignment of the main verb, i.e. they are transparent to the main verb's theta properties (cf. Thráinsson 1986b, p. 248 ff.). Consider (1)-(2):

- (1)a. Það rigndi.
it rained
b. Það hafði rignt.
it had rained
c. Það mun rigna.
it will rain
d. Það þarf að rigna.
it needs to rain
- (2)a. Peningarnir hurfu.
the money disappeared
b. Peningarnir höfðu horfið.
the money had disappeared
c. Peningarnir munu hverfa.
the money will disappear
d. Peningarnir þurfa að hverfa.
the money need to disappear

If the main verb selects no theta role, the VP headed by an epistemic modal or an auxiliary also does not ((1)), but if the main verb does select (or assign) a theta role the modal VP takes precisely the same theta role (in (2), the role is an internal role of the ergative *hverfa* 'disappear'). In this respect, the modals differ sharply from prototypical control verbs, as shown by Thráinsson (ibid). Compare (3)-(4) to (1)-(2):

- (3)a. Það rignir.
 b. *Það reynir að rigna.
 it tries to rain
 c. *Það lofar að rigna.
 it promises to rain
- (4)a. Peningarnir hurfu.
 b. *Peningarnir reyndu að hverfa
 the money tried to disappear
 c. *Peningarnir lofuðu að hverfa.
 the money promised to disappear

The ungrammaticality of (3b,c) and (4b,c) follows from a well-known property of prototypical control verbs: as already mentioned, they must take an external role. Since the external role is always agentive/performative in our approach (see fn. 10 above and chapter 6), not only the ungrammaticality of (3b,c) but also the ungrammaticality of (4b,c) follows directly: 'the money' does not qualify as an agent or a performer.

As shown by Thráinsson (1986b), epistemic modals and auxiliaries are also transparent to the Case assignment of the main verb they take. Icelandic has many verbs that take an oblique subject (see 6.1). Modals and auxiliaries let such obliques 'pass through' freely, cf. (5):

- (5)a. Mér líður vel.
 me(Dat) feels well
 b. Mér hefur líðið vel.
 me has felt well
 c. Mér mun líða vel.
 me will feel well
 d. Mér þarf að líða vel.
 me needs to feel well

Again, control verbs behave differently:

- (6)a. *Mér reyndi að líða vel.
me tried to feel well
- b. *Mér lofaði að líða vel.
me promised to feel well

As we shall see in 6.1, oblique subjects are derived by ergative NP-movement. Thus, the data in (5) are actually parallel to the passivization data in 3.2.2.2(12) above: in both cases, epistemic modals and auxiliaries are *transparent to NP-movement*. This follows from two facts: modals and auxiliaries do not assign an external theta role (if they did, the moved NP would bear two roles, thus violating the Theta-Criterion) - and they do not take a CP-complement (if they did, the NP would cross a CP-boundary). As we shall see soon, these facts seem to be interrelated.

As mentioned, aspectuals often do not select an external role. In this case, it is interesting to note, they seem, in fact, to be 'epistemic' modals. First, consider (7):

- (7)a. Það fór að rigna.
it went to rain
'It began to rain.'
- b. Það byrjaði að rigna.
it began to rain
- c. Það hætti að rigna.
it stopped to rain
- d. *Það kláraði að rigna.
it finished to rain

Klára 'finish' is special in that it must take an external role.¹⁴ The fact that the other aspectuals may choose not to do so does not necessarily entail that they are then modals, that is, take a VP or an IP. Interestingly, however, this is the case, i.e. the generalization in (8) holds:

- (8)a. If an aspectual verb selects an external role,
it takes a clausal complement (a CP-infinitival)
- b. If an aspectual verb does not select an external
role, it takes a non-clausal complement

That (8b) is true is seen by the fact that the aspectuals are transparent to ergative NP-movement when they do not assign an external role. Consider (9):

¹⁴ In this respect, **klára** is like several combinations of the other aspectual verbs and 'prepositions' or particles, e.g. **byrja á/byrja með** 'start (with)' and **hætta við** 'stop (doing something begun or intended)'.

- (9)a. Mér leiddist.
me(Dat) bored
'I was bored.'
- b. Mér fór að leiðast.
me went to bore
'I began to be bored.'
- c. Mér byrjaði að leiðast.
started
- d. Mér hætti að leiðast.
stopped
- e. *Mér kláraði að leiðast.
finished

The same sort of facts is seen for the ergative *sökkva* 'sink' (which derives its nominative subject by NP-movement, cf. 6.2):

- (10)a. Skipið sökk.
the ship(Nom) sank.
- b. Skipið fór að sökkva.
'The ship began to sink.'
- c. Skipið byrjaði að sökkva.
started
- d. Skipið hætti að sökkva.
stopped
- e. Skipið er að sökkva.
the ship is to sink
'The ship is sinking.'
- f. *Skipið kláraði að sökkva.
finished

In passing, one peculiarity should be noted. As we have seen, control aspectuals are opaque to passive NP-movement. But if the aspectuals can also be modals, we might expect these 'modal aspectuals' to be transparent to passive NP-movement, as to ergative NP-movement. However, this is not so. Consider (11) and the contrast in (12):

- (11)a. Ég þarf að berja strákinn.
I need to beat the kid
- b. Ég hætti að berja strákinn.
I stop to beat the kid

- (12)a. Strákurinn þarf að verða barinn.
 the kid needs to be beaten
- b. *Strákurinn hættir að verða barinn.
 the kid stops to be beaten

Thus, for some reasons unclear to me, it is normally impossible to combine a 'modal aspectual' and a passive infinitival. It would not surprise me, though, if there were some variation with respect to the acceptability of sentences like (12b). In any case, if we add further 'modal material' (sentence adverbs and the like) to the sentence, it becomes somewhat better:

- (13) ??Strákurinn hættir nú sennilega bráðum
 the kid stops well probably soon
 að verða barinn.
 to be beaten
 'Well, the kid will probably soon not be
 beaten any more.'

The generalization in (8) seems rather peculiar, but it is strikingly similar to the so-called 'Burzio's generalization' (which I shall discuss in 6.1.3): it says, roughly, that a verb can only assign Case when it takes an external role. As we shall see, 'Burzio's generalization' must be revised, as a generalization on argument structure rather than Case. That is, verbs (in Icelandic and e.g. English) can take a definite argument in the [NP, VP] position (no matter what Case properties the argument has) if and only if they also select an external role. It seems appealing to assume that (8) is only another side of the same coin. If that is correct, it indicates that control or CP-infinitivals are, somehow, more 'argument-like' or 'NP-like' than other *að*-infinitivals (as indeed argued at great length by Thráinsson 1979). I shall return to the matter in the next subsection.

3.2.3 Modals vs. control verbs

Now, consider the categorial status of the infinitival complements of the modals. It seems rather clear that the modals (in CLASS I) that take bare infinitives simply take VPs. The question is whether the modal *að*-infinitives are VPs or IPs. In other words, is *að* simply some kind of a proclitic on the verb in these infinitives or is it an overt Infl, like English *to*, Norwegian *å* and (untensed) Danish *at* (cf. 3.2.1)? Consider the discussion in Thráinsson (1986b). I would like to suggest that the latter analysis is the correct one, but admittedly, it is not easy to come up with independent

empirical evidence that bears on the matter. Some reflections follow, though.

First, consider the fact that the distribution of *að* in the modal infinitives is extremely clear cut (for all the modals, and, I believe, for all speakers):

- (1)a. Ég skal (*að) lesa bókina.
I shall read the book
b. Ég þarf *(að) lesa bókina.
I need to read the book

This is probably not what we expect if both types of infinitives are VPs.

Second, syntactic clitics generally move along with the constituent they cliticize on (cf. e.g. Kayne 1983b, Taraldsen 1984, Holmberg 1984b). As we saw in 3.2.2.1, however, *að* does not move with the infinitive under Stylistic Fronting. This is illustrated again in (2) and (3):¹⁵

- (2)a. Ég tel að [(það) verði *(að) borga bílinn].
I find that it must to pay the cab
'In my opinion, the cab must be payed.'
b. Ég tel að [(*)að] borga verði [e] bílinn].
(3)a. Þú veist hvernig [[e] á *(að) baka kökur].
you know how (one) is to bake cakes
'You know how (one is) to bake cakes.'
b. Hvernig [(*)að] baka á [e] kökur].
how to bake shall cakes
'How to bake cakes.'

Infinitivals (and participles) may also be fronted in impersonal main clauses (as pointed out to me by Höskuldur Thráinsson). Also in this case, the infinitive marker must be dropped:

- (4)a. Það verður að líta svo á að ...
it must to look so at that
'Things must be seen that way that ...'
b. Líta verður [e] svo á að
c. *Að líta verður [e] svo á að ...

This is normally rather bad in sentences that have a referential subject.

¹⁵ As illustrated by Thráinsson (1980), it is possible to insert an extra *að* after most Icelandic complementizers, this giving rise to strings like *sem að* 'who that, which that, that that', *þegar að* 'when that', *ef að* 'if that', etc. The examples in (2b) and (3b) do not involve such an extra *að*, i.e. it is impossible to insert an extra *að* in (2a) and (3b). If it were possible, *að* should be grammatical in (2b) and (3b).

However, it is interesting to note, fronted bare infinitives are not totally out in such cases, in contrast with fronted að-infinitives:

- (5)a. Ég þarf að fara til Íslands.
I need to go to Iceland.
b. ?Fara þarf ég [e] til Íslands.
c. *Að fara þarf ég [e] til Íslands.

It thus seems rather clear that the infinitive marker in modal infinitives is not a proclitic on the infinitive verb. It is a puzzle, though, that að must disappear, i.e. that it cannot ever be left behind:

- (4)b. Líta verður [e] svo á.
(6) *Líta verður að [e] svo á.

I shall not speculate any further on Stylistic Fronting, interesting as it is. Let me just point out that it does not seem to fall under Chomsky's (1986b) theory of movement (in which only heads or maximal projections can move). On the one hand, it seems clear that we are not dealing with a head-movement (since the moved element ends up in a specifier position, i.e. [Spec, CP] in main clauses but [Spec, IP] in subordinate clauses, it seems). On the other hand, we are probably not dealing with an X''-movement either. This is indicated by the fact that even sentence adverbs and verb particles can move by SF. Thus, we have cases like the impersonal passive in (7), where either the participle ((7b)) or the verb particle ((7c)) may move to [Spec, IP]:

- (7)a. ... sem [[e] var talað um].
that was talked about
b. ... sem [talað var [e] um].
c. ... sem [um var talað [e]].

A possible way out here is to assume that it is actually not a verb particle that is moved in (7c) but a PP (containing a trace of the relativized element). In a parallel manner, we could perhaps argue that (7b) involves fronting of VP and an extraposition of a PP out of VP (either prior to or after VP-fronting). However, I shall leave the problem unresolved.

Now, let us return to the status of að in modal infinitives. If it is analyzed as a proclitic, one might ask why the majority of Icelandic modals should 'assign' an obligatory contentless proclitic to their verbal complements whereas other Icelandic modals must not do so. This seems rather suspicious. If both types of modals take a VP, of which the infinitive V is the head, why, then, must the head-V sometimes carry along with it

an 'extra' *að* and why must it sometimes not? This does not make much sense, it seems. Holmberg (1986, p. 157 f.) suggests that the infinitive marker in English (and other languages that clearly do have a lexical Infl) is adverbial or prepositional, [%V]. For English, at least, this seems plausible. However, it would not seem unnatural to assume that the Icelandic infinitive marker is, so to speak, a lexicalization of the default values of Infl (see also fn. 17 below). If that is correct, it is [-V], like the complementizer *að*. Suppose also that modal *að*-infinitives are in fact IPs (with or without PRO in [Spec, IP]), headed by the infinitive marker in Infl, hence also [-V]. The distribution of *að* in modal infinitives then follows if *munu* 'will', etc. take a verbal complement, hence a bare VP headed by V, whereas *þurfa* 'need', etc. take a nonverbal complement, hence an IP headed by the nonverbal Infl *að*.¹⁶

In 3.2.2.4, we saw an interesting indication that CP *að*-infinitivals are somehow more 'argument-like' than the IP *að*-infinitivals of modals. This suggests that the two *að*s differ in some way. This is not surprising. As pointed out by Holmberg (1986, p. 157), infinitive markers typically differ from declarative complementizers in Germanic and Romance languages. Therefore, assume that it is only a historical coincidence that the two are homophonous in Icelandic; in fact, they do seem to have different historical origins (Thráinsson 1979, p. 345). How, then, do the *að*s differ if they are both [-V]? The simplest assumption is that they differ with respect to [N] (rather than, say, some other possible feature, [\pm complementizer] or whatever). In section 2.2, I argued against Holmberg's (1986) suggestion that all complementizers are [-N]. Here, I would like to go one step farther in the same direction by assuming that the complementizer *að* is in fact [+N], whereas the infinitive marker *að* is [%N] (which would in fact correspond to their different nominal vs. adverbial origins). Consider Platzack (1985d) who also assumes that the complementizer *að* is [-V, +N]. If we also take [\pm Tense] into account (cf. Stowell 1981, 1982b; Holmberg 1983; Platzack 1985d), we thus get the following possibilities for *að*:¹⁷

¹⁶ Thus, I am following Thráinsson (1986b) in distinguishing between the two types (although I am not making exactly the same distinction between them as Thráinsson).

¹⁷ *Að* may also head adverbial clauses and infinitives, cf. (i):

- (1)a. Jón fór til þess að þú kæmir.
John went for it that you would-come
'John went in order that you would come.'
b. Jón fór til þess að kaupa sigarettur.
John went for it to buy cigarettes
'John went to buy cigarettes.'
c. Þetta er ekki penni til þess að skrifa með.
this is not a pen for it to write with
'This is not a pen to write with.'

Similar facts are found in the other Scandinavian languages (cf. Andersson 1975 on Swedish). The natural assumption is that *að* is [%V] here, like other

- (8)a. [-V,+N,+Tense]: að heading a finite clause
 b. [-V,+N,-Tense]: að heading a control infinitival
 c. [-V,%N,-Tense]: að heading a modal infinitival

Now, consider again Holmberg's (1986, p. 141) principles that were given in 2.1(1). I repeat them in (9):

- (9)a. **The Predicate Principle:** A predicate must be [+V]
 b. **The Argument Principle:** An argument must be [-V]
 c. **The Modifier Principle:** A modifier must be [%V]

If the infinitive marker, heading modal infinitivals, is [-V], then the Predicate Principle must be relaxed somehow. Suppose, therefore, that (9a) should be replaced by (10) (which allows [-V] nonfinite predicates):

- (10)a. A predicate must not be [+N]
 b. A finite predicate must be [+V]

The Argument Principle in (9b) is not of much help either when one wishes to account for the distribution of the various types of að-complements in Icelandic. It seems clear that að-infinitives of modals are not arguments, whereas control infinitivals and finite að-clauses are (at least when they are declarative, cf. fn. 17). However, the types differ with respect to [N], not [V]. Therefore, I shall assume the more traditional view that arguments must be [-V, +N] (see also e.g. Platzack 1985d). I also take it that 'Burzio's generalization' should be stated, very roughly, as follows:

- (11) A verb that does not select an external role must not take an argument in the [NP, VP] position at S-structure

This is only a very rude approximation, as we shall see in chapter 6. However, the complementary distribution of control infinitivals and modal infinitivals now follows directly: the former are arguments ([+N]), hence only complements of verbs that select or assign an external role, whereas the latter are nonarguments ([%N]) and may thus be complements of verbs that do not assign an external role (cf. the discussion in 3.2.2.3 of the

adverbial complementizers. That, in turn, perhaps indicates that að does not in fact have any features of its own, i.e. that it is a dummy complementizer/Infl that is compatible with whatever feature settings that are required for a given CP or IP by general principles (in Sigurðsson (1981a), it is observed that að is empty of all content, cf. also Rögnvaldsson (1987, p. 105)).

dual nature of aspectual verbs).¹⁸

Modal infinitives of course raise many more questions: do they, for instance, involve a PRO subject, or do they enter into some sort of a clause union process along with the modal, involving some structural pruning? I shall refrain from addressing these extremely complex and elusive questions, but for some discussion see Thráinsson (1984a, 1986b) and Rögnvaldsson (1983). What matters for our purposes is that they differ from control infinitivals, in not being CPs and in not applying V-to-I: if the infinitive marker occupies Infl in modal að-infinitives, V-to-I is, of course, blocked.

3.3 V-to-I: an explanation

The facts discussed so far indicate that Icelandic control infinitivals have two crucial properties that distinguish them from all other infinitivals in the language: they have Comp, phonetically realized as að, and they are always subject to V-to-I. These facts might be interrelated. Holmberg (1986, p. 156) postulates the principle in (1):

(1) Comp and Infl always go together

- which is perhaps not surprising if they are "the same category spread over two positions" (Holmberg 1986, p. 147). However, if modal að-infinitives have a lexical Infl, (1) is too strong; also, as we shall see in 3.4, some Icelandic Ncl infinitivals seem to be bare IPs. An alternative (pointed out to me by Anders Holmberg) is to assume (2):

(2) There is no Comp unless there is also an Infl

Presumably, all Comps must be (plus or minus) marked for tense and mood (cf. Stowell 1981, 1982b). If we assume that they cannot be so marked independently but must inherit the tense/mood marking of Infl, then (2) follows directly.

As we have seen, Icelandic control infinitivals are headed by the [-V,+N]

¹⁸ If the complementizer að is [+N], it is a Case assignee. Thus, it is not surprising that finite að-clauses and control infinitivals have much the same distribution as NPs in Icelandic: As argued at great length by Thráinsson (1979) these að-complements (as opposed to að-infinitives of modals) seem to copy the syntactic behavior of Icelandic NPs; see also Platzack (1985d). Conversely, however, the Mainland Scandinavian at(t) complementizer must not be [+N] if Comp is a Case assigner in Mainland Scandinavian, i.e. at(t) is probably [-V,%N]. The distribution of Swedish att-clauses would seem to support this, but Norwegian and Danish at-clauses seem to have much the same properties as Icelandic að-clauses (cf. Platzack 1985d).

declarative complementizer *að*. V-to-I renders Infl, hence IP, [+V]. But given that *að* is [-V], the [+V] feature of IP cannot percolate to C'/CP, that is, V-to-I has no effects on the categorial status of control infinitivals (any more than on the categorial status of finite CPs), hence does not prevent them from functioning as arguments. This explains why V-to-I *may* take place in Icelandic control infinitivals.¹⁹ But it does not explain why it *must* take place.

In 2.4, I mentioned two other possible explanations: an ECP-explanation and a Case-explanation. First, consider the ECP-explanation: Given that control infinitivals (in Icelandic and related languages) do have Infl, V-to-I in Icelandic might be due to ECP; the same goes for I/V Reanalysis in Swedish and insertion of a lexical Infl in English, Norwegian and Danish: Infl must be filled somehow.²⁰ However, this is an unsatisfactory explanation. Why generate Infl in control infinitivals in the first place? The principle in (2) offers an initial answer, at least for Icelandic. Icelandic control infinitivals must function as arguments, i.e. they must have a nominal head: a [-V, +N] Comp. If (2) is correct, this means that Icelandic control infinitivals must also have Infl. However, this only raises another question: why is it impossible for Icelandic to make use of the same strategies in Control infinitivals as employed by other Germanic languages? That is, why does Icelandic not apply an insertion of a lexical Infl or an I/V Reanalysis in control infinitivals? Both these methods of filling Infl would save it from violating ECP.

In the standard theory, PRO is the only empty category that can and must be ungoverned (cf. Chomsky 1981, e.g. pp. 60, 64 ff.; 1982). Therefore, the standard assumption is that Comp (or the CP-boundary) protects PRO from being governed by the matrix verb. Consider (3):

- (3)a. I believe [_{IP} him to be clever].
 b. I tried [_{CP} e [_{IP} PRO to be clever]].

According to Chomsky (1981, e.g. p. 66 ff.), AcI or Exceptional Case Marking structures like (3a) are due to S'- (= C'/CP-) deletion, that is, *believe* is actually subcategorized for a clausal complement, but for the moment, this is unimportant.

In both cases in (3), the infinitival Infl contains no Agr. Hence, it cannot assign nominative Case to its subject. In addition, it is not a proper governor (cf. Chomsky 1981, p. 250 ff.). It follows from these assumptions that PRO is the only element licensed in the infinitival subject

¹⁹ The same goes for I/V Reanalysis in Swedish control infinitivals if *att* is a [-V] complementizer; see also a slightly different approach in Holmberg (1986, p. 157).

²⁰ See the discussion around the Head Movement Constraint in 2.4(5) and the structure in 2.4(6).

position in (3b): other empty categories (anaphors and variables) must meet ECP, and NPs that have phonetic substance must bear Case. As for the Exceptional Case Marking in (3a), on the other hand, there is no C'/CP-boundary between the matrix verb and the infinitival subject (after C'/CP-deletion). Therefore, the matrix verb may govern and assign Case to the infinitival subject in (3a).

The reason why this approach is so generally accepted is probably that it seems to account straightforwardly for the distribution of PRO. However, there is rather clear evidence that PRO may occur in subject positions that are Case positions in at least some constructions in some (null-subject) languages. Two such languages are Malayalam (Mohanam 1982b; 1983, p. 648) and European Portuguese (cf. below). As we shall see, Icelandic is yet another such language.

In our approach, subjects and other specifiers are ungoverned (cf. also Belletti and Rizzi 1981), that is, even though PRO may occur in Case-marked subject positions, it does not follow that PRO may be governed. Nonetheless, sentences like (4) perhaps involve a governed P-object PRO:

- (4) þetta er ekki penni til (þess) að skrifa með.
 this is not a pen for (it) to write with
 'This is not a pen to write with.'

If that is correct, the NP in (4) has, roughly, the structure (5):

- (5) [penni_i [til (þess) [CP að PRO skrifa með PRO_i]]]

- where the first PRO is arbitrary and the second PRO is controlled by the head noun and governed by the preposition *með* 'with'. However, there is at least one alternative analysis of (4): the governed EC might be a variable (derived by *wh*-movement and *wh*-deletion, i.e. relativization).

Be this as it may, there is probably no need to call upon ECP and the Case Filter to explain why control infinitivals do not tolerate a lexical subject. Although PRO may perhaps be governed, it clearly needs not be. In fact, it does not have to have any governing category even when it is bound or controlled (and must not in the standard theory). Consider (6a) and its (relevant) structure (6b):

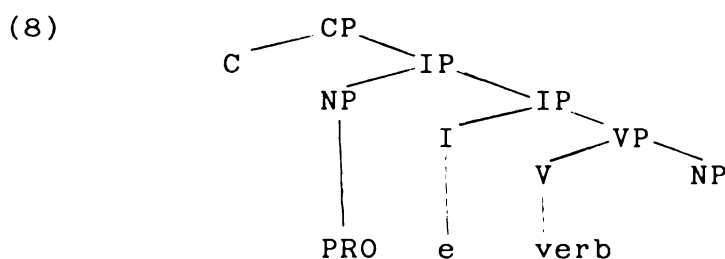
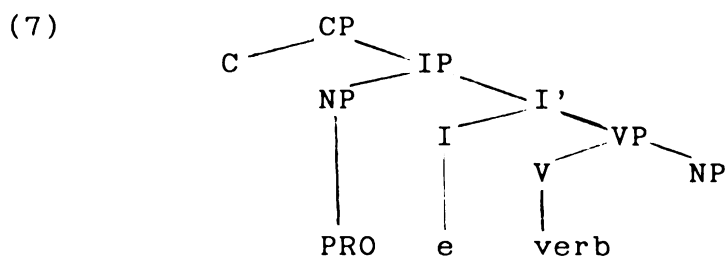
- (6)a. *Hann reyndi að hann lesa bókina.
 he tried that he read the book
 b. Hann_i reyndi [CP að hann_i lesa bókina]

The subject position of the infinitival is a position of obligatory binding and control. However, if it is ungoverned, the pronominal occupying it has no governing category (and the same would of course apply to an

overt anaphor). If we assume that PRO is the only element that may be bound without having a governing category, its obligatoriness in control infinitivals is accounted for.

This explanation does not, of course, extend to unbound or arbitrary PRO in subject clauses. But no matter how we explain the distribution of PRO, it seems that it should in any case not be deduced from the Case Filter, at least not in a null-subject language like Icelandic. As we shall see in chapters 4-6, there is rather clear evidence that all nominals in Icelandic, lexical or not, must bear Case. In fact, the relevant distinction between null-subject and non-null-subject languages seems to be that the former language type allows all sorts of Case-marked empty categories (cf. below and chapters 4-5).

Suppose that PRO *must* be Case-marked in Icelandic. If that is correct, we have an explanation of the *obligatoriness* of V-to-I in control infinitivals. Consider the Icelandic/English structure in (7) and the Mainland Scandinavian structure in (8) (cf. 2.5):



As mentioned above, these structures are ruled out by ECP: Infl is empty but it is not properly (antecedent) governed. The structures may be saved in three ways (on the assumption that ECP and the Head Movement Constraint exclude I-to-V or Affix Hopping): by V-to-I (Icelandic), I/V Reanalysis (Swedish), and lexical insertion under Infl (Danish, Norwegian, English). I/V Reanalysis renders Infl incapable of assigning nominative Case (since I/V has to be able to assign objective Case to [NP, VP]). Also, the infinitive marker in English, Danish and Norwegian is not a Case assigner, and it seems natural to assume that this extends to the

Icelandic infinitive marker in modal *að*-infinitives.²¹ Thus, the latter two options are available if Infl is not to assign Case to PRO.²² If, on the other hand, Infl is to assign Case to PRO, then V-to-I has to take place. This secures that Infl contain lexical features and that PRO get Case from a Case assigner that m-commands it. In addition, since *að* in control infinitivals is [+N], it is a Case assignee, hence incapable of assigning Case (as opposed to modifying, [%V, %N], Comps in the language, cf. 2.5). See chapter 4. That is, V-to-I is the only option in the language to ensure that PRO will indeed bear Case. If, on the other hand, PRO would not have to be Case-marked by Infl, we would expect local I/V Reanalysis to be possible (saving the structure from an ECP violation). That is, we would expect the 'Swedish order' (with the sentence adverb directly after the complementizer) to be possible in control infinitivals in Icelandic. As we saw in 3.2.1, this is not the case.

This seems to suggest that the 'Case assigning strength' of Infl is subject to at least a 'ternary' cross-linguistic variation: in Icelandic, it always assigns nominative Case when it contains V, in English it only does so when it contains Agr, and in Mainland Scandinavian it never assigns Case. However, I would like to suggest that the 'Case assigning strength' of Infl is not an independent variable. Thus, Infl (or I/V) does not assign Case to [NP, IP] in Mainland Scandinavian simply because it never m-commands it. Moreover, the difference between Icelandic and English with respect to Infl-Case follows if PRO must bear Case in Icelandic but must not in English (see further 5.5.3).

Portuguese is another null-subject language in which PRO must bear Case, it seems. In fact, the untensed Infl agrees with [NP, IP] in Portuguese (cf. Raposo 1984, 1987). That is, European Portuguese shows the following patterns in infinitivals (i.e. [-Tense] clauses), cf. Raposo (1987, pp. 86, 93):

- (9)a1. [NP Infl/+Agreement]
 2. [PRO Infl/+Agreement]
 b1. *[NP Infl/-Agreement]
 2. [PRO Infl/-Agreement]

Note the free variation in (9a). It shows that PRO is legitimate in a subjective Case position in Portuguese. One might argue that the empty category in (9a2) is *pro* rather than PRO since it agrees with Infl, but

²¹ At least if *að* is only a sort of a lexicalization of the default values of Infl in these infinitivals, hence not actually having any lexical features.

²² But if we are to block Swedish *att* from assigning Comp-Case to PRO, we have to make some auxiliary stipulation. I shall address this problem in 5.5.3.

the argument is circular. Besides, I do not believe that there is any good reason to distinguish between PRO and *pro* (see 5.5.1).

The present approach suggests that the Case Filter is parametrized, Icelandic and Portuguese having a stronger Case Filter than e.g. English and Mainland Scandinavian. Informally, we can express this by adding parentheses to Chomsky's Case Filter (as formulated for individual NPs, i.e. not for chains, cf. Chomsky 1981, p. 49):

(10) *NP if NP (has phonetic content and) has no Case

The parentheses hold for Icelandic and Portuguese but not for English and Mainland Scandinavian.²³ As we shall see in 5.3.2, however, (10) is only a rather rude first approximation.

In chapter 5, I shall consider a variety of facts that indicate that *pro*/PRO must bear Case in Icelandic. But first, it is necessary to consider the properties of raising infinitivals in Icelandic (3.4), and to develop an adequate theory of Case (chapter 4).

3.4 Raising infinitivals

3.4.0 Introduction

In this subsection, I shall consider the structure and the Case properties of Icelandic raising infinitivals. These matters are, of course, interrelated. If Icelandic raising infinitivals have an Infl node, that is, if they are IPs or CPs, then we expect them to be independent or opaque 'Infl-Case domains'. If, on the other hand, they do not have Infl, then they should be transparent to external Case-marking. Moreover, if raising infinitivals are independent Infl-Case domains, they should apply V-to-I. Recall also (from 3.1) that Icelandic raising infinitivals do not have any infinitive marker or complementizer, *að*. We would like our analysis to account for this fact in some coherent manner.

English has several types of 'raising verbs', most prominently the following three: the *L(et)*-type (taking an Acl infinitival), the *B(elieve)*-type (also taking an Acl infinitival), and the Ncl-taking *S(eem)*-type. This is illustrated in (1):

²³ In Chomsky's approach (1981, p. 334), theta roles are assigned to chains that are either Case-marked or headed by PRO. If PRO bears Case in null-subject languages, we can dismiss the disjunction "or headed by PRO", thereby simplifying the conditions on theta role assignment (as pointed out to me by Anders Holmberg). However, this simplification is not available for non-null-subject languages, cf. 5.5.3.

- (1)a. Mary let [me wait outside].
 b. Mary believed [you to be intelligent].
 c. Mary seems [to be happy].

As we saw in 3.1, Icelandic has all these types:²⁴

- (2)a. María lét [mig bíða úti].
 Mary let [me(A) wait outside].
 b. María taldi [þig vera gáfaðan].
 Mary believed you(A) be intelligent
 c. María virðist [vera glöð].
 Mary seems be happy

But Icelandic also has a second type of Ncl (cf. e.g. Thráinsson 1979, p. 426 f.; Bernóðsson 1982). In this type, the raising verb takes a dative 'experiencer' as a subject, the nominative thus staying inside the infinitival. This is illustrated in (3):

- (3) Mér virðist [María vera glöð].
 me(D) seems Mary(N) be happy
 'It seems to me that Mary is happy.'

I shall refer to this type as the 'Dative/Nominative with Infinitive', *D/Ncl*.

In 3.4.1, I shall discuss the internal structure of Icelandic raising infinitivals. I will suggest that none of the four types is clausal (CP). Rather, I assume, all the 'English-like' types in (2) are small clauses (thus, in fact, following Chomsky's (1981) analysis of raising infinitivals rather closely). The *D/Ncl* type, on the other hand, may either be a small clause or a bare IP. This will be shown to account for the behavior of NP-movement in raising infinitivals, as well as for the absence of *að* in them. Then, in 3.4.2, I shall illustrate that the Case and agreement properties of Icelandic raising infinitivals follow directly from the proposed structural analysis.

3.4.1 Internal structure

L-infinitivals are the only raising infinitivals in English that have no infinitive marker. Consider (1):

²⁴ On the other hand, Icelandic does not have the *W(ant)*-type discussed in e.g. Postal (1974) and Kayne (1981c). In Kayne's analysis (cf. 1981c, fn. 34, p. 343), this type is not to be expected in languages that have oblique or lexical Case.

- (1)a. John believed Mary to read the book.
 b. Mary seemed to read the book.
 c. John saw Mary read the book.

This suggests that there is a structural difference between L-infinitivals and other raising infinitivals in English. Kayne (1981b, fn. 16, p. 360 f.) proposes that L-infinitivals are 'bare VPs with a subject' (i.e. small clauses) in English (and French), whereas B-infinitivals (see Kayne 1981b, p. 357), and presumably also Ncl or S-infinitivals, are full-fledged clauses.²⁵ Platzack (1986c, p. 128 ff.) and Holmberg (1986, p. 158 ff.) extend Kayne's analysis to the Scandinavian languages. That is, they assume the same distinction between L-infinitivals and other raising infinitivals in Scandinavian as in English and French (note, however, that B-infinitivals are obsolete in Danish, cf. Platzack 1986c, p. 129).

We have already seen that Danish and Norwegian are like English in having an infinitive marker in Infl in control infinitivals. Thus, it is not surprising that all three languages are also similar with respect to raising infinitivals. Consider the Danish Ncl in (2) and the Norwegian B-infinitival in (3) (taken from Christensen 1983, p. 4):

- (2) Han synes at være intelligent.
 he seems to be intelligent
- (3) Vi anser henne å være intelligent.
 we consider her to be intelligent

In L-infinitivals, on the other hand, there is no infinitive marker, that is, the distribution of the infinitive marker is the same as in English. Consider the Danish (4):

- (4) Vi så ham læse bogen.
 we saw him read the book

As for Swedish and Icelandic, on the other hand, there is in fact very little evidence that L-infinitivals differ in structure from other raising infinitivals. In both languages, Ncl and B-infinitivals are just like L-infinitivals in having no infinitive marker. This is shown in (5)-(7):

- (5)a. Vi såg henne läsa boken. (Swedish)
 we saw her read the book
- b. Við sáum hana lesa bókina. (Icelandic)

²⁵ For a clausal analysis of L-infinitivals, however, see Kayne (1981c, p. 335 f.).

- (6)a. Vi anser henne vara begåvad. (Swedish)
 we consider her be gifted
 b. Við álítum hana vera gáfaða. (Icelandic)
- (7)a. Hon verkar vara begåvad. (Swedish)
 she seems be gifted
 b. Hún virðist vera gáfuð. (Icelandic)

In Swedish, however, there is some (rather scanty) evidence that Ncl and B-infinitivals might have a more 'full' or complex structure than L-infinitivals. First, as pointed out by Holmberg (1986, p. 159), the infinitive marker is optional (in Infl) in Ncl and B-infinitivals in some Swedish dialects, cf. (8) (taken from Holmberg 1986, p. 159):²⁶

- (8)a. Han verkar (att) ha läst boken.
 he seems to have read the book.
 b. Jag anser honom (att) vara dum.
 I consider him to be stupid

Second, L-infinitivals do not happily allow a sentence adverb. Consider (9):

- (9)a. Jag såg inte Maria läsa boken.
 I saw not Mary read the book
 'I did not see Mary read the book.'
 b. *Jag såg Maria inte läsa boken.
 (i.e. 'I saw Mary not read the book.')

(9b) contrasts with (10):

- (10) Jag ansåg Maria inte vara begåvad.
 I considered Mary not be gifted

Possibly, this is accounted for if B-infinitivals do and if L-infinitivals do not have Infl in Swedish. In fully clausal structures in Swedish, sentence adverbs adjoin to IP (cf. 2.5). Thus, we might perhaps expect that they should only be possible in structures that have Infl (cf. Platzack 1986c, p. 129). However, we may also look at this matter the other way around: given that Swedish L-infinitivals do not have any Infl, it is hard to see why sentence adverbs should be excluded from adjoining to their VP in the syntax. It thus seems most likely that sentences like (9b) are unacceptable for semantic reasons (as pointed out to me by Christer Platzack).

²⁶ Note that the infinitive marker must be pronounced "å" in these examples (i.e. not [at:], like the complementizer *att*).

Be the Swedish facts as they may, it seems clear that neither of the above mentioned arguments extends to Icelandic. First, as far as I know, the infinitive marker is totally impossible in all raising infinitivals in all varieties of Icelandic. Second, sentence adverbs normally adjoin to VP in Icelandic, that is, acceptability vs. ungrammaticality of sentence adverbs has no bearing on the question whether or not a particular structure has Infl in Icelandic.

Now, if we wish to make use of sentence adverbs to illustrate the properties of Icelandic raising infinitivals, we obviously have to define the notion 'sentence adverb' in some minimally accurate way. That is, we have to be able to distinguish between 'sentence adverbs' and, say, adverbs that may be generated VP-internally (and should therefore be able to occur inside all kinds of infinitives). As is well known, this is a rather slippery matter. I shall thus refrain from discussing it in any detail here. Let me just point out that prototypical sentence adverbs, that is, the sentence negation and 'evaluative' sentence adverbs like *sennilega* 'probably' and *varla* 'hardly' (cf. Lyons 1977, p. 452), seem normally to be infelicitous inside all Icelandic raising infinitivals. Consider (11)-(14):

- (11)a. Ég hafði látið [Maríu lesa bókina].
I had let Mary read the book
b. *Ég hafði látið [Maríu sennilega lesa bókina].
c. *Ég hafði látið [Maríu lesa sennilega bókina].
d. *Ég hafði látið [Maríu lesa bókina sennilega].
- (12)a. Ég hafði talið [Maríu lesa bókina].
I had believed Mary read the book
b. *Ég hafði talið [Maríu sennilega lesa bókina].
c. *Ég hafði talið [Maríu lesa sennilega bókina].
d. *Ég hafði talið [Maríu lesa bókina sennilega].
- (13)a. María hafði virst [lesa bókina].
Mary had seemed read the book
b. *María hafði virst [sennilega lesa bókina].
c. *María hafði virst [lesa sennilega bókina].
d. *María hafði virst [lesa bókina sennilega].
- (14)a. Mér hafði virst [María lesa bókina].
me had seemed Mary read the book
b. *Mér hafði virst [María sennilega lesa bókina].
c. *Mér hafði virst [María lesa sennilega bókina].
d. *Mér hafði virst [María lesa bókina sennilega].

Cases like (15b) below, on the other hand, seem to be derived (from

orders like (15a)) by so-called Object Shift (cf. Holmberg 1986, chapter 6), which shifts an 'object', over a verb trace, in front of a sentence adverb that is phonetically adjacent to the 'object' (adjoining the 'object' to the VP (or the IP in Mainland Scandinavian) that contains the sentence adverb); "[v]" is the VP-trace of the matrix verb:

- (15)a. *Ég sá ekki [v] [Maríu lesa bókina].*
 I saw not Mary read the book
 'I did not see Mary read the book.'
 b. *Ég sá [vp Maríu; [vp ekki [v] [t_i lesa bókina]]].*
 'I did not see Mary read the book.'

Since Object Shift never applies over overt verbs, this derivation is impossible when the matrix clause contains a modal or an auxiliary (thus having a main verb that stays in its 'base position'). Consider (16); (16b) involves illicit Object Shift (over an overt verb), whereas (16c) has an infelicitous sentence adverb within the infinitival:

- (16)a. *Ég hafði ekki séð [Maríu lesa bókina].*
 I had not seen Mary read the book
 b. **Ég hafði Maríu; ekki séð [t_i lesa bókina].*
 I had Mary not seen read the book
 c. **Ég hafði séð [Maríu ekki lesa bókina].*
 I had seen Mary not read the book

Thus, if we want to see whether or not the sentence adverb belongs to the infinitival, we have to make use of examples like (11)-(14) and (16), with a modal or an auxiliary in the matrix clause.

As argued at length by Holmberg (1984a; 1985b; 1986, ch. 6), Object Shift only applies to pronouns in Mainland Scandinavian whereas it also applies to full NPs in Icelandic. Hence, (15b) is grammatical in Icelandic whereas the corresponding (9b) is out in Swedish. Compare (9b) to (17):

- (9)b. **Jag såg Maria inte läsa boken.*
 I saw Mary not read the book
 (17) *Jag såg henne inte läsa boken.*
 I saw her not read the book

If sentence adverbs, for some reasons, are categorically impossible in all Icelandic raising infinitivals, they obviously do not tell us much about their internal structure. Moreover, we then have no clear evidence whether or not V-to-I applies in Icelandic raising infinitivals. As pointed out to me by Anders Holmberg, however, raising infinitivals tolerate sentence

adverbs somewhat more happily if they also contain a modal verb. Consider the difference in (18):

- (18)a. *Ég hafði talið [hana varla lesa bókina].
 I had believed her hardly read the book
 b. ??Ég hafði talið [hana varla mundu lesa bókina].
 would

Interestingly, (18b) is better than (19):

- (19) *Ég hafði talið [hana mundu varla lesa bókina].

Slender as it is, this 'evidence' thus indicates that V-to-I does not apply in Icelandic B-infinitivals. L-infinitivals differ from other raising infinitivals in that they never tolerate any modal verbs (like most control infinitivals), that is, we cannot apply this 'test' to them. But for Ncl infinitivals, we get the same effect as for B-infinitivals:

- (20)a. ??Hún hafði virst [ekki vilja snerta matinn].
 she had seemed not want touch the food
 b. *Hún hafði virst [vilja ekki snerta matinn].

As for D/Ncl infinitivals, on the other hand, I have not been able to establish this effect:

- (21)a. ??Mér hafði virst hún varla vilja snerta matinn.
 me had seemed she hardly want touch the food
 b. ??Mér hafði virst hún vilja varla snerta matinn.

Now, I would certainly not want to base any conclusions about Icelandic raising infinitivals on these elusive data. For other reasons, however, I suggest the following analysis: The 'simple' Ncl type as well as both Acl types are small clauses. The D/Ncl type, on the other hand, is either a small clause (with no Infl) or a bare IP (having Infl and applying V-to-I).

This approach has certain clear advantages. Thus, it accounts coherently for the Case properties of Icelandic raising infinitivals, as we shall see in the next subsection. Moreover, it also explains the ungrammaticality of *að* in Icelandic raising infinitivals: First, raising infinitivals have no Comp position for *að*, as opposed to control infinitivals. Second, in contrast with modal *að*-infinitives, raising infinitivals either have no Infl to host *að* (Acl and Ncl), or, if they have Infl (D/Ncl), it has to be available as a landing site for V-to-I. - For a sentential analysis of Icelandic B- and Ncl infinitivals (cf. Holmberg 1986, p. 158 ff.), the distribution of *að* is, of course, rather troublesome.

The behavior of NP-movement in raising infinitivals also supports this analysis. As we saw in 3.2.2.2, NP-movement never crosses CP-boundaries. However, it extracts freely out of the subject position of raising infinitivals, of course:

- (22)a. María virtist [t hafa gleymt Jóni].
 Mary seemed have forgotten John
- b. María var talin [t hafa gleymt Jóni].
 Mary was believed have forgotten John
- c. María var látin [t gleyma Jóni].
 Mary was made forget John

This is accounted for if raising infinitivals have no Comp and no CP-level (cf. Chomsky 1981). If, on the other hand, we assume that they have an empty Comp, then we are also forced to assume that NP-movement violates subjacency precisely in raising infinitivals, for some unspecified reasons. This, of course, extends to raising infinitivals in related languages, even those types that have an infinitive marker (Ncl and B-infinitivals in English, etc.). It thus seems to be the case that Ncl and B-infinitivals of the English (and Danish/Norwegian) type are bare IPs, rather than full clauses (cf. Chomsky 1986b, pp. 23, 74).

Finally, note that I am actually returning, from sentential analyses of Ncl and B-infinitivals (e.g. Kayne 1981b, Holmberg 1986), to the standard view (cf. Chomsky 1981, e.g. p. 66 ff.) that they are, somehow, 'defective'. I do not assume 'S'-deletion' (cf. also Chomsky 1986b), but this is in fact not essential in the present context. S'- or C'/CP-deletion in raising complements would inevitably result in either a bare IP or a small clause (on small clauses, see the next subsection): if the complement has Infl, the result would be a bare IP, whereas it would be a small clause if the complement contains no Infl. For other reasons, however, a non-deletion analysis is preferable. Thus, for instance, we do not have to assume clausal structures (in Acl and 'simple' Ncl infinitivals) that have no Infl, that is, we can maintain the hypothesis that there is no Comp unless there is also an Infl (3.3(2)).

3.4.2 Case and agreement in raising infinitivals

In this section, I shall demonstrate that the Case and agreement properties of Icelandic raising infinitivals follow directly from the structural analysis proposed above. In 3.4.2.1, I shall show that Acl infinitivals behave much the same with respect to Case and agreement as (other) small clauses in the language. Then, in 3.4.2.2, it will be illustrated that certain interesting

properties (involving Case and agreement) of the D/NcI construction can be accounted for if we assume that they are structurally ambiguous, being either small clauses or bare IPs. In particular, the infinitival nominative of the construction is either an internal Case (in bare IPs) or an external Case (in small clauses), it seems. If that is correct, D/NcI lends a strong support to the hypothesis that the untensed Infl (containing V) is a Case assigner in Icelandic.

3.4.2.1 Exceptional Case Marking

Exceptional Case Marking (ECM) in Icelandic poses rather serious problems to the standard Case Theory. However, if all AcI infinitivals in the language are small clauses, and if Case is a feature that percolates, these problems are resolved in a strikingly simple manner, as we shall see below.

Following Stowell (1983; see also e.g. Contreras 1987), I assume that every category may take a 'subject' (the intuitive idea being that the 'subject' is a category of which something is predicated). In Stowell's analysis, small clauses are projections of their predicates. Consider (1), where the small clauses are analyzed in accordance with Stowell's idea that the predicate is or contains the head of the small clause.²⁷ The underlined constituents are the subjects. Thus, in (1a), we have an NP with a subject, in (1b) (taken from Stowell 1983, p. 297) a PP with a subject, an AP in (1c) and a VP in (1d, e):

- (1)a. We elected [_{NP} Vigdís [_N president]].
 b. I expect [_{PP} that man [_{PP} off my ship]].
 c. We saw [_{AP} Mary [_A drunk]].
 d. Mary had [_{VP} me [_V eat the cake]].
 e. Mary made [_{VP} me [_{VP} send the letter to John]].

The generalization in (2) seems to be empirically true:

- (2) In a small clause, there is no Case relation between the subject and the predicate

Accordingly, subjects of small clauses cannot receive Case from within the small clause, that is, they must be 'exceptionally' Case-marked. To this extent, our approach is, at least descriptively, equivalent (for AcI) to

²⁷ However, we should perhaps not exclude the possibility that small clauses differ from 'big clauses' (CPs) in being doubly headed, by the [+N] subject as well as by the (head of the) predicate. This would account in a simple manner for the fact that small clauses (including raising infinitivals) are not only predicates but also arguments of the matrix verb.

the system proposed by Borer (1986): Borer (1986, p. 407 ff.) suggests that raising infinitivals have a 'degenerate' Infl incapable of 'I-identifying' (= effectively, 'Case-mark') the infinitival subject.

Small clauses in many inflectional languages like Icelandic have the interesting property that not only their subjects but also their (nominal) predicates are 'exceptionally' Case-marked. For a description of some of the relevant facts involved in this in Icelandic, see Friðjónsson (1977) and Andrews (1982b). Consider also (3) and (4):

- (3)a. Við kusum [Vigdísi [forseta]].
 we elected Vigdís president
 Acc Acc
- b. Við kölluðum [hana [Möggu]].
 we called her Maggie
 Acc Acc
- c. Við álitum [hann [asna]].
 we considered him a fool
 Acc Acc
- (4)a. Við gerðum [hana [stolta (af þessu)]].
 we made her proud of this
 Acc Acc
- b. Við sáum [hana [fulla]].
 we saw her drunk
 Acc Acc
- c. Við mættum [henni [fullri]].
 we met her drunk
 Dat Dat
- d. Við fórum til [hennar [fullrar]].
 we went to her drunk
 Gen Gen
 (i.e. 'she' was drunk!)

The same phenomenon is (regularly) seen in Acc infinitivals. This is shown in (5):

- (5)a. Við töldum [hana vera fulla].
 we believed her be drunk
 Acc Acc
 'We believed her to be drunk.'
- b. Við sáum [hana koma fulla]
 we saw he come drunk
 Acc Acc

This is straightforwardly accounted for if all Icelandic Acl infinitivals are small clauses (see further below). In fact, Icelandic B-verbs (like Icelandic L-verbs) freely take 'ordinary' small clauses. Compare (6) to (5a):

- (6) Við töldum [hana [fulla]].
 we believed her drunk
 Acc Acc
 'We believed her to be drunk.'

Not only must predicative nominals in small clauses agree in Case with their subject; they must also agree with the subject in number and gender. Consider (7):

- (7)a. Mennirnir mættu [henni [fullri]].
 the men met her drunk
 f.sg.D f.sg.D
 b. Mennirnir mættu [honum [fullum]].
 the men met him drunk
 m.sg.D m.sg.D

This is a completely general phenomenon in all Icelandic small clauses (for both numbers and all cases and genders) - which means that all the small clauses in (4) and (7) are totally unambiguous.²⁸ In passing, note that number and gender 'spread' from the subject of the small clause to its predicate whereas both receive external Case.

Again, Acl infinitivals behave precisely like 'ordinary' small clauses, cf. (8)-(9):

- (8)a. Við töldum [hana vera fulla].
 we believed her be drunk
 f.sg.A f.sg.A
 b. Við töldum [þau vera full].
 we believed them be drunk
 n.pl.A n.pl.A

²⁸ I.e. due to adjectival inflection, there are two unambiguous translations of ambiguous English examples like *They met her drunk*:

- (i)a. Þeir mættu henni fullri.
 f.sg.D f.sg.D
 ('she' was drunk)
 b. Þeir mættu henni fullir.
 m.pl.N m.pl.N
 ('they' were drunk)

See further below.

- (9)a. Við sáum [hann koma fullan].
 we saw him come drunk
 m.sg.A m.sg.A
- b. Við sáum [þær koma fullar].
 we saw them come drunk
 f.pl.A f.pl.A

Leaving number and gender aside for the moment, there is no doubt whatsoever that the matrix raising verb assigns Case to both the subject and the predicative nominal of the infinitival (the copula never assigns Case in Icelandic, cf. below). This is obviously rather troublesome for the standard Government Theory of Case. If Case is essentially assigned under government, then the matrix raising verb must be allowed to govern into the government domain of the infinitival verb (the copula in (5a) and (8), **koma** in (5b) and (9)).

These data would perhaps seem to indicate that we have to invoke some sort of a 'Case inheritance mechanism', by which the predicative nominal inherits the 'exceptional' Case of the infinitival subject. Consider Chomsky's (1981, section 4.5) theory on postverbal nominatives (see also Safir's (1985) revision of this theory, adopted by Borer (1986)). However, this approach actually subsumes Case inheritance under government (cf. Chomsky 1981, p. 264; Borer 1986, p. 379). Since this entails double government in cases like (8) and (9), it does not seem feasible. See further 6.3.

Alternatively, we might assume that examples like (3)-(9) involve Spec--head agreement, i.e. the same relation as between [NP, IP] and Agr in finite clauses (cf. Chomsky 1986b, p. 24). This approach to small clauses is tentatively suggested in *Barriers* (Chomsky 1986b, p. 25). When it comes to subject-oriented small clauses, however, this is rather problematic. Consider (10):²⁹

- (10) Mennirnir mættu henni [PRO fullir].
 the men met her drunk
 m.pl.N m.pl.N
 (i.e., 'the men' were drunk)

²⁹ Note that the analysis in (i) below is excluded by the Theta-Criterion:

(i) Mennirnir mættu henni [t fullir].

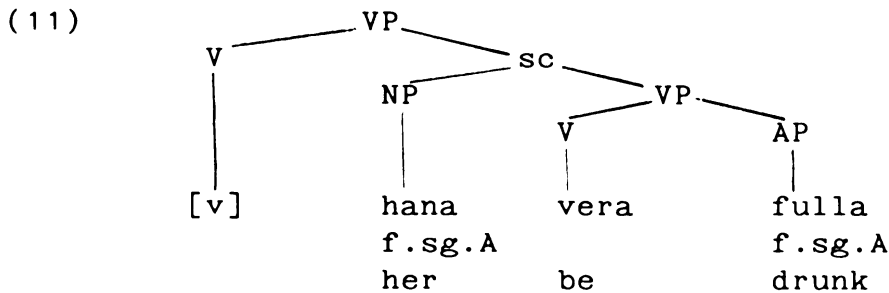
- because adjectives are theta role assigners (cf. 6.2.2), i.e. the chain [mennirnir, t] would bear two theta roles, selected by V and the adjective. The role borne by the overt subject in (i) is unambiguously selected by the verb, as seen by the simple fact that the small clause is, of course, only optional:

(ii) Mennirnir mættu henni.

Here, we would have to make two assumptions: (i), that the small clause PRO inherits (number, gender and) nominative Case from [NP, IP] or Agr by virtue of being cosuperscripted or coindexed with and governed by Agr (cf. Chomsky's (1981, p. 264) approach to postverbal nominatives); (ii), that the small clause predicate gets its features for number, gender and Case by entering into Spec-head agreement with PRO. Most linguists would probably agree that at least the first assumption is implausible.

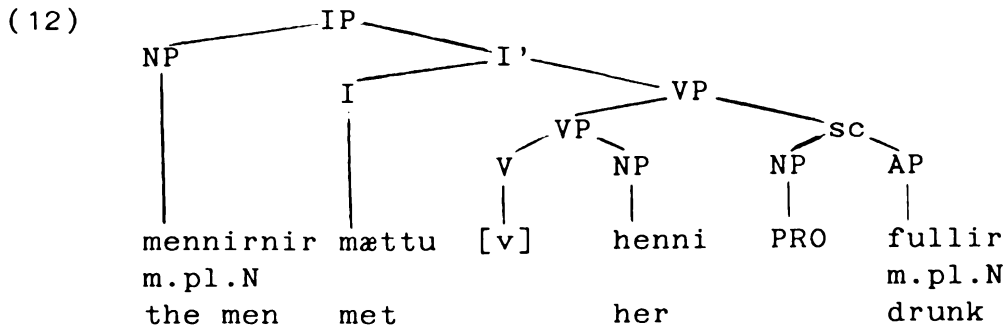
By now, the keen-eyed reader will probably have seen that the 'government-problems' raised by cases like (8)-(10) are resolved if we distinguish between government and m-command, Case being controlled by m-command only. Consider (11), the S-structure of the VP in (8a) ("sc" means 'small clause'):

- (8)a. Við töldum [hana vera fulla].
 we believed her be drunk
 f.sg.A f.sg.A



The trace of *töldum* (left behind by V-to-I) does not govern AP, but it m-commands it. In the same manner, Infl m-commands but does not govern the small clause (and PRO) in (12), the putative structure of the IP in (10) ('before' I-to-C and Subject-Topicalization):

- (10) Mennirnir mættu henni [PRO fullir].
 the men met her drunk
 m.pl.N m.pl.N



Now, I would like to suggest that Case is actually a feature that percolates within the m-command domain of the Case assigner. It then follows that Infl-Case may percolate to both [NP, IP] and the small clause in (12) (Infl m-commanding both). Moreover, this relates Case assignment and 'spreading' of number and gender in a natural and simple manner. Number and gender percolate within the intersection of two m-command domains: the m-command domain of the source NP itself and the m-command domain of its Case assigner (i.e. along the Case path of which the NP-source is a part). Thus, the number and gender features of [NP, IP] in (12) percolate to the small clause AP. In the same manner, the number/gender of the infinitival subject in (11) (and (3)-(9)) percolates to the infinitival predicate.

In passing, note that this suggests that PRO in (12) receives (person, number and) Case. This is what we expect in a null-subject language like Icelandic (cf. 5.5), but similar examples in non-null-subject languages are problematic. Perhaps, nonlexical NPs reject Case in non-null-subject languages, but this does not follow from the Case theory pursued here (cf. chapter 4 and 5.3.2), i.e. it is only a stipulation. See further 5.5.3.

I shall develop this approach in more detail in chapter 4. As we shall see there, it is crucial that a local Case assigner always *protects* its m-command domain from external Case and external number/gender. If, on the other hand, a lexical governor is not a Case assigner, external Case and number/gender are always free to penetrate its m-command domain. This accounts for the Case and agreement properties of Icelandic Acl infinitivals - on the assumption that they are always small clauses. If they are small clauses, they do not contain any Infl, and are therefore transparent to or unprotected from external V-Case (as we have seen). Moreover, if raising infinitivals are embedded under a verb that is a non-assigner of Case, we expect them to be transparent to external Infl-Case and external number/gender. This is precisely what happens. Consider the variation in (13) (cf. for instance Thráinsson (1979, p. 360 ff.), Andrews (1982b), Yip et al. (1987); see also 4.3):

- (13)a. Hann taldi [hana vera gáfaða].
 he believed her be intelligent
 f.sg.A f.sg.A
- b. Hún var talin [t vera gáfuð].
 she was believed be intelligent
 f.sg.N f.sg.N

In (13a), *telja* 'believe' assigns accusative (to the small clause, the accusative percolating from the small clause to its nominals, cf. chapter 4). Since the copula is not a Case assigner, the predicative adjective is unprotected, and receives both the accusative Case and the number/gender of the infinitival subject. On the other hand, *telja* protects the whole infinitival from both the matrix Infl-Case and the number and gender of the matrix subject. In (13b), this is not so. As is well known, verbs lose their ability to assign accusative Case when they are passivized (cf. chapter 6.4). Hence, the participle does not protect the small clause in (13b) - and the predicative adjective receives both the matrix Infl-Case and the number and gender features of the matrix subject. The same analysis applies to predicative nominatives in 'simple' NcI infinitivals like (14):

- (14) Hann virðist [t vera gáfuður/*gáfaðan].
 he seems be intelligent
 m.sg.N m.sg.N/*m.sg.A

In fact, NcI verbs are just like B- and L-verbs in that they may freely take an 'ordinary' small clause:

- (15) Hann virðist [[t [gáfaður]].
 he seems intelligent
 m.sg.N m.sg.N

In sum, we have an account for the Case and agreement properties of AcI and 'simple' NcI infinitivals in Icelandic if they are small clauses, thus involving no (protecting) Infl.

3.4.2.2 (D/)NcI

The prototypical NcI construction is derived by NP-movement, as sketched in (1):

- (1)a. [_{NP} e] seems [John to be happy]
 b. John seems [t to be happy]

Since (VPs headed by) verbs like *seem* do not assign a theta role to their external argument position, the subject of the infinitival can move there without violating the Theta-Criterion.

Icelandic has quite a few verbs that are (variably) reminiscent of English *seem*, see e.g. Thráinsson (1979, chapter 6.3), Bernóðusson (1982), and Kress (1982, p. 245 f.). The following list only includes the clearest cases:

- (2) **virðast** 'seem'
sýnast 'appear; look (as if)'
þykja 'be held (for), be felt/found; find'
teljast 'be considered'
sjást 'be seen'
heyrast 'be heard; hear/sound (as if)'
reynast 'prove (to be or do something)'

(3) contains some relevant examples; **þeir** 'they' is nominative (masculine plural):³⁰

- | | | |
|-------|---------------------|-------------------------|
| (3)a. | Þeir sýnast | [vera gáfaðir]. |
| | they appear | be gifted |
| b. | Þeir þykja | [syngja vel]. |
| | they are-felt | sing well |
| c. | Þeir teljast | [vera heimskir]. |
| | they are-considered | be stupid |
| d. | Þeir sáust | [stela smjörinu]. |
| | they were-seen | steal the butter |
| e. | Þeir heyrðust | [tala um málið]. |
| | they were-heard | talk about the matter |
| f. | Þeir reyndust | [hafa stolið smjörinu]. |
| | they proved | have stolen the butter |

As discussed by Thráinsson (1979, chapter 6.3), Icelandic Ncl verbs have somewhat variable properties.³¹ Moreover, none of them is exactly like

³⁰ The construction is reminiscent of the Mainland Scandinavian *s*-passive: many of the Icelandic Ncl verbs have passive semantics and with the exception of **þykja** they are *st*-verbs, the *st*-morpheme being historically related to the passive *s*-morpheme in Mainland Scandinavian. – Some other ('passive') *st*-verbs occasionally take Ncl infinitivals (e.g. **kallast** 'be said' and **úrskurðast** 'be judged/decided').

³¹ One case in point (not discussed in Thráinsson 1979) is that these 'seem-like' verbs show somewhat variable behavior with respect to the Case transparency, discussed for auxiliaries and aspectuals in 3.2.2.4. As pointed out by Rögnvaldsson (1983) and Thráinsson (1986b), **virðast** is always transparent to oblique Case. The other Ncl verbs are more restrictive in this respect, albeit variably so. Consider the following examples:

English *seem*. Compare (4) and (5) (cf. Thráinsson 1979, p. 410):

- (4) It seems that Mary has read the book.
- (5) ??Það virðist að María hafi lesið bókina.
it seems that Mary has read the book

However, most Icelandic Ncl verbs can take *það* and some sort of a sentential complement (cf. Thráinsson 1979, pp. 422, 455, fn. 78). Compare (6) to (5):

- (6)a. Það virðist svo að María hafi lesið bókina.
it seems so that ...
- b. Það virðist eins og María hafi lesið bókina.
it seems as if ...

Thus, there seems little doubt that examples like (3) are derived by 'raising' or NP-movement, like the English Ncl construction. This is sketched in (7) for the sentence in (3a):

- (7) Þeir sýnast [t vera gáfaðir].

In 'simple' cases of this sort, the infinitival probably has no Infl, V-to-I therefore not being involved.

As we have seen, however, Icelandic has a second Ncl construction that

-
- (i)a. Honum virtist [t vera kalt].
him(D) seemed be freezing
- b. Honum virtist [t líða vel].
him seemed feel well
- c. Honum virtist [t fara aftur].
him seemed deteriorate
- d. Honum virtist ekki [t bregða].
him seemed not shock
- (ii)a. Honum reyndist [t vera kalt].
him proved be freezing
- b. Honum reyndist [t líða vel].
- c. ??Honum reyndist [t fara aftur].
- d. ??Honum reyndist [t ekki bregða].
- (iii)a. ??Honum sást [t vera kalt].
him was-seen be freezing
- b. ??Honum sást [t líða vel].
- c. ??Honum sást [t fara aftur].
- d. Honum sást [t ekki bregða].
- (iv)a. *Honum heyrðist [t vera kalt].
him was-heard be freezing
- b. ??Honum heyrðist [t líða vel].
- c. ??Honum heyrðist [t fara aftur].
- d. Honum heyrðist [t ekki bregða].

is not derived by NP-movement of the nominative, namely 'Dative and Nominative with Infinitive', D/Ncl. The construction is quite common although it does not involve all that many verbs:

- (8) **finnast** 'find, consider'
skiljast 'understand' (rather unusual)
virðast (cf. also (2))
sýnast (cf. also (2))
þykja (cf. also (2))
heyrast (cf. also (2))
reynast (cf. also (2); rather unusual)

Consider (9):

- (9)a. Mér finnast [Ólafur lesa margar bækur].
 me finds Olaf read many books
 Dat Nom
 'In my opinion, Olaf reads many books.'
- b. Mér virðist [Ólafur lesa margar bækur].
 me seems Olaf read many books
 Dat Nom
 'It seems to me that Olaf reads many books.'
- c. Mér heyrðist [Ólafur tala ensku].
 me sounded Olaf speak English
 Dat Nom
 'It sounded to me as if Olaf ...'

Note that verbs that may either be Ncl or D/Ncl verbs may have somewhat different semantics in the two constructions, cf. **heyrast** in (3e) vs. (9c).

As argued by Thráinsson (1979, p. 426 f.; see also e.g. Bernóðsson 1982), the nominative in D/Ncl is clearly not the subject of the matrix clause; the dative experiencer is the (oblique) matrix subject. In 6.1, I shall discuss (the well-known) Icelandic oblique subjects. As we shall see, the evidence that they are S-structure subjects is overwhelming.

In cases like (9), nothing blocks V-to-I from taking place in the infinitival complement (V-to-I effectively being string vacuous, because the infinitival does not contain any sentence adverb). If it takes place, the nominative of the infinitival is a 'downstairs' Infl-Case, but if it does not apply, the nominative is an 'upstairs' Infl-Case. It thus seems that the D/Ncl construction is structurally ambiguous. Before we consider the matter in more detail, however, let us take a look at two further aspects of Ncl and D/Ncl:

First, D/Ncl verbs do not select an external theta role. Rather, they are like ergative verbs (cf. 6.1) in selecting an internal role assigned to a

D-structure object (e.g. a dative one), the D-structure object subsequently being raised or moved by NP-movement to the empty subject position. This is sketched in (10) for the sentence in (9a):

- (10) ..._{[IP} mér finnst t [Ólafur lesa margar bækur]
 me finds Olaf read many books

The obligatory 'local' NP-movement within the matrix clause of course blocks the infinitival subject from being raised to the matrix [NP, IP] position. Local NP-movement always takes precedence over 'distant' NP-movement (see 6.1.4).

Second, nothing said so far blocks 'simple' Ncl verbs from taking an IP-infinitival with an overt nominative subject, i.e. it remains to be explained why (11) is out:

- (11) *Hafði [e] virst [Ólafur vera duglegur]?
 had seemed Olaf(N) be diligent

- as compared to (12):

- (12) Hafði Ólafur virst [t vera duglegur]?

If the verb *virðast* can take an IP-infinitival in which the subject is assigned a 'downstairs' nominative Case, we would expect (11) to be possible, Icelandic being a null-subject language. I shall deal with this in 6.1.4.

Now, let us return to the structural ambiguity of the D/Ncl construction. As we noted above, the nominative may either be a 'downstairs' or an 'upstairs' Infl-Case, it seems. There is independent evidence for this: as pointed out by Thráinsson (1979, p. 466), the finite matrix verb either does or does not agree in number and person with the overt nominative. When it does not agree with the nominative, it turns up in the default 3rd person singular (like other non-agreeing finite verbs in Icelandic, cf. 5.2.2.2). Consider the variation in (13):

- (13)a. Mér virðist/virðast [þeir vera skemmtilegir].
 me seems /seem they be interesting
 Dat 3sg /3pl Nom
- b. Okkur finnst/?finnast [þeir vera skemmtilegir].
 us finds / find they be interesting
 Dat 3sg / 3pl Nom

This variation is accounted for if the raising infinitival is either a small clause or a bare IP. In the former case, the infinitival is not an 'independ-

dent Infl-Case domain', hence transparent to the matrix Infl-Case. Accordingly, the matrix Infl agrees with the downstairs nominative.³² Conversely, the infinitival is opaque to (or protected from) the matrix Infl-Case if it is an IP. In that case, the nominative NP bears a downstairs Infl-Case, hence not entering into a Spec-head agreement relation with the matrix Infl.

In sum, it seems clear that the untensed Infl, lexicalized by V-to-I, is a Case assigner in Icelandic. We shall see further evidence for this in chapters 4 and 5.

3.5 Conclusion

Gradually, I have accumulated evidence for three important conclusions:

1. The Germanic languages have at least three means to fill Infl: ('distant') V-to-I, I/V Reanalysis, and insertion of a lexical Infl. The reason why Icelandic makes use precisely of distant V-to-I is that only this makes Infl capable of assigning nominative Case to [NP, IP].
2. PRO must bear Case in Icelandic. Hence, distant V-to-I is obligatory in Icelandic control infinitivals.
3. Case assignment is not dependent on government; instead, it is controlled by m-command. This extends to other 'spreading' phi-features.

These conclusions are rather unconventional and require that the Icelandic Case/phi-feature system be studied in some detail.

³² This phenomenon, then, is a sort of 'Exceptional Nominative Case Marking'. It is also found for nonraised NcI subjects in Italian and Hebrew, cf. Borer (1986, p. 410 f.).

4 Case percolation

4.0 Introduction

In 2.3, we saw that it seems desirable to keep government and m-command strictly apart. This enables us to identify direct theta-marking (cf. Chomsky 1986b, p. 13) as a government relation, whereas Case-marking is an m-command relation. In other words, the proposed theory makes a distinction between the head-complement relation, on the one hand, and the head-Spec and the 'head-head of complement' relations on the other hand. This is not only a conceptually desirable step. As we saw in 3.4.2, the Case and agreement properties of raising infinitivals and other small clauses in Icelandic show that it has clear empirical advantages. Moreover, as we also saw in 3.4.2, Icelandic small clauses illustrate that Case seems to be a feature that precolates in a similar manner as other 'spreading' phi-features (number and gender). In this chapter, I shall therefore develop a Case theory in terms of m-command and feature percolation (exploring some of its consequences in chapters 5-6).

Conceiving of Case as a feature is not new, of course (cf. e.g. Neidle (1982, p. 396 f.), Gazdar et al. (1985, p. 23), Chomsky 1986b, e.g. p. 24)), but the theory to be outlined below is, to my knowledge, not found elsewhere in the literature. It involves an important revision of the standard Case Theory: 'Protection', a key notion in Chomsky's (1986, p. 42 ff.) Minimality Condition on government, is in fact irrelevant for government; since we only accept Minimal Government in any case (cf. 2.3(14)), there is obviously no need to constrain government any further by protection. On the other hand, percolation of Case and other non-inherent phi-features of nominals is crucially constrained by 'relativized' or 'relaxed' protection. This solution, which has clear empirical and theoretical advantages, is of course only available if we dissociate government and m-command, the latter controlling Case assignment.

I shall proceed as follows: In 4.1, I shall outline my Feature Percolation Theory of Case and illustrate how it works for the most central instances of Case assignment: Nominative Case assignment to [NP, IP] by Infl or Comp, and normal X-Case assignment to [NP, XP] (i.e. V- and P-Case assignment). In 4.2, I show that the theory accounts correctly for local Case agreement, and in 4.3, I demonstrate how it works for 'long distance' Case agreement. As we shall see, the theory accounts for these phenomena in a simple and an essentially correct way, it seems. Moreover, it accounts for all Case assignment in a unified manner. Thus, the overall simplicity of the proposed approach speaks rather strongly in favor of it.

4.1 Feature Percolation Theory of Case

Case seems to be inherently related to zero-level heads, that is, it seems to be a basic property of the X-bar system. I would like to suggest that this is a relevant generalization that should be captured by any Case theory. I therefore suggest the following principle:¹

(1) **The Head Principle of Case (HPC):**

Any zero-level head has a Case feature, [+C]

HPC presupposes that intransitive verbs and prepositions have a Case feature that does not show on any lexical category, a matter to which I shall return shortly. Nonetheless, there are some exceptions to HPC. Thus, the copula never assigns Case in Icelandic, as we already saw in 3.4.2. As we proceed, we shall see that this extends to all verbs that do not select an external role and do not assign 'lexical' Case (cf. below). That is, auxiliaries and modals as well as ergative verbs (see chapter 6) never assign a purely structural (accusative) Case. As we shall see in 6.1.4, however, at least ergatives are not real exceptions to HPC (whereas auxiliaries probably are). Rather, the fact that they never assign structural Case seems to follow from general conditions on chain formation (cf. 4.3) and 'argument structure' (see 6.1.4). For expository purposes, however, I shall refer to these items as 'nonassigners of Case'.

Icelandic has a full-fledged system of four morphological cases: nominative, accusative, dative and genitive. However, the dative and the genitive are always either idiosyncratic (fixed but unpredictable) or thematic (semantically predictable). That is, they always seem to be 'inherent' (cf. Chomsky 1986a) or *lexical* in the sense that they are dependent on lexical properties of Case assigners, cf. Zaenen et al. (1985), Holmberg (1985b), Vainikka (1985), Yip et al. (1987). This includes nominally headed genitives (possessive, partitive, etc.), but I shall largely disregard them here (but see fn. 4 below). In terms of the conventional Government Theory of Case, nominative and accusative are thus the only *structural* cases in the language. As we shall see in chapter 6, this is correct in the sense that nominative and accusative are normally assigned at S-structure only, and do not reflect lexical properties of Case assigners. Thus, I shall also distinguish between 'structural' and 'lexical' Case. It is important to note, however, that this widely adopted notational convention is slightly misleading. Given HPC, all Case is structural in the sense that it links to zero-level heads. For Icelandic, I thus propose the Case system in (2) (for

¹ As we shall see in chapter 6, [+N] categories like adjectives and passive participles are potential Case assigners (incapable of receiving 'syntactic Case' themselves). On problems raised by the possessive genitive (and other nominally headed genitives), see fn. 4 below.

similar ideas, see Holmberg (1985b)). "/D" and "/G" are features of individual lexical items that are mapped on lexical heads at D-structure; the meaning of 'assign' will become clear below:

- (2)a. For a lexical head a it holds that:
1. if a = [+C/G], it assigns genitive
 2. if a = [+C/D], it assigns dative
 3. if a = [+C], it assigns accusative
- b. For a nonlexical head a it holds that:
if a = [+C], it assigns nominative

(2) only describes the most central properties of the Icelandic Case system. Thus, for instance, Icelandic has many idiosyncratic accusatives ([+C/A]), cf. chapter 6 and Yip et al. (1987). - In passing, note that languages that have no lexical Case apply, of course, only (2a3) and (2b).

A widely discussed peculiarity of Icelandic is that it has oblique subjects. However, the system in (2) crucially predicts that these are not D-structure subjects, cf. chapter 6. Moreover, it predicts that null-NPs should bear Case, cf. chapter 5.

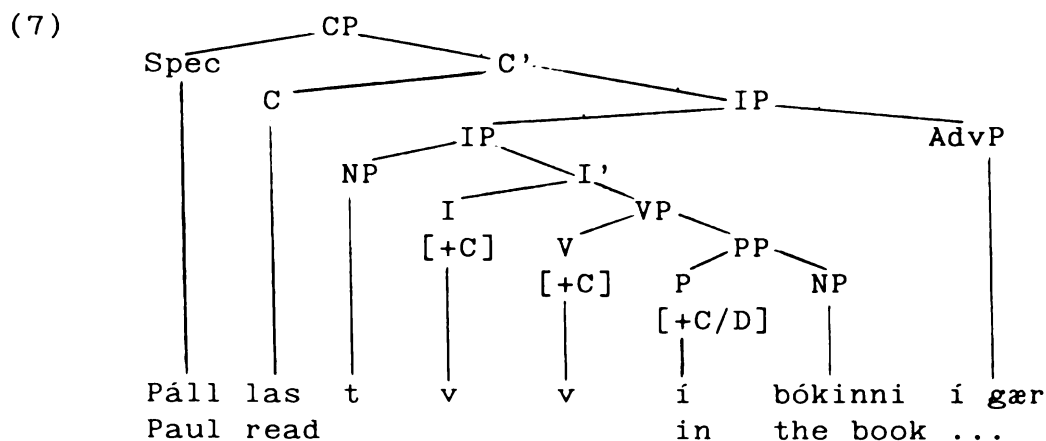
Heads typically 'assign' their Case feature. In the 'Principles and Parameters' approach of GB, however, the natural assumption is that Case assignment, like other processes, is not 'inherently obligatory'. Rather, it is 'inherently optional', the Case Filter ruling out NPs that are not properly marked (or non-marked) for Case (cf. 5.3.2). If this is correct, optional transitivity is unproblematic. Consider (3)-(6):

- (3)a. Ólafur gekk út.
Olaf walked out
- b. Ólafur gekk út veginn.
Olaf walked out (along) the road(A)
- c. Ólafur gekk út eftir veginum.
Olaf walked out along the road(D)

- (4)a. Páll las í gær.
Paul read yesterday
'Paul was reading yesterday.'
- b. Páll las bókina í gær.
Paul read the book(A) yesterday
- c. Páll las í bókinni í gær.
Paul read in the book(D) yesterday

- (5)a. *Jón drepur.
John kills
- b. ??Þeir eru að drepa.
they are to kill
'They are killing.'
- c. ?Þeir eru alltaf að drepa.
they are always to kill
'They are always killing.'
- d. Þeir eru alltaf að drepa og drepa.
they are always to kill and kill
'They are always killing and killing.'
- e. Spít(t) drepur.
speed kills
- (6)a. Pétur fór.
Peter went (away)
- b. Pétur fór sína leið.
Peter went self's way(A).

Hundreds of similar minimal pairs, both for Ps and Vs, can be added from Icelandic alone. The differently strong transitivity of lexical items is an interesting phenomenon that should be studied in detail in individual languages. But surely, we do not want to stipulate different lexical items, [+C] and [-C], in all such cases of Vs and Ps that can either be transitive or intransitive (note, however, that sentences like (5d,e) perhaps involve Case-marked *pro* objects, cf. 5.3.1). Instead, adopting an idea suggested to me by Christer Platzack, I assume that [+C] may remain unassigned, Theta Theory (and not Case Theory) accounting for variable transitivity (see chapter 6). Consider, for instance, the structure of (4c):



V is [+C]. However, the V-Case may remain unassigned without violating

any principle: the structure does not contain any NP that 'needs' it in order to satisfy the Case Filter. In (4b), on the other hand, the V-Case must be assigned to [NP, VP] if the Case Filter is not to be violated. - Burzio (1986, p. 185) also concludes that 'intransitive unergative' verbs are potential Case assigners, and Chomsky (1986b, p. 24) assumes that transitive Case assigners sometimes do not assign their Case.

Now, we are of course more interested in assignment of Case than in non-assignment of Case. The principal question of any Case theory is how Case is assigned (cf. Chomsky 1986a, p. 187). That is, what is the mechanism of Case assignment? The natural assumption seems to be that some kind of a feature sharing of the Case assigner and the Case assignee is involved. Deviating somewhat from Chomsky's approach (1986b, e.g. p. 24), I assume that the feature in question is simply the Case feature ([+C], [+C/D], etc.) of the Case assigner - as is in fact built into the Head Principle of Case in (1) above. This is rather natural. At least in morphological case languages, we see that, say, [NP, VP] bears some feature of V by seeing its case (and in some languages, verbs, in fact, agree in number and person with objects). In this context, we may note, it is entirely plausible that intransitives have a non-assigned Case feature: there is no NP for the intransitive to share its Case feature with.

How, then, does this feature sharing take place, that is, how does [+C] 'travel' from the Case assigner to its Case assignee? The question has not received much attention in the literature, but the general assumption seems to be that Case, somehow, 'jumps' from the Case assigner to the Case assignee. As for other instances of feature sharing or feature 'spreading', however, it seems more natural to assume that Case 'travels' along structural paths. I therefore take it that Case (as well as other 'spreading' features) *percolates*.

As we have seen, Case seems to percolate within the m-command domain of the Case assigner, that is, within the Case assigner's (minimal) maximal projection. For convenience, I repeat the definition of m-command in 2.3(13), as (8):

- (8) a m-commands b iff
 a. a does not dominate b, and
 b. every maximal category Y'' that dominates a
 dominates b

Clearly, however, Case does not percolate freely within the minimal maximal projection of the Case assigner. Rather, it canonically percolates within its 'immediate' or 'local' maximal projection, in some appropriate sense. The locality notion in question is not entirely structural, though: A zero-level head *protects* its maximal projection from external Case only if it is a Case assigner itself, as mentioned in 2.3 and 3.4.2.2. In other

words, the PROTECTION PRINCIPLE in (9) seems to hold:

(9) X' is protected iff its head X assigns Case

This is in fact only a relaxed or a relativized version of Chomsky's Minimality Condition (cf. 1986b, p. 42 ff.): the Minimality Condition is relaxed for maximal categories whenever their zero-level heads are nonassigners of Case. As mentioned in 4.0, however, I deviate from Chomsky in assuming that protection is relevant for percolation of Case rather than for government. In the core cases, the approaches are empirically equivalent (for Case), but as we shall see, only the Protection Principle (or the 'Relaxed Minimality Condition') makes correct predictions for 'long distance' Case.²

The only verbs, then, that do not act as 'barriers' or *protecting heads* with respect to Case are verbs that are nonassigners of Case (i.e. modals and auxiliaries, and ergative verbs that do not assign lexical Case, cf. 4.3 and 6.1.4).

We can now state the following PERCOLATION PRINCIPLE OF CASE (PPC); "X-[+C]" means 'the Case feature of X' or, simply, 'X-Case':

(10) X-[+C] percolates to a [+N] category a iff
 a. X m-commands a, and
 b. a is unprotected from X

- where *a* is unprotected from X if and only if there is no protecting head (a Case assigner) Y that m-commands *a* but not X.

It follows from PPC that X-Case freely penetrates even maximal categories that are unprotected from X if they are m-commanded by X (i.e.

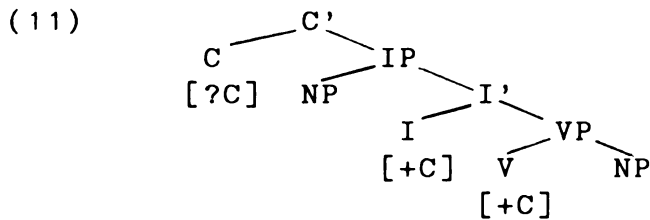
² A compatible idea (with respect to ECP) is in fact suggested by Chomsky (1986b, p. 47): "... a minimal governor must be a category with features to serve as a barrier to government." Speaking in terms of protecting heads, rather than in terms of absolute barriers, it seems natural to relativize this idea such that a head is only a protecting head with respect to a particular feature F in so far as the head itself assigns or projects some value of F (see below for Case). Given this, it is perhaps possible to develop a general theory of feature percolation, accounting for e.g. theta role assignment, Case assignment, and categorial feature percolation. Thus, for example, the [+N] feature of the noun head of an object NP protects the NP from the [-N] feature of its verbal governor. - If this is on the right track, the Protection Principle in (9) should be relativized as shown in (i):

(i) X' is F-protected iff X projects some value of F

In this respect, however, there is some feature hierarchy to be considered too. Thus, Case protection always blocks percolation of category-external number and gender, as we shall see. - Concentrating upon Case, I shall not pursue general F-protection in any detail here.

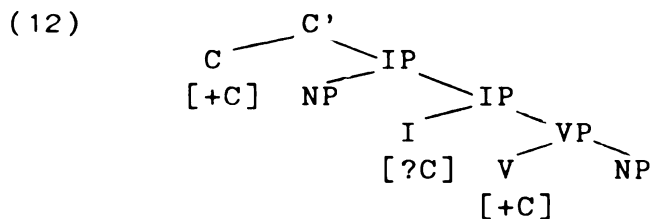
within the minimal X''').³ In passing, note that Case protection is intuitively natural in a feature percolation theory of Case: the X-path (X, X', and X'') 'transports' X-[+C], hence cannot 'transport' any other Case feature (see also fn. 2 above). I shall return to this shortly.

Now, consider the structure of C' in English (cf. e.g. Radford 1988, p. 403 ff.) and Icelandic:



(11) is the canonical Nom-Acc pattern in both languages. V is a Case assigner, hence protecting VP (and [NP, VP]) from the external Infl-Case. In the same manner, Infl protects IP and [NP, IP] from a potential Comp-Case. Also, of course, V cannot assign Case to [NP, IP], since it does not m-command it ([NP, IP] is not included in the minimal maximal category (VP) that contains V).

In 2.5, I suggested (12) for Mainland Scandinavian:



Here, Infl does not m-command [NP, IP], i.e. cannot assign Case to it. Also, at least the higher IP is unprotected from Comp. Accordingly, Comp is free to assign Case to [NP, IP], which is of course the desirable result.

Do Comp in (11) and Infl in (12) have a Case feature? Perhaps, we should modify the Head Principle of Case as follows:

(13) If Infl is [+C], then Comp is [-C] and vice versa

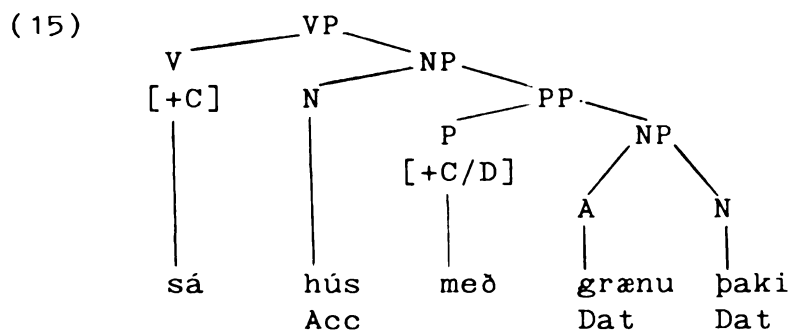
- Infl and Comp thus 'sharing' a Case feature. However, there is no need for this modification. No principles are violated even if Comp in (11) and Infl in (12) have an unassigned Case feature.

Consider the Case properties of [_{NP} N PP], briefly mentioned in 2.3:

³ As we shall see in 5.5.3, however, CP perhaps always blocks percolation of nominal features.

- (14)a. Ég sá hús.
I saw a house
 Acc
- b. Ég sá hús með grænu þaki.
I saw a house with a green roof
 Acc Dat Dat

The basic structure of the VP in (14b) is sketched in (15):



V m-commands the whole structure. However, P is a Case assigner, hence protecting its minimal maximal projection, PP, from V-Case. Accordingly, V only Case-marks NP and N (which P, of course, does not protect). P, in turn, assigns P-Case to [NP, PP], from where it percolates to both [A, NP] and [N, NP] (neither being protected by any other Case assigner).

As mentioned above, Case Protection is intuitively natural in a percolation theory of Case. X protects its maximal category by percolating X-[+C], this blocking the X-path (X, X', and X'') from 'transporting' any other Case feature. I shall therefore assume that the 'Case-transport hypothesis' in (16) is correct:

- (16) No category can transport more than one [+C]

This has several interesting consequences. For instance, it means that a Case assigner cannot be a Case assignee or vice versa. Second, (16) also means, of course, that a category cannot receive two Cases, i.e. it has the same effect as the standard assumption that chains bear no more than one Case (cf. Chomsky 1981, p. 334). Third, a zero-level head cannot assign more than one Case. As we shall see in 6.5.2, this entails that the Double Object Construction involves an empty Case assigner in syntactic structure.

Recall, however, that it seems desirable to assume that Case assignment or percolation is basically free. This would seem to be problematic since obligatory Case protection could not be due to Case percolation if the latter were always free (except when forced by the Case Filter). In order

to resolve this problem, I suggest (17):

- (17) The Case of a Case assignee is always the closest possible Case

- where a 'possible Case' is a Case feature that is assigned in accordance with PPC in (10) and whose assignment does not lead to any violations of general principles (e.g. conditions on chain formation, cf. 4.3). This forces Case percolation, hence Case protection, precisely in the desirable cases.

Having formulated the Feature Percolation Theory of Case and sketched how it works for the most typical Case patterns of 'nominative-accusative languages', we can turn to some Case patterns that are only seen in morphological case languages and have therefore received rather little attention in the generative literature (on Icelandic, however, see for instance Andrews 1982a, 1982b).

4.2 NP-internal agreement

Consider NP-internal Case agreement between adjectives, determiners, etc. and a noun-head, cf. (1):

- (1)a. Allir þessir þrír ungu málfræðingar
 all these three young linguists
 N N N N N
- b. Alla þessa þrjá ungu málfræðinga
 A A A A A
- c. Öllum þessum þrem ungu málfræðingum
 D D D D D
- d. Allra þessara þriggja ungu málfræðinga
 G G G G G

In the so-called 'weak' (i.e. semantically definite) declension, adjectives have only one plural form, cf. the invariable *ungu* in (1). As seen in (2), this is not so in the 'strong' or semantically indefinite inflection:

- (2)a. Nokkrir ungir málfræðingar
 several young linguists
 N N N
- b. Nokkra unga málfræðinga
 A A A
- c. Nokkrum ungum málfræðingum
 D D D
- d. Nokkurra ungra málfræðinga
 G G G

Interestingly, even the suffixed definite article agrees in Case with the noun-head, as illustrated in (3):

- (3)a. Flestir málfræðingarnir
 most linguists- the
 N N N
 'Most of the linguists'
- b. Flesta málfræðingana
 A A A
- c. Flestum málfræðingunum
 D D D
- d. Flestra málfræðinganna
 G G G

What is the mechanism of local Case agreement of this sort? In *Lectures*, Chomsky (1981, p. 49) assumes "that Case is assigned to NPs by virtue of the configuration in which they appear and percolates to their heads". As discussed by Babby (1987, p. 91), this seems to presuppose that adjectives, determiners, etc. copy the Case of the noun-head by an agreement transformation, in the spirit of *Aspects* (see Chomsky 1965, p. 174 f.). In another context, however, Chomsky (1981, p. 229, fn. 61) assumes "that agreement of determiners and adjectives results by percolation from NP, AP and VP." Babby (1987) argues forcefully for this latter solution for Case, basing his arguments on Case agreement in Russian, but since the relevant Russian data do not have a direct counterpart in Icelandic, I shall not review them here.⁴

⁴ These Russian data involve e.g. NP-internal adnominals that are invariably genitive, i.e. do not 'copy' the Case of the N-head, as opposed to (e.g. adjectival) modifiers of the head. The type looks like (i) (cf. Babby 1987, p. 94):

(i) big(Nom) bottle(Nom) wine(Gen)
 'a big bottle of wine'

Peripherically, Icelandic does in fact have a similar construction, cf. (iib):

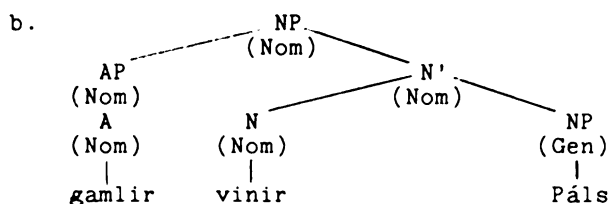
Case is a phi-feature, like person, number and gender (cf. Chomsky 1981, p. 330; 1986b, p. 24). NP-internal agreement in Icelandic does, in fact, not only involve Case but also number (sg and pl) and gender (m, f, n) (but not person, for obvious reasons). This is shown in (4)-(5) for the nominative:

- (4)a. Fjórir gulir kafbátar
four yellow submarines
N.m.pl N.m.pl N.m.pl
- b. Fjórar gular bækur
four yellow books
N.f.pl N.f.pl N.f.pl
- c. Fjögur gul hús
four yellow houses
N.n.pl N.n.pl N.n.pl

- (ii)a. stór flaska af víni
N N D
big bottle of wine
- b. (?)stór flaska vins
N N G

In Icelandic, at least, the construction raises the same problems as other genitives headed by nominals (cf. Kress 1982, p. 227 ff.), e.g. the partitive genitive and the usual possessive genitive. These genitives show a very special behavior in that they do not protect the nominal head and its modifiers. Consider (iii):

- (iii)a. gamlir vinir Páls
old friends Paul's (i.e. 'Paul's old friends')
Nom Nom Gen



This indicates that genitives headed by nominals are not of the same nature as Case in general (cf. also Fiva 1985, Holmberg 1986): if the genitive did percolate from N to N' and from there to the genitive NP, [+C/G] should protect the whole NP, AP/A and N therefore being blocked from receiving the structural nominative. Perhaps, the genitive is assigned at D-structure to [NP, N']. In passing, note also that there are special possessive pronouns in the 1st and 2nd person singular only. Somehow, these are 'immune' to assignment of nominally headed genitive Case, cf. (iv):

- (iv) gamlir vinir mínir/*minna
old friends my
Nom Nom Nom/*Gen

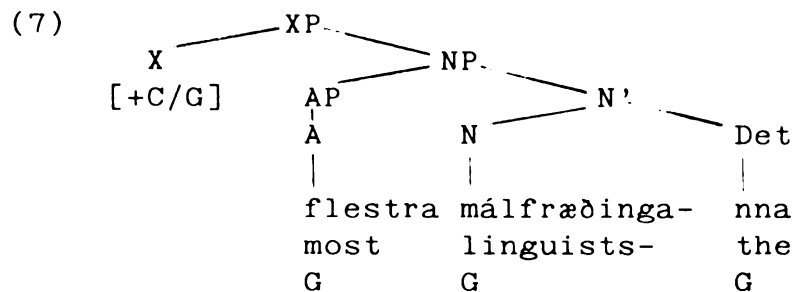
This is true of all Germanic languages, cf. e.g. English *my friends* as opposed to *Paul's friends*.

- (5)a. Einn gulur kafbátur ('One yellow submarine')
 N.m.sg N.m.sg N.m.sg
 b. Ein gul bók ('One yellow book')
 N.f.sg N.f.sg N.f.sg
 c. Eitt gult hús ('One yellow house')
 N.n.sg N.n.sg N.n.sg

(6) illustrates how number and gender agreement combines with Case agreement:

- (6)a. Ein gul bók (= (5b))
 N.f.sg N.f.sg N.f.sg
 b. Eina gula bók
 A.f.sg A.f.sg A.f.sg
 c. Einni gulri bók
 D.f.sg D.f.sg D.f.sg
 d. Einnar gulrar bókar
 G.f.sg G.f.sg G.f.sg

These facts might seem to indicate that NP-internal agreement involves copying of all the phi-features of the noun-head.⁵ However, there are good reasons to believe that all phi-features spread by percolation (cf. below). Thus, I shall assume with Babby (1987) (and Chomsky (1981, p. 229, fn. 61)) that NP-internal Case agreement results by feature percolation: the NP as a whole is assigned Case, the Case feature subsequently percolating to all the NP-internal nominals (and not only to the noun-head). Given PPC (in 4.1(10)), this is what we expect. Consider (7), the putative structure of the [NP, XP] in (3d):



None of the NP-internal nominals is protected from the genitive, that is, our theory crucially predicts that the genitive *should* percolate to them all.

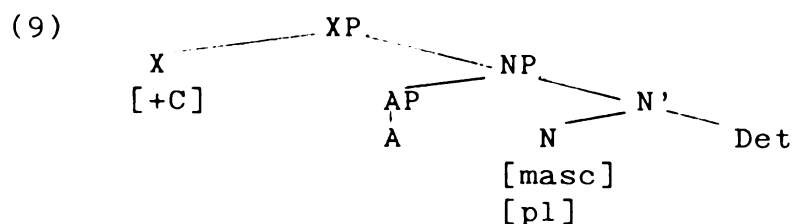
The 'co-agreement' of Case and the other phi-features is an interesting

⁵ Except person, cf. e.g. *þið allir* 'you all', where *allir* is, of course, inherently in the 3rd person in spite of the 2nd person of the head.

phenomenon. Case has a source that is external to the NP, namely the Case assigner, whereas the head of the NP is the gender/number source (as generally acknowledged in traditional grammars). This is rather trivial for gender, since individual nouns have an invariable lexical gender feature. For the semantic feature number, this is not as obvious. However, number is clearly not like Case, that is, it is not assigned to whole NPs. If that were the case, we would expect conjoined singular NPs to make up a singular NP. As is well known, however, conjoined singular NPs normally trigger plural agreement on the finite verb in, for instance, all Germanic languages that have subject-verb agreement (cf. Rögvaldsson 1986 on Icelandic; on English, see e.g. Warner 1988). I shall thus assume that number is a head-feature, like gender. A slight complication is raised by cases like (5) and (6), where [Spec, NP] is a numeral, hence having an inherent number (that must match the number of the noun-head). However, this is exceptional. Normally, [Spec, NP] gets both its number and gender from [N, NP]. Consider (8):

- (8)a. Gamla málfræðing-inn
 old linguist- the
 A.m.sg A.m.sg A.m.sg
 'The old linguist'
- b. Gömlu málfræðinga-na
 old linguists- the
 A.m.pl A.m.pl A.m.pl
 'The old linguists'

Presumably, (8b) has the basic structure (9):



Thus, as reflected in the lexicon and the morphology, A and Det are 'variables' (in respect of phi-features) that are totally context-dependent.

In (9), Case percolates from [X, XP] to [NP, XP] in the usual manner. But now, we also see that the head-features of N percolate in much the same manner, namely from N to all nominals m-commanded by N. More specifically, they percolate within the intersection of two m-command domains: the Case-path or the m-command domain of the Case assigner,

and the m-command domain of the N-head, as already mentioned in 3.4.2.1.6 The result is that all the nominals are fully phi-feature specified and show a complete phi-feature agreement (all having '3rd person' as an inherent feature).

Finally note that conjoined NPs ([_{NP} NP (conj) NP*]) provide trivially simple evidence that the proposed analysis is indeed on the right track (see also Rögnvaldsson 1986). All nominals of such 'complex' NPs must bear the same Case, of course, whereas their individual NPs are gender and number islands. Consider (10):

- (10)a. Ólafur, allar konurnar og barnið
 Olaf all the women and the child
 N.m.sg N.f.pl N.f.pl N.n.sg
- b. Ólafi, öllum konunum og barninu
 D.m.sg D.f.pl D.f.pl D.n.sg

In sum, assuming Case copying within NPs seems rather implausible. We must assume Case percolation anyway - at least from NP to N. Thus, if we insist on Case copying rather than Case percolation we have to introduce some mechanism that excludes Case percolation from NP to adjectives and determiners, simultaneously having to ensure Case percolation from NP to N and subsequent Case copying from N to other [+N] elements of the NP. Since NP-internal Case copying does not buy us anything at all, I can see no good reason to introduce this unnecessary complication.

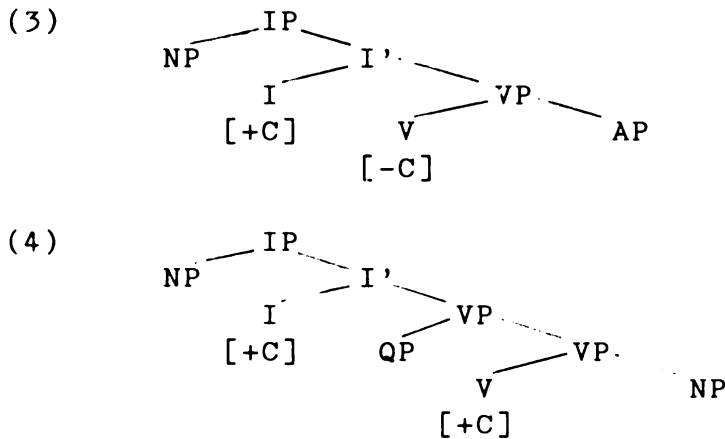
4.3 Long distance Case agreement

The Case relations I have considered so far in this chapter are local. Icelandic also has various instances of non-local or long distance Case relations (some of which are discussed by e.g. Thráinsson 1979 and Andrews 1982b). The most important of these are Subject-Predicate Agreement, as in (1), and Subject-Quantifier Agreement, as in (2):

⁶ My description of long distance phi-feature agreement involves a slight simplification, though. As argued by Rögnvaldsson (1986) coordination of full NPs in the subject position involves certain 'feature adding' rules for number (e.g. sg + sg → pl) and gender (masc + fem → neut, masc + masc → masc, etc.), and a certain feature hierarchy for person (e.g. 1p + 2p → 1p, 2p + 3p → 2p). The resultant feature values percolate within the (unprotected) m-command domain of the 'complex' subject-NP, showing up on (or agreeing with) the finite verb (person, number) and predicative nominals (number, gender).

- (1)a. Hann er ungar.
 he is young
 N N(m.sg)
- b. María og Magga eru ungar.
 Mary and Maggie are young
 N N N(f.pl)
- (2)a. Þeir lásu allir bókina.
 they read all the book
 N(m.pl) N(m.pl) (Acc)
- b. Þær lásu allar bókina
 N(f.pl) N(f.pl) (Acc)
 'They all read the book.'

Long distance Case agreement of this sort is simply accounted for in terms of Case percolation (and there seems to be no doubt that the gender/number agreement should be accounted for in a parallel fashion, cf. 5.5.2.1). (3) and (4) are the structures of the IP in (1) and (2), respectively:⁷



Since the copula never assigns Case in Icelandic, VP and [AP, VP] are unprotected in copular structures like (1)/(3). Accordingly, nominative Infl-Case percolates to the predicative adjective. In the same manner, QP in (2)/(4) is unprotected from Infl-Case, hence turning up in the nominative. Not being m-commanded by V, it cannot get V-Case.

Crucially, our theory makes the prediction that two lexical nominals, *a* and *b*, that are within the same minimal maximal category, X', agree in Case (i.e. bear the same Case) iff *a* is unprotected from *b*'s Case and vice versa. That is:

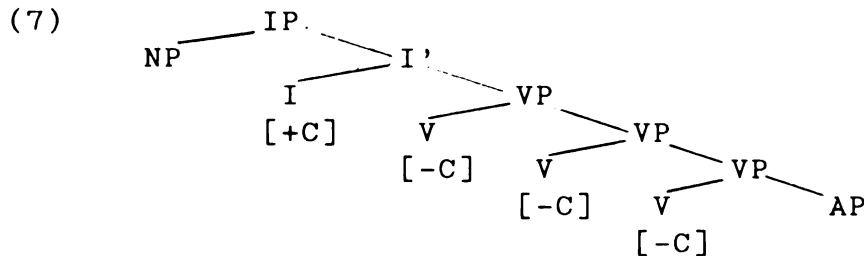
⁷ In the case of lexical non-assigners of Case, such as the copula, I shall regularly mark the corresponding zero-level head as [-C].

- (5) For a, b, and X,
a and b (nonassigners of Case and) lexical [+N]
 categories,
 X a Case assigner, and
 [X'' ... a ... b ...],
 it holds that:
a bears X-Case unless a is protected from X-Case;
b bears X-Case unless b is protected from X-Case

This is borne out. As mentioned in 4.1, auxiliaries and modals are nonassigners of Case, hence incapable of acting as protecting heads. Consider the data in (6):

- (6)a. Pétur var ríkur.
 Peter was rich
 N(m.sg) N(m.sg)
- b. Pétur hafði verið ríkur.
 Peter had been rich
- c. Pétur mun hafa verið ríkur.
 Peter will have been rich
- d. Pétur mun hafa þurft að vera ríkur.
 Peter will have needed to be rich
- e. Pétur hlýtur að hafa þurft að hafa verið ríkur.
 Peter must to have needed to have been rich

In all these examples, the predicative adjective is unprotected from Infl-Case, hence agreeing in Case (and number and gender) with [NP, IP]. Thus, for instance, the IP in (6c) has the structure (7):



These relatively simple data are of course rather troublesome for the conventional Government Theory of Case. Chomsky (1986b, p. 23) contends:

Case-marking ... plainly involves government; the standard assumption is that Case-marking takes place only under government

If this were correct, Infl would have to govern into the government

domains of three lexical governors in (6c)/(7), four in (6d), and five in (6e), for instance. - Note that it is not an available alternative to assume that the copula assigns nominative Case in Icelandic: it does not protect predicative nominals from accusative Case in Acl infinitivals (cf. (8a), (9a) and (10a) below).

The small clause agreement I discussed in 3.4.2.2 also offers striking evidence for PPC and the protection approach to Case. Consider again the variation seen in cases like (8):

- (8)a. Við töldum [hana vera gáfaða].
 we believed her be intelligent
 A A
- b. Hún var talin [t vera gáfuð].
 she was believed be intelligent
 N N

This Acc/Nom variation is a general phenomenon in Icelandic small clauses (see also e.g. Thráinsson 1979, p. 360 ff., Andrews 1982b, Yip et al 1987). When the accusative-assigning main verb is passivized, thus losing its 'Case-marking power', it no longer protects the small clause from the matrix Infl-Case. Hence, (8) and (9)-(10):

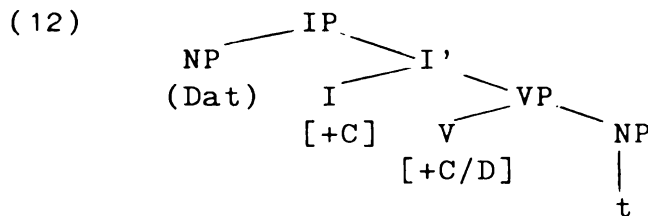
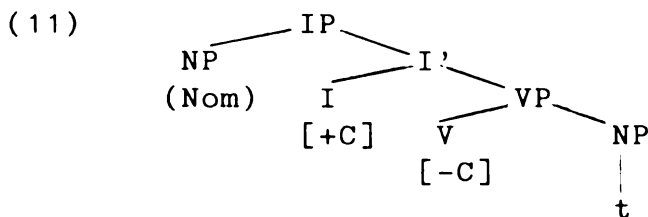
- (9)a. Við kúsum [Vigdísi [forseta]].
 we elected Vigdís president
 A A
- b. Vigdís var kúsin [t [forseti]].
 Vigdís was elected president
 N N
- (10)a. Við kölluðum [hana [Viggu]].
 we called her Viggý
 A A
- b. Hún var kölluð [t [Vigga]].
 she was called Viggý
 N N

- etc.

In Icelandic, then, the distribution of Case is controlled by the Percolation Principle of Case in 4.1(10). Other languages with generally visible phi-feature marking of nominals, even Italian and Spanish (that do not show predicative Case), seem to apply precisely the same mechanism (cf. e.g. the facts described by Jaeggli 1986b, p. 593 f.). It is harder to come up with clear evidence for this in languages like English and Mainland Scandinavian, because of their limited use of 'morphophonologically visible'

phi-features. All the same, the natural assumption (and the null-hypothesis) is that the Percolation Principle of Case also controls Case-marking in these languages.

An interesting consequence of the proposed system is that NP-traces bear Case. More specifically, they bear precisely the same Case as the NP-antecedent, that is, their Case-marking must not result in a chain that bears conflicting Cases (cf. Chomsky 1981, p. 334). We see this rather clearly in cases like the b-sentences in (8)-(10): Since the matrix Infl-Case percolates to the embedded predicative nominals, it must also percolate to the embedded subject-traces. Comparison of oblique and nominative NP--movement offers further albeit slightly more complex evidence for this. As we shall see in chapter 6, there are basically two types of NP-movement: either the moved NP is a D-structure object of an ergative lexical item that does not assign any Case or of an ergative lexical item that assigns lexical Case (e.g. [+C/D]) at D-structure.⁸ The relevant S-structures are sketched below:



If VP in (12) is unprotected at S-structure, there is no way to block the trace of the dative from receiving Infl-Case, the result being an illicit [Dat, Nom] chain. To block this, I shall assume that lexical Case is assigned or percolated at S-structure as well as at D-structure. That, in turn, suggests that the trace bears the same Case as its antecedent, i.e. we end up with the well-formed [Dat_x, Dat_x] chain, where the index means that both datives must, crucially, be assigned by one and the same Case assigner.- Note that this means that structures like (12) do not involve any assignment of Infl-Case. As we shall see (in 5.2.2.2, 5.5.2.1, and 6.1.6), both verbal and predicative agreement offer striking evidence that this is

⁸ Passive participles are 'ergative lexical items', cf. 6.4.3.

correct.

In the same manner, the NP-antecedent and its trace must bear the same (Infl-)Case in (11). First, Infl-Case must percolate (or else the antecedent will get no Case). Second, the ergative verb is a nonassigner of Case, hence incapable of protecting VP from the Infl-Case. Here, the result is a well-formed [Nom_x, Nom_x] chain.

In the light of this, I propose that the well-formedness constraint in (13) applies to all chains, that is, to A-chains as well as to A'-chains:

- (13) For any members, a and b, of a link in a chain that is assigned Case it holds that:
- a. both a and b must be Case-marked
 - b. the Case of a and b must be assigned by one and the same Case assigner

Call this the CHAIN-VISIBILITY CONSTRAINT (CVC; on visibility, see further 5.4): the antecedent-trace relation is structurally invisible unless all members of the chain involved are Case-identical.⁹ In A-chains, this Case-identity is due to Case percolation, as we have seen. As for A'-chains, the standard viewpoint is that the A'-antecedent inherits the Case of the A-variable (cf. 5.1 and Chomsky (1981, e.g. p. 175)).

CVC has an interesting consequence for the interpretation of ergative verbs that are nonassigners of Case: We do not have to stipulate that these items have no Case feature to assign. Rather, they must not percolate structural Case since this would violate (condition (13b) of) CVC. This interpretation predicts that complements of ergatives need not move to [NP, IP] by NP-movement for the purpose of successful Case assignment. As we shall see in 6.1.4 and 6.5.3, this is borne out. On the one hand, there are languages like German that do not apply NP-movement, it seems. On the other hand, there are NP-movement languages like Icelandic and English, where NP-movement is not enforced by the Case Filter but by an independent condition on the relation between argument positions. For expository purposes, however, I shall keep on referring to ergatives that do not assign lexical Case (as well as auxiliaries and modals) as 'nonassigners of Case'.

Now, as mentioned in 3.3, and as I shall discuss more thoroughly in chapter 5, the Case Filter seems to apply to all NPs in Icelandic and other null-subject languages, including NP-traces and PRO/*pro*. Moreover,

⁹ More generally, we could say that the trace has to have 'access' to all the features of the antecedent and vice versa if the antecedent-trace relation is to be visible. This is a more general and probably a more appropriate formulation than (13), as indicated by the fact that non-*pro*-drop languages have Caseless chains, viz. chains that are headed by PRO (cf. 5.5.3) - in which case the members of the chain are indeed 'Case-identical' in a sense. For expository purposes, however, I shall assume (13).

if (13) is on the right track, the Case Filter applies to all traces in non-null-subject languages (i.e. not only to WH-traces, as usually assumed). If the opposite were true, we would have to block Case percolation to NP-traces in this language type. One way to do so would be to say that VP is an absolute barrier to Case percolation in non-null-subject languages. However, this is an unprincipled approach. In addition, it is refuted by various facts, for instance Swedish sentences like (14):

- (14) Det är bara jag.
 it is only I
 N N

Since nominative Comp-Case percolates to the predicative nominal in (14), it is entirely unclear how we should block it from percolating to the NP-traces in sentences like (15):

- (15)a. Båten hade sjunkit [t].
 the boat had sunk
 b. Johan blev slagen [t].
 John was beaten

On the other hand, we would like to block Case from percolating to PRO in non-null-subject languages. I shall consider how this could be accomplished in 5.5.3.

4.4 Conclusion

The Feature Percolation Theory of Case involves several conceptual improvements. Most important, it establishes structural Case as an inherent property of the X-bar system and enables us to make a desirable distinction between government relations and Case relations. Moreover, the overall simplicity of the proposed system speaks rather strongly in favor of it. Not only does it account for complex agreement data in a strikingly simple and an intuitively appealing way, it also accounts for all Case assignment in a unitary manner. The Percolation Principle of Case replaces three or four different Case-marking mechanisms in the standard Government Theory of Case: Case assignment under adjacency and government, distant Case inheritance, NP-internal Case copying (which, however, might perhaps be subsumed under Case inheritance), and Case percolation (at least from NP to N, as discussed in 4.2). In spite of this, the protection approach pursued here clearly owes very much to Chomsky's (1986b) barriers approach to government. Most important, Case percolation is crucially controlled by

m-command, and the Protection Principle is a relaxed or a relativized version of the Minimality Condition (relevant for feature percolation rather than for government). In the core cases, the protection approach and the barriers approach are empirically equivalent (for Case), but when it comes to Case agreement, local as well as distant, the first seems to be highly preferable.

I shall now postpone further discussion of nominal agreement and 'long distance Case percolation'. We shall have opportunities to consider this interesting phenomenon in more detail in chapters 5 and 6, where I discuss two (interrelated) matters that bear on the present approach: null-NPs and NP-movement.

5 Nonlexical NPs and Case

5.0 Introduction

So far, I have largely limited myself to 'normal' instantiations of Case in Icelandic. However, Icelandic has some 'abnormal' constructions which any Case Theory will have to be able to account for in a principled manner. What I have in mind are the following (by now well-known) phenomena. First, Icelandic is a null-subject language (NS language). That is, it has finite sentences with no overt (or morphophonologically realized) Case. This is illustrated (for only one subtype) in (1) (but for a descriptive overview, see 5.2.2 and 5.3.1):

- (1) Í gær rigndi [e] mikið.
yesterday rained much
'Yesterday, it rained much.'

Second, Icelandic has a very rich variety of so-called 'impersonal' verbs and predicates that take an oblique argument that typically corresponds to a subject in e.g. English and Mainland Scandinavian, cf. (2):

- (2)a. Mig hungrar.
me(Acc) hungers
'I am hungry.'
b. Mér er kalt.
me(Dat) is cold
'I am freezing.'

Third, both these types are also found in passive sentences, cf. the impersonal passive in (3) and the 'oblique passive' in (4):

- (3) Í gær var [e] mikið sungið.
yesterday was much sung
'Yesterday, there was much singing.'
(4) Mér var hjálpað.
me(Dat) was helped
'I was helped.'

The Case system proposed in 4.1(2) for Icelandic serves as our point of departure. It is repeated here as (5):

- (5)a. For a lexical head \underline{a} it holds that:
 if $\underline{a} = [+C/G]$, it assigns genitive
 if $\underline{a} = [+C/D]$, it assigns dative
 if $\underline{a} = [+C]$, it assigns accusative
- b. For a nonlexical head \underline{a} it holds that:
 if $\underline{a} = [+C]$, it assigns nominative

If we want to maintain this system, we obviously have to say something special about (untensed as well as tensed) clauses that, apparently, do not involve any Case assignment and about overt subjects that are assigned nonnominative Case. As we shall see, the phenomena in (1)/(3) and (2)/(4) are tightly interrelated: all sentences with oblique subjects in S-structure have an empty subject position in D-structure, i.e. the oblique subject is moved from [NP, VP] (or [NP, AP]) to [NP, IP]. Conversely, a finite sentence can only surface with a (nonreferential) nonlexical subject NP if it has no (definite or topical) object in D-structure. - I shall postpone a detailed discussion about oblique subjects and passives until in chapter 6. This chapter contains a discussion of nonlexical NPs (primarily in active sentences) and their properties with respect to Case. In 5.1-5.4, I shall consider nonlexical NPs in finite sentences, objects as well as subjects, turning to nonlexical subjects in infinitivals in 5.5.

Nonlexical or 'empty' subjects in finite sentences (i.e. governed empty subjects in the standard theory) are either called 'null-subjects' or '*pro*' in the literature (the latter term was introduced by Chomsky 1982, p. 81). I shall use the term 'null-subject' (occasionally 'NS' for short) in a purely descriptive sense, using '*pro*' as a GB theory dependent notion (covering not only a certain type of null-subjects but also a certain type of null-objects of verbs and prepositions, cf. Rizzi 1986, Cole 1987). Note also that when I use the term 'null-subject', I never mean nonlexical subjects in infinitivals. For these, I use the standard 'PRO' (as a descriptive term, cf. 5.5.1). The term 'nonlexical subject', in turn, covers both PRO and null-subjects.

For us, the most important question raised by null-subjects is whether or not they bear Case. In 3.3, I suggested that Icelandic PRO bears Case, thus accounting for the obligatoriness of V-to-I in control infinitivals in Icelandic. If that is correct, it would seem natural to assume that Icelandic *pro* is also Case-marked, the Case Filter applying to all NPs (or nominals) in the language. An empirically equivalent alternative for Icelandic, is to assume that the verbal Infl is a 'licensing head' in Icelandic, in the sense of Rizzi (1986), see 5.1 and 5.3.2. It is the major purpose of this chapter to explore these possibilities. For theoretical reasons (cf. 5.3.2), I shall assume the 'Case Filter Approach' to *pro*/PRO rather than Rizzi's 'Head--Licensing Approach'. For our purposes, however, this decision is not crucial. What is of primary importance for us is the plain fact that the

verbal Infl assigns Case to nonlexical subjects in Icelandic, *pro* as well as PRO.

In 5.1, I shall briefly review three well-known GB approaches to *pro* and Case: the Chomsky/Borer approach (Chomsky 1981; Borer 1986), the Rizzi/Platzack approach (Rizzi 1982; Platzack 1985c, 1987a), and the Head-Licensing Approach of Rizzi (1986). In the first two analyses, *pro* is not marked for Case, whereas it is in the Head-Licensing Approach. All approaches make some reference to the so-called 'Taraldsen's generalization' (cf. Taraldsen 1978), which says, roughly, that verbal inflection recovers the content or the phi-features of the missing subject. Furthermore, they all assume that there is an important (i.e. theoretically relevant) difference between NS languages that have *referential* null-subjects ('genuine *pro-drop*') and NS languages that have only *nonreferential* null-subjects ('semi-*pro-drop*'). Italian and Spanish are the best known languages of the first type, whereas Icelandic, for instance, is often said to be of the second type (cf. e.g. Maling and Zaenen 1978; Platzack 1985c, 1987a; Rizzi 1986, p. 540 f.; Adams 1987, p. 13, fn. 16). Both assumptions make certain predictions and claims. As it stands, 'Taraldsen's generalization' predicts that null-subjects should only be found in languages that have some (finite) verbal inflection. Second, drawing a sharp distinction between 'genuine *pro-drop*' and 'semi-*pro-drop*' implies, for example, that the Germanic languages do not have any instances of referential null-subjects (cf. Rizzi 1982, 1986). I shall discuss these predictions and claims in 5.2, illustrating that they are only borne out to a rather limited extent. Most important, all Germanic languages seem to have at least some cases of referential null-subjects. Indeed, this might very well be true of all languages. However, referential null-subjects in the Germanic languages do not normally seem to be of the same type as referential *pro* in the Romance *pro-drop* languages. As we shall see (in 5.2.4), there is evidence that they are variables (bound by a null-topic). If that is correct, they do not bear on the question whether *pro* (a non-variable) bears Case. It is therefore necessary to address the question specifically for 'true' *pro*, e.g. non-referential *pro* in Icelandic. I shall do so in 5.3, where I argue that *pro* is always assigned Case. If that is correct, the Case Filter is perhaps parametrized, applying to all NPs in NS languages but only to lexical NPs and traces in non-NS languages (cf. 4.3).¹ It follows, in turn, that there

¹ Throughout, I shall assume the standard viewpoint that languages like English and Mainland Scandinavian do not allow any occurrences of *pro* (whereas they allow null-topics, as we shall see). However, this is not entirely without problems. It presupposes that it is, somehow, possible to explain away examples like the following ones:

- (i)a. As (*it) is well known, ...
- b. On the wall (*there) hung a poster.
- c. Even more surprising is (??it) that ...

is no 'Null-Subject Parameter' in Universal Grammar. In 5.4, I consider the question how nonlexical NPs are 'recovered' or (rather) identified. I suggest that Universal Grammar applies the Lexical Phi-feature Principle which says, roughly, that lexical phi-feature specifications can only link with phonetic substance. It follows that there are no lexical nulls. Therefore, *pro* is a nonlexicalized NP-position in S-structure that is interpreted as having definite specifications for the pronominal phi-features (when it is referential). Expletive *pro*, however, is entirely theta-invisible, but being Case-marked, it is structurally visible. Finally, in 5.5, I discuss the nature of PRO. I shall argue (in 5.5.1) that it is actually nondistinct from *pro*, a nonlexicalized or an 'empty' NP-position (and not a lexical element), specified for person, number and gender at S-structure and/or in the 'interpretive components', PF and LF (and not in the lexicon like lexical (pro)nominals). Hence, we expect 'both' elements to behave the same way with respect to Case. I shall demonstrate (in 5.5.2) that there is clear evidence that Icelandic PRO indeed does bear Case, like Icelandic *pro*. This is what we expect if Icelandic V-to-I applies in order for Infl to be able to assign Case to [NP, IP] in control infinitivals as well as in finite clauses, as I suggested in 3.3.

Various phenomena are commonly related to the null-subject option, e.g. 'free inversion' of VPs and subjects and non-effectiveness of the *That*-trace Filter (see e.g. Chomsky 1981, Rizzi 1982, Platzack 1987a). Since UG contains no special Null-Subject Parameter in our approach (see also Adams 1987), we have no a priori reason to expect that these phenomena relate to the null-subject option. Indeed, Sobin (1987) has shown that the status of the *That*-trace Filter in English is rather questionable. Another Germanic non-NS language, Finland-Swedish, certainly does not observe this filter, and even Norwegian and Danish sometimes violate it (cf. Engdahl 1985, p. 122 f.; 1988). However, discussing the alleged 'byproducts' of the null-subject option would go far beyond the scope of this study. Therefore, I shall concentrate on the null-subject phenomenon itself, leaving it to future research to decide, for example, whether there is any relation between the absence of the *that*-trace-effect in Icelandic and its setting

Moreover, as Falk (1987) shows, Swedish has some instances (of somewhat variable acceptance) of what might seem to be expletive *pro*, cf. (ii):

- (ii)a. I Italien är (det) sällan kallt.
 in Italy is it seldom cold
 b. I Italien verkar (det) vara kallt nu.
 in Italy seems it be cold now

In the subjectless variants, Falk suggests, the fronted adverbial is moved to [NP, IP], from where it moves again to [Spec, CP]. That is, subjectless sentences of this sort actually have a sort of a (Caseless) variable in [NP, IP] (bound by [Spec, CP]), rather than *pro*. I must admit that I am somewhat skeptical, but I have no better proposal. In any case, we would clearly not want to suggest that English and Swedish are 'semi-*pro*-drop' in the same sense as Icelandic, cf. 5.3.1.

of the Case Filter. An obvious possibility to explore is that Icelandic, as opposed to 'standard' English, for instance, has means to Case-mark an EC in the configuration [Comp [e [_I, Infl ...]]].

5.1. Three GB approaches to *pro*

In this subsection, I shall briefly review three well-known GB approaches to the properties of *pro* with respect to Case: the Chomsky/Borer approach (Chomsky 1981; Borer 1986), the Rizzi/Platzack approach (Rizzi 1982; Platzack 1985c, 1987a), and the Head-Licensing Approach of Rizzi (1986).

The question whether or not *pro* bears Case boils down to the question how the Case Filter should be formulated. Consider the standard Case Filter as formulated for individual NPs (and not for chains; cf. Chomsky 1981, p. 49):

- (1) *NP if NP has phonetic content and has no Case

This is fairly uncontroversial. An interesting question raised by (1) is whether UG also has the 'inverted Case Filter' in (2):

- (2) *NP if NP has Case and has no phonetic content

As is well known, however, empty variables are exempted from (2): WH--movement (*wh*-movement and Topicalization) moves phrases from Case positions to non-Case positions. Consider (3):

- (3) Hvern hefur þú ekki séð [t]?
 whom have you not seen
 Acc (Acc)

Since the *wh*-phrase is in a non-Case position ([Spec, CP]), it seems clear that it bears the Case that is assigned to the source position (the standard assumption being that it inherits the Case of the variable, cf. Chomsky (1981, e.g. p. 175)). Moreover, Case percolates to NP-traces, as discussed in 4.3. The relevant question, then, is whether there is a universal CASE BAN on ECs that are non-traces, PRO and *pro*:

- (4) *[_{NP} e] if [_{NP} e] has Case and is not a trace

I know of no approach that explicitly claims (4). However, it is usually taken to be true that there is a Case ban on all empty categories that are not variables. In fact, Chomsky (1981) explores the possibility of Case

being the defining property of variables (and, accordingly, that there is a Case ban on all other ECs). That is, he explores the possibility in (5) (Chomsky 1981, p. 175):

(5) $[_{NP} e]$ is a variable if and only if it has Case

In 5.3.2, however, I shall propose that the Case Ban in (4) is in fact a parameter rather than an absolute principle of UG. Following Chomsky (1981, p. 185), I therefore assume (6):

(6) $[_{NP} e]$ is a variable iff it is:
 a. in an A-position, and
 b. (locally) A'-bound

For a slightly different alternative, see Taraldsen (1986b).

Now, consider the above mentioned Chomsky/Borer approach to *pro*. Chomsky (1981, p. 256 ff.) explores the idea that *pro* is (uncontrolled) PRO, hence, not Case-marked. In Chomsky's approach this entails that Agr may 'choose' not to govern the subject position in finite clauses in NS languages, in contrast with non-NS languages. As we shall see directly, Chomsky has abandoned this idea, but since Borer (1986) adopts it and elaborates upon it, I shall briefly consider whether it can be applied to Icelandic.

The *Lectures* idea is that the rule that combines V and Infl may either apply in the syntax or in PF, leading to a branching Infl in both cases. In *Lectures*, this is the so-called 'rule R' or Affix Movement/Affix Hopping (i.e. I-to-V). If it applies in the syntax, then Infl (+ V) branches in the syntax and is incapable of governing the subject position, which, accordingly, may contain *pro* = PRO. This option is available in NS languages only. In non-NS languages, V and Infl do not combine until in PF. Therefore, Infl does not branch at S-structure. Accordingly, it (or rather Agr in Infl) governs the subject position and *pro* = PRO is excluded.

It is immediately clear that this approach cannot extend to a V2 language with V-to-I like Icelandic. V-to-I always applies in the syntax. Thus, depending on how we conceive of government, the subject position of finite sentences must either be invariably governed or invariably ungoverned (the latter being the case in our approach, cf. 2.3). - There is no need to go into further problems that would arise from the *Lectures* approach to *pro*. Already in *Some Concepts*, Chomsky himself (1982, p. 81 f.) rejects it and suggests that (referential) *pro* is "a pure pronominal like its overt counterpart" (1982, p. 82; see also Chomsky 1986a, p. 164). As far as I can see, this entails that *pro* is governed in Chomsky's approach, hence Case-marked if no further stipulations are made, i.e. if (4) is not assumed.

There is, however, an interesting alternative to the *Lectures* approach

that shares with it the basic assumption that *pro* is not assigned nominative Case, that is, the alternative developed by Rizzi (1982) in *Issues in Italian Syntax* and extended, in a slightly revised form, to Icelandic and Faroese by Platzack (1985c, 1987a). In this approach, the nominative Case assigner or the head of S (Infl according to Rizzi, Comp (in Scandinavian) in Platzack's analysis) has a pronominal element in NS languages, in contrast with non-NS languages. Rizzi (1982, p. 143) formulates the Null-Subject Parameter roughly as follows:

- (7)a. Infl can be specified [+pronoun]
 b. Infl[+pronoun] can be referential

(7a) is sufficient to license nonreferential null-subjects, whereas referential null-subjects are only licensed in languages that take a positive value for (7b) too. Thus, Italian is assumed to have positive values for both (7a) and (7b), but Icelandic for only (7a). Non-NS languages (English, French, Mainland Scandinavian, etc.) would have negative values for both (7a) and (7b).

The basic idea behind this is that a pronominal Infl bears or absorbs nominative Case, the subject position thus being Caseless, hence obligatorily phonetically empty (or else both the Case Filter and the Case Ban in (4) would be violated, cf. further 5.3.2). Like the Chomsky/Borer approach, (7) relates the *pro*-option to (rich) subject-verb agreement, the assumption being that the verbal inflection is a realization of [+pronoun] and recovers *pro*. That is, both these approaches assume 'Taraldsen's generalization' (cf. 5.2.1).

Rizzi (1986) also assumes 'Taraldsen's generalization' (in a slightly revised form, cf. 5.2.1), but in other respects, he breaks rather sharply with his *Issues* analysis. Most important, he no longer assumes that *pro* is Caseless. On the contrary, he suggests that it *must* be Case-marked. More specifically, he proposes (1986, p. 524) that (8) is a universal licensing schema for *pro*:

- (8) pro is Case-marked by X_y

- where "X" is a zero-level head and where the value of the index "y" may vary from language to language.

This, then, is the Head-Licensing Approach of Rizzi, mentioned in 5.0. In Italian, Rizzi (1986, p. 519) argues, the set of licensing heads includes pronominal Infl, licensing null-subjects, and V, licensing (nonreferential) null-objects (cf. 5.3.1). In English, on the other hand, the set of licensing heads is empty, but in French, another non-NS language, it includes V and P, Rizzi (*ibid*) claims.

In the Head-Licensing Approach, as formulated by Rizzi (1986), all the

Germanic languages still differ from the Romance *pro*-drop languages in only allowing nonreferential null-subjects (see Rizzi 1986, p. 540 ff.). That is, the [+pronoun] element of the licensing head Infl[+pron] (cf. Rizzi 1986, p. 525, fn. 25) is still subject to the variation [\pm referential] built into the Null-Subject Parameter in Rizzi's *Issues* analysis. As we shall see in the next subsection, however, the Germanic languages have various types of referential null-subjects. Nonetheless, as compared to (7), (8) is a clear improvement. I shall thus adopt the basic idea embodied in (8), namely that *pro* always *must* be Case-marked (cf. 5.3.2). If that is correct, there is no universal Case Ban of the type (4).

On the other hand, it is not sufficient to say that Infl[+pron] or Infl[Agr] is a licensing head in Icelandic. Since Icelandic PRO is Case-marked (cf. 5.5.2), we have to assume that the verbal Infl, [_I V+I], is a licensing head in Icelandic if we wish to adopt Rizzi's Head-Licensing Approach. Instead, as mentioned in 5.0, I assume the Case Filter Approach to *pro*/PRO. I shall return to this in 5.3.2 and 5.5.2.2.

5.2 Referential null-subjects in Germanic languages

5.2.0 Introduction

As we have seen, it is standardly assumed that the Germanic languages have no referential null-subjects. As for Icelandic, however, several linguists have pointed out that this is incorrect. Consider, for instance, Rögnvaldsson (1982b, 1988), Thráinsson and Hjartardóttir (1986), and Hjartardóttir (1987). The major purpose of this subsection is to show that the objections of these authors must be taken seriously. At first sight, this might seem to be unproblematic, Icelandic simply being of the same type as the Romance *pro*-drop languages, thus having both referential and nonreferential null-subjects. However, the matter is not as simple as that: Even the Germanic non-NS languages (English and Mainland Scandinavian) have certain types of referential null-subjects (and null-objects). I shall illustrate this and discuss the nature of these null-arguments.

The distinction between 'genuine *pro*-drop' and 'semi-*pro*-drop' built into Rizzi's (1982) Null-Subject Parameter (in 5.1(7) above) seems to be based on 'Taraldsen's generalization'. Therefore, I shall start out by briefly discussing this generalization (5.2.1), arguing that it probably only captures a specific property of one type of null-NPs. In 5.2.2, I give a short overview over referential null-subjects in Icelandic, and in 5.2.3, I extend my analysis of some of the Icelandic cases to English and Mainland Scandinavian. In 5.2.4, I illustrate that referential null-arguments (in declarative clauses) in the Germanic languages seem to be due to a

topic-drop of some sort. Finally (5.2.5), I discuss the nature of this phenomenon. As we shall see, referential null-arguments (in declarative clauses) in the Germanic languages are variables bound by a null-topic. If that is correct, they do not bear on the question whether or not *pro* is Case-marked (on the assumption that *pro* is necessarily a non-variable).

5.2.1 'Taraldsen's generalization'

Since Taraldsen (1978), it is widely accepted that *pro* in the Romance languages is somehow licenced by the rich verbal inflection (i.e. Agr) in these languages. This is initially plausible. As Chomsky puts it (still talking in terms of the old deletion analysis): "The intuitive idea is that where there is overt agreement, the subject can be dropped, since the deletion is recoverable" (1981, p. 241). The idea is not new, of course. It has been recognized for a long time in traditional European philology. See for instance Wessén (1956, p. 120 f.) for essentially the same formulation as that of Chomsky's, just cited. As far as I know, however, Taraldsen was the first to introduce the idea into generative theory. For expository purposes, I therefore follow Huang (1984, p. 535 ff.) in referring to it as 'Taraldsen's generalization'.

Now, the natural interpretation of 'Taraldsen's generalization' is that verbal inflection recovers the content of null-subjects. Since expletive null-subjects have no content (cf. 5.4), we thus expect 'Taraldsen's generalization' to be relevant for referential null-subjects only: the verbal ending recovers the number and person of the missing subject in so far as its number and person features have content or reference (cf. Rizzi 1986, p. 543). As for expletive null-subjects, on the other hand, there is nothing to recover. Seen from this point of view, 'Taraldsen's generalization' is rather natural. On the other hand, Rizzi's (1982) 'old' assumption that verbal inflection is also relevant for 'semi-*pro-drop*' is implausible, I find (see further 5.4). Indeed, Holmberg (1987) points out that certain Finland-Swedish dialects have the German type of 'semi-*pro-drop*' in spite of the fact that they are like standard Swedish in having no subject-verb agreement.

There is evidence that verbal inflection is crucial in identification of referential null-arguments in many languages (see e.g. McCloskey and Hale 1984; Anderson 1984; Georgopoulos 1985; Borer 1986; Huang 1984, p. 535 ff. and fn. 3. p. 536 f. and the references cited there). Nonetheless, 'Taraldsen's generalization' only captures or describes a specific property of some referential null-subjects (or, less plausibly, a language specific property of some *pro-drop* languages). Several languages that have no subject-verb agreement, e.g. Chinese and Korean, allow missing subjects

(and other referential null-NPs) extremely freely (cf. Huang 1984, Battistella 1985). The same is true of, for instance, Japanese (Kuno 1973, Huang 1984), Thai (Cole 1987), and Malayalam (Mohan 1983, p. 665). Let us refer to this type of null-NP languages as the 'Chinese type of null-NP languages', or, simply, as the 'Chinese (language) type'. It includes one of the Romance *pro*-drop languages, Portuguese (Huang 1984, Cole 1987). Languages of this type allow referential null-NPs much more freely than Italian and Spanish, for example.

Being aware of this problem, Rizzi (1986, p. 545) makes three suggestions: First, languages differ as to whether or not they make use of phi-features in their grammar. Second, languages of the Chinese type do not make any use of phi-features. Third, verbal inflection only recovers null-subjects in languages that do make use of phi-features in their grammar, i.e. 'Taraldsen's generalization' is only relevant for this language type. This may seem rather plausible. If a language does not make any use of phi-features, then null-subjects do not have any such features to be recovered or identified by phi-features of an agreeing verb. However, note that this entails that there is no fundamental difference between null-subjects of the Chinese type and Italian *pro*. This is probably incorrect. As argued by Huang (1984), missing arguments in Chinese generally seem to be null-topics (or null-variables, bound by a null-topic, cf. 5.2.5).² Thus, as we shall see, Rizzi's (1986) interpretation of 'Taraldsen's generalization' masks a crucial difference between two types of null-arguments: *pro* and (variables bound by) null-topics.

Moreover, if this approach to 'Taraldsen's generalization' were on the right track, we would only expect to find referential null-objects of the Chinese type in those phi-feature languages that have verb-object agreement (like, for instance, Pashto, cf. Huang 1984, p. 535 f.). In a phi-feature language, the phi-features of null-objects must of course be identified,

² However, Huang (1984, p. 553 ff.) and (1987) assumes that the EC in Chinese sentences like (i) below, taken from Huang (1987, p. 329), is *pro* when it is coreferential with the matrix subject (but a variable when it is coreferential with some discourse topic, distinct from the matrix subject):

- (i) Zhangsan shuo [[e] bu renshi Lisi].
 Zhangsan say not know Lisi
 'Zhangsan said that (he, etc.) does not know Lisi.'

See also Cole (1987, p. 599). However, as argued by Huang himself (1982), see also Battistella (1985), embedded subject positions are 'anaphor-positions' in languages like Chinese, allowing for an overt 'long distance reflexive' that is bound by the matrix subject. As argued by Huang (1982), the reason for this is presumably that Chinese has no Agr, hence no SUBJECT that is accessible to the [NP, IP] position in the embedded clause. It follows that the matrix subject in (i) is the accessible SUBJECT, the whole structure thus being the EC's governing category. When the EC is bound within this category, it is an anaphor, not a pronominal. Thus, Chinese does not seem to have any instances of *pro*.

just like the phi-features of null-subjects. Therefore, Portuguese, having referential null-objects of the Chinese type (cf. Cole 1987, p. 598 ff.) and being a phi-feature language without verb-object agreement, seriously undermines this interpretation of 'Taraldsen's generalization'. The same is true of Old Scandinavian (whereas Old English perhaps was of the Italian type, cf. Traugot 1972, p. 84). The Old Scandinavian languages of course made extensive use of pronominal phi-features. Moreover, they had subject-verb agreement but not V/P-object agreement. All the same, they allowed astonishingly many types of referential null-NPs (null-subjects and null-objects of Vs and Ps in both main and subordinate clauses). In fact, they seem to have been of a mixed type, allowing almost all kinds of nonlexical NPs, that is, subject and object *pro* as well as null-topics. Consider, for instance, Wessén (1956, e.g. pp. 88 ff. 187 ff.) on Old Swedish. As for Old Icelandic, consider the facts described by Nygaard (1894, 1906, p. 8 ff.) and Sigurðsson (1982, 1983, p. 148 f., 1985b). For 'older' or non-modern Icelandic in general, see the (much more interesting) discussion and facts in Thráinsson and Hjartardóttir (1986), and in Hjartardóttir (1987). I shall illustrate some of these facts in 5.2.5. - Moreover, as we shall see in 5.2.2.2, missing oblique subjects in Modern Icelandic pose a similar problem to Rizzi's (1986) interpretation of 'Taraldsen's generalization'.

It seems clear, then, that verbal inflection is not the only available 'identification mechanism' for referential null-arguments in Universal Grammar, not even in the 'Universal Grammar of phi-feature languages'. In fact, even languages of the Italian/Spanish type apply some auxiliary mechanism to identify gender (verbs not inflecting for gender in the Romance languages, as opposed to Russian, for instance). See 5.4. Moreover, not only Old Scandinavian but also Modern Scandinavian is problematic for Rizzi's (1986) interpretation of 'Taraldsen's generalization'. Icelandic has rich subject-verb agreement, whereas Mainland Scandinavian has no phi-feature marking on verbs. As we shall see in the following subsections, however, Icelandic and Mainland Scandinavian have more or less the same types of referential null-NPs (that is, both Insular and Mainland Scandinavian have null-topics of the Chinese type).

If we wish to maintain 'Taraldsen's generalization', then, we are left with two possibilities. First, it might be relevant for only some NS (or null-NP) languages. Second, it might be cross-linguistically relevant for some particular type of referential null-NPs. I shall return to the question in 5.2.5, suggesting that 'Taraldsen's generalization' is perhaps true for referential null-subjects that are properly classified as *pro* and not as (variables bound by) a null-topic.

5.2.2 Referential NSs in Icelandic

As pointed out by several linguists, Modern Icelandic has various types of referential null-subjects (cf. Rögnvaldsson 1982b, 1988; Thráinsson and Hjartardóttir 1986; Hjartardóttir 1987, p. 101 ff.). In the following, I shall give a short overview over the types mentioned by these authors as well as other relevant types.³

5.2.2.1 NSs in imperatives

Second person singular imperatives in Icelandic are normally formed by dropping the final *-a* of the infinitive (yielding, for instance, *far* from *fara* 'go, leave, begin'). Thus, it is not clear whether these imperatives are correctly classified as 'finite' (and the same is true of imperative verb forms in the mainland Scandinavian languages). On the other hand, plural imperatives in the language are unambiguously finite (being homophonous with the corresponding indicatives (and subjunctives)).⁴ In the

³ I wrote the first version of this chapter before I saw Hjartardóttir's (1987) interesting study of null-NPs in Old(er) Icelandic. Many of the following empirical observations are independently noted in chapter 6 of Hjartardóttir's thesis, where she compares Old(er) and Modern Icelandic.

⁴ The copula *vera* 'be' is exceptional. Not only does it distinguish between all indicatives and subjunctives (whereas other verbs do not make any such distinction in first and second person plural in the present tense), it also has special imperative/optative forms for all persons in the present tense. This is illustrated in (i):

(i)	ind.	subj.	imp./opt.
sg. 1p	er	sé	veri
2p	ert	sért	vert
3p	er	sé	veri
pl. 1p	erum	séum	verum
2p	eruð	séuð	verið
3p	eru	séu	veri

Compare (i) to (ii), for *koma* 'come, arrive':

(ii)	ind.	subj.	imp.
sg. 1p	kem	komi	
2p	kemur	komir	kom
3p	kemur	komi	
pl. 1p	komum	komum	komum
2p	komið	komið	komið
3p	koma	komi	

Post-verbal pronominal subjects very typically cliticize onto the verb in the second person, and in the written language, second person singular forms like *ertu*, *vertu*, *komdu* etc. are very common. However, since nonstressed third and first person subject pronouns also cliticize onto the verb in the spoken language, the second person cliticization is not specifically shown in (i) and (ii). – The imperative/optative of *vera* is formed in the same manner as present subjunctives

second person, they may either take an overt subject or a null-subject. In the first person, on the other hand, an overt subject is usually unacceptable (Modern Icelandic thus differing from Old Icelandic (cf. Nygaard 1906, e.g. p. 202)). This is illustrated in (1) and (2):

- (1)a. Farið (þið) þangað.
 go you there
 2.pl pl
 '(You) go there.'
- b. Kaupið (þið) miðana.
 buy you the tickets
 2.pl pl
 '(You) buy the tickets.'
- (2)a. Förum (??við) þangað.
 go we there
 1.pl
 'Let us go there.'
- b. Kaupum (??við) miðana.
 buy we the tickets
 1.pl
 'Let us buy the tickets.'

Thus, Icelandic plural imperatives unambiguously either may or must take a referential *pro* (compare Adams (1987, p. 15 f.) on *pro* in Old French imperatives). The same is true of plural second person imperatives in German.⁵ Empty subjects in English imperatives, on the other hand, might be analyzed as PRO (English not making any morphological distinction between imperatives and infinitives). Conversely, English imperatives that

of other verbs (i.e. by dropping the *-a* of the infinitive stem and adding subjunctive endings to the so reduced stem). In its optative use (but not in its imperative use), it is often found in free variation with the subjunctive.

⁵ Interestingly, *pro* is not found in plural first person imperatives in German, as opposed to Icelandic:

- (4)a. Geht (ihr).
 go you
 2p.pl pl
 b. Gehen *(wir).
 go we
 1p.pl

The reason for this might be that the first person plural is always homophonous with the third person plural in German verbs. That is, 'Taraldsen's generalization' seems to make an essentially correct prediction for referential *pro* in Icelandic and German imperatives (with the exception that it does not predict the obligatoriness of *pro* in the first person plural in Icelandic).

take an overt subject might be analyzed as actually being 'optatives'.

5.2.2.2 NSs in conjuncts

The ongoing discussion of *pro* and the 'Null-Subject Parameter' sweeps quite a lot of troublesome data under the carpet. An inconvenient problem that often does not even enter the discussion is the fact that clausal coordination seems to involve a missing subject of some sort. The traditional Conjunction Reduction has simply disappeared from the scene.

It is sometimes maintained (e.g. Gazdar 1981, Sag et al. 1985) that conjunction structures like (1) involve conjunction of VPs and no missing subject (the 'bare VP analysis'), as illustrated in (2):

(1) They robbed the bank and [e] ran away.

(2) They [[_{VP} robbed the bank] and [_{VP} ran away]].

Perhaps, some instances of 'predication coordination' may be successfully analyzed as involving conjunction of nonclausal constituents. However, there are also clear cases where we have to analyze the second conjunct as a full clause with a null-subject. Due to certain facts having to do with subject-verb agreement, this is particularly clear in Icelandic, as first demonstrated by Rögnvaldsson (1982b); see also Thráinsson and Hjartardóttir (1986) and Rögnvaldsson (1988). In the following, I shall briefly review 'Rögnvaldsson's argument'. In doing so, I shall use the terms 'Conjunction Reduction' and 'deletion' without any reservations. However, I do so only for expository purposes. In 5.2.5, I shall address the question whether missing referential subjects in the Germanic languages really are due to a deletion (suggesting that they are not).

As already illustrated by many authors (e.g. Bernódusson 1982, p. 152 ff.; Rögnvaldsson 1982b), Conjunction Reduction is sensitive to grammatical functions in (Modern) Icelandic, much as in English: normally, only subjects can delete and they can only do so under identity with a subject antecedent. That is, the scheme in (3) illustrates the normal situation:

- | | | | |
|-----|---------------------------|---|--------------------------------|
| (3) | <u>Antecedent:</u> | - | <u>missing argument:</u> |
| a. | Subject _i | - | empty subject _i |
| b. | *Subject _i | - | empty non-subject _i |
| c. | *Non-subject _i | - | empty subject _i |
| d. | *Non-subject _i | - | empty non-subject _i |

As we shall see in 5.2.5, there are some interesting exceptions to (3d) (discussed by Rögnvaldsson 1988). However, what matters here is that (3a-c) are true.

Now, as mentioned in 5.0, and as we shall see more clearly in 6.1, Icelandic has oblique (S-structure) subjects, cf. (4):

- (4)a. Mig vantar peninga.
 me(A) lacks money
 'I lack money. / I need money.'
- b. Okkur er illt.
 us(D) is ill
 'We are nauseated. / We have pains.'

Given (3), we thus expect oblique arguments of this sort to behave like nominative subjects, and not like objects, with respect to Conjunction Reduction. This is borne out: these oblique arguments delete under identity with a preceding subject, nominative or oblique, and not under identity with a preceding object. Conversely, they trigger deletion of subjects, nominative or oblique, and not of objects. But what is particularly interesting in the present context is the fact that the finite verb does not agree in person and number with oblique subjects, as opposed to nominative subjects; instead, it invariably shows up in the default third person singular if the clause does not contain any nominative. Thus, both *vantar* and *er* in (4) are third person singular even though the oblique subjects are first person singular and first person plural. Consider also (5):

- (5)a. Við vorum svangir og okkur vantaði peninga.
 we were hungry and us lacked money
 N.1pl 1pl D.1pl 3sg
- b. Okkur vantaði peninga og við vorum svangir.
 us lacked money and we were hungry
 D.1pl 3sg N.1pl 1pl

As seen by this, coordination has, of course, no effects on subject-verb agreement: verbs agree in person and number with nominative subjects but not with oblique subjects. Now, consider what happens when Conjunction Reduction applies to the nominative and the oblique subjects; we see this by comparing (5) and (6):

- (6)a. Við vorum svangir og [e] vantaði peninga.
 N.1pl 1pl 3sg
- b. Okkur vantaði peninga og [e] vorum svangir.
 D.1pl 3sg 1pl

The verbs show precisely the same agreement or non-agreement as in (5). We have an account for this if missing subjects are involved. If, on the other hand, we were dealing with conjoined VPs, we would expect verbal agreement in the second conjuncts in (6) to depend on the overt subject, that is, we would expect first person plural in the second conjunct in (6a) and third person singular in the second conjunct in (6b), but as seen in (7) below, this is totally out (on the variation *svangir/svangt* in (7b), see 5.5.2.1):

- (7)a. **Við* vorum *svangir* og *vöntuðum* peninga.
 N. 1pl 1pl 1pl
 b. **Okkur* vantaði peninga og var *svangir/svangt*.
 D. 1pl 3sg 3sg N.m.pl N/A.n.sg

In a schematized form, then, the logic of 'Rögvaldsson's argument' is as shown in (8) (where "+agr" indicates overt person/number agreement of the verb):

- (8)a1. [+Nom ... og [(-Nom) : 3sg]]
 2. * [+Nom ... og [(-Nom) : +agr]]
 b1. [-Nom ... og [(+Nom) : +agr]]
 2. * [-Nom ... og [(+Nom) : 3sg]]

That is, with respect to subject-verb agreement, the second conjunct behaves precisely as if it did have an overt subject. Thus, there seems no doubt whatsoever that 'predication coordination' may involve empty referential subjects in Icelandic. As we shall see in 5.2.3, this is also true of e.g. English and Mainland Scandinavian.

In fact, verbal agreement shows immediately that even in 'simple' cases like (9), a bare VP analysis will not do:

- (9) *Við* *keyptum* *dagblöð* og (*við*) *seldum* *bækur*.
 we bought newspapers and we sold books
 Nom 1pl (Nom) 1pl

Since the second conjunct displays overt agreement, it must at least contain Infl and involve V-to-I (for a somewhat similar argument for English, see Van Valin 1986). If V-to-I applies in order for Infl to be able to assign nominative Case to [NP, IP], this indicates that the second conjunct in (9) has a (Case-marked) null-subject. That Verb Fronting indeed does apply in conjuncts is seen by examples like (10):

- (10) ... og höfðum ekki selt neinar bækur.
 and had not sold any books
 1pl

See also on Swedish in 5.2.3.

Finally, note that Conjunction Reduction of oblique subjects in Icelandic is, in fact, the Chinese type of NP-drop: it involves a missing argument that does not enter into any phi-feature agreement with the finite verb. Since Icelandic is a prototypical phi-feature language, this fact alone immediately refutes Rizzi's (1986) interpretation of 'Taraldsen's generalization', discussed in 5.2.1.

5.2.2.3 'The untouchable'

For some unclear reasons, various sorts of data in non-NS languages and 'semi-*pro*-drop' languages do not count or 'qualify' in the ongoing international discussion of null-NPs. The null-subjects involved in these data are the 'untouchables' in the hierarchy of null-arguments in modern linguistics.⁶

First, of course, we find 'untouchables' in the so-called 'telegraphic style', typical of letters, diaries, and short messages, for instance postcards and telegrams:

- (1)a. Vaknaði snemma. Rakaði mig ...
 woke-up early shaved myself
 1/3sg 1/3sg
 'I woke up early, shaved myself ...'
 b. Komum til London í gær. Sáum ...
 came to L. yesterday saw
 1pl 1pl
 'We came to London yesterday, and saw ...'

More interestingly, perhaps, the 'Romance type' in (2) is quite common in informal Icelandic:

⁶ On 'untouchables' in Icelandic, however, see also Hjartardóttir (1987, p. 102 ff.).

- (2)a. Veit það.
 know it
 1/3sg
 'I know it.' / ??(S)he knows it.'
- b. Þekki hann ekki.
 know him not
 1sg
 'I don't know him.'
- c. Hef ekki séð hann.
 have not seen him
 1sg
 'I have not seen him.'

Both these types are largely limited to the first person, above all the first person singular. The same tendency is, of course, also found in 'genuine *pro-drop*' languages. For obvious pragmatic reasons, the first person singular pronoun, referring to the speaker, is identified most easily of all missing arguments. Note also that both the 'telegraphic type' and the 'Romance type' require some context or scene setting. That is, both types require a certain minimum of known or presupposed information. In the 'telegraphic type', the diary itself, etc. sets the scene, while the 'Romance type' requires some preceding discourse (cf. Hjartardóttir 1987, p. 102). Sentences like the ones in (2) are typically or exclusively linguistic responses of some sort, e.g. answers to questions.

'Untouchables' in the second and the third person are typically found in two sorts of examples. First, they are often seen or heard in exclamations like (3) (present tense) and (4) (past tense); note that the reading in (4a2) is the reading of a newspaper headline (where 'untouchables' in all persons are quite common, also in declaratives):

- (3)a. Fer syngjandi út!
 go(es) singing out
 1/3sg
 'If (s)he doesn't leave singing!'
- b. Liggur bara og drekkur bjór!
 lie(s) just and drink(s) beer
 2/3sg 2/3sg
 1. 'If (s)he isn't just lying (there)
 and drinking beer!'
 2. 'Aren't you just lying (there) and
 drinking beer!'

- (4)a. Kyssti drottninguna!
 kissed the Queen
 1/3sg
 1. 'I/(S)he kissed the queen!'
 2. 'The person we are going to tell you about
 kissed the Queen!'
- b. Jahá, keyptir bara heilt hús!
 yeah bought just a whole house
 2sg
 'So, you just bought a whole house!'

The second common type of second and third person 'untouchables' is a 'Romance type', like the first person singular examples in (2). However, the second and third person differ from the first person in that they must be anchored in the preceding discourse (typically of someone distinct from the speaker). This is illustrated in (5) and (6), which we may compare to (7):

- (5)a. Q: Hvað geri ég núna?
 what do I now
 'What do I do now?'
- b. A: [e] Ferð og [e] heilsar honum, auðvitað.
 go and greet him of course
 2sg 2/3sg
 'You greet him, of course.'
- (6)a. Q: Hvar eru Jón og Pétur?
 where are John and Peter
- b. A: [e] Koma hlaupandi þarna.
 come running (over) there
 3pl
- (7)a. Q: Hvaða maður er þetta?
 what man is this
- b. A: [e] Hef aldrei séð hann. (cf. (2c))
 have never seen him
 1sg
 'I have never seen him.'

Null-subject sentences like the ones in (1)-(7) are clearly atypical or 'unacceptable' in formal written style. But then, of course, formal written style is not our object of inquiry. Conversely, there are some types of null-subject sentences that are atypical in the spoken language. Thus, for instance, examples like (8) are typical of literary style:

- (8) Hann gekk niður götuna. Það var
 he walked down the street there was
 1/3sg
 engin umferð. [e] Leit til himins ...
 no traffic looked to sky
 1/3sg
 'He walked ... There was ... (He) looked ...'

This is a rather marked stylistic device. In unmarked and quite common cases like (9), on the other hand, a null-coordinator might be involved:

- (9) Hann gekk niður götuna. Leit til ...
 he walked down the street looked to

Clearly, then, referential null-subjects are quite common in Icelandic. As we shall see, however, we should probably not classify the language as a 'genuine *pro-drop*' language of the Italian type.

5.2.3 Referential NSs in other Germanic languages

Some of the Icelandic examples above are quite reminiscent of the so-called 'pronoun zap' in German, pointed out by John Ross (in an LSA paper cited by Huang 1984). As far as I can judge, examples like (1) are extremely common in informal German:

- (1) Hab(e) dich nicht gesehen.
 have you not seen
 1sg
 'I didn't see you.'

Moreover, examples like (2), with a missing (topicalized) object, are also very common:

- (2) Hab(e) ich nicht gesehen.
 have I not seen
 1sg
 'I didn't see it/her/him/them.'

So far, we have not considered the question whether Icelandic has any object-drop of this kind, but as we shall see in 5.2.4, it does. As far as I can judge, though, object-drop is much more common in German than in Icelandic.

Since German, like Icelandic, is usually taken to be 'semi *pro-drop*' (but see 6.5.3), this is perhaps not surprising. However, even the Germanic non-NS languages all have referential null-subjects. Thus, for instance, the 'telegraphic style' is a well-known phenomenon in English (cf. e.g. Traugot 1972, p. 84):

(3) Woke up early this morning. Shaved myself ...

(4) Came to London yesterday. Saw ...

The same is true of Mainland Scandinavian, of course. Moreover, the Mainland Scandinavian languages have more or less the same 'Romance types' as Icelandic (as pointed out to me by Christer Platzack). Thus, the Swedish sentences in (5) correspond to the Icelandic sentences in 5.2.2.3(2):

- (5)a. Vet det inte.
know it not
'I don't know it.'
- b. Känner honom inte.
know him not
'I don't know him.'
- c. Har aldrig sett honom.
have never seen him

As for the second and the third person, on the other hand, the judgements of my informants are somewhat variable. Some find sentences like (6), (7b) and (8b) dubious, whereas others find them perfect:

(6) Jaha, [e] ligger bara och [e] dricker öl!
yeah lie(s) just and drink(s) beer
'So, you/they/(s)he are/is just lying (there)
and drinking beer!'

- (7)a. Q: Vad gör jag nu?
what do I now
'What do I do now?'
- b. A: [e] Går och [e] hälsar på honom, förstås.
go and greet on him of course
'You greet him, of course.'

- (8)a. Q: Var är Johan och Peter?
where are John and Peter
- b. A: [e] Kommer springande där.
come running (over) there

Now, all this of course raises the question why ('non-German') data of this sort have not entered the international generative literature on null-subjects. Perhaps, they have simply been 'disqualified' as not belonging to 'core grammar'. Be that as it may, we probably do not wish to exclude conjunct structures from 'core grammar'. Recall, from 5.2.2.2, that there is clear evidence that Icelandic conjuncts involve or may involve referential null-subjects, viz. 'Rögnauldsson's argument'. This evidence comes from somewhat complex data, having to do with subject-verb agreement and oblique subjects in Icelandic. Hence, 'Rögnauldsson's argument' does not extend to other Germanic languages (except Faroese, perhaps). As we shall see directly, however, other facts show that even conjuncts in the Germanic non-NS languages involve or may involve referential null-subjects.

Icelandic verbs that take oblique subjects are ergative (cf. 6.1), that is, the oblique subject is promoted or raised from [NP, VP] (or [NP, AP]) to [NP, IP]. As is well known, English also has many ergative verbs (cf. e.g. Keyser and Roeper 1984; Burzio 1981, 1986), for instance *fall*. Conjunction Reduction in English is sensitive to identity of Grammatical Function, much like Icelandic Conjunction Reduction, that is, subjects (only) delete under identity with subjects (only) (speaking in traditional terms). Therefore, English ergative verbs actually also pose a serious problem for a bare VP analysis of Conjunction Reduction structures. Consider (9):

(9) John hit Peter but fell himself.

If the second conjunct in (9) does not contain a missing subject, then we seem forced to assume that the overt subject bears two theta-roles, the agent role assigned by *hit* (*Bill*) and the theme role assigned by *fall* (cf. also Van Valin 1986). However, this is categorically excluded by the Theta-Criterion. - The same phenomenon is, of course, seen in cases like (10) and (11), where one of the conjuncts is passive (but for some complications involved in interpreting data of this sort, see Williams (1984) and Van Valin (1986)):

(10) Peter was hit but did not hit anybody himself.

(11) The thief fought wildly but was handcuffed soon.

In passing, note the reflexives in (9) and (10). It seems clear that they link to the missing subject rather than the overt subject. However, I shall not pursue this here.

Facts of this sort are also found in the Mainland Scandinavian languages (as well as in Icelandic). This is illustrated for Swedish in (12)-(14):

- (12) Johan slog Peter men föll själv.
John hit Peter but fell himself
- (13) Peter blev slagen men slog ingen själv.
Peter was hit but hit nobody himself
- (14) Tjuven slogs vilt men greps snart.
the thief fought wildly but was-cought soon

Now consider the Extended Projection Principle (EPP), requiring that all clauses have a subject (Chomsky 1982, p. 10; 1986a, p. 116; 1986b, p. 4). On the assumption that EPP both can and should be maintained (at least for English and the Scandinavian languages, cf. 6.5.3), Verb Fronting offers further evidence that conjuncts involve referential null-subjects in Mainland Scandinavian. Consider the Swedish (15):

- (15)a. Johan kom för sent och hade inte rakad sig.
John came too late and had not shaved
- b. *Johan kom för sent och inte hade rakad sig.

The position of the finite verb relative to the sentence adverb shows unambiguously that the second conjunct in (15a) is a structure that has all the properties of a usual main clause - except an overt subject.

In sum, then, we either have to give up both the Theta-Criterion and the Extended Projection Principle or admit that even the Germanic non-NS languages have at least some instances of referential null-subjects. Indeed, this might be true of all languages.

5.2.4 Germanic topic-drop

There does not seem to be any doubt that referential null-subjects in at least Mainland Scandinavian are of much the same nature as referential null-subjects in Icelandic. In the following, I shall look more closely into the matter.

The German pronoun *zap*, mentioned above, is actually a 'topic-drop' (cf. Huang 1984, p. 546 ff.). Arguments, objects as well as subjects, can drop in the language, provided that they have been topicalized. This is illustrated in (1)-(3) below. Note that I use "O" to denote the null-topic, thus using Chomsky's (1982, p. 31 ff.; 1986b, p. 27) designation for null-operators (see also Campos (1986) who uses "OP" for the same purpose; on the assumption that the null-topic is an operator, see below). For the trace of the (overt or dropped) element occupying [Spec, CP], I use "t",

and for nonlexical (nontrace) A-positions, I use "e" (the structures shown in the parentheses are, of course, gross simplifications since they do not show any verb movement). In (1), there is no drop, in (2), the missing element has been moved to [Spec, CP] by Topicalization, whereas it drops directly from an A-position in (3):

- (1)a. Ich kenne sie nicht. ([ich kenne t sie nicht])
 I know her not
 'I don't know her.'
 b. Sie kenne ich nicht. ([sie kenne ich t nicht])
 'Her, I don't know.'
- (2)a. Kenne sie nicht. ([Q kenne t sie nicht])
 'I don't know her.'
 b. Kenne ich nicht. ([Q kenne ich t nicht])
 'Her (etc), I don't know.'
- (3)a. *Ich kenne nicht. ([ich kenne t e nicht])
 b. *Sie kenne nicht. ([sie kenne e t nicht])

In (2a), the dropped topic is a subject, whereas it is an object in (2b). As seen in (3), both subject-drop and object-drop are ungrammatical if the dropped argument is not topicalized.

Interestingly, all referential null-subjects in Icelandic declaratives must meet the same condition: they can only drop from [Spec, CP] (see also Hjartardóttir (1987, p. 106). Compare (4) to (5). In (4), the second conjunct has an overt subject, but in (5), it has a null-subject (here, I do not show any traces):

- (4)a. Pétur elskar Maríu og hann dái^r Önnu.
 Peter loves Mary and he admires Ann
 Nom Acc
 b. Pétur elskar Maríu og Önnu dái^r hann.
 Peter loves Mary and Ann admires he
 'Peter loves Mary and Ann he admires.'
- (5)a. Pétur elskar Maríu og [Q] dái^r Önnu.
 b. *Pétur elskar Maríu og Önnu dái^r [e].

There is, of course, nothing wrong with topicalizing a non-subject in the second conjunct, cf. (4b). In this case, however, dropping the subject leads to sharp ungrammaticality, cf. (5b). This is further illustrated in (6)-(7), where the conjunct has a somewhat more complex verbal syntax (hence showing V2 and other effects of Verb Fronting more clearly):

- (6)a. Pétur ... og hann hafði alltaf dád Önnu.
 and he had always admired Ann
 b. Pétur ... og Önnu hafði hann alltaf dád.
 and Ann had he always admired
- (7)a. Pétur ... og [Ø] hafði alltaf dád Önnu.
 b. *Pétur ... og Önnu hafði [e] alltaf dád.

Consider also again the 'untouchables' in 5.2.2.3(2), repeated as (8) below:

- (8)a. Veit það. ([Ø veit t það])
 know it
 'I know it.'
 b. Þekki hann ekki. ([Ø þekki t hann ekki])
 know him not
 'I don't know him.'
 c. Hef ekki séð hann. ([Ø hef t ekki séð hann])
 have not seen him
 'I have not seen him.'

If the missing subject is dropped from [NP, IP], the result is sharply ungrammatical:

- (9)a. *Það veit. ([það veit e t])
 it know
 b. *Ekki þekki hann. ([ekki þekki e hann])
 not know him
 c. *Hann hef ekki séð. ([hann hef e ekki séð t])
 him have not seen

The same is true of all the other 'untouchables' discussed in 5.2.2.3.

Referential null-subjects must meet precisely the same condition in Mainland Scandinavian (as pointed out to me by Christer Platzack). This is illustrated for Swedish conjuncts in (10 and (11):

- (10)a. Johan älskar dig men han beundrar henne.
 John loves you but he admires her
 Nom Acc
 b. Johan älskar dig men henne beundrar han.
 John loves you but her admires he
- (11)a. Johan älskar dig men [Ø] beundrar henne.
 b. *Johan älskar dig men henne beundrar [e].

- and for Swedish 'untouchables' in (12) and (13), cf. (8)-(9) above:

- (12)a. [0] Vet det inte.
 know it not
 'I don't know it.'
- b. [0] Känner honom inte.
 know him not
 'I don't know him.'
- c. [0] Har aldrig sett honom.
 have never seen him
- (13)a. *Det vet [e] inte.
 that know not
- b. *Honom känner [e] inte.
 him know not
- c. *Honom har [e] aldrig sett.
 him have never seen

In passing, note that this behavior of referential null-subjects offers an interesting piece of evidence in favor of Subject Topicalization in main clauses in the Germanic V2 languages, hence an argument against Travis's (1984; consider also Chomsky 1986b, p. 48 ff.) suggestion that SVO main clauses in V2 Germanic do not involve Topicalization. For other arguments against Travis's proposal, see Holmberg (1986, p. 108 ff.). Notice also that referential null-subjects cannot drop in subordinate clauses in Icelandic (unless they are first moved to the matrix [Spec, CP], cf. 5.2.5):

- (14)a. María sagði [að hún mundi ekki koma].
 Mary said that she would not come
- b. *María sagði [að e mundi ekki koma].

This asymmetry between main and subordinate clauses is accounted for if sentence-initial subjects move to [Spec, CP] in main clauses only.⁷ Once again, we find the same kind of data in Swedish:

- (15)a. Maria sa [att hon inte skulle komma].
 Mary said that she not would come
- b. *Maria sa [att e inte skulle komma].

In Swedish, however, (15b) is ruled out by the *That*-trace Filter anyway.

⁷ In passing, note that this explanation is not available in the Generalized XP Analysis, mentioned in 1.3. In this analysis, subjects are topicalized in subordinate clauses as well as in main clauses.

It is perhaps not surprising that referential subject-drop (in declaratives) is actually a topic-drop in the Germanic V2 languages, Subject-Topicalization being the normal strategy in (declarative) main clauses in these languages. Note that Italian behaves quite differently with respect to referential null-subjects. Topicalization or emphatic preposing of non-subjects - a rather marked process in Italian - does not render null-subjects ungrammatical in the language. Consider (16):

- (16)a. (Io) ho visto Paolo.
 (I) have seen Paul
 'I saw Paul.'
- b. Paolo l'ho visto (io).
 Paul him+have seen (I)
 'Paul, I saw.'
- c. *Paolo ho visto (io).

In fact, an overt subject sounds even more marked in (16b) than in (16a), I understand. As seen in (16c), V2 is out, no matter whether the subject is overt or not.

However, this difference between referential subject-drop in Italian and the Germanic V2 languages is probably not a direct reflection of the dichotomy \pm V2 as such. Various facts speak against such an interpretation, for instance the following ones.

First, as illustrated by Adams (1987), Old French had much the same V2 properties as the (old and modern) Germanic V2 languages. Nonetheless, it seems to have dropped referential subjects (in main clauses) when they were *not* in [Spec, CP], i.e. only when they were in the [NP, IP] position, namely in V1 questions and imperatives and in V2 declaratives, containing a topicalized non-subject in [Spec, CP]. The natural interpretation of this fact is that Old French had *pro*-drop, but not 'topic-drop'.

Second, the Old Scandinavian languages were, of course, V2 languages (with more or less the same V2/V1 properties as Modern Icelandic, cf. e.g. Sigurðsson 1983, 1988b). However, they freely dropped subjects (and objects of Vs and Ps) that were not in [Spec, CP], as mentioned in 5.2.1 (see further 5.2.5).

Third, and perhaps most strikingly, English behaves much the same as the Germanic V2 languages with respect to missing referential subjects. Consider (17) and (18):

- (17)a. [O] Woke up early this morning and ...
 b. *This morning [e] woke up early and ...
- (18)a. Peter loves Mary but [O] admires Ann.
 b. *Peter loves Mary but Ann [e] admires.

This seems to indicate that even English applies (string vacuous) Subject Topicalization to [Spec, CP] in main clauses. It is quite possible, however, that it does so only at LF (consider Chomsky 1982, p. 31 ff.). If that is correct, English applies the same strategy for topical declarative subjects as Chinese and Japanese for *wh*-elements (cf. Engdahl 1985, e.g. p. 82 ff.; Chomsky 1986b, p. 48). Note that this is rather natural on the assumption that topics are operators (cf. Taraldsen 1986b) and that [Spec, CP] must contain an operator in LF. If that, in turn, is correct, it implies that imperatives and *yes/no*-questions have an empty imperative vs. interrogative operator in [Spec, CP] in languages that do not make use of overt operators or 'particles' in these sentence types, as often suggested in the literature. In the same manner, Icelandic Narrative Inversion (V1 declaratives of a special sort, cf. Sigurðsson to appear) might be analyzed as involving an empty 'continuity operator' in [Spec, CP]. This is, of course, rather speculative, but for further discussion of the idea, see 6.3.2.1.

In sum, then, sentences with referential null-subjects in the Germanic languages involve some sort of a topic-drop. Interestingly, these null-topics (or the variables they bind) are totally 'immune' to 'Taraldsen's generalization', as seen by the fact that they are found in the Mainland Scandinavian languages. In this respect, null-topics in the Germanic languages are like null-topics in the Chinese type of null-NP languages (cf. Huang 1984, Cole 1987). Nonetheless, there are also some differences between these language types, it appears. First, the Chinese language type allows null-arguments in subordinate clauses rather freely. Second, with the exception of German, the Germanic languages seem to allow null-objects rather reluctantly as compared to the Chinese language type. As we shall see in the next subsection, however, these differences are perhaps not as sharp as they seem to be at first sight.

5.2.5 Topic-drop vs. *pro*-drop

Leaving the Chinese language type aside for the moment, the principal question raised by our data is whether referential null-subjects in the Germanic languages are of the same nature as referential null-subjects in the Italian language type. In other words, is there a fundamental distinction to be drawn between null-topics (or the variables they bind) and *pro*, as argued by Huang (1984) and Cole (1987)?

The simplest analysis, of course, is that the Italian type of *pro* is the same phenomenon as null-topics in other language types. This would, presumably, enable us to generalize over all referential null-NPs. Moreover, we would have a simple solution of the 'Case problem' raised by *pro*, cf. below and 5.3.2.

However, this simple approach has a serious drawback. It entails that Italian *pro* is actually a null-topic (or a variable bound by a null-topic). Clearly, referential null-subjects in Italian must be topical or at least 'themes', in some functional sense. Nonetheless, it seems implausible to assume that they are topics in the same sense as referential null-subjects in the Germanic languages. As we saw in the last subsection, Topicalization or emphatic preposing of a non-subject does not render Italian *pro* ungrammatical. Since Topicalization of a non-subject does render referential null-subjects ungrammatical in English, another non-V2 language, we cannot attribute this to the absence of V2 in Italian. This is also confirmed by the behavior of Old French *pro*-drop, as we saw.

Moreover, Icelandic has some instances of null-NPs that do not seem to be due to topic-drop. First, this is (of course?) true of all nonreferential null-subjects in the language (as of nonreferential null-subjects in the other Germanic 'semi-*pro*-drop' languages). Consider the impersonal passives in (1):

- (1)a. Var [e] hlegið að ráðherranum?
 was laughed at the minister
 'Did people laugh at the minister?'
 b. Verður [e] farið þangað núna?
 will-be gone there now
 'Are we/Are people going over there now?'

As seen in (2) below, Topicalization of a non-subject does not render the null-subjects ungrammatical:

- (2)a. Að ráðherranum var [e] hlegið.
 b. Þangað verður [e] farið núna.

These data stand in a sharp contrast with the sentences in (3) and (4), where the null-subject is referential:

- (3)a. Pétur ... en [Ø] hló að ráðherranum.
 Peter but (he) laughed at the minister
 b. *Péturen að ráðherranum hló [e].

- (4)a. [Ø] Fer ekki þangað núna.
 go not there now
 'I'm not going over there now.'
 b. *Þangað fer [e] ekki núna.

Second, null-subjects in finite plural imperatives (cf. 5.2.2.1) are probably not dropped from [Spec, CP]. Rather, they are in [NP, IP]:

- (5)a. Kaupið [e] miðana strax.
 buy the tickets at once
 2pl
 b. Kaupum [e] miðana strax.
 1pl

This is not only suggested by the fact that overt subjects in Icelandic imperatives always show up post-verbally; it is also indicated by the fact that Icelandic imperatives tolerate no kind of Topicalization (which perhaps follows if they must have a special imperative operator in [Spec, CP]). Thus, the imperatives in (6) below contrast sharply with the indicative (declarative) commands in (7). Since imperatives and indicatives are always homophonous in the plural (except in *vera* 'be', cf. fn. 4 above), I use examples with singular verbs. It is easy to demonstrate precisely the same facts in the plural by using examples with *vera* 'be', but the singular examples in (6) and (7) illustrate the point clearly enough. On the optional cliticization of the (optional) overt subjects in second person imperatives, see Orešnik (1980a, 1980b):

- (6)a. Kaup(tu)/Kaup þú miðana strax.
 buy(-you)/buy you the tickets at once
 2sg.Imp
 'Buy the tickets at once.'
 b. *Þú kaup(tu) miðana strax.
 c. *Miðana kaup(tu) strax.
- (7)a. *Kaupir þú miðana strax!
 buy you the tickets at once
 2sg.Ind
 b. Þú kaupir miðana strax!
 'You (will) buy the tickets at once!'
 c. Miðana kaupir þú strax!
 'The tickets, you (will) buy at once!'

Third, as discussed by Rögnvaldsson (1988), Icelandic has some referential null-objects that do not seem to form a chain with [Spec, CP]. As pointed out by Rögnvaldsson, many of his examples of this have only a variable acceptance. Thus, for instance, I can only accept some of them. Consider also Hjartardóttir (1987, p. 106 ff.). However, as already pointed out by Thráinsson (1979, p. 470), referential null-objects seem to be accepted by all speakers in sentences like (8):

- (8) Þeir lömdu hann og börðu [e].
 they hit him and beat
 'They hit him and beat him.'

The construction is rather heavily constrained. The null-object must have the same Case as its antecedent in 'my grammar' (more strictly than in 'Rögvaldsson's grammar', it seems). In this respect, my judgements seem to be more or less the same as Thráinsson's (cf. 1979, p. 470):

- (9) Þeir lömdu hann og hentu *(honum) út.
 A D
 they hit him and threw (him) out

In addition, the second conjunct must not contain an overt subject (for all speakers, I believe; see also Hjartardóttir (1987, p. 108)). Compare (10) to (8):

- (10) *Þeir lömdu hann og þeir börðu [e].
 they hit him and they beat (him)

A similar construction is found in some Norwegian dialects, cf. Áfarli and Creider (1987). Moreover, Elisabet Engdahl points out to me that (11) is a grammatical Swedish sentence:

- (11) Han tog en näve jordnötter och gav [e] mig.
 he took a fist of-peanuts and gave (it) to-me

Like the Icelandic (10), on the other hand, (12) is totally impossible:

- (12) *Han tog en näve jordnötter och han gav [e] mig.

The same contrast is also found in the Norwegian dialects, discussed by Áfarli and Creider (cf. their example (8), 1987, p. 340).

Null-object sentences like the Swedish (11) and the Icelandic (8) and (for some speakers) (9) are perhaps the only surviving 'descendants' of the extremely free *pro*-drop in Old Scandinavian, mentioned in 5.2.1. As illustrated by Thráinsson and Hjartardóttir (1986) and by Hjartardóttir (1987), Old(er) Icelandic, for instance, freely dropped referential subjects and objects (of both Vs and Ps) in situ. This is demonstrated for subjects in (13), verbal objects in (14), and for prepositional objects in (15):⁸

⁸ The subject gap in (12) is filled with a pronoun in the unreliable edition I am citing (a better edition being nonexistent), but in the manuscript, the sentence contains no overt subject (cf. Sigurðsson 1983, p. 142, fn. 15, and p. 148 f.).

- (13) ok kom hann þangat, ok var Hoskuldr úti,
and came he there and was H. out
er [e] reið í tún
when (he) rode into field
'And he came there and H. was outdoors when
(he) rode into the field.'
(Brennu-Njálssaga, p. 35)
- (14) ... mælti, at sá baugr skyldi vera hverjum
... said that that ring should be for-anybody
höfuðsbani, er átti [e]
a headbane who had (it)
(Nygaard 1906, p. 17)
- (15) ætla ek, at þú nýtir eigi boga minn,
believe I that you use(-can)not bow my
þóttu spyrnir fótum í [e]
although-you tread with-feet in (it)
(Nygaard 1906, p. 20)

Examples like (14)-(15) are particularly interesting since they involve ECs in unambiguous Case positions (cf. 5.3.2).

At first sight, it is tempting to say, simply, that Old Icelandic was more extremely 'topic-drop' than Modern Icelandic. However, this is probably incorrect. Note, for instance, that the ECs in (14)-(15) simply do not have an available [Spec, CP] to drop from (whereas the [Spec, CP] position in the *ok*- 'and' conjunct in (13) is available, but presumably not 'used', cf. below). Second, the gap sentence in (14) is a headed relative clause. That is, if the gap were due to an extraction, the derivation would violate Subjacency (more specifically, the Complex NP Constraint, cf. the discussion in Chomsky (1977, 1980), Huang (1984, p. 560 ff.), and Cole (1987)). Moreover, the gap clauses in (13) and (15) are adverbial clauses, that is, an extraction out of them would violate (the Adjunct Condition of) Huang's (1982) Constraint on Extraction Domains (CED) (saying, roughly, that extractions out of non-theta-marked (or nonproperly governed) categories are always illicit). See also Elliot (1985) and Chomsky (1986b, p. 31 ff. (where Chomsky reduces CED to Subjacency)). All extractions out of adverbial clauses are impossible in the modern Germanic languages, and as far as I know, there are no indications that such extractions were possible in Old(er) Icelandic. Finally, the missing arguments in (14)-(15) are coreferential with a superordinate or at least a preceding argument (in situ). As argued by Huang (1984, p. 555 ff.) (for null-subjects only) and Cole (1987) (for null-objects as well as null-subjects), this is a rather clear indication that we are actually dealing with a null-pronominal (*pro*) and not a variable

(bound by a null-topic). Consider (14). The superordinate subject is in an A-position from where it c-commands the subordinate gap position. Thus, if the gap were due to an extraction over the c-commanding antecedent, the result would be a 'strong crossover' violation:

- (16) [0] ... sá baugr ... er átti [t]
 that ring who had

- cf. (17) and the Modern Icelandic (18):

- (17) *Who did he say Mary loved [t]?

- (18)a. *Hver sagði hann [að Maríu leiddist t]?
 who said he that Mary was-bored-by
 b. *Ólafur sagði hann [að Maríu leiddist t].

If the sentences in (17) and (18) do not involve crossover (i.e. if the operator in [Spec, CP] and the matrix subject are not coreferential), they are, of course, perfectly grammatical.

In sum, then, Old(er) Icelandic seems to have had referential *pro* objects of Vs and Ps as well as referential subject *pro* (consider Cole (1987) on referential *pro* objects of Vs in Korean and Thai). Moreover, there are certain indications that it also had 'topic-drop' of the Modern Germanic type (cf. Nygaard 1894, p. 8, fn. 1; Hjartardóttir 1987, p. 75), but I shall not go into that here. Rather, let us briefly return to Modern Icelandic examples like (8) and (10):

- (8) Þeir lömdu hann og börðu [e].
 they hit him and beat
 'They hit him and beat him.'

- (10) *Þeir lömdu hann og þeir börðu [e].

It does not seem feasible to analyze the null-object in (8) as a 'normal' *pro*, cf. Rögnvaldsson (1988); if Modern Icelandic did have referential object *pro*, we would expect (10) to be grammatical. Rögnvaldsson (1988) suggests that the null-object in cases like (8) is a special type of a null-pronominal, differing from 'normal' referential *pro* in not having 'independent reference' (making use of Thráinsson's (1988) classification of overt NPs). I have no better proposal, but I must admit that I am somewhat skeptical. As we shall see in 5.4 and 5.5.1, referential *pro* always seems to be contextually 'recovered' or identified (e.g. by inheritance of reference (or phi-features) through coindexing), i.e. it is not clear that *pro* ever has 'independent reference'. In any case, we would like to have

some explanation of the peculiar contrast between (8) and (10) (and the same contrast in other Scandinavian languages). Since I do not have any explanation to offer, I shall leave the problem raised by (8) unresolved.⁹

Other referential null-objects in the modern Scandinavian languages seem to be null-topics. As mentioned a couple of times, the Scandinavian languages allow object null-topics rather reluctantly as compared to German (and the Chinese language type). However, as pointed out to me by Elisabet Engdahl, at least objective third person singular neuter *það/det* 'that, it' and *þetta/detta/dette* 'this' may drop from [Spec, CP] in the Scandinavian languages. This is illustrated in (19) for Icelandic and in (20) for Swedish; as indicated in the *a*-sentences, the object may be a P-object as well as a V-object:

- (19)a. (það) hefði ég átt að vita (um) [t].
 that had I ought to know about
 '(That,) I should have known (about).'
- b. (þetta) vissi ég [að þú myndir segja [t]]
 this knew I that you would say
 'I knew you would say this.'

- (20)a. (Det) skulle jag ha vetat (om) [t].
 that should I have known about
- b. (Detta) visste jag [att du skulle säga [t]].
 this knew I that you should say

The sentences in (19b)/(20b) are particularly interesting. They illustrate that Scandinavian has at least some instances of missing referential arguments *in subordinate clauses*. In Icelandic *að*- 'that' sentences, the missing argument may also be a subject:

- (21) (þetta) vissi ég [að [t] mundi koma fyrir].
 this knew I that would happen
 'I knew this would happen.'

- whereas similar examples in Swedish are ruled out by the *That*-trace Filter. As we would expect, however, compatible examples are possible in Swedish in the absence of *att* 'that':

- (22) (Detta) visste jag [(**att*) [t] skulle hända].
 this knew I would happen

⁹ Possibly, sentences like (8) involve double topic-drop, which, in turn, would perhaps suggest that [Spec, CP] may host two empty operators at LF but not a lexical operator plus an empty one. I shall not pursue this here (but for related considerations for the Chinese language type, see 5.2.6).

Interestingly, then, the difference between Modern Scandinavian and Chinese with respect to null-NPs in subordinate clauses is not as sharp as it might seem to be at first sight. Clearly, however, both phenomena are more heavily constrained in Modern Scandinavian than in Chinese. Crucially, the null-argument must be bound by a null-operator in the matrix [Spec, CP] in Modern Scandinavian. When this is not the case, the null-argument is ungrammatical. Compare (23) and (24) to (19b) and (21):

(23) Ég vissi [að þú mundir segja *(þetta)].
I knew that you would say this

(24) Ég vissi [að *(þetta) mundi koma fyrir].
I knew that this would happen

This condition is not operative in Chinese, of course (cf. Huang 1984). For some reflections on the matter, see 5.2.6.

Leaving null-objects aside, it seems clear that Modern Icelandic has two types of null-subjects: On the one hand, referential null-subjects in declarative clauses; on the other hand, referential null-subjects in (at least plural) imperatives and nonreferential null-subjects. Thus, the typology of Icelandic null-subjects seems to be, roughly, as illustrated in (25) below (but see further 5.3.1); by the term 'syntactic topic', I simply mean topicalized elements:

- (25) Icelandic null-subjects:
- a. Syntactic topics:
referential null-subjects in declaratives
 - b. Syntactic non-topics:
 1. nonreferential null-subjects
 2. referential null-subjects in imperatives

How do we account for this? Let us make the minimal assumption, with Huang (1984) and Cole (1987), that a fundamental distinction is to be drawn between only topic-drop and *pro*-drop. If that is correct, the types in (25b) are presumably of the same nature as Italian *pro* (but see further 5.3.1), whereas null-topics in all the Germanic languages, including the Icelandic (25a), are of the same nature as null-topics in the Chinese type of null-NP languages.

This distinction perhaps enables us to maintain 'Taraldsen's generalization' specifically for referential *pro*. However, since some languages that have no V/P-object agreement, e.g. Old(er) Icelandic (and Korean and Thai, cf. Cole 1987), have referential object *pro*, the generalization has or would have a rather narrow scope, holding for only referential subject *pro*.

The fundamental difference between topic-drop and *pro*-drop is that topic-drop involves a variable bound by a null-topic in an A'-position, whereas *pro*-drop does not involve any A'-binding. Hence, null-NPs bound by a null-topic are unproblematic for Case Theory, as argued by Huang (1984). Being variables, they are legitimately Case-marked, cf. 5.1. Accordingly, we expect to find null-subjects and null-objects of this kind even in languages that cannot Case-mark (or identify) *pro*. This, as we have seen, is borne out.

This approach raises several questions. Most important, how do we account for the null-topic itself, namely the empty element in [Spec, CP] (in the modern Germanic languages at least)? Do we want to add a special category, say *top*, to the inventory of ECs in UG? For the sake of argument, let us assume that this would be the correct step. How, then, is *top* itself licensed and how is it identified? Would we want to stipulate a special *top*-drop parameter, along with a special *pro*-drop parameter (cf. Huang 1984, Cole 1987)? I must admit that I do not find the idea very appealing. It does not actually explain anything, as far as I can see. Above all, it does not explain the fact that null-topics in the Germanic languages *must* bind a variable (in contrast with Chinese and Portuguese, it seems (cf. Huang 1984, Cole 1987)).

In the light of this, it might seem more promising to assume that null-topics are derived by a topic-deletion in PF. If that is correct, the topic is a lexical NP at S-structure, hence being obligatorily Case-marked (or rather, the A'-chain formed by the topic and the variable it binds must bear Case). This is perhaps not a fatal problem. We could say that the NP satisfies the Case Filter prior to deletion. The conceptual drawback is, of course, that we are forced to assume PF-deletion (of arguments; as we saw in 2.2, we probably have to allow PF-deletion of complementizers). Moreover, a deletion approach turns out to be rather implausible when one looks at 'recovery' or identification from the point of view of language acquisition and language perception (see 5.4).

There is an alternative non-deletion approach. As mentioned in 5.2.4, Topicalization of lexical arguments seems to turn them into overt operators (cf. Taraldsen 1986b). Thus, we may perhaps assume that null-topics are null-operators, derived by Topicalization of a null-argument (compare Chomsky 1982, p. 31 f.). This has several advantages. Above all, we have a natural account for the fact that null-topics (in the Germanic languages, at least) always bind a variable, that is, form an A'-chain with a missing Case-marked argument.

If this is on the right track, it entails that referential null-subjects in the Germanic languages are actually *pro* 'prior to' Topicalization. Accordingly, the difference between Italian/Spanish *pro*-drop and Germanic topic-drop has nothing to do with 'having' or 'not having' *pro*. Rather, the difference is accounted for if Italian and Spanish have means to

identify (and Case-mark) referential *pro* in situ (cf. 5.4), whereas the Germanic languages are incapable of doing so (in declaratives), hence being forced to 'transform' referential *pro* into a variable by topicalizing it.

5.2.6 Conclusion

Our analysis leaves certain problems unresolved. For example, we would like to know why the Chinese language type seems to allow missing arguments in subordinate clauses more freely than the Germanic languages. It would seem promising to relate this to the fact that the Chinese language type typically applies *wh*-movement in LF, as mentioned in 5.2.4.¹⁰ Be this as it may, the restrictions on null-topics in subordinate clauses in the Germanic languages seem, at least partly, to be due to the general restrictions on extraction in these languages (on these, see e.g. Zaenen 1985, Engdahl 1985). This hypothesis gets support from German facts like the following:

- (1)a. Das wu \ddot{p} te ich [t].
 that knew I
 b. [Q] Wu \ddot{p} te ich [t].
- (2)a. *Das wu \ddot{p} te ich [da β [t] passieren wu \ddot{r} de].
 that knew I that happen would
 b. *[Q] Wu \ddot{p} te ich [da β [t] passieren wu \ddot{r} de].
- (3)a. *Das wu \ddot{p} te ich [da β du [t] sagen wu \ddot{r} dest].
 that knew I that you say would
 b. *[Q] Wu \ddot{p} te ich [da β du [t] sagen wu \ddot{r} dest].

As is well known (cf. e.g. Hawkins 1986, p. 87 ff.), extractions out of finite complements are much more heavily constrained in German than in the Scandinavian languages. Plausibly, this is the reason why examples like (2b) and (3b) are ungrammatical, just like (2a) and (3a).

Second, we would want to have an explanation of the fact that Icelandic allows referential subject *pro* to remain in situ precisely in imperatives. Note that it does not have referential *pro* in V1 *yes/no*-questions (as

¹⁰ As illustrated by Huang (1984), Chinese sentences may contain two null-topics. This is normally impossible in Germanic languages (but see fn. 9 above). Perhaps, one of the topics in Chinese cases of this sort is derived by WH-movement in LF.

opposed to e.g. Old French, cf. Adams 1987, p. 15), nor does it allow referential *pro* in V1 declaratives.¹¹ More generally, we would want to have some explanation of the fact that Germanic 'semi-*pro*-drop' languages allow nonreferential *pro* in situ, as opposed to referential *pro*, in *yes/no*-questions as well as in declaratives (cf. 5.3.1 and 5.4).

I shall not pursue these problems any further for the moment. Instead, let me summarize my major results (for declarative clauses):

1. All the Germanic languages have some referential null-NPs, 'immune' to 'Taraldsen's generalization'.
2. However, these referential null-NPs are variables bound by a null-topic (with the possible exception of a highly constrained null-object construction in the Scandinavian languages).
3. Hence, these null-arguments do not bear on the question whether or not *pro* (in situ) is Case-marked

It follows that we have to consider 'true' *pro* specifically, for instance nonreferential *pro* in Icelandic, if we want to come up with an answer to the question whether *pro* bears Case. I shall do so in the next subsection.

Another important question raised by our data is how null-NPs in general are identified or 'recovered' in the Germanic languages. Somehow, it

¹¹ This undermines Adams' (1987, p. 13 ff.) theory of *pro*-drop rather seriously. According to Adams' theory, *pro* is licensed in languages like Old French when it is governed from the left by a verbal head (i.e. *pro* must always be governed in the 'canonical direction', the 'canonical direction' being right-to-left in Old French). This gives the desired results for Old French main clauses: *pro* occurs to the right of the finite verb in Old French main clauses, that is, in declaratives with a topicalized non-subject and in V1 imperatives and questions. As noted by Adams (1987, fn. 16 p. 13), on the other hand, her theory wrongly predicts that Icelandic (and Yiddish) should have referential *pro* in these positions also. The problem might be 'eliminated' on the provision that Icelandic (and Yiddish), as opposed to Old French, cannot identify referential *pro*. Then, however, it would seem to be an insoluble puzzle that Icelandic *has* referential *pro* in plural V1 imperatives, as opposed to V1 questions and declaratives. - Note also that it plays no role at all for the acceptability of nonreferential *pro* in Icelandic whether the finite verb is to the left (Comp) or to the right (Infl) of the subject position, cf. (i):

(i) Við förum [þegar [e] hættir að rigna].
 we will-go when (it) stops to rain

The same is, of course, true of referential *pro* in Italian and Spanish, at least in subordinate clauses (whereas one might perhaps claim that the finite verb moves to Comp in null-subject main clauses in these languages, cf. Adams (1987, p. 17)). In addition, Old French exceptionally allowed for null-subjects in embedded clauses (Adams 1987, p. 2) and Old(er) Icelandic did so quite freely in adjunct clauses (but only seldom in complement clauses) when the null-subject had an overt NP-antecedent (cf. Hjartardóttir 1987, p. 47 ff.). In short, Adams' theory gives, roughly, the correct results for Old French main clauses.

seems unsatisfactory to say, simply, that referential null-topics in these languages are identified by virtue of being topical; clearly, their phi-features must be identified by some means. I shall discuss this problem as well as identification and visibility in general in 5.4.

5.3 *Pro*

As we have seen, the Modern Germanic languages have referential null--subjects that are variables (bound by a null-topic), whereas they do not have referential subject *pro* (in declaratives). Somewhat surprisingly, on the other hand, the Germanic 'semi-*pro*-drop' languages (Icelandic, Faroese, Dutch, German and Yiddish, but see 6.5.3) seem to make more extensive use of nonreferential null-subjects than, for instance, Italian (cf. below). Of these, in turn, Icelandic is probably most extensively 'semi-*pro*-drop'. In this subsection, I shall discuss Icelandic nonreferential *pro*, its distribution and its Case-marking.

I shall start out by giving a descriptive overview over *pro* in Icelandic (5.3.1), comparing its distribution with the distribution of *pro* in Italian (and Old Icelandic). The comparison reveals that Italian is not unambiguously 'more *pro*-drop' than Icelandic. Then, in 5.3.2, I shall discuss the Case properties of these null-elements. As we shall see, *pro* indeed seems to bear Case. This suggests that the Case Filter applies to all NPs in Icelandic, and, more generally, that the *pro*-option is deducible from a parametrization of the Case Filter.

5.3.1 The typology of *pro* in Icelandic

Nonreferential null-subjects are most typically found in four constructions in Icelandic (cf. e.g. Thráinsson 1979, Platzack 1987a): The impersonal 'weather construction' (which is by no means limited to 'weather verbs', cf. 6.3.1), the impersonal passive, the Existential/Presentative Construction (the E/P Construction), and the 'extraposition construction'. This is illustrated in (1)-(4) below.

The 'weather construction':

- (1)a. Í gær rigndi [e] mikið.
 yesterday rained much
- b. Oft er [e] leiðinlegt á kvöldin.
 often is boring in the evenings

The impersonal passive:

- (2)a. Stundum var [e] hlegið að ráðherranum.
sometimes was laughed at the minister
b. Um þetta mál er [e] aldrei talað.
about this matter is never talked
c. Verður [e] farið til Ítalíu á morgun?
will-be gone to Italy tomorrow

In passing, it is worth pointing out that the impersonal passive is extremely common in Icelandic (cf. Friðjónsson 1987), for example much more common than in German, I believe (German very typically replacing it by a an active *man-* 'one' construction).

The E/P Construction (i.e. sentences with a null-subject and a 'logical subject'):

- (3)a. Voru [e] stundum mýs í baðkerinu.
were sometimes mice in the bathtub
'There were sometimes mice in the bathtub.'
b. Á þessu ári hafa [e] sokkið þrjár bátar.
in this year have sunk three boats
'In this year, three boats have sunk.'

The 'extraposition construction':

- (4)a. Er [e] því ekki ólíklegt [að María komi].
is thus not unlikely that Mary will-come
'Thus, it is not unlikely that Mary comes.'
b. Ekki er [e] alltaf gaman [að læra mál].
not is always pleasant to learn languages
'It is not always pleasant to learn languages.'

I shall discuss the constructions in (1)-(3) more thoroughly in chapter 6. In passing, note that (3a) and (4a) are declarative V1 sentences (cf. Sigurðsson to appear). Declarative V1 is also possible (under certain discourse conditions) in other null-subject constructions in the language.

These four constructions are, of course, well known. On the other hand, three other Icelandic null-subject constructions have received little or no attention in the generative literature. First, consider the present participle construction in (5):

- (5)a. Ekki er [e] hlægjandi að þessu.
not is laughing(/'laughable') at this
'One cannot laugh at this.'

- b. Við Ólaf er [e] ekki talandi.
 with Olaf is not talking(/'talkable')
 'Olaf is impossible to talk with.'

We may refer to this as the IMPERSONAL PRESENT PARTICIPLE CONSTRUCTION. It always involves the copula.

Now, consider the modal constructions in (6) and (7):

- (6)a. Ekki skal [e] harma þetta.
 not shall deplore this
 'This should not be deplored.'
- b. Hér ber [e] að geta Ólafs.
 here shall to mention Olaf
 'Here, Olaf should be mentioned.'
- c. Nú er [e] að gæta þess að ...
 now is to heed it that
 'Now, it should be heeded that ...'
- (7)a. Þarf [e] að kaupa mjólk?
 needs to buy milk
 'Do we(/people, etc.) need to buy milk?'
- b. Ekki má [e] gleyma ráðherra.
 not may forget the minister
 'The minister must not be forgotten.'
- c. Hér á [e] að byggja hús.
 here shall to build a house
 'They are going to build a house here.'/
 'A house will be built here.'

At first sight, (6) and (7) might seem to be nondistinct. As we shall see in 6.1, however, they are not. The modals seem to lead to an optional 'ergativization' of the main verb in (6), whereas they 'impersonalize' it in (7) (in a sense to be discussed in 6.1.5). Accordingly, I shall refer to these constructions as the OPTIONALLY ERGATIVE CONSTRUCTION vs. the IMPERSONAL MODAL CONSTRUCTION.

In declaratives, all these constructions may have a sentence-initial það 'it, there'. This is illustrated in (8)-(14):

- (8) Það rigndi [e] mikið í gær. cf. (1a)
 it rained much yesterday
- (9) Það var [e] stundum hlegið ... cf. (2a)
 it was sometimes laughed

- (10) það voru [e] því stundum mýs ... cf. (3a)
 there were thus sometimes mice
- (11) það er [e] því ekki ólíklegt [að ...]. cf. (4a)
 it is thus not unlikely that
- (12) það er [e] ekki hlægjandi að þessu. cf. (5a)
 it is not laughing at this
- (13) það skal [e] ekki harma þetta. cf. (6a)
 it shall not deplore this
- (14) það þarf [e] að kaupa mjólk. cf. (7a)
 it needs to buy milk

As convincingly argued by Thráinsson (1979), this *það* is not a subject, as opposed to the corresponding English *there*, *it*, French *il*, and Mainland Scandinavian *det* (and the Danish *der* 'there', cf. Erteschik-Shir 1985): for most speakers, it fails to pass all subject tests. In particular, it cannot take the [NP, IP] position in any of the seven constructions, neither in V1 nor V2 sentences. This is illustrated in (15) and (16) for the 'weather construction' and the impersonal passive:¹²

- (15)a. Rígndi (*það) mikið í gær?
 rained (it) much yesterday
 b. Var (*það) hlegið að ráðherranum?
 was (it) laughed at the minister
- (16)a. Í gær rigndi (*það) mikið.
 b. Að ráðherranum var (*það) hlegið.

Thus, as mentioned in 1.3, the natural assumption is that expletive *það* is

¹² As shown by Thráinsson (1979, chapter 4), Icelandic has an 'extraposition construction' (typical of main clause predicates that are 'true factives'), where the extraposed clause is extraposed from a noun-head of a complex NP subject. The noun-head may be the demonstrative *það* 'it' (referring to the extraposed clause). As opposed to expletive *það*, this demonstrative *það* freely occurs in the [NP, IP] position:

- (i) Er (það) ekki hræðilegt [að Pétur skuli slá Maríu]?
 is it not terrible that Peter shall beat Mary
 'Isn't it terrible that Peter beats Mary.'

In the *það*-less version of this sentence, the extraposed clause is not the right branch of a complex NP.

inserted in [Spec, CP], cf. Zaenen (1985), Platzack (1983a), Rognvaldsson (1984a), Thráinsson (1984b), etc. Therefore, even the sentences in (8)-(14) have null-subjects, as indicated. - I shall discuss það-insertion in more detail in 6.3.

Although the other Germanic 'semi-*pro*-drop' languages are not as extensively 'semi-*pro*-drop' as Icelandic, they all seem to make more use of nonreferential *pro* than Italian, as mentioned above and as pointed out by Haider (1987, 1988). Thus, Italian has no impersonal passives (as opposed to German, Dutch, Icelandic, etc.). Moreover, it does not seem to have any constructions that resemble the Impersonal Present Participle Construction, the Optionally Ergative Construction, or the Impersonal Modal Construction. Instead of all these types, it uses the active (impersonal) *si*- 'one' construction, where the clitic *si* seems to be a subject (cf. Burzio 1986, p. 42 ff.).

In the sense of Chomsky (1981, p. 325), nonreferential NPs (empty or not) may either function as 'quasi arguments' (in the 'weather construction') or as nonarguments (in the 'extraposition construction'; Chomsky does not discuss other constructions with respect to these notions). Noting the well-known fact that Italian has 'weather' *pro* (cf. Pieve. 'It rains.', etc.), Haider (1987, 1988) suggests that Italian *pro* can either be an argument or a quasi argument, not a nonargument, the idea being that this should explain that Italian does not have any impersonal passive. As we shall see in 6.4.2, however, there does not seem to be any intrinsic relation between the option of having nonargumental *pro* and the option of having impersonal passives. Moreover, Burzio (1986) analyzes 'Free Inversion' and the 'extraposition construction' in Italian as having a null-element in the [NP, IP] position. If this (standard) analysis is correct, Haider's claim cannot be maintained. What Italian does not seem to have is arbitrary subject *pro*.¹³

I must admit that it is not clear to me whether Chomsky's distinction between quasi arguments and nonarguments involves a very insightful generalization.¹⁴ Be that as it may, there is at least an important distinc-

¹³ The impersonal *si* construction, of course, has arbitrary interpretation, but this does not necessarily mean that it involves arbitrary subject *pro*, as Rizzi (1986, p. 520) maintains. It does not if Burzio (1986, p. 42 ff.) is right that *si* occupies the subject position. Rather, the impersonal *si* construction is like the English middle construction in not linking the 'suppressed' role to the subject position, cf. 6.2.2.3.

¹⁴ Note that German has no 'weather' *pro* (*es* 'it' being obligatory in 'weather sentences' in the language, as opposed to impersonal passives, for instance). The same is true of the Finland-Swedish 'semi-*pro*-drop' dialects, discussed by Holmberg (1987). This fact might seem to lend support to Chomsky's distinction between 'quasi arguments' and nonarguments. However, if 'weather predicates' take some sort of an argument, 'quasi' or not, it seems clear that the argument does not bear a subjective or an external theta role. That is, the argument must then be raised from [NP, VP] by NP-movement, cf. chapter 6. - It seems more plausible to assume that 'weather' *pro* or *it*, is

tion to be drawn between nonreferential *arbitrary* NPs and nonreferential *expletive* NPs (including 'weather' *pro*). As argued by Rizzi (1986, p. 517 f.; see also Jaeggli 1986a, p. 55), 'arbitrary interpretation' actually is not entirely arbitrary; rather, NP_{arb} always seems to be [+human]. Consider (17):

- (17)a. It is natural [to roll down hills].
 b. It is natural for stones [to roll down hills].

Plausibly, it is always natural for stones to roll down hills, but not so natural for people. However, PRO can only be interpreted 'stones' when it is controlled by *stones*, as in (17b); when it is 'arbitrary', as in (17a), it must have a human interpretation. The same is true for Italian (Rizzi 1986, p. 518), Spanish (Jaeggli 1986a, p. 54 f.), and Icelandic.

The feature [\pm human], then, is a semantic feature that is 'grammatically relevant'. That is, it is relevant above the lexical level, whereas, for instance, the semantic feature [\pm grown up] is only lexically relevant (in the languages under discussion, at least), cf. pairs like *man* : *boy*, *sheep* : *lamb*, etc. We may refer to semantic features that are 'grammatically relevant' as *theta-features*.¹⁵ Presumably, arguments are not theta-visible unless they have at least one positively marked theta-feature.¹⁶ That is, theta roles must link to some positive theta-feature(s) (and all positive theta-features must link to some theta role). This is fairly natural. Let us therefore assume the THETA-FEATURE CONDITION in (18):

- (18) There is no theta-role without a positive
 theta-feature and vice versa

This, then, is a crucial condition on argumenthood. Being [+human], arbitrary NPs satisfy it minimally, whereas expletive NPs do not.

Now, as we shall discuss more thoroughly in 5.4, pronominal phi-features (person, number and gender in the languages under discussion) may also be theta-features. When they are, we may refer to them as *theta phi-features*. In pronominals, it seems, reference is only dependent on theta phi-features. As we shall see in 5.4, arbitrary NPs, as well as expletives, do not have any such features (i.e. they have only 'dummy' phi-features). Accordingly, arbitrary PRO is nonreferential, like expletives, in spite of

simply an expletive, bearing no theta role.

¹⁵ For a somewhat different conception of this term, due to Joseph Aoun, see Chomsky (1981, p. 117).

¹⁶ On Case-marking as a condition on theta-visibility, the 'visibility condition', see Chomsky (1986a). I shall consider the idea in 5.4 below.

its [+human] marking.

For nonreferential PRO, then, there is a distinction to be drawn between expletives and 'arbitrariness'. The same distinction is found for *pro*. As shown by Suner (1983) and Jaeggli (1986a), Spanish has subjects that are *pro*_{arb}. The same is true of Icelandic. Icelandic subject *pro* is arbitrary in at least the Impersonal Modal Construction, cf. (19):

- (19) Það verður [e] að bjarga skipinu.
 it must to save the ship
 'Someone(/People, We, etc.) must save the ship.'

The Optionally Ergative Construction optionally involves either arbitrary or expletive *pro*, it seems, cf. 6.1.5. In all other cases, subject *pro* seems to be expletive in Icelandic. Consider the impersonal passive in (20):

- (20) Var [e] talað mikið um forsetann?
 was talked much about the president
 'Did people talk much about the president?'

The 'suppressed' external role gets an arbitrary interpretation. As we shall see in 6.4.3, however, the role is probably borne by the participle suffix. If that is correct, the [+human] feature links to (the role borne by) the participle suffix, not to the null-subject. The Impersonal Present Participle Construction, on the other hand, has somewhat similar theta properties as the English middle construction, cf. (21):

- (21) Það er [e] ekki talandi við forsetann.
 it is not talking with the president
 'The president is impossible to talk with.'

As in English middles (cf. 6.2.3.3), it is unclear whether the 'suppressed' external role links to any syntactic position in this construction, cf. 6.5.2.

As mentioned above, Italian does not seem to have any instances of arbitrary subject *pro*, differing rather sharply from Spanish and Icelandic in this respect. Another peculiar typological 'gap' in Italian (as well as Spanish) is that it does not have any referential object *pro*, cf. our discussion of Old Icelandic object *pro* in 5.2.5.

On the other hand, Italian makes rather extensive use of arbitrary object *pro*, cf. Rizzi (1986).¹⁷ As illustrated by Rizzi (*ibid*), this is, for instance, seen by the fact that objective arbitrary *pro* qualifies as a controller of PRO in Italian. Hence, sentences like the ones in (22) are

¹⁷ The Theta-feature Condition in (18) of course excludes that object *pro* be expletive, complement positions always being theta-positions (cf. Chomsky 1986a, p. 93).

grammatical in the language (provided that *pro* has a generic human interpretation), cf. Rizzi (1986, p. 503); as indicated by the stars, the corresponding sentences are, of course, ungrammatical in English:

- (22)a. *This leads [PRO to conclude what follows].
 b. *The nice weather induces [PRO to stay].
 c. *Ambition often pushes [PRO to make mistakes].
 d. *A general can force [PRO to obey his orders].
 e. *In these cases, generally Gianni invites
 [PRO to eat with him].

Like Spanish (cf. Jaeggli 1986a, p. 48 and fn. 3), Icelandic accepts arbitrary object *pro* much more reluctantly than Italian. Thus, in all the sentences in (23), omission of a lexical object results in unacceptability:¹⁸

- (23)a. Þetta leiðir *(fólk) til [að draga
 eftirfarandi ályktun].
 'This leads (people) to draw the following
 conclusion.'
 b. Góða veðrið fékk *(fólk) til [að vera lengur].
 'The nice weather got (people) to stay longer.'
 c. Metnaður kemur *(fólki) oft til [að gera
 mistök].
 'Ambition often leads (people) to make mistakes.'
 d. Hershöfðingi getur þvingað *(fólk) til [að
 hlýða skipunum sínum].
 'A general can force (people) to obey
 his orders.'

In some cases, though, Icelandic would seem to allow arbitrary object *pro*, as illustrated in (24):

- (24)a. Skiltið bannar [að ganga á grasinu].
 the sign forbids to walk on the grass
 'The sign forbids people to walk on the grass.'

¹⁸ On the other hand, the same verbs may be intransitive, of course, if no control is involved, cf. (i):

- (i) Þetta leiðir til eftirfarandi niðurstöðu.
 this leads to (the) following conclusion

For a discussion of compatible facts in English, see Rizzi (1986).

- b. Lögreglan varar við [að vera úti á
the police warns against to be out in
nætturnar].
the nights
'The police warns people against being
outdoors at night.'
- c. Sumir lækna ráðleggja [að drekka vatn].
some doctors advise to drink water
'Some doctors advise people to drink water.'

As pointed out to me by Eiríkur Rögnvaldsson, however, it is not clear what status these examples have (see also the discussion in Rögnvaldsson 1988). All the matrix verbs in (24) may be monotransitive, i.e. it seems possible that the arbitrary object role is not assigned to an argument position in the syntax. If that is correct, all the infinitivals in (24) involve an unbound PRO. This would contradict Manzini's (1983) claim that PRO in object clauses must be bound, but as we shall see in 5.5.1, Manzini's claim cannot be maintained in any case.¹⁹

Genuine null-objects are syntactically active and should not be confused with optional transitivity, discussed in 4.1. Thus, in (25a), as opposed to (25b), there is simply no structural object:

- (25)a. María las allan daginn.
Mary read all the day
'Mary was reading all day.'
- b. María las skáldsöguna allan daginn.
Mary read the novel all the day

Accordingly, (25a) has a corresponding impersonal passive:

- (26) Það var lesið allan daginn.
it was read all the day
'People were reading all day.'

- but since transitivity blocks impersonal passivization (cf. 6.4.2), (25b) has no corresponding impersonal passive (i.e. it has a corresponding 'personal passive'):

¹⁹ Christer Platzack tells me that (i) is a grammatical Swedish sentence:

- (i) Polisen varnar mot att vara ute på nätterna.
the police warns against to be out in the nights

Thus, at least for Swedish, Eiríkur Rögnvaldsson's suggestion that no object *pro* is involved is presumably correct: Swedish cannot identify or Case-mark *pro* (cf. 5.4).

- (27) *það var lesið skáldsöguna allan daginn.
 it was read the novel all the day

- that is, (25b) has a syntactically active object, whereas (25a) has not.

In 5.2.5, we saw that Old(er) Icelandic (until around 1800) had referential *pro* objects of Vs and Ps, as well as referential subject *pro*. It also had expletive as well as arbitrary subject *pro* (cf. Nygaard 1906, p. 14 ff.), and arbitrary *pro* objects of verbs (cf. Nygaard 1906, p. 18 f.). It is interesting to compare this to the typology of *pro* in (declaratives in) Modern Icelandic and Italian. Let us conclude this subsection by doing so.

Modern Icelandic:

(28)		Referential	Arbitrary	Expletive
a.	Subjects:	-	+	+
b.	V-Objects:	-/?	?	-
c.	P-Objects:	-	-	-

Italian:

(29)		Referential	Arbitrary	Expletive
a.	Subjects:	+	-	+
b.	V-Objects:	-	+	-
c.	P-Objects:	-	-	-

Old Icelandic:

(30)		Referential	Arbitrary	Expletive
a.	Subjects:	+	+	+
b.	V-Objects:	+	+	-
c.	P-Objects:	+	?	-

As seen by this, Italian has at least three 'typological gaps', as compared to Old(er) Icelandic. Moreover, it is not unambiguously 'more *pro*-drop' than Modern Icelandic. Recall that Modern Icelandic has referential subject *pro* in (at least plural) imperatives. If we also take topic-drop and the extreme frequency of the impersonal passive in the language into account, Modern Icelandic clearly makes a rather extensive use of 'argument-drop'.

5.3.2 Licensing of *pro*

As we have seen, referential null-arguments (in declaratives) in the Modern Germanic languages do not bear on the question whether *pro* bears Case. In the following, I shall consider this question for null-arguments that are correctly classified as being *pro*. Rizzi (1986) suggests that the licensing and the 'recovery' of *pro* should be kept strictly apart, Case-marking being the crucial licensing factor or mechanism. I shall adopt this point of view, by and large. As we shall see in 5.4, however, Case-marking in fact seems to license expletive *pro* by 'recovering' or identifying it.

As for subject *pro*, one can think of at least two ways to block that it gets Case. First, one might postulate that Agr or Infl[+pron] absorbs nominative Case, along the lines of Rizzi (1982), sketched in 5.1. This is rather problematic. In the first place, Agr does not seem to be [+N], cf. the discussion in 2.2. If it is not, it can hardly be conceived of as being (pro)nominal. Second, in a rich case language like Icelandic, where even bound [+N] morphemes like the suffixed article inflect for morphological case, we would expect Agr to show overt case if it were [+N] (Agr being phonologically realized). However, it does not, of course. Third, if Agr absorbs nominative Case, it seems natural to assume that it also absorbs the external or the subjective theta role (cf. Plazack 1987a, p. 394 f.). But if this were the case, it is not clear in what sense the [NP, IP] position would 'be there' (i.e. what makes it visible, cf. 5.4). Fourth, the Case absorption approach assigns a unique and a rather suspicious property to Agr or Infl[+pronoun], at least unless we make some auxiliary stipulations: Agr is an element that sometimes must and sometimes must not bear Case. In null-subject sentences, it must absorb or bear Case, but in sentences with an overt nominative subject, it must not (since the overt subject would be Caseless if Agr did absorb the Case). Clearly, an overt (pro)nominal that has no Case is a rather troublesome thing. Arguing the other way around, that Agr in null-subject languages may 'choose' between being pronominal or nonpronominal does not seem to be very insightful or promising. Thus, this is a rather serious drawback. Technically, however, there is perhaps a way to overcome it: We could postulate that overt subjects inherit the nominative of Agr by virtue of being coindexed with Agr (cf. e.g. Borer 1986). This would enable us to maintain that Agr is always pronominal in NS languages and that it always bears nominative Case in these languages. However, if we want to maintain that *pro* is Caseless, then this forces us to assume that there is some auxiliary 'mechanism' that blocks *pro* from inheriting the Case of Agr by means of (precisely the same sort of) coindexing.

There are further problems with this approach. One is that Agr is both a Case assigner and a Case assignee (of one and the same Case). Again, there is perhaps a technical way out, namely that [+Tense] rather than

Agr is the Case assigner (cf. e.g. Raposo 1987, p. 93 ff.). But obviously, this is not a very appealing solution for overt nominatives in nontensed clauses in languages like Portuguese and Icelandic (studied in 3.4.2.2 and 5.5.2.2), cf. the discussion in Raposo (1987). However, the most serious problem for all versions of this Case absorption or Case (non)inheritance approach to subject *pro* is, of course, that it is not clear how it should extend to or account for object *pro*.

There might seem to be another way to block Case assignment to *pro*, objective as well as subjective. Recall that I take Case percolation or Case assignment to be basically free. As we saw in 4.1, this seems to be a promising approach to optional transitivity. Accordingly, we could simply say that we get *pro* when a Case assigner 'chooses' not to percolate its Case feature. Like the absorption idea, however, this nonassignment approach is rather problematic. First, it masks the difference between optional transitivity (structural object-NP present vs. absent) and *pro*. Second, it renders it totally unexpected that languages like, for example, Icelandic and English are generally much alike with respect to optional transitivity but quite different with respect to *pro*.

In short, I do not see any promising way to maintain the 'old' idea that *pro* is Caseless. Thus, I take it that Rizzi's (1986, p. 524) claim that *pro* always must bear Case is essentially correct, cf. 5.1. As mentioned several times, this suggests that the Case Filter is parametrized, applying to nonlexical as well as lexical NPs in NS languages. Or, to put it slightly differently, it suggests that the Case Filter incorporates the Case Ban in 5.1(4) in non-NS languages as opposed to NS languages. Let us tentatively assume that the Case Filter takes the following form, where [_{NP} p] means 'an NP that has phonetic content':

- (1)a. * [_{NP} p] if [_{NP} p] has no Case
 b. * [_{NP} e] if [_{NP} e] has Case and is not a trace

As clearly seen in languages that have morphological case, the Case Filter should in fact be stated for [+N] categories, but this is beside the point in the present context (on the other hand, it is important that we keep this in mind when considering nominal Case agreement, cf. e.g. 4.2-3 and 5.5.2.1).²⁰

Non-NS languages take a positive value for both (1a) and (1b), whereas NS languages take a positive value for (1a) only. On the assumption that

²⁰ Nominal phi-feature agreement in languages like Icelandic perhaps indicates that [+N] categories must even satisfy a general phi-feature filter, incorporating the Case Filter. However, there are some discrepancies that make this suspect. Thus, the declarative complementizer in Icelandic bears only Case (cf. 2.5). Conversely, PRO in non-NS languages has number, gender and person but no Case, cf. 5.5.3 and Chomsky (1981, p. 322).

the [NP, IP] position in finite clauses is obligatorily a position of (some) Case, (1b) immediately rules out all sentences with subject *pro* in non-NS languages. In addition, it rules object *pro* out in non-NS languages if [NP, VP] and [NP, PP] are obligatory Case positions.²¹

It follows, then, that there is no special 'Null-Subject Parameter' in Universal Grammar. This is the ideal solution, requiring minimal mechanism. Rizzi (1986, p. 519) suggests that there are languages, e.g. French, that have object *pro* without having subject *pro* - but it remains to be shown that the null-objects in question really are *pro* rather than variables. For our purposes, however, the difference between the Case Filter Approach in (1) and Rizzi's Head-Licensing Approach (cf. 5.1) is not vitally important. What matters for us is that Infl (containing V) assigns Case to empty subjects in Icelandic, *pro* as well as PRO (see further 5.5.2). We can translate this into Rizzi's (1986) approach by saying that the set of licensing heads contains [_I V+I] (and perhaps V) in Icelandic. On this provision, the Head-Licensing Approach and the Case Filter Approach are empirically equivalent for Icelandic. For several reasons, however, the Case Filter Approach seems to be preferable. First, it is more general and relates directly to the principles of UG, i.e. it is conceptually preferable. Second, the notion 'licensing' is rather unclear in Rizzi's approach: how do we block potential licensers (Case assigning heads) from assigning Case to *pro*, thus licensing it, in languages like English? Third, the Head-Licensing Approach must be stated for PRO as well as for *pro* if we wish to extend it to Icelandic. This would imply that PRO must be licensed in the same way as *pro*, which is clearly rather problematic: Given that both must be licensed in the same way, why should non-NS languages license only PRO? - For these reasons, I shall assume the Case Filter Approach here although it also involves some problems, as we shall see in 5.5.3.

In the next subsection I shall consider 'recovery' or identification, making the suggestion that at least expletive *pro* is identified precisely because it is Case-marked.

5.4 Identification and visibility

As we have seen, Icelandic (and Universal Grammar, cf. e.g. Cole 1987) has (at least) two types of null-arguments in finite clauses: *pro* and empty

²¹ However, note that I am only assuming that these argument positions are obligatory Case-positions in so far as they 'are there'. Thus, this does not involve any weakening of my hypothesis in 4.1 that assignment or percolation of Case is basically free. - As we shall see in 6.1.6, also, the [NP, IP] position is always a position of some Case in Icelandic. Infl-Case remains unassigned in Icelandic iff [NP, IP] contains an NP that is already marked for nonnominative Case.

variables bound by a null-operator ('null-topics' for short). In 5.2.5, I suggested that 'Taraldsen's generalization' perhaps holds for referential subject *pro* in languages like Italian. On the other hand, it clearly does not hold for null-topics in the Germanic languages. Moreover, it seems natural to assume that it is irrelevant for nonreferential *pro* (cf. 5.2.1 and below). This raises the question how these elements are identified. I shall consider this in the following.

It seems to be necessary to distinguish between *theta-visibility* and *structural visibility* (and between theta identification and structural identification). Chomsky (1986a, p. 94 ff.) explores the possibility that Case-marking is a necessary condition (the 'visibility condition') on theta-visibility. That is (attributing the idea to Joseph Aoun), he suggests that an element (or a chain) is visible for theta-marking only if it is assigned Case, noting, however, that this is problematic for PRO. I believe the correct approach is almost the reverse. If an element has a theta-feature it is theta-visible (cf. the Theta-feature Condition, suggested in 5.3.1(18)). Therefore, it does not need Case to satisfy theta-visibility (being ruled out, however, if it does not satisfy the Case Filter in 5.3.2(1)). Conversely, an NP that is not theta-visible (has no theta-feature) must be made structurally visible by Case assignment - if it is to 'be there'. Elements that are theta-visible are always structurally visible also, but they do not require Case for *this* purpose. Accordingly, PRO is both theta-visible and structurally visible in non-NS languages, even though it does not bear Case, cf. 5.5.3.

Let us start out by briefly considering the nature of the phi-features (number, person and gender in Germanic and Romance languages). Nominal phi-features seem to be somewhat varying in nature. Thus, third person is a categorial feature of the whole category of nouns, whereas (some specification of) gender is a lexical feature of individual nouns in most gender inflecting languages, for instance Icelandic. Plural (but not singular) is also a lexical feature of some, rather few, Icelandic nouns (cf. Thráinsson 1983). Generally though, number, as opposed to person and gender, is a 'semantic' inflectional feature in nouns, in Icelandic as in other Germanic languages. In nouns, then, the phi-features may be lexical, 'categorial', or semantic.

In pronouns, the phi-features are at least dual in nature: they are normally lexical in the sense that their differing values link to differing lexical stems; thus, for instance, the stem *we* has the lexical marking [+plural], whereas *I* has the marking [-plural]. But furthermore, the phi-features may be theta-features in pronouns, in the sense discussed in 5.3.1. That is, they are typically 'grammatically relevant' semantic features in pronouns, even when they are not 'lexically linked'. This is most clearly seen for gender in the first and the second person. In languages that have no gender agreement, it would seem possible that first and second

person pronouns are simply unspecified for gender. However, this will not do in languages like Icelandic. Consider the gender agreement in (1):

- (1)a. *Ég er glaður.*
 I am glad(Nom.masc.sg)
 b. *Ég er glöð.*
 I am glad(Nom.fem.sg)

This is a normal (obligatory) instantiation of Icelandic Subject-Predicate Agreement, briefly discussed in 4.3. Thus, the only possible source of the gender of the predicative adjective is the semantic gender of the first person singular subject: (1a) is only 'grammatical' or felicitous when the speaker is a male and (1b) only when the speaker is a female.

Pronominal phi-features, then, are both potential lexical features and potential theta features. That is, they may link to individual lexical items already in the lexicon and/or to specific semantics, but they need not do so. When they do, I call them *lexical phi-features* and *theta phi-features*, respectively, but when they do not, I shall call them *dummy phi-features* (see further below). Like other theta features (e.g. [human]), theta phi-features are input to semantic interpretation, whereas dummy phi-features are not.

Now, what is the nature of the phi-features of referential *pro*? What we would like to avoid is to assume that the lexicon contains any nulls. That is, we would like to avoid the absurd assumption that grammatical features can link to 'phonetic nothingness' in the lexicon, the essential nature of the lexicon being that it links sound and grammar.²² Therefore, I propose the following principle:

- (2) **The Lexical Phi-feature Principle:**
- a. All lexical pronouns have at least one lexical phi-feature
 - b. All lexical (specifications of) phi-features link to some phonetic substance
 - c. Lexical phi-features are theta-features in pronouns

(2c) is perhaps too strongly formulated. Gender often seems to violate it. Thus, *það* 'it' may refer to neuter *skipið* 'the ship' and *hann* 'he' may refer to masculine *báturinn* 'the boat' but not vice versa. In such cases, the pronominal gender might seem to be due to a mechanic syntactic copying of the purely lexical gender of the antecedent noun. However, it

²² Note, however, that Chomsky (1981, p. 323) talks about base generated as well as contextually determined phi-features of *pro*/PRO, thus being rather unspecific on this point.

seems natural to assume that the reference of referential pronouns is crucially dependent on their being fully specified for the pronominal phi-features (see further below). Thus, we may conceive of pronominal gender as being a theta phi-feature in the sense that it takes part in identifying the referent of the pronominal, that is, we can probably maintain (2c). - In nouns and other R-expressions, we may note, reference is largely independent of the phi-features.

Given this natural approach, *pro* is a nonlexical or an 'empty' A-position (like traces), not a lexical element. Thus, it is slightly misleading to talk about 'recovery' of its phi-features. The Lexical Phi-feature Principle leaves us two possibilities as to *identification* of the phi-features of referential *pro*. First, referential *pro* could perhaps be due to a PF-deletion of a lexical pronoun. A necessary prerequisite for this to work would seem to be that the deletion would leave the referential index of the pronominal intact, its lexical phi-features linking to the index. This part of the idea, namely that phi-features link to referential indices, is plausible, I find (cf. 5.5.1). The deletion idea itself, on the other hand, is probably not. From the point of view of acquisition (and perception), it does not seem to make much sense. How does the child (or the addressee) 'see' the referential index and its phi-feature specifications?

The second possibility (suggested to me by Höskuldur Thráinsson) is that referential *pro* is theta identified by some sort of an interpretive procedure. Deviating minimally from standard viewpoints, we may then assume that its person and number are identified through the person and number of the finite verb in languages like Italian and Spanish: *pro* must not have any feature specifications that contradict intrasentential clues. Coindexing of *pro* and Agr might be a necessary prerequisite for this to work successfully, *pro* inheriting the features of Agr by virtue of bearing the same index as Agr (cf. our approach to referential PRO in 5.5.1). Be that as it may, we should note that this interpretive approach involves more than just saying that the feature specifications of Agr are assigned to *pro* (as suggested by Rizzi (1986, p. 520, fn. 17)). If there were nothing more involved, we would not expect *pro* to have any specification for gender in, for instance, Italian and Spanish. Since it is specified for gender (as seen by Subject-Predicate Agreement for gender in null-subject sentences in these languages), it seems clear that we are dealing with an interpretive procedure that is rather powerful, interpreting not only intrasentential clues but also sentence external linguistic clues as well as nonlinguistic (pragmatic) clues. As seen by the existence of referential object *pro* in languages like Old Icelandic (and Korean and Thai, cf. Cole 1987, p. 602 f.), interpretive procedures indeed seem to be able to identify all the phi-features of the missing argument (but see further 5.5.1). Moreover, the gender (and sometimes both the gender and the number) of *lexical* first and second person pronouns in languages like the Germanic and the

Romance languages are identified by interpretive means.²³

Languages like Italian and Spanish seem to have means to 'assign' theta phi-features to referential subject *pro*, thereby theta identifying it. Once it is theta identified, it is both theta-visible and structurally visible. Accordingly, it does not need Case to be visible. However, it cannot 'pass through' the Case Filter unless it is assigned Case, I assume. Expletive *pro* (e.g. in the Italian 'extraposition construction'), on the other hand, must be Case-marked in order for it to be visible, cf. below.

If this is on the right track, we perhaps have an explanation of the fact that the Germanic languages have referential null-topics. Apparently, these elements can be interpreted as having specific values for person, number and gender even in languages that have no phi-feature marking on the finite verb, like the Mainland Scandinavian languages (note that the Chinese language type does not bear on the matter if it makes no use of phi-features at all, cf. 5.2.1): Together, sentence external clues and intrasentential clues seem to provide sufficient information for successful interpretation. Plausibly, the relevant intrasentential clues are the theta properties of the relevant theta role assigner (V, P or VP) and, simply, the gap itself, namely a nonlexical Case-marked position (a variable bound by a null-operator). Due to its Case-marking, the gap or the gap-chain is structurally visible. In other words, the addressee 'sees' that the sentence contains a gap because the gap is Case-marked. 'Seeing' the gap, (s)he assigns a theta phi-feature marking or an interpretation to it that matches the theta-properties of its theta role assigner and makes sense in the linguistic and/or pragmatic context of the sentence. Being assigned theta phi-features, the gap is theta-visible, i.e. can bear a theta role.

On the natural assumption that theta phi-features necessarily link to reference (i.e. a referential index), expletive and arbitrary *pro* have no theta phi-features. Rather, they only have dummy phi-features. Presumably, these dummy-features are always default. Thus, the default phi-feature combination 'assigned' to arbitrary object *pro* in Italian and arbitrary subject *pro* in Spanish is third person plural masculine (cf. Rizzi 1986, p. 517; Suner 1983; Jaeggli 1986a, p. 45 ff.). In Icelandic, on the other hand, the default feature specification, assigned to arbitrary and expletive subject *pro*, is third person singular neuter. We may assume that it involves negative values of binary phi-features: [-1p/-2p; -pl; -masc/-fem], cf. Rögnvaldsson (1986, p. 64 ff.). In passing, note that this entails that languages differ in their selection of 'feature labels'. Thus, 'singular' is [-plural] in Icelandic (unmarked, hence the minus marking), whereas it is [+singular] in Italian and Spanish (marked, hence the plus).

²³ As for (co)reference of lexical pronouns, interpretive theories have, of course, been around quite long (cf. e.g. Jackendoff 1972). Note, however, that I am not claiming that pronominals are assigned referential indices by interpretation, i.e. I am not arguing against Chomsky's (1981, p. 186 f.) 'free indexing' (but see further 6.3.2).

How does nonreferential *pro* get the default phi-feature markings? Presumably not from Agr, by coindexing or whatever. At least for arbitrary object *pro* (in Italian and perhaps Icelandic), this would seem to be rather implausible. Hence, I take it that a total absence of a definite phi-feature marking is automatically interpreted as a set of default or minus valued phi-features (in the 'interpretive components' of grammar, PF and LF, cf. Chomsky 1981, p. 34). See also 5.5.2.1 on other instances of default phi-feature marking in Icelandic.

As for arbitrary *pro*, it is 'minimally theta-visible' by virtue of being [+human]. However, this does not extend to expletive *pro*. Expletive *pro* has no lexical features (of course), no theta-features, hence no theta role and no referential index. That is, it is totally theta-invisible. Accordingly, it will also be structurally invisible, that is, it will plainly not 'be there', *unless it is assigned Case*. If expletive *pro* is nonexistent, we are forced to give up the Extended Projection Principle, a step I would not like to take (for Icelandic, but on German, see 6.5.3). Therefore, I assume, expletive *pro* must be assigned Case.

Clearly, there is more to be said about the interaction of the Case Filter in 5.3.2(1) and identification. Thus, for instance, I still have not come up with any satisfactory solution of the peculiar typological problem, noted in 5.2.6, that Modern Icelandic allows referential *pro* (a nonvariable) in imperatives only. In this respect, it contrasts sharply with Old(er) Icelandic, Old French, Italian, etc. as we have seen. For the purpose of successful (structural and theta) identification, it seems, referential null-arguments must be topicalized in declaratives in all the modern Germanic languages. The sharp contrast between Old(er) and Modern Icelandic with respect to referential subject *pro* is quite astonishing since the rich phi-feature marking on Agr has, basically, remained intact from old to modern times (cf. Sigurðsson 1981b), that is, the contrast has nothing to do with subject-verb agreement or feature sharing of [NP, IP] and Agr. In addition, plural imperatives in Modern Icelandic show precisely the same subject-verb agreement as corresponding plural indicatives and subjunctives.

This is not the only unresolved typological puzzle. Why, for instance, does Italian not have referential object *pro*, in contrast with Old(er) Icelandic, and why does it not have arbitrary subject *pro*, in contrast with Old(er) and Modern Icelandic as well as Spanish?

We may sum up as follows: If we assume the Case Filter Approach in 5.3.2(1) to the licensing of *pro*, we have a general account for the canonical difference between NS and non-NS languages: The first language type allows *some* types of *pro*, whereas the second one does not.²⁴ On the

²⁴ Adopting standard viewpoints, I am thus assuming a clear cut distinction between *pro*-drop languages and non-*pro*-drop languages. However, even this minimal assumption is not entirely without problems, as noted in fn. 1 above.

other hand, this approach does not account satisfactorily for typological differences between different NS-languages - nor does any other approach, as far as I know.

I shall leave these typological problems unresolved. What is crucial for our purposes is that Case-marking is a prerequisite for successful identification of expletive *pro*.

5.5 PRO

We cannot leave the subject matter of nonlexical NPs and Case without briefly discussing the nature of PRO. I shall do so in this subsection. First (5.5.1), I shall argue that PRO is, basically, the same phenomenon as *pro*, i.e. a nonlexical A-position and not a lexical element. Like *pro*, it gets an interpretation or features in the interpretive components of grammar, PF and LF. In spite of this, I shall keep using the standard notion 'PRO' (for nonlexical infinitival subjects), for ease of reference. In 5.5.2, I shall illustrate that Icelandic PRO is Case-marked. Finally, in 5.5.3, I shall briefly discuss PRO in non-NS languages. If our Case Filter Approach to *pro*/PRO is on the right track, PRO must be Caseless in non-NS languages, as opposed to NS languages.

5.5.1 The nature of PRO

In the standard theory (Chomsky 1982, Rizzi 1986, and related works), *pro* is governed whereas PRO is not. This draws a line between nonlexical infinitival subjects and all other null-arguments: The untensed Infl is not a proper governor in the standard theory, that is, PRO is the only EC in the [NP, IP] position of infinitivals that is not ruled out by ECP, as discussed in 3.3. However, we have several reasons to believe that this distinction between PRO and other ECs is unfounded. First, given my approach to government (in 2.3), [NP, IP] and other Specs are always ungoverned.²⁵ Accordingly, there is no 'categorical' difference between *pro* and PRO (in the standard sense of these notions) with respect to government.

Furhtermore, if there are no lexical nulls, then PRO is simply a nonlexical argument position in S-structure. It is not clear that it has any content

²⁵ On the other hand, of course, Spec may have a governed mother node. As we saw in 3.4.2.1, for example, Acl infinitivals themselves, but not their subjects, are governed by Acl verbs.

to say that such positions are different *elements* even though they show variable *behavior*. Certainly, nonlexical argument positions differ with respect to the Binding Principles. Thus, for instance, empty variables are A'-bound while 'PRO' and '*pro*' are not. Moreover, '*pro*' is always (A- and A'-) free (in its governing category) whereas 'PRO' is either free or A-bound. However, this does not mean that we are dealing with different 'elements'. Rather, different derivations and different structures require that 'gaps' or nonlexical argument positions behave differently (see Chomsky 1981, p. 322 f.). We can of course say that an A'-bound EC must be a 'variable' (and this is clearly a convenient and a pedagogical 'abbreviation'). Conversely, however, we can also say that certain derivations require an empty argument position that is A'-bound: a WH-moved NP violates both the Case Theory and the Theta-Criterion unless it is in an A'-position and binds a trace in an A-position. This is all we need to say about the matter (cf. Chomsky 1981, p. 323).

Consider this for PRO. Why can PRO be A-bound as opposed to most overt pronominals? In the standard theory (cf. Chomsky 1982, e.g. p. 78), the answer is that PRO is an anaphor as well as a pronominal:

- (1)a. PRO = [+anaphor, +pronominal]
 b. pro = [-anaphor, +pronominal]

That is, in its governing category, PRO may freely be either A-bound (like overt anaphors) or free (like overt pronominals). However, it is not clear that this has any content if PRO and *pro* are not lexical elements. If they are not, they do not link to the features [\pm anaphor] and [\pm pronominal] in the lexicon (like most lexical pronouns do). Rather, the values of these features are set for PRO/*pro* in LF, by interpretive means, depending on derivational or structural requirements. In other words, nonlexical argument positions may freely 'pick up' whatever values for these and other features, as long as the values satisfy the requirements of the principles of UG. - Besides, there are clear cases of overt pronouns that behave similarly, i.e. have no lexical linking to the features [\pm pronominal], [\pm anaphor]. Thus, for instance, English *his* corresponds to both pronominal *hans* 'his' and reflexive *sinn* 'his' in Icelandic (and corresponding items in other Scandinavian languages).²⁶

Recall that *pro* may be referential, arbitrary or expletive. In this respect, there does not seem to be any difference between PRO and *pro*. (2) and (3) illustrate the basic possibilities for 'PRO':

²⁶ For a somewhat different approach, where *his* is [-anaphor, -pronominal], see Thráinsson (1988).

- (2)a. [Að PRO synda] er hollt.
 to swim is healthy.
 b. Það er [e] hollt [að PRO synda].
 it is healthy to swim
- (3)a. Mér virðist [PRO vera leiðinlegt hérna].
 me seems to-be boring here
 'It seems to me that it is boring here.'
 b. Þáll reyndi [að PRO synda].
 Paul tried to swim

Note that PRO is uncontrolled in (3a). The dative *mér* 'me' is an oblique subject (cf. 3.4.2.2 and 6.1), that is, the matrix clause contains no empty subject, hence no possible controller of the embedded expletive PRO. In both (2) and (3a), then, PRO is nonreferential and free, whereas it is referential in (3b) (being bound by *Þáll* 'Paul'). In (2), it is arbitrary, but in (3a) it is expletive.

How does referential bound PRO get its reference? The simplest assumption is that it inherits the intrinsic phi-features of its controller or binder. Reasonably, it does so by virtue of bearing the same referential index as the antecedent (theta phi-features link to referential indices, cf. 5.4 and 6.3.2). - Note that inheriting pronominal reference or theta phi-features through coindexing is quite different from inheriting Case that way: Theta phi-features link naturally to reference or referential indices, whereas Case has nothing to do with reference.

Interestingly, referential object *pro* seems to be 'antecedent-identified' in a somewhat similar manner as referential PRO. Hjartardóttir (1987, p. 59 ff.) notes a difference between referential subject *pro* and V/P-object *pro* in Old(er) Icelandic: as opposed to subject *pro*, referential object *pro* seems to have been impossible without a linguistic discourse antecedent. The Korean and Thai data presented by Cole (1987, p. 602 f.) indicate that object *pro* is constrained in the same manner in these languages. Thus, it seems that referential object *pro* must always inherit the theta phi-features of an NP-antecedent by coindexing, like PRO. Unlike bound PRO, but like overt pronominals, however, referential object *pro* is free in its governing category and does not have to be c-commanded by its antecedent (see the examples in Hjartardóttir 1987, p. 56 ff.).

Manzini (1983, p. 423 ff.) suggests the following generalizations:

- (4) A PRO in an object sentence of a sentence S
 is bound in S
- (5) A PRO in a subject sentence (co)refers freely

There is no doubt that these are good descriptive approximations, also for Icelandic. However, (4) cannot be maintained: (3a) violates it (I take it that raising infinitivals qualify as 'object sentences' although they are not full clauses or CPs). (6) and (7) contain further examples that violate (4):

- (6)a. Mér virðist [PRO rigna].
 me seems rain
 'It seems to me that it rains.'
- b. Mér virðist [PRO vera líklegt að María komi].
 me seems be likely that Mary comes
 'It seems likely to me that Mary will come.'
- c. Mér virðist [PRO þurfa að kaupa mjólk].
 me seems need to buy milk
 'It seems to me that we(/people etc.) have to buy milk.'
- (7)a. Ég taldi [PRO rigna].
 I believed rain
 'I believed it to rain.'
- b. Ég taldi [PRO vera líklegt að María kæmi].
 I believed be likely that Mary came
- c. Ég taldi [PRO þurfa að kaupa mjólk].
 I believed need to buy milk

Note that (6c) and (7c) involve the Impersonal Modal Construction, with an arbitrary reading of PRO (cf. 5.3.1). As we would expect, Italian does not seem to have any corresponding infinitivals (not having any instances of arbitrary subject *pro* either). On the other hand, it has cases that are somewhat similar to (7a,b), cf. Rizzi (1986, p. 542).

In the standard theory, the missing argument is in a governed position in (7) and would therefore presumably be analyzed as *pro* (as pointed out to me by Tarald Taraldsen). Be that as it may, (6) and (3a), at least, seem to be clear violations of Manzini's (4). This suggests the generalization in (8), instead of (4)-(5):

- (8)a. Nonreferential PRO may be free
 b. Referential PRO must be bound

Obviously, we have an account for (8b) if PRO has no inherent phi-features of its own, i.e. must inherit the theta phi-features of an antecedent if it is to have reference. As for nonreferential PRO, on the other hand, we may assume that it gets dummy phi-features in the interpretive components, PF and LF, in the same manner as nonreferential *pro*, cf. 5.4.

Referential PRO, then, is just like referential *pro* in that it never has

any inherent phi-features of its own (referential subject *pro* being assigned phi-features by an interpretive procedure, and, perhaps sometimes to some extent, coindexing with Agr, as discussed in 5.4). This is what we expect if both are simply nonlexical argument positions in S-structure. As already stated, however, I shall keep on using the standard notations 'pro' and 'PRO' for ease of reference.

5.5.2 The Case of PRO

As mentioned in 5.4, Chomsky (1986a, p. 94 ff.) explores the possibility that Case-marking is a necessary condition on theta-visibility (the 'visibility condition'). This is of course rather problematic for PRO, the standard assumption being that PRO must be Caseless. Therefore, Chomsky (1986a, p. 104) assumes "that PRO has an inherent Case, noting, however, that this suggestion conceals a problem rather than solving it." In this subsection, I shall demonstrate that Icelandic PRO, like Icelandic *pro*, bears *syntactic Case* (structural or lexical, like overt NPs in the language). There are two quite clear kinds of evidence for this. First, Icelandic PRO occurs in some positions that are unambiguously Case positions. Second, Icelandic control infinitivals normally behave the same with respect to phi-feature agreement as if they did contain an overt subject. I shall illustrate some of these agreement facts in 5.5.2.1, turning to PRO in unambiguous Case positions in 5.5.2.2.

5.5.2.1 PRO and long distance agreement

As we have seen, Icelandic (like many other morphological case languages) has several types of long distance agreement, involving Case, number, and gender. The first instance we saw of this (in 3.4.2.1) was Subject-Small Clause Agreement, as in (1):

- (1) Þeir fóru til hennar [PRO fullir].
 they went to her drunk
 N.m.pl N.m.pl

Furthermore, Icelandic has Subject-Quantifier Agreement, as in (2), and Subject-Predicate Agreement, as in (3):

(2) þær hafa allar lesið bókina.
 they have all read the book
 N.f.pl N.f.pl

(3)a. þær eru gáfaðar.
 they are intelligent
 N.f.pl N.f.pl

b. þeir eru gáfaðir.
 they are intelligent
 N.m.pl N.m.pl

A subcase of Subject-Predicate Agreement, mentioned in 3.4.2.1 and 4.3, is also seen in raising infinitivals, cf. (4) and (5):

(4) þeir virtust [[t] hafa verið fullir].
 they seemed have been drunk
 N.m.pl N.m.pl

(5) þær voru taldar [[t] hafa verið fullar].
 they were believed have been drunk
 N.f.pl N.f.pl

As argued in 4.3, the Case agreement (in all cases of this sort) is due to percolation of Infl-Case. Moreover, gender and number percolate in much the same way. That is, they percolate within the m-command domain of the source-NP, along the nominative Case path: the Case path 'opens up' a path for number and gender to percolate along (cf. below).

The various long distance agreement phenomena illustrate, quite clearly, that Icelandic PRO bears Case (and other phi-features). We discussed this for Subject-Small Clause Agreement in 3.4.2.1, and this has already been illustrated by Thráinsson (1979, p. 297 ff.) for Subject-Quantifier Agreement (see further e.g. Andrews 1976, Friðjónsson 1977). Thus, I shall only demonstrate this for Subject-Predicate Agreement here (compare also Thráinsson 1979, p. 282 ff.). I will start out by illustrating and explaining the mechanism of Subject-Predicate Agreement in finite clauses. Then, I shall show that it behaves the same way in control infinitivals. As we shall see, it seems impossible to explain this fact unless PRO is Case-marked.

Subject-Predicate Agreement involves agreement of past participles ([+V,+N]) in passives as well as of adjectives ([%V,+N]) in active sentences. This is illustrated in (6):

- (6)a. Mennirnir voru barðir.
 the men were beaten
 N.m.pl N.m.pl
- b. Konan var barin.
 the woman was beaten
 N.f.sg N.f.sg

Since the [+N] participle is not a Case assigner in (6), it freely receives syntactic Case. In fact, it must do so in the Feature Percolation Theory of Case, cf. chapter 4. Interestingly, the participle turns up in the nominative, a fact that makes the standard assumption that passive participles absorb *accusative* Case rather dubious. I shall return to this in 6.4.1.

Now, recall my discussion of 'Rögnvaldsson's argument' in 5.2.2.2. The argument is based on the fact that the finite verb does not agree with oblique subjects in Icelandic. Instead, it shows up in the default third person singular. Presumably, the verb gets these values in the same way as nonreferential *pro*/PRO gets the default values third person singular neuter (cf. 5.4). That is, in the absence of definite phi-feature values, the interpretive components of grammar, PF and LF, 'assign' default or negative values of binary number and person features to Agr.

Crucially, however, sentences with an oblique subject do not only lack Subject-Verb Agreement. They also lack Subject-Predicate Agreement. Instead of agreeing with the oblique subject, the predicative nominal shows up in the default singular neuter nominative/accusative (the nominative and the accusative are always homophonous in the neuter). Compare (7), with a nominative subject, and (8), with a dative subject:

- (7)a. Mennirnir voru veikir.
 the men were sick
 N.m.pl 3pl N.m.pl
- b. Konan var veik.
 the woman was sick
 N.f.sg 3sg N.f.sg
- (8)a. Mönnunum var illt.
 the men was ill
 D.m.pl 3sg N/A.n.sg
 'The men were nauseated.'
- b. Konunni var illt.
 the woman was ill
 D.f.sg 3sg N/A.n.sg
 'The woman was nauseated.'

Again, also, passive past participles behave precisely the same as adjectives.

Compare (6), repeated below, and (9):

- (6)a. Mennirnir voru barðir.
 the men were beaten
 N.m.pl 3pl N.m.pl
- b. Konan var barin.
 the woman was beaten
 N.f.sg 3sg N.f.sg
- (9)a. Mönnunum var bjargað.
 the men was saved
 D.m.pl 3sg N/A.n.sg
- b. Konunni var bjargað.
 the woman was saved
 D.f.sg 3sg N/A.n.sg

All other markings of the predicative nominals are sharply ungrammatical in all cases. Thus, for instance, an agreeing participle is totally out in cases like (9b) (and the reason is clearly not a 'morphological gap'). This is illustrated in (10):

- (10) *Konunni var bjargaðri.
 the woman was saved
 D.f.sg 3sg D.f.sg

Conversely, nonagreement is impossible when the subject is nominative. Compare (11) to (6a):

- (11) *Mennirnir voru/var barið.
 the men were/was beaten
 N.m.pl 3pl/ 3sg N/A.n.sg

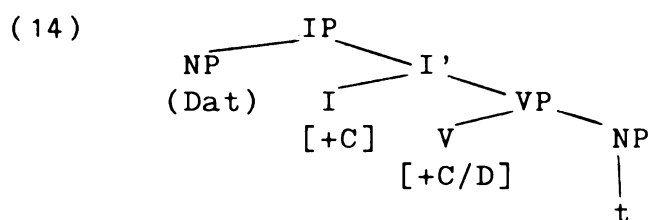
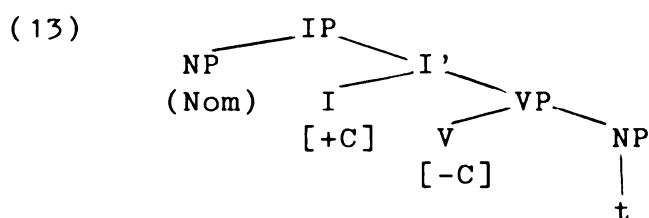
Precisely the same is, once again, true of predicative adjectives in active sentences.

We can schematize the observed facts as follows:

- (12)
- | | Subj. | Pred. |
|-----|--------|-------------|
| a1. | [+NOM | +agreement] |
| 2. | *[+NOM | -agreement] |
| b1. | *[-NOM | +agreement] |
| 2. | [-NOM | -agreement] |

What is the reason for this peculiar complementary distribution? The Feature Percolation Theory of Case offers an interesting explanation in

terms of Case protection (cf. 4.1). Let us start out by considering this for passive sentences. Overt passive subjects are derived by NP-movement, from [NP, VP] to [IP, NP]. As we shall see in chapter 6, the D-structure object is either assigned no Case prior to NP-movement or assigned lexical Case (e.g. dative) at D-structure. In the former case, it ends up as a nominative subject (the normal instantiation of Infl-Case), but in the latter case, it keeps its D-structure Case, the result being an oblique subject. This is illustrated in (13) and (14) (see also 4.3(11)-(12)):



These diagrams are slightly misleading since the passive participle is not simply 'V' ([+V,-N]) but also nominal, i.e. [+V,+N], cf. 6.4.3. In the present context, however, this is unimportant.

From (13) and (14), it is immediately clear why passive participles agree with nominative subjects but not with oblique subjects. When the subject is nominative, cf. (13), the participle is a nonassigner of Case, that is, it does not *protect* 'VP' from the external Infl-Case. Accordingly, both the Infl-Case and the number and gender features of the raised subject percolate to 'VP', showing up on its [+V,+N] head, the participle (V in (13)). In (14), on the other hand, the participle is a Case assigner, hence acting as a protecting head. Accordingly, 'VP' (and anything under 'VP') is protected from external Infl-Case. As a result, the gender and number features of the raised subject do not have an unbroken Case path, from [NP, IP] down into 'VP', to percolate along. It follows that there is no agreement, neither in Case nor in number and gender. - This means, of course, that the Case assigning participle has no Case (and no number and gender features) in 'syntax proper' (D- and S-structure). Recall, from 4.3, that Case assigners cannot be assigned syntactic Case. However, being [+N], the participle is 'assigned' the default values nominative (/accusative) neuter singular in the interpretive components, PF and LF (cf. 5.4 on feature 'assignment' to nonreferential *pro*).

As we shall see in chapter 6, predicative adjectives are in fact ergative, that is, the subject in sentences like (7) and (8):

- (7)a. Mennirnir voru veikir.
 the men were sick
 N.m.pl 3.pl N.m.pl
- b. Konan var veik.
 the woman was sick
 N.f.sg 3.sg N.f.sg
- (8)a. Mönnunum var illt.
 the men was ill
 D.m.pl 3.sg N/A.n.sg
 'The men were nauseated.'
- b. Konunni var illt.
 the woman was ill
 D.f.sg 3.sg N/A.n.sg
 'The woman was nauseated.'

- is a D-structure object of the adjective, A being a Case assigner in (8) (of a lexical dative) but a nonassigner of Case in (7). Accordingly, the agreement facts in active sentences like (7) and (8) are accounted for in precisely the same manner as in passive sentences. - In passing, note that these data are not easily explained in a coherent manner if we do not assume Case percolation.

Now, consider the fact that control infinitivals show the same predicative agreement as the corresponding finite sentences. Compare (7) and (8) to (15) and (16):

- (15)a. Þeir reyndu [að PRO verða ekki veikir].
 they tried to become not sick
 N.m.pl N.m.pl
- b. Konan reyndi [að PRO verða ekki veik].
 N.f.sg
- (16)a. Þeir vonuðust til [að PRO verða ekki illt].
 they hoped for to become not ill
 N.m.pl N/A.n.sg
- b. Konan vonaðist til [að PRO verða ekki illt].
 N/A.n.sg

Precisely as in finite sentences, we have an account for these (completely general and extremely clear cut) facts if the agreeing adjective in (15) bears percolating Infl-Case, whereas the nonagreeing adjective in (16),

being an assinger of a lexical dative, does not. In other words, these facts indicate that PRO is nominative in (15) but dative in (16).

This, of course, does not force us to assume that the percolating Infl-Case in (15) is assigned by the embedded untensed Infl. Since the matrix verb is plural, the plural nominative on the adjective could be a percolating matrix Infl-Case. Consider Borer (1986, p. 410 ff.) on somewhat similar facts (in raising infinitivals) in two other null-subject languages, Italian and Modern Hebrew. However, in (17), the plural nominative on the adjective is presumably not the matrix Infl-Case (the matrix verb being singular):

- (17)a. Þá langaði ekki til [að PRO vera veikir].
 them longed not for to be sick
 A.m.pl 3sg N.m.pl
 'The men did not want to be sick.'
- b. Konunum leiddist [að PRO vera veikar].
 the women bored to be sick
 D.f.pl 3sg N.f.pl
 'The women were bored being sick.'

PRO inherits the number and gender of the matrix subject by virtue of being coindexed with it (cf. 5.5.1). Subsequently, the number and gender percolate along the Case path of the subordinate Infl-Case, to the predicative adjective. - Now, we could perhaps say that the nominative comes from the matrix clause, the plural feature of the adjective coming 'exclusively' from PRO. But given that this were the case, it is hard to see how the matrix Infl-Case could be blocked from percolating to PRO on its way down to the predicative adjective. Besides, we would then have no explanation of the nonagreement in (quite common) cases like (16). In short, it seems impossible to explain the agreement facts in (15)-(17) unless we assume that PRO is Case-marked in Icelandic.

As we would expect by now, passive participles behave the same as predicative adjectives in control infinitivals. This is illustrated in (18) and (19) (cf. (6) and (9) above):

- (18)a. Þeir vonuðust til [að PRO verða ekki barðir].
 they hoped for to be not beaten
 N.m.pl N.m.pl
- b. Konan vonaðist til [að PRO verða ekki barin].
 N.f.sg N.f.sg

- (2)a. *Ég taldi* [PRO *rigna*].
 I believed rain
 'I believed it to rain.'
- b. *Ég taldi* [PRO *vera líklegt að María kæmi*].
 I believed be likely that Mary came
- c. *Ég taldi* [PRO *þurfa að kaupa mjólk*].
 I believed need to buy milk

The subject position in AcI infinitivals is, of course, an unambiguous Case position. As we saw in 3.4.2.2, the same is true of the subject position in D/NcI infinitivals like the ones in (1). As seen in sentences like (3), it is a position of nominative Case, the nominative either being a 'downstairs Case' (3a) or an 'upstairs Case' (3b):

- (3)a. *Mér virðist* [*þeir* *vera gáfaðir*].
 me seems they be intelligent
 3sg N.m.pl N.m.pl
- b. *Mér virðast* [*þeir* *vera gáfaðir*].
 me seem they be intelligent
 3pl N.m.pl N.m.pl

This is also seen by the fact that this position may contain a variable (the variable, of course, being Case-marked) as shown in (4); note that the dative experiencer occupies the matrix [NP, IP] position, i.e. the *wh*-phrase moves directly to [Spec, CP]:

- (4)a. *Hverjir* *hafði þér virst* [*t* *vera gáfaðir*]?
 who had you seemed be intelligent
 N.m.pl 3sg N.m.pl
- b. *Hverjir* *höfðu þér virst* [*t* *vera gáfaðir*]?
 who had you seemed be intelligent
 N.m.pl 3pl N.m.pl

Compare this to the ungrammatical English (5) (cf. Chomsky 1986a, p. 95):

- (5) *Who does it seem (to you) [*t* to be intelligent].

In short, the empty infinitival subjects in (1) and (2) are unambiguously Case-marked.

5.5.3 PRO in non-NS languages

Finally, let us briefly consider PRO in non-NS languages. In 5.3.2 and 5.4, I argued that *pro* is licensed in NS-languages precisely because it is Case-marked, only deviating from Rizzi (1986) in assuming that this is deducible from a parametrization of the Case Filter (rather than from head-licensing): like lexical arguments, *pro* must always be Case-marked, but due to the setting of the Case Filter in non-NS languages, all sentences containing *pro* are immediately ruled out in these languages. As we have now seen, there does not seem to be any doubt that PRO is Case-marked in Icelandic, like *pro*. However, generalizing over *pro* and PRO, as I did in my formulation of the Case Filter in 5.3.2(1) would perhaps seem to be rather problematic. As it stands, this (ideally general and simple) approach predicts that non-NS languages should not have PRO: as yet, I have not come up with any nonstipulative way to block Case assignment to PRO in this language type.

Consider English PRO:

- (1) Mary tried [PRO to win the game].

How do we block either the matrix V-Case or the matrix Infl-Case from being assigned to PRO? As mentioned in 3.3, it is standardly assumed that the control infinitival has an empty Comp, the CP-boundary blocking external Case assignment to PRO. I shall consider how Chomsky (1986b) formulates this in his barriers approach to government in a moment. Now, it might perhaps be said that this solution is only stipulative. In any case, it is at least available in the standard theory. In our theory as formulated so far, on the other hand, it is not. Unless we 'augment' our approach somehow, external Case *should* percolate to PRO in English control infinitivals.

Yip et al. (1987) suggest that PRO is universally Case-marked. However, if this were correct it would seem to be an insoluble puzzle that non-NS languages do not tolerate *pro*. Moreover, there are certain empirical indications that point in the opposite direction.

Consider sentences like (2) and (3) once again:

- (2) Ég taldi [PRO snjóa].
I believed snow
'I believed it was snowing.'
- (3) Mér virtist [PRO snjóa].
me seemed snow
'It seemed to me that it was snowing.'

In cases of this sort, PRO is expletive, i.e. it has no theta-features (cf. 5.4 on expletive *pro*). Thus, if it were not possible to Case-mark the empty subjects, they would be totally invisible, hence illicit.

If PRO must not be Case-marked in non-NS languages, we do not expect them to tolerate any kind of PRO in the subject position of AcI-infinitivals, this position always being a Case position. As far as I know, this is borne out. Consider the English (4) and the Swedish (5):

(4) I believed [$*(it)$ to snow].

(5) Jag ansåg [$*(det)$ snöa].
I believed it snow

This indicates that we have to block PRO from being assigned Case in non-NS languages. How do we do this? Chomsky (1986b, p. 11 ff.) suggests that neither IP nor CP is an absolute or an inherent barrier, whereas CP and IP constitute a barrier together. That is, CP inherits barrierhood from IP. This gives the desirable result for successive cyclic movement as well as for English PRO, cf. (6) (= Chomsky's (22), 1986b, p. 11):

(6) How did John want [_{CP} t [_{IP} PRO to fix the car t]].

CP as such does not block extraction, as desired. By inheriting barrierhood from IP, on the other hand, it blocks the matrix verb from governing into IP, hence from governing and assigning Case to PRO.

This approach would also block assignment of the matrix V-Case to PRO in the Mainland Scandinavian languages. However, it would not block assignment of nominative Comp-Case to PRO in Swedish, if the infinitive marker in that language (as opposed to Norwegian and Danish) is a complementizer, cf. 3.2.1. Consider the Swedish (7):

(7) Johan försökte [_{CP} att [_{IP} PRO reparera bilen]].
John tried to fix the car

As far as I can see, it is impossible to block Comp from governing PRO here, hence from assigning Case to it, in Chomsky's barrier approach to government. It seems unavoidable to allow lexical heads to govern the Spec of their complements in this approach. Chomsky (1986b, p. 47) contends that "a verb governs the specifier of its clausal complement" - unless, of course, the specifier in question is protected (in Chomsky's sense, cf. 1986b, p. 42), i.e. governed by a more local governor. In (7), *att* 'protects' PRO from being governed by the matrix verb. But there is nothing in the structure that 'protects' PRO from being governed by *att* itself. - In the Feature Percolation Theory of Case, as formulated so far,

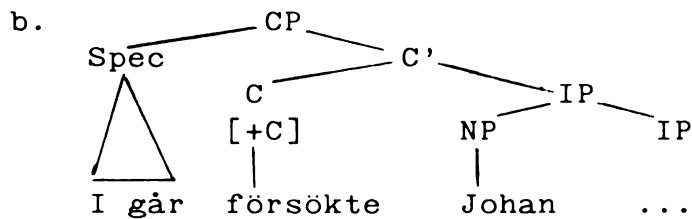
there is also no way to block *att* from percolating nominative Case to PRO.

I must admit that I see no entirely nonstipulative solution of this problem. However, here is a tentative proposal. Suppose that CP cannot 'transport' Case, i.e. let us assume (8):

(8) CP always blocks Case percolation

Given this, Comp-Case is blocked from percolating through CP in (7), whereas it is free to percolate through C' in main clause structures like (9):

(9)a. I *går* försökte Johan ...
 yesterday tried John
 'Yesterday, John tried ...'



The same analysis applies to the embedded interrogative in (10) (cf. Taraldsen 1986b on the same phenomenon in Norwegian and Danish):

(10) Jag vet inte [_{CP} vem [_{C'} som [_{IP} t såg Anna]].
 I know not who that saw Ann

- where the obligatory dummy complementizer **som** assigns nominative Case, through C', to the variable. Note that Icelandic, having Infl-Case, does not have to insert any dummy complementizer of this sort for the purpose of successful nominative Case assignment in embedded interrogatives. Thus, this approach has some appealing aspects. However, it also involves some problems. For example, it predicts that declarative *at(t)*-'that' clauses in Mainland Scandinavian are C' rather than CP. Or perhaps rather, it requires that *at(t)*-clauses have an empty [Spec, CP] position, cf. (11):

(11) Jag såg [_{CP} e [_{C'} att [_{IP} Maria kom]]].
 I saw that Mary came

- where the embedded subject bears Comp-Case. On the assumption that CP always blocks percolation, the Icelandic structure in (12) should be

impossible in languages that make use of Comp-Case (since the Case would have to percolate through CP in order to 'reach' the embedded subject):

- (12) Ég sá [CP að [IP María kom]].
I saw that Mary came

I shall leave the 'Case problem of PRO' in non-NS languages in this state. Let me just conclude by pointing out that my approach to visibility, in 5.4, crucially predicts that non-NS languages may have arbitrary PRO (and referential PRO), as opposed to expletive PRO. As we have seen, this seems to be borne out. Let me recapitulate the reason for this: All nonlexical expletives have to be Case-marked if they are to be structurally visible. Conversely, however, PRO/*pro* must not be Case-marked in non-NS languages, due to their setting of the Case Filter (PRO/*pro* thus being excluded from Case positions in these languages). By virtue of its [+human] feature, on the other hand, arbitrary PRO is theta-visible; accordingly, it does not need Case to be structurally visible. It follows, then, that we can dismiss Chomsky's (1986a, p. 104) problematic 'inherent Case' of PRO in non-NS languages.

5.6 Summary

We can summarize the most important conclusions and results of this chapter as follows:

1. All the Germanic languages have referential null-subjects in finite sentences. However, these null-subjects are variables bound by a null-operator in [Spec, CP], not genuine *pro*.
2. There is no such thing as 'lexical nulls'. Hence, the phi-features of null-arguments are not 'recovered'. Rather, they are identified or 'assigned' by interpretive means (in the interpretive components, PF and LF). At least in some cases of referential null-arguments (PRO and object *pro*), these interpretive procedures involve theta phi-feature inheritance through coindexing with a lexical NP-antecedent.
3. Genuine *pro* is always Case-marked; if expletive *pro* is not assigned Case it is totally invisible, hence illicit.

4. Icelandic PRO is Case-marked. This fact supports our suggestion in 3.3 that Icelandic V-to-I applies in order for Infl to be able to assign Case to [NP, IP], in control infinitivals as well as in finite clauses.
5. The contrast between NS languages and non-NS language follows from a parametrization of the Case Filter. In non-NS languages there is a Case ban on nonlexical argument positions that are not traces, whereas there is no such ban in NS languages. It follows that *pro*/PRO is excluded from Case positions in non-NS languages only.

As we saw in 5.0, we have to solve two problems if we want to maintain the claims made in 4.1 that Case is an inherent property of the X-bar system and that the verbal Infl assigns nominative Case in Icelandic. The first problem is raised by nonlexical subjects, i.e. by clauses that appear not to involve any Case assignment. The second problem is raised by oblique subjects in Icelandic, i.e. by subjects that bear overt Case that is not assigned by Infl. Having discussed nonlexical NPs rather thoroughly, we can turn to oblique subjects. As we shall see, they seem to be derived by NP-movement from [NP, VP] or [NP, AP] to [NP, IP]. If we wish to understand the nature of oblique subjects, we therefore have to consider the interaction of Case assignment and theta-selection as embodied in NP-movement. I shall do so in the next chapter.

6 Promotion, theta-selection and Case

6.0 Introduction

In this chapter, I shall study PROMOTION, the term 'Promotion' covering both syntactic NP-movement and lexical Promotion of internal theta roles. More specifically, I shall study the interaction of Case assignment and theta-selection as embodied in Promotion. Following Chomsky (1986a), I will occasionally refer to theta-selection as 'semantic selection' or s-selection, cf. 6.1.2.2.

The central hypothesis to be pursued here is that nonagentive (or, rather, 'nonperformative') subjects are always derived by Promotion. When Promotion is syntactic, it involves NP-movement to [NP, IP] from [NP, XP], where XP is either VP or AP, but when it is lexical, it involves a parallel 'raising' of an internal theta role in the lexicon. The major empirical observation of the chapter is that NP-movement of a (definite) D-structure object of V or A is obligatory in Icelandic (and e.g. other Scandinavian languages and English) if the [NP, IP] position contains no argument or theta role, irrespective of the Case assignment properties of V/A. In the standard theory, the obligatoriness of NP-movement is explained in terms of Case: the promoted D-structure object cannot get Case in situ, it is assumed, i.e. it must move to the [NP, IP] position in order to be Case-marked. As we already saw in 4.3, however, this *defective Case-marking explanation* (as I shall call it) is not available in the Feature Percolation Theory of Case (Case always percolating to NP-traces, i.e. to the source position of NP-movement). I shall show that it is in fact not available in the standard Case Theory either. Therefore, I derive the obligatoriness of NP-movement in languages like English, Romance, and the Scandinavian languages from the SUBJECT COMMAND CONDITION, having the effect that definite arguments in the [NP, VP/AP] position are ungrammatical unless they are commanded by an argument in the [NP, IP] position, irrespective of Case. This condition on the relation between argument positions is in fact closely related to the Extended Projection Principle (Chomsky 1982, p. 10).

It is generally taken to be the case that passive participles and ergative verbs cannot assign any Case at all. As we shall see, however, there is extensive evidence that these lexical items are only defective Case assigners with respect to structural Case, and not with respect to inherent or lexical Case. I shall argue that this follows from general principles, i.e. the so-called 'Burzio's generalization' is not an independent generalization or principle.

The organization of the chapter is as follows: In 6.1, I discuss oblique (ergative) subjects and argue that they are D-structure objects, derived by Promotion after D-structure assignment of lexical Case, i.e. by NP-movement. In 6.2, I demonstrate that many nominative subjects (in active sentences) are also derived by Promotion, either in the lexicon (subjects of middle verbs) or in the syntax, by NP-movement (subjects of ergative

Vs and As). In this section, I also develop a theory of word formation that enables us to account coherently for the difference between syntactic and lexical Promotion. In 6.3, the Definiteness Effect upon Icelandic það- 'there, it' insertion and NP-movement is discussed and shown to follow from the Subject Command Condition and general conditions on chain formation. In 6.4, I demonstrate that the analysis in 6.1-6.3 of active verbs extends directly to passives: Past participles are lexically derived ergatives, 'middles' and impersonals. Conversely, passives lend a rather pervasive support to my ergative analysis of nonagentive and other non-performative subjects. In 6.5, I briefly address some residual problems, e.g. the fact that German does not seem to apply NP-movement, indicating that the Extended Projection Principle is not a universal. - The major conclusion of the chapter is that NP-movement in the Germanic languages, including English, is *never* forced by defective Case-marking: NP-movement has nothing to do with Case assignment.

6.1 Oblique Promotion

6.1.0 Overview

As mentioned in 5.0, Icelandic has a wide variety of verbs and predicates that take oblique arguments that, intuitively, correspond to subjects in e.g. English and Mainland Scandinavian, cf. (1) and (2):

- (1)a. Mig hungrar.
 me(Acc) hungers
 'I am hungry.'
- b. Mér leiðist.
 me(Dat) bores
 'I am bored.'
- (2) Mér er kalt.
 me is cold
 'I am freezing.'

This is one of the most peculiar features of Icelandic grammar. It has been extensively discussed in the generative literature during the last decade. See, for instance, Andrews (1976, 1982a), Thráinsson (1979), Bernódusson (1982), Rögnvaldsson (1982b), Zaenen and Maling (1983, 1984), Zaenen et al. (1984, 1985), Maling and Zaenen (1985), Holmberg (1985b), Platzack (1985c, 1987a), Yip et al. (1987) - to mention only a few important contributions to the ongoing discussion of the phenomenon.

Three possible analyses of this construction have been discussed in the literature. Call them the OBJECT HYPOTHESIS, the SUBJECT HYPOTHESIS and the PROMOTION HYPOTHESIS. Under the Object Hypothesis, the oblique argument would simply be a topicalized object in a null-subject clause. Under the Subject Hypothesis it would be a subject at both D- and S-structure (within a transformational framework), whereas it would be a D-structure object but a (promoted) S-structure subject under the Promotion Hypothesis.

Following all the above mentioned authors, I immediately reject the Object Hypothesis: the oblique argument does not behave like a topicalized S-structure object. On the contrary, its syntactic behavior is, in most respects, like that of nominative subjects, as we shall see. This leaves us with the Subject Hypothesis and the Promotion Hypothesis. In a highly informative and original work, Bernóðusson (1982) points out that the Promotion Hypothesis has some clear empirical virtues (cf. 6.1.2.3 below), and, on more purely theoretical grounds, Holmberg (1985b) and Platzack (1985c) argue that it is the correct analysis (within a different framework, Marantz' standpoint (cf. 1984, p. 79 ff.) is compatible). Others either follow Andrews (1976) in assuming the Subject Hypothesis (e.g. Zaenen and Maling 1984) or do not take a stand on the question (see e.g. Platzack 1987a, p. 394). I shall argue that (a certain version of) the Promotion Hypothesis is the correct one.¹ In the sense of Burzio (1981, 1986), the Promotion involved is 'ergative'. Hence, I shall call the oblique arguments OBLIQUE ERGATIVE SUBJECTS and the verbs that take them OBLIQUE(-taking) ERGATIVE VERBS, or, for short, OBLIQUE SUBJECTS (as many others have done) and OBLIQUE VERBS. As mentioned, Icelandic also has nominative ergative subjects. Thus, when the need arises, I distinguish between OBLIQUE ERGATIVE SUBJECTS and NOMINATIVE ERGATIVE SUBJECTS, and between OBLIQUE(-taking) ERGATIVE VERBS and NOMINATIVE(-taking) ERGATIVE VERBS (but admittedly, these terms are not very beautifully coined). Like, for instance, subjects in passive sentences, ergative subjects are PROMOTED SUBJECTS, but only the former combine with a passive verbal morphology.

Before we consider this in more detail, let us take a brief look at the typology of ergative subjects and verbs in Icelandic. First, ergative subjects (nominative as well as oblique) are *never agentive*; they are always 'experiencers' or themes/patients. Second, ergative verbs combine with all morphological cases, that is, the ergative subject may be nominative, accusative, dative or genitive. Several typical examples are given below.

Nominative subjects:

¹ But note that the term 'Promotion' as such has no theoretical implications in our approach (as it has in Relational Grammar), except that it covers both syntactic NP-movement and lexical Promotion of theta-roles, cf. 6.2.1.

- (3)a. Ljósið slokknáði.
the light went-out
b. Maðurinn dó.
the man died

I shall postpone further discussion about nominative ergative subjects until in 6.2.

Accusative subjects:

- (4)a. Mig þyrstir.
me thirsts
'I am thirsty.'
b. Mig kitlar.
me tickles
c. Hana dreymdi illa.
her dreamt badly
'She had a bad dream.'
d. Hann langar í köku.
him longs for a cake
'He would like to have a cake.'
e. Skipið rak á land.
the ship drove to land
'The ship drifted ashore.'

Dative subjects:

- (5)a. Mér hitnaði.
me warmed
'I was getting warm(er).'
- b. Mér líður vel.
me feels well
'I am feeling good.'
- c. Henni fór aftur í ensku.
her went back in English
'Her English got worse.'
- d. Honum tókst vel upp í gær.
him took well up yesterday
'He succeeded yesterday (by (some) luck).'
- e. Skipinu hvolfdi.
the ship turned-upside-down
'The ship capsized.'
- f. Landinu hallar niður að sjó.
the land slopes down to sea

- g. Rigningunni slotaði.
 the rain abated/stopped
 'It (gradually) stopped to rain.'

Genitive subjects:

- (6)a. Verkjanna gætir ekki lengur.
 the pains are-noticed not longer
 'The pains are not noticeable any more.'
- b. Gunnars getur oft í fornum sögum.
 Gunnar mentions often in old stories
 'Gunnar is often mentioned in old stories.'

As this would seem to suggest, genitive subjects are, in fact, rather rare, whereas accusative and, especially, dative subjects are very common (see also Andrews 1982a, p. 463).

The verbs in (4)-(6) are all monadic, but ergative oblique verbs may also be dyadic, that is, take two NUCLEAR ARGUMENTS.² Several case combinations can be exemplified, cf. Yip et al. (1987), e.g. Acc-Acc:

- (7)a. Hann vantar vinnu.
 him(A) lacks a job(A)
 'He needs a job.'
- b. Mig dreymdi draum.
 me(A) dreamt a dream(A)

However, by far the most common case pattern for dyadic ergative oblique verbs is Dat-Nom, cf. (8):

- (8)a. Mér áskotnuðust peningar.
 me(D) lucked-onto money(N)
- b. Mér batnaði (veikin).
 me(D) recovered(-from) the disease(N)
- c. Henni leiddist (Ólafur).
 her(D) bored Olaf(N)
- d. Honum misheppnaðist (allt).
 him(D) mis-lucked everything(N)
- e. Þeim líkuðu hestarnir.
 them(D) liked the horses(N)

² By 'nuclear arguments' I mean subjects, objects and indirect objects of verbs, and, as we shall see, of predicative adjectives, but not, for instance, prepositional objects (cf. the notion 'nuclear grammatical function' in e.g. Mohanan 1983). For a rather different relativized definition of this notion, see 6.1.4.

As seen in (8b-d), the nominative is only optional for many of these verbs. An interesting property of the nominative is that it seems to be an object, that is, Dat-Nom verbs seem to take a NOMINATIVE OBJECT, a fact already discussed by many authors (see e.g. Bernódusson (1982) and Yip et al. (1987)). We shall return to this in 6.1.6 and 6.5.2, but note that ergative Dat-Nom verbs expose the same surface case pattern as the D/Ncl verbs discussed in 3.4.2.2 and 5.5.2.2, cf. (9):

- (9) Mér virtist [Ólafur (vera) gáfaður].
me(D) seemed Olaf(N) to-be intelligent

Finally, ergative oblique subjects may combine with predicates, but as far as I am aware of, this has never been illustrated or discussed in any detail in the generative literature.³ The predicates involved in this are of at least four types: adjectival predicates, predicates with a present participle (the Present Participle Construction), predicates with predicative NPs and 'complex' verbal predicates that seem to be optionally ergative.

The first type, involving adjectival predicates, is very common. It always has a dative subject, cf. (10):

- (10)a. Mér er kalt.
me(D) is cold
'I am freezing.'
b. Mér er illt.
me(D) is ill
'I am nauseated. / I have pains.'

The Present Participle Construction is also common (see Friðjónsson 1982):

- (11)a. Ólafi er ekki bjóðandi.
Olaf(D) is not inviting(/'invitable')
'Olaf is not inevitable.'
b. Þess er nú ekki óskandi.
that(G) is now not wanting('/wishable')
'Now, we wouldn't want that.'

Apart from case, this is reminiscent of some English predicates involving an *-able* adjective, and of some German and Mainland Scandinavian predicates with a *-bar* adjective. As we saw in 5.3.1, however, the Icelandic construction may also be impersonal, i.e. have a null-subject (see further 6.5.1).

Predicates with predicative NPs that take an oblique subject are rare

³ However, some interesting observations on the phenomenon are found in various works, e.g. in Bernódusson (1982).

and idiomatic. The subject is either genitive or dative, cf. (12):

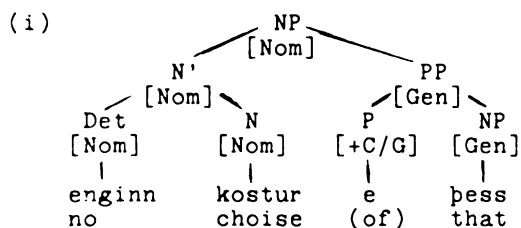
- (12)a. þess er enginn kostur.
of-that(G) is no choice(N)
'That is not possible.'
- b. Hans er bráðum von.
his(G) is soon expectation(N)
'He is expected soon.'
- c. Þér er nauðugur einn kostur.
you(D) is forced one choice(N)
'You only have one choice.'
- d. Honum er vorkunn.
him(D) is a pity(N)
- e. Okkur var huggun í því.
us(D) was consolation(N) in that

I shall have nothing more to say about this type.⁴

The fourth type, with an optionally ergative predicate, typically involves one of three modals or auxiliaries: the copula *ver(ð)a*, *skulu* ('shall'), and *bera* (roughly 'shall', otherwise not an auxiliary). In this construction, they denote possibility or obligation. All three oblique cases are possible, cf. (13)-(15):

- (13)a. Engan mann var að sjá.
no person(A) was to see
'One could not see anybody.'

⁴ It is problematic for all Case theories I know of since it seems to involve Case-marking NPs that are Case-marked themselves: the predicative nominative NP seems to assign dative or genitive to the subject (the subject being a complement of the NP at D-structure). The problem is similar to the problem posed by nominally headed genitives (cf. fn. 4 to chapter 4). A way to overcome it would be to assume that the dative or the genitive is assigned by an empty preposition, cf. the discussion in 6.2.2 below of the 'transitive adjective construction'. This is sketched in (i) for (12a):



As is well known, however, objects of overt prepositions are never subject to NP-movement in Icelandic (cf. Maling and Zaenen 1985). Therefore, since the genitive *þess* is promoted in (12a), this analysis is problematic, cf. 6.5.2.

- b. Ólaf var hvergi að finna.
Olaf(A) was nowhere to find
'One could not find Olaf anywhere.'
- (14)a. Þessu var ekki að heilsa.
this(D) was not to greet
'(Unfortunately) this was not the case.'
- b. Því ber ekki að neita (að ...).
it(D) shall not to deny that
'One should not/cannot deny (it) (that ...).'
- (15)a. Skipsins er ekki að vanta fyrr en á morgun.
the ship(G) is not to expect until tomorrow
'The ship is not expected until tomorrow.'
- b. Þess skal gætt að ...
it(G) shall heed that ...
'It should be heeded that ...'

This, then, is the 'ergative version' or the 'Promotion version' of the Optionally Ergative Construction, mentioned in 5.3.1.

As we shall see, ergative predicates, as in (10)-(15), constitute an important argument for the Promotion Hypothesis. I shall proceed as follows. In 6.1.1, I briefly illustrate the (S-structure) subject properties of oblique subjects. In 6.1.2, I show how the Promotion analysis of oblique subjects works and present some evidence for it. In 6.1.3-6.1.6, I discuss the theoretical implications of the analysis. As we shall see, oblique Promotion illustrates, quite clearly, that the standard defective Case-marking explanation of NP-movement cannot be maintained.

6.1.1 Subject properties of oblique subjects

As first argued by Andrews (1976), oblique subjects share many syntactic properties with nominative subjects (non-ergative as well as ergative), that is, they seem to be S-structure subjects. Thus, they behave much like nominative subjects, and not like topicalized S-structure objects, with respect to the following phenomena:

1. Topicalization
2. Non-topicalization
3. Position in subordinate clauses
4. AcI
5. NcI

6. Reflexivization
7. Control
8. Extraction
9. Heavy Subject Shift
10. Cliticization
11. Conjunction Reduction

There is no need to illustrate all this in details here; this has already been done so many times in the literature (for all the phenomena above except 3. and 10.), see, above all, Thráinsson (1979, pp. 462-476), Bernóðsson (1982, pp. 128-160), and Zaenen et al. (1984, 1985). Thus, let us only run very quickly through the 'subjecthood tests' in 1.-11. Note that I use either sentences with a non-subject in [Spec, CP] or V1 sentences (questions or declaratives) when I wish to show unambiguously that the oblique subject occupies [NP, IP] (and not [Spec, CP]) in main clauses.

First, oblique ergative subjects are like nominative subjects in being 'naturally topicalized', that is, they most normally occupy [Spec, CP] in main clause declaratives, cf. (1):

- (1)a. Mér leiðist Haraldur.
me(D) bores Harold(N)
b. HARALDUR leiðist mér.

- which is just like (2) in this respect:

- (2)a. Ég barði Harald.
I(N) hit Harold(A)
b. HARALD barði ég.

Second, when they are non-topicalized, oblique subjects normally show up in the post-Comp [NP, IP] position, cf. (3). (3a) is a declarative V1 sentence, i.e. it involves the so-called Narrative Inversion (cf. e.g. Sigurðsson 1983, Platzack 1985a):

- (3)a. Hafði mér því leiðst Haraldur.
had me thus bored Harold
'I had thus been bored by Harold.'
b. Oft leiddist mér Haraldur.
often bored me Harold
c. Hefur þér nokkurn tíma leiðst Haraldur?
has you any time bored Harold
'Were you ever bored by Harold?'

Third, oblique subjects normally occupy the subject position in subor-

dinate clauses, directly after the complementizer:⁵

- (4)a. María spurði hvort mér hefði leiðst Haraldur.
 Mary asked whether me had bored Harold
 b. *María spurði hvort Haraldur hefði mér leiðst.

Fourth, oblique subjects occupy the subject position in AcI-infinitivals:

- (5)a. Ég tel [honum leiðast Haraldur].
 I believe him(D) bore Harold(N)
 'I believe that he is bored by Harold.'
 b. *Ég tel [Harald(A)/Haraldur(N) leiðast honum].

Similarly, oblique subjects behave like nominatives (except for Case and agreement, of course) in the D/NcI and the NcI constructions (i.e. the non-raising NcI and the raising NcI), cf. (6) and (7):

- (6)a. Hafði þér virst [honum leiðast Haraldur]?
 had you seemed him bore Harold
 'Did it seem to you that he was
 bored by Harold?'
 b. *Hafði þér virst [Haraldur leiðast honum].

- (7)a. Virðist honum [t leiðast Haraldur]?
 seems him bore harold
 'Does he seem to be bored by Harold.'
 b. *Virðist Haraldur [honum leiðast t]?

- but as we would expect they retain their lexical oblique case in both NcI and AcI infinitivals.⁶

⁵ In að- 'that' complement clauses, Topicalization of the nominative object is not quite as bad as in (4b), albeit ungrammatical (at least for me).

⁶ On the other hand, it is a puzzle to me that the nominative objects of Dat-Nom verbs obligatorily retain their nominative when embedded under an AcI verb. Predicative nominatives do not behave this way. Compare (i) and (ii):

- (i)a. Henni leiðist Haraldur.
 her(D) bores Harold(N)
 b. Ég tel [henni leiðast Haraldur/*Harald].
 I believe her(D) bore Harold(N)/*(A)
- (ii)a. Hún er leiðinleg.
 she(N) is boring(N)
 b. Ég tel [hana (vera) leiðinlega/*leiðinleg].
 I believe her(A) to be boring(A)/*(N)

One possibility to explore is that the nominative in (i) is in fact a lexical nominative, [+C/N], assigned by the Dat-Nom verb, but there are several

Sixth, oblique subjects normally trigger an obligatory (clause bounded) reflexivization - like nominative subjects but unlike (most) objects (but for some clear exceptions, see Bernóðsson 1982):

- (8) Honum leiðist konan sín /?*hans.
 him bores wife self's/ his

Seventh, oblique subjects normally behave like nominative subjects with respect to control - both as controllers and controllees; consider (9) and (10) (ná 'get, reach, pass' takes a nominative subject):

- (9) Hann vonast til [að PRO ná prófinu].
 he(N) hopes for to (N) pass the exam
 'He hopes that he will pass the exam.'

- (10)a. Hann vonast til [að PRO leiðast ekki].
 He(N) hopes for to (D) bore not
 'He hopes that he won't be bored.'
 b. Honum leiddist [að PRO ná ekki prófinu].
 him(D) bored to (N) pass not the exam
 'He was sorry not to pass the exam.'

Eighth, extraction out of subordinate clauses that have the unmarked order *complementizer-subject-verb* is normally quite acceptable, whereas it is usually rather bad out of subordinate clauses in which Topicalization has applied, e.g. subordinate clauses with the order *complementizer-object-verb-subject* (cf. Zaenen 1983, 1985). In this respect, oblique subjects would seem to behave like nominative subjects and not like preposed objects, cf. (11):

- (11)a. Hver heldur þú [að mér leiðist t mest]?
 who think you that me(D) bores most
 b. Ólafur held ég [að þér leiðist t mest].
 Olaf think I that you(D) bores most

(However, this is perhaps not a reliable test, cf. below.)

Ninth, oblique subjects behave like nominative subjects with respect to Heavy Subject Shift. The process in question is probably not of the same nature as 'Free Inversion' in Italian (cf. Burzio 1986, p. 21 ff. and chapter 3). Rather, it seems to be a PF process (cf. 6.3.2.2 and Rognvaldsson (1983, p. 25)), canonically adjoining indefinite and other 'heavy' subjects to VP. When this happens, the sentence most typically has expletive **það**

problems involved in that approach (into which I shall not go here).

in [Spec, CP]. As seen in (12), oblique subjects take part in this:

- (12) það leiddist þetta bara nokkrum málfræðingum.
 it bored this(N) only several linguists(D)
 'Only several linguists were annoyed by this.'

Heavy Subject Shift should be kept apart from the canonical existential/presentative það-construction, cf. 6.3.2.2, but for the moment, this is not important. As we shall see in 6.3.2, however, oblique subjects also behave much the same as nominative subjects in the latter construction.

Tenth, oblique subjects behave like nominative subjects with respect to cliticization. Several sentence adverbs, most typically the sentence negation and the 'dummies' nú 'now' and þá 'then', may intervene between the finite verb in Comp and an overt subject in the base subject position, even when the subject is relatively 'light' (hence incapable of moving rightwards by Heavy Subject Shift). However, this is always impossible when the subject is a 'weak' pronoun (unstressed and unexpanded, cf. Holmberg 1984b, p. 2). Presumably, such subject pronouns are obligatorily cliticized onto the verbal Comp (cf. Platzack (1986a, p. 45) on a similar phenomenon in Swedish). This includes oblique subject pronouns. Compare (13) and (14), where 'er is a phonetically reduced (and PF-cliticized) form of dative þér 'you'. The sentences in (13) illustrate the neutral order (verbal) *Comp-subject-sentence adverb*, whereas the sentence adverb splits the subject from the finite verb in (14):⁷

- (13)a. Hefur Ólafur ekki oft leiðst Haraldur?
 has Olaf(D) not often bored Harold(N)
 'Wasn't Olaf often bored by Harold?'
 b. Hefur ÞÉR ekki oft leiðst Haraldur?
 c. Hefur þér/'er ekki oft leiðst Haraldur?

⁷ We thus seem to be dealing with two cliticizations onto the finite verb that exclude each other: pronoun cliticization and cliticization of 'light' sentence adverbs (similar albeit not identical processes are found in Swedish, cf. Platzack 1986a). In sentences like (14a,b) and (i):

- (i)a. Kemur nú Ólafur (/ *'ann)!
 comes now Olaf(N) (/ *he(N))
 'If it isn't Olaf coming (there)!'
 b. Kemur ekki Ólafur (/ *'ann)?
 comes not Olaf(N) (/ *he(N))
 'Isn't Olaf coming?'

- it seems appealing to assume that the sentence adverb cliticizes onto the finite verb under the condition of adjacency, that is, when the verb is still under Infl. Subsequently, it moves along with the verb from Infl to Comp ('Big I-to-C', cf. Holmberg (1984b) on 'big' verb movement in Swedish). If this analysis can be maintained, it constitutes a rather interesting argument for I-to-C in Icelandic. However, neither cliticization process has ever been studied in any detail (for rather different ideas, see Sigurðsson 1986a).

- (14)a. Hefur ekki Ólafi oft leiðst Haraldur?
 b. Hefur ekki ÞÉR oft leiðst Haraldur?
 c. *Hefur ekki þér/'er oft leiðst Haraldur?

Finally, oblique subjects normally behave like nominative subjects with respect to Conjunction Reduction, as we already saw in 5.2.2.2.

Clearly, then, the evidence for the subjecthood of oblique subjects is overwhelming. Contradictory as it may sound, however, there is a tendency in the current generative literature to exaggerate the pervasiveness of this evidence (Bernóðsson (1982) is an interesting exception to this, though). First, some of the tests we have run through probably do not test subjecthood but rather some properties that are most typical of subjects. Thus, reflexivization is probably sensitive to functional 'themeness' or 'predication subjecthood' rather than structural subjecthood (cf. Maling 1986; however, see also Sigurðsson 1988a, p. 211 f.). Also, 'naturally topicalized' is clearly not a property of all and only subjects (cf. Sigurðsson to appear, section 4), Heavy NP Shift does not only apply to NPs that are generated in the [NP, IP] position (cf. Rögnvaldsson 1982a, 1984b), the reliability of the extraction test has been questioned (Rögnvaldsson 1984a), and given our contention that Acl infinitivals are small clauses (cf. 3.4.1), it is not clear that they have any bearing on the [NP, IP] position in finite clauses (although they clearly bear on 'predication subjects'). Second, oblique subjects are not as salient subjects as nominative subjects. Certainly, oblique subjects typically behave like nominative subjects with respect to the phenomena illustrated above. But as demonstrated by Bernóðsson (1982), there are also various cases of oblique subjects that do not pass all these 'subjecthood tests', at least not as easily as nominative subjects and/or not for all speakers. Third, we should not forget that the 'prototypical subject' has three properties not shared by oblique subjects: it is nominative, it is agentive (or 'performative', cf. 6.4.2), and it enters into an agreement relation with the finite verb (Spec-head agreement, cf. Chomsky 1986b). As we shall see, the absence of these properties (among other things) indicates that oblique subjects are D-structure objects.

Some caution, then, is recommended here. Nonetheless, I contend that 'oblique subjects' are indeed S-structure subjects, at least in the sense that they either occupy the [NP, IP] position in S-structure or enter into a chain involving [NP, IP] as one of its members.

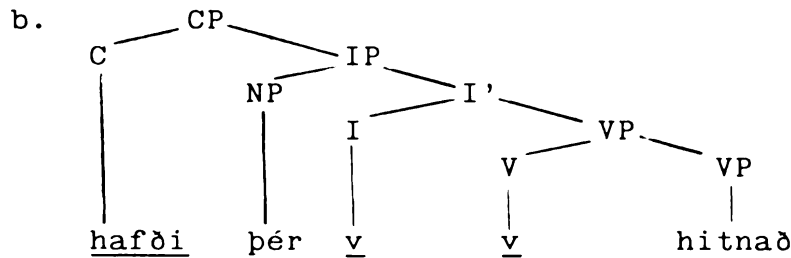
6.1.2 The Promotion Hypothesis

6.1.2.1 Oblique Promotion and D-structure Case

If oblique subjects occupy (or enter into a chain involving) the [NP, IP] position at S-structure, how, then, do they get their Case/case?

Oblique subjects cannot get case in the [NP, IP] position. If they did, they would invariably be nominative, given our approach to Case outlined in chapter 4: the [NP, IP] position is m-commanded by Infl in Icelandic and overt Infl-Case is always nominative. In fact, the Case (or case) of an oblique subject is obviously dependent on lexical properties of the (ergative oblique) main verb, as generally acknowledged, not on Infl. Consider (1), where (1b) is the (simplified) S-structure:

- (1)a. Hafði þér hitnað?
had you(D) warmed
'Were you (already) warm(er)?'

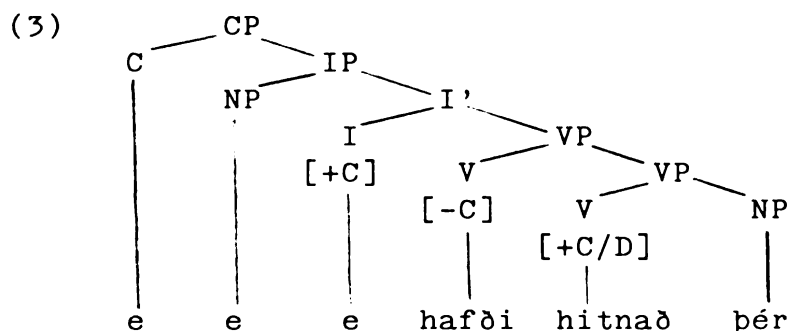


The auxiliary *hafa* 'have', not the main verb, undergoes V-to-I and I-to-C, that is, the main verb never occupies Infl. In spite of this, the main verb, and not the auxiliary (i.e. Infl), assigns Case to the oblique subject. We see this more clearly in (2):

- (2)a1. Vantaði þig vinnu?
lacked you(A) job
2. Hafði þig vantað vinnu?
had you(A) lacked job
b1. Gætti verkjanna mjög lengi?
noticed the pains(G) very long
'Were the pains noticeable very long.'
2. Hafði verkjanna gætt mjög lengi?
had the pains(G) noticed very long

This suggests that oblique subjects are in the Case domain of the main verb, and not in the Case domain of Infl, when they are assigned Case. In other words, oblique S-structure subjects are objects when (and 'before')

they are Case-marked. This means that sentences with oblique S-structure subjects have a null-subject at D-structure. Thus, (1a) has the D-structure (3):



Assignment or percolation of lexical Case, then, must apply at D-structure. See also e.g. Holmberg (1985b), Platzack (1985c), and Chomsky (1980; 1986a, p. 193). Subsequently, the lexical Case assignee is promoted, that is, moved to the [NP, IP] position by NP-movement. - Case assignment in the lexicon (suggested by Zaenen et al. 1985, p. 466), on the other hand, is excluded (cf. my approach to the lexicon in the next subsection).

Obviously, this analysis raises quite many intriguing theoretical questions, but before we consider these (in 6.1.3-6.1.6), let us look at some empirical evidence that supports the analysis, starting out (in 6.1.2.2) by looking at some indications that the promotion involved is ergative in nature, and then proceeding (in 6.1.2.3) by considering direct evidence for the promotion as such.

6.1.2.2 Ergativity and theta structure

There is considerable confusion in the literature as to what the notion 'ergativity' actually means (cf. e.g. the discussion in Marantz 1984, chapter 6). Prototypically, however, so-called ergative languages (e.g. Greenlandic, cf. Marantz 1984, Sadock 1985) show the Case pattern in (1), whereas so-called nominative-accusative languages show the pattern in (2) (Greenlandic is actually SOV, but that does not matter here):

- (1)a. Subject - transitive verb - object
 ERGATIVE ABSOLUTIVE
- b. Subject - intransitive verb
 ABSOLUTIVE

- (2)a. Subject - transitive verb - object
 NOMINATIVE ACCUSATIVE
- b. Subject - intransitive verb
 NOMINATIVE

The ergative case is thus the case of 'transitive subjects' whereas the absolutive is the case of objects and 'intransitive subjects'. In the sense of Burzio (1981, 1986, drawing on Perlmutter's (1978) Unaccusative Hypothesis), on the other hand, we are dealing with ergativity in cases like (3a) (as compared to (3b)), even in nominative-accusative languages like English:

- (3)a. The vessel sank.
 b. They sank the vessel.

That is, nominative-accusative languages have certain verbs that take a subject with an 'objective theta role' (theme, patient) when 'intransitive' (i.e. ergative; it is becoming customary to distinguish between 'intransitive (unergative) verbs' or 'truly intransitive verbs' and 'ergative verbs', cf. (5) below).

I believe these two conceptions of the notion 'ergativity' both can and should be unified. Like transitivity, ergativity depends on the theta properties of verbs (and adjectives). Plausibly, information about the theta properties of lexical entries is stored in the lexicon, cf. Chomsky (1981, p. 38; 1986a, p. 86 ff.). Stowell (1981) refers to this information as the 'theta-grid'. The verb *hit*, for instance, has the theta-grid (4) (the linear order of the theta roles is unimportant):

- (4) hit <Agent <Theme>>

However, this is a 'specified' representation of the general theta pattern (*th*) <*V* (*th*)> (corresponding to the syntactic 'structure' (NP) [*V* (NP)]), where *th* means 'theta role'. This general pattern has three canonical realizations, as shown in (5) below (for a similar approach, see e.g. Abraham 1985a, 1985b, 1986a; see also Higginbotham 1985, p. 554 ff.). I shall always 'designate' the agent role (or the external role, cf. below) by using capital letters for it, *TH*, while using lower case letters for all other roles (this deviates somewhat from Edwin Williams' well-known approach, cf. below):⁸

⁸ I keep the traditional term 'intransitive verbs' although 'unergative verbs' or 'unergative intransitive verbs' (which are becoming customary) are perhaps more appropriate.

- (5)a. transitive verbs: TH <V th>
 b. intransitive (unergative) verbs: TH <V>
 c. ergative verbs: <V th>

Further realizations are allowed for, e.g. *TH <V (th)>* for optionally transitive verbs. Alternatively, optionally transitive verbs have two (presumably interrelated) lexical entries, corresponding to the abstract (5a) and (5b). As demonstrated by Levin and Rappaport (1986, p. 637 ff.), in terms of specified theta-grids, there seems no doubt that verbs may link to more than one theta-grid (like they may have more than one subcategorization frame in more traditional generative approaches). Consider also 6.4.2 below and Zaenen et al. (1985, p. 465 ff.). However, I shall not go into any details here. I believe that my approach is entirely compatible with that of Levin and Rappaport's, but it would take me too far to demonstrate this. When it comes to formalizing certain word formation rules, cf. 6.2 and 6.4, it turns out that working with unspecified theta-grids enables us to make generalizations that are not easy to state in other transformational approaches.

I refer to VP-internal roles as the *internal roles* and to the VP-external role as the *external role*. To a certain degree, these notions are equivalent to Edwin Williams' *internal argument* and *external argument*, respectively (see Williams 1980, 1981, 1984). I shall use these notions of Williams' to refer to arguments in syntactic structures that bear an internal and an external role, respectively, - no matter what syntactic positions the arguments occupy.

Following Stowell (1981) and Chomsky (1986a, p. 86 ff.), I now assume that there is no independent subcategorization information in the lexicon.⁹ All that is needed, I tentatively assume, is theta-information of the form (5) (rather than (4), cf. below). Still following Chomsky (1981, p. 38; 1986a), I also say that verbs *select* external roles, just like internal roles. Correspondingly, I shall talk about theta-selection, or, following Chomsky (1986a, p. 86 ff.), about 'semantic selection' or s-selection (on theta-role assignment, see below). Note that (5) means that the lexicon contains a considerable amount of configurational information (as in most generative approaches). Lexical representations like *TH </hit/ th>* are, in a sense, 'lexicon-sentences'. Using a rather sloppy metaphor, I will refer to these lexical units as LEXICAL MOLECULES and to the present approach as the MOLECULAR LEXICON APPROACH. Lexical molecules correspond, roughly, to the 'argument structure' in Williams' theory (1980, 1981, etc.) and to the 'Lexico-semantic structure' in the approach of Marantz (1984) (cf. also e.g. the 'Lexical Structure' in Afarli 1987, 1988). Note also that this

⁹ But for an alternative approach, in which subcategorization and theta properties are always linked when possible, see Zubizarreta (1985, p. 248 ff.) and Jaeggli (1986b, p. 588 ff.).

approach incorporates the 'functional structure' of Lexical Functional Grammar into the lexicon (without, however, making any reference to axiomatic Grammatical Functions or 'Grammatical Relations').

When I say that verbs *select* an external role, it does not imply that verbs *assign* this role directly to the subject of the clause. Theta role assignment, I assume, involves that selected roles are linked or associated (perhaps by percolation) to arguments in syntactic structure (as for direct theta-marking, presumably in D-structure) (cf. Chomsky 1986a, p. 93; Levin and Rappaport 1986, p. 638). There seems little doubt that the external role selected by a verb is not assigned by the verb itself. Rather, it is assigned by VP, as assumed in the standard theory (cf. e.g. Holmberg 1986, p. 34 ff.). Another possibility is that it is assigned at S-structure, under c-command, by I', the predicate phrase of the sentence. If that is correct, it seems possible that V-to-I has a double function: apart from making Infl capable of assigning nominative Case, it perhaps makes I' capable of assigning the external role (by, say, transferring the external role from VP to I'). Note, however, that other methods of lexicalizing Infl, e.g. insertion of an infinitive marker, would presumably have the same effect, that is, this would only be a side effect of V-to-I's lexicalization of Infl. I shall return to this in 6.1.6.

Provisorily, I now define 'ergative verbs' as in (5c), that is, as verbs that do not select an external role (later on, this will be made more precise, in order to distinguish properly between ergative and middle verbs). 'Ergative subjects', then, are the subjects of such verbs. Unfortunately, this sense of the notion 'ergativity' is exactly opposite to the original meaning of the word (the underlying Greek verbal stem meaning 'cause, bring about, create').¹⁰ Thus, verbs in so-called ergative languages that take an ergative subject are not ergative but transitive and verbs that take an absolutive subject are ergative! But an obvious advantage of our terminology (which is due to Burzio 1981) is that it enables us to talk about 'transitive verbs' as a unitary class. More important, though, it opens up the possibility of having a unitary account for ergativity in general, as we shall see in a moment.

How do we tell whether or not a syntactic subject is ergative? As far as I can see, the question is generally avoided in GB literature. Instead of avoiding the question, let us make the usual assumption explicit, by stating the EXTERNAL ROLE PRINCIPLE in (6):

- (6)a. The external role is agentive (and internal roles are nonagentive)
 b. The external role links to [NP, IP] (when [NP, IP] contains an argument in D-structure)

¹⁰ Cf. Lyons (1968, p. 352).

(6b) is, of course, only relevant when the external role 'is there'. The parenthetical qualification is necessary because the external role links to the past participle suffix in the passive, as we shall see in 6.4.3.2.

This diverges sharply from Williams' theory, in which "any theta-role is eligible to be the external argument" (Williams 1984, p. 642). But given (6), we need not assume specified theta-grids like (4); abstracting away from lexical idiosyncrasies, all we need are lexical molecules or unspecified theta-grids as in (5) and general theta principles like the External Role Principle. Needless to say, this is a rather optimistic position. It presupposes, for instance, that the distinction between direct and indirect objects follows from general principles. One possibility is that their roles occupy numbered theta-slots in unspecified theta-grids (cf. Higginbotham 1985), but it is not clear whether this leads to correct predictions for the content of the roles (theme, goal, etc.). I shall not explore this aspect of the Molecular Lexicon Approach. What I will demonstrate in detail, though, is that the External Role Principle accounts correctly for the distribution of agentive subjects (and other 'performative' subjects, cf. 6.4.2). That is, there is at least no need to specify the external role in theta grids. The ideal goal is to extend this to internal roles, but whether or not that is possible does not really matter for what I shall have to say.

Agentive subjects are always nominative in Icelandic. This might seem to be a matter of course. However, since Icelandic has oblique subjects, the Case-marking of agentive subjects in the language must be postulated in some other approaches (cf. e.g. Yip et al. 1987). In our approach, it follows directly from the External Role Principle and Case Theory, as outlined in 4.1.

This analysis, of course, is rather restrictive. It forces us to assume that all S-structure subjects that are nonagentive (or, rather, nonperformative, cf. 6.4.2) are derived by Promotion, either in the lexicon or in the syntax. This seems welcome, since it explains why verbs like *arrive* and Italian *arrivare* (that have no transitive counterparts) are ergative or Promotion verbs (cf. e.g. Chomsky 1981, Burzio 1986). If it were not for the External Role Principle, why, then, should it be impossible for these verbs to select their nonagentive subjects as external roles or arguments? - As we shall see in 6.4.2, however, it is necessary to revise the External Role Principle slightly: some arguments seem to bear an external role that is not virtually agentive but merely performative. But for our present purposes, the formulation in (6) will do.

If the External Role Principle is on the right track, the S-structure subject in (3a) *must* be an underlying object of *sink*, that is, Promotion or NP-movement must be involved in the derivation of (3a) (as far as I know, this is not forced by any one principle in other approaches, e.g. that of Burzio's 1981, 1986). Furthermore, we may assume that absolutive subjects of 'intransitive' verbs (i.e. ergative verbs in Burzio's sense) in

ergative languages are derived by NP-movement from the [NP, VP] position to the [NP, IP] position. English, then, displays 'nominative ergativity', whereas so-called 'truly ergative languages' display 'absolute ergativity'. Icelandic 'oblique ergativity' seems to be of essentially the same nature as 'absolute ergativity', that is, the promoted subject retains its objective Case.¹¹ As mentioned, however, Icelandic also has many instances of nominative ergativity (see further 6.2), the language thus being of a mixed type. I shall return to the difference between nominative and absolute/oblique ergativity.

6.1.2.3 Initial empirical evidence

Striking evidence for the proposed analysis comes from a fact first pointed out in the generative literature by Bernóðusson (1982, p. 19 ff.): some oblique verbs show up in *ergative pairs* (in the terminology of Keyser and Roeper (1984)) or in *AVB/BV pairs* (in Burzio's (1986) terminology) - like the following:

- (1)a1. Stormurinn rak bátinn á land.
 the storm(N) drove the boat(A) on land
 2. Bátinn(A) rak á land.
 b1. Veðrið hrakti féð.
 the weather(N) drove the sheeps(A)
 2. Féð(A) hrakti.
 c1. Jón lauk sögunni.
 John(N) finished the story(D)
 2. Sögunni(D) lauk.

¹¹ But admittedly, this analysis does not foresee one peculiar property of many 'truly ergative languages', namely double verb agreement. Thus, in e.g. West Greenlandic, as described by Sadock (1985), transitive verbs agree with both the subject and the absolutive object and 'intransitive' verbs (i.e. ergative verbs) agree with the absolutive subject (see also Marantz 1984, p. 150 ff). Consider the West Greenlandic (i), taken from Sadock (1985, p. 392):

- (i)a. Kaalip Hansi takuaa.
 ERG ABS 3sg/3sg(Indicative)
 Karl Hans sees
 'Karl sees Hans.'
 b. Kaali pisuppoq.
 ABS 3sg(Indicative)
 Karl walks
 'Karl is walking.'

For a discussion of the mechanism of verb-object agreement in Georgian, see Anderson (1984). - Icelandic also has some instances of verb-object agreement where the object is nominative, cf. 6.5.2. Crucially however, verbs never agree with nonnominatives in Icelandic.

- d1. María kitlaði mig.
Mary(N) tickled me(A)
2. Mig(A) kitlaði.
- e1. Ég seinkaði úrinu.
I(N) delayed the watch(D)
2. Úrinu(D) seinkaði.
- f1. Bóndinn fjölgaði kúnum.
the farmer(N) augmented the cows
2. Kúnum(D) fjölgaði.
- g1. Vindurinn svalaði mér.
the wind(N) cooled me(D)
2. Mér svalaði.
- h1. Ég hvolfdi bátnum.
I(N) turned-upside-down the boat(D)
2. Bátnum(D) hvolfdi.
- i1. Ég fyllti bátinn.
I(N) filled the boat(A)
2. Bátinn(A) fyllti.

This is by no means the case for all ergative oblique verbs. In fact, most of them cannot usually take an agentive subject. Also, the presence of an agentive subject typically has (expected) effects on the meaning of the verb (or, rather conversely: the verb has a somewhat different meaning when it selects an external role). Thus, *rak* means 'drove' in (1a1) but 'drifted' in (1a2), *hvolfdi* means (transitive) 'turned upside down' in (1h1) but (intransitive) 'capsized' in (1h2), *lauk* means 'finished' in (1c1) but 'came to an end' in (1c2), etc. But as (1) would seem to indicate, truly ergative pairs are not uncommon for oblique verbs. Furthermore, 'indirect ergative pairs' like the ones below are quite common:

- (2)a1. *Ég gætti verkjanna ennþá.
I noticed the pains(G) still
2. Verkjanna gætti ennþá.
'The pains were still noticeable.'
- b1. Ég gætti barnanna ennþá.
I looked after the children(G) still
2. *Barnanna gætti ennþá.
- (3)a1. *Ég sló eldingunni niður í borðið.
I hit the lightning(D) down in the table
2. Eldingunni sló niður í borðið.
- b1. Ég sló hnefanum (niður) í borðið.
I hit (with) the fist(D) (down) in the table
2. *Hnefanum sló (niður) í borðið.

Pairs like the ones in (1)-(3) strongly indicate that oblique subjects are D-structure objects. As mentioned, though, evidence of this sort is only available for some ergative oblique verbs. However, ergative predicates, as in 6.1.0(10)-(15), offer further evidence in favor of the present analysis. Consider first some cases of the Optionally Ergative Construction:¹²

- (4)a. Var Ólaf hvergi að finna?
was Olaf(A) nowhere to find
'Was it not possible to find Olaf anywhere?'
- b. Var því ekki að heilsa?
was it(D) not to greet
'Was it (unfortunately) not the case?'
- c. Er skipsins því ekki að vanta nú.
is the ship(G) thus not to expect now
'The ship is thus not expected now.'

None of the main verbs in (4) are ergative all by themselves.¹³ Hence, (5):

- (5)a. *Ólaf fann hvergi.
Olaf(A) found nowhere
- b. *því heilsaði ekki.
it(D) greeted not
- c. *Skipsins vantar ekki nú.
the ship(G) expects not now

That is, even pretheoretically, there is no possible way for the oblique subjects in (4) to be Case- (and theta-)marked in place. On the contrary, subjects of optionally ergative predicates always bear the same Case (and theta-role) as otherwise assigned to *objects* of the main verbs involved. Compare (6) (=4) and (7):

- (6)a. Ólaf/*Ólafur/*Ólafi/*Ólafs var hvergi að finna.
A N D G
- b. Þessu/*Þetta/*Þessa var ekki að heilsa.
D N/A G
- c. Skipsins/*Skipið/*Skipinu er ekki að vanta ...
G N/A D

¹² I use V1 sentences to show that the obliques occupy the postverbal [NP, IP] position, but as we shall see later, Promotion is not always obligatory in this construction.

¹³ In fact, this construction never involves an ergative main verb, that is, the auxiliaries involved are like the passive morphology in that they necessarily 'suppress' an external role (when they enter into this construction), cf. 6.1.5.

- (7)a. Ég fann Ólaf (*Ólafur, etc.) hvergi,
I found Olaf(A) nowhere
- b. Ég heilsaði Ólafi (*Ólafur, etc.)
I greeted Olaf(D)
- c. Ég vænti skipsins (*skipið, etc.) ...
I expected the ship(G)

In passing, note that examples like (4)/(6) are somewhat reminiscent of impersonal *si*-sentences with Object Preposing in Italian, cf. Burzio (1986, p. 46 ff.).

The Present Participle Construction also offers clear evidence in favor of the Promotion Hypothesis. Consider the pair in (8):

- (8)a. Við buðum ekki Ólafi.
we invited not Olaf(D)
'We didn't invite Olaf.'
- b. Ólafi er ekki bjóðandi.
Olaf(D) is not inviting(/'invitable')

However, since this is very similar to the passive, to be considered in 6.4, I shall postpone further discussion of the phenomenon until in 6.5.1.

Now, consider adjectival predicates like the following (the meaning of (9a-g) is roughly the same as of the corresponding English sentences with nominative *I* and 1sg *am*):

- (9)a. Mér er kalt.
me is freezing
- b. Mér er hlýtt.
me is warm
- c. Mér er illt.
me is ill
- d. Mér er óglatt.
me is nauseated
- e. Mér er flökurt.
me is nauseated
- f. Mér er sama.
me is indifferent
- g. Mér er órótt.
me is worried
- h. Mér er kalt til Jóns.
me is cold for John
'I am not fond of John.' / 'I don't like John.'

- i. Mér er hlýtt til Jóns.
me is warm for John
'I am fond of John.' / 'I like John.'
- j. Mér er ljóst að ...
me is clear that
'It is clear to me that ...'

Normally, the progressive/futuritive copula **verða** 'be(come), will be, go/turn' may be used instead of the stative **vera** 'be' (to express a sort of a progressive aspect), cf. (10):

- (10)a. Mér verður kalt.
me will-be freezing
- b. Mér verður hlýtt.
me will-be warm

In addition, the two copulas may normally combine such that **vera** is finite, whereas **verða** shows up in the past participle form **orðið**, cf. (11):

- (11)a. Mér er orðið kalt.
me is gone cold
'I am (already) freezing (now).'
- b. Mér er orðið hlýtt til Jóns.
me is gone warm for John
'I like/am fond of John now.'

The same phenomenon is seen for nominative-taking adjectival predicates:

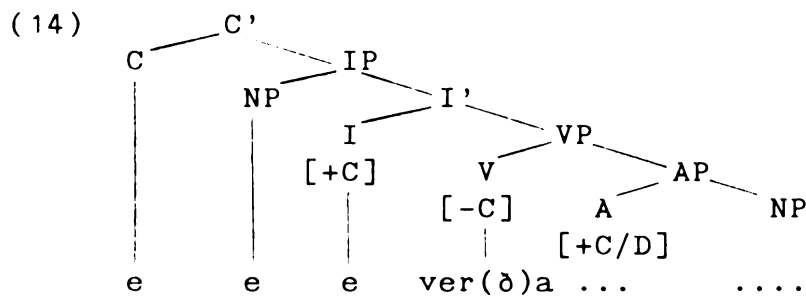
- (12) Veggurinn er orðinn hvítur.
the wall(N) is gone white
'The wall has (already) become white (now).'

When used in this way, the copulas seem to express a sort of a completed or a 'closed' progressive aspect (a 'resultative progressive' aspect, as it were). Note that **vera** does not replace the 'unmarked' perfective auxiliary **hafa** 'have', cf. the contrast in (13):

- (13)a. Mér var (*fljótt) orðið heitt.
me was quickly gone hot
'I was already warm.'
- b. Mér hafði (fljótt) orðið heitt.
me had quickly gone hot
'I had become warm (quickly).'

I shall return to the perfective auxiliary in 6.4.3.1.

As already mentioned in 6.1.0, and as seen in (9)-(11) and (13), oblique subjects of adjectival predicates are *always dative*. Why are there no 'accusative adjectival predicates' and 'genitive adjectival predicates', like there are 'accusative (ergative) verbs' and 'genitive (ergative) verbs'? We would not seem to have any answer to this if it were possible to base generate obliques in the [NP, IP] position (as assumed by e.g. Yip et al. 1987, pp. 223, 230 ff.). This suggests that datives of adjectival predicates are adjectival complements, assigned Case by the adjective in D-structures like (14):¹⁴

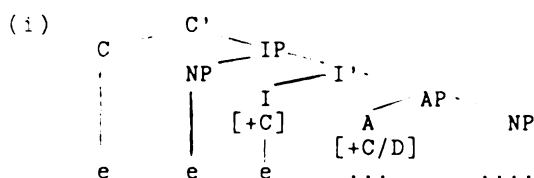


This illustrates that some adjectival heads are like verbal zero-level heads in being accompanied by a Case feature which they assign or percolate to their complements. Consider also Chomsky (1986a, p. 193 ff.). Thus, dative adjectival predicates lend an important support to the Head Principle of Case in 4.1(1) (but see 6.2.1 on nominative-taking adjectival predicates).

This conclusion is further supported by a fact discussed in 5.5.2.1: Being Case assigners, dative-taking adjectives, like the ones in (9)-(11) and (13), protect AP from percolating Infl-Case as well as from percolating number and gender. Thus, all the dative-taking adjectives above are obligatorily in the default nominative/accusative neuter singular.

Now, note that Icelandic so-called 'transitive adjectives' (cf. Platzack 1982, Holmberg 1986, p. 183) regularly assign dative, themselves, however, showing up in the nominative and bearing percolating gender and number,

¹⁴ Or, if the copula is not present at D-structure (which seems quite possible to me), in D-structures like (i):



cf. (15):15

- (15)a. Páll var trúr konunni sinni.
 N.m.sg N.m.sg D
 Paul was faithful (to) the wife self's
- b. María var góð börnunum.
 N.f.sg N.f.sg D
 Mary was kind (to) the children
- c. Börnin voru hlýðin föður sínum.
 N.n.pl N.n.pl D
 the children were obedient (to) father self's

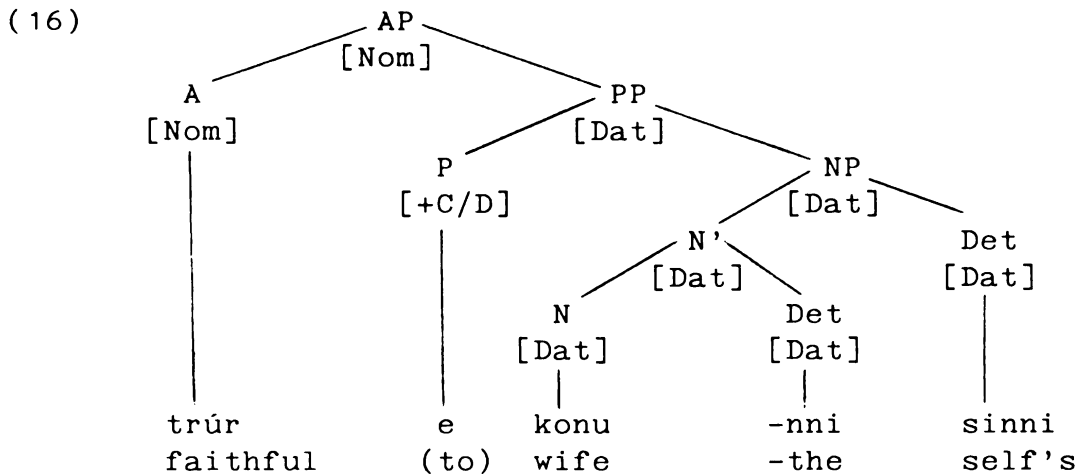
Dative complements of 'transitive adjectives' regularly seem to be goals. The dative experiencers of the adjectival predicates in (9)-(11) and (13) bear a similar semantic role, say [+recipient] (of sensations, experience, etc.), and so do most datives in the Double Object Construction, as pointed out by Holmberg (1985b, 1986, p. 216; see also Vainikka 1985; Zaenen et al. 1985; Yip et al. 1987, fn. 6, p. 228 f.). Thus, dative is, very often a semantically predictable or a thematic Case in Icelandic (adjusted or controlled by a lexical redundancy rule). That is, only sometimes is it a truly idiosyncratic or 'quirky' Case (i.e. an inherent feature of individual lexical items).

In spite of the similarities of the datives of adjectival predicates and 'transitive adjectives', they are probably not assigned in entirely the same manner. This is indicated by the above mentioned fact that the 'transitive adjective' itself bears percolating Infl-Case, gender and number, hence cannot be a Case assigner all by itself (as opposed to the adjectives in (9)-(11) and (13)): if it were, it should protect the 'complex' AP from Infl-Case as well as from percolating gender and number. In other words, 'transitive adjectives' pose a similar problem as possessive and other nominally headed genitives (cf. fn. 4 to chapter 4) and the predicative NPs discussed in fn. 4 above. The problem may be overcome by assuming that an empty preposition is involved, as illustrated in (16) for the AP in (15a):

15 Platzack (1982, p. 50) gives an example with a genitive:

- (i) Hann er sáddur lífdaga.
 he is satisfied life-days(G)
 'He is fed up with living.'
 /'He feels he has lived long enough.'

Genitives of this sort are quite rare (and never goals, it seems). On the other hand, comparative and superlative adjectives often take a partitive complement that is in the genitive (cf. Kress 1982, p. 128).



Thus, the Percolation Principle of Case, in 4.1(10), leads to the same conclusion as drawn by Homberg (1985b; 1986, p. 182 ff.): the 'transitive adjective construction' involves an empty preposition/Case assigner. There is a potential problem with this analysis, though. It seems to entail lexical nulls that are accompanied by a lexical feature, [D], or, rather, assigned a lexical feature by a lexical redundancy rule. This does not seem to make much sense. Not only did I argue against the existence of lexical nulls in 5.5.1; it also seems quite clear that the thematic dative is due to the theta-marking properties of the adjectival head. Therefore, I tentatively assume that the structure in (16) is derived by a restructuring process by which the empty preposition is inserted in syntactic structure and inherits the thematic Case feature of the adjective.¹⁶

I shall not pursue this matter any further here. What is important, for the moment, is that we can account for the dative in adjectival predicates like (9)-(11) and (13) if we assume the analysis in (14) and a subsequent NP-movement. I shall return to 'transitive adjectives' in 6.2.2, where I also argue that even nominative subjects of adjectival predicates are derived by NP-movement (i.e. all predicative adjectives are ergative). If that is correct, the structure in (16) is a simplification, i.e. AP should include or dominate the nominative subject of (15a) (the subject later

¹⁶ An alternative is to assume that thematic Case is not structurally assigned, a suggestion made by Jaeggli (1986b, p. 598) for the complement of the participle in passives of the English Double Object Construction, e.g. *a book* in (i):

(i) John was given a book by Bill.

While this seems possible for 'bare NP adverbs' (cf. Larson 1985; see also e.g. Zaenen et al. 1985, p. 464), it is much less feasible when the thematic Case relates to the theta properties of a lexical head that c-commands a complement bearing the thematic Case. Besides, Infl-Case should be free to percolate to the participle-complement in (i). As is well known (cf. e.g. Bernódusson 1982, Zaenen et al 1985), it does indeed turn up in the nominative in Icelandic sentences of this sort, cf. 6.5.2.

being promoted from under AP to [NP, IP]).

6.1.3 Burzio's generalization

Being supported by a variety of empirical evidence, the Promotion Hypothesis is clearly not a theoretical artifact. Having seen this, we can turn to its theoretical implications. As for other instances of NP-movement, two fundamental questions arise: how can it apply, and why must it apply? Apart from this, oblique ergativity obviously raises a problem that is not raised by nominative ergativity: what becomes of the nominative Infl-Case? Ergative Promotion is essentially of the same nature as passive NP-movement. Hence, if we are to appreciate the full range of data that bear on these questions, we have to consider the Icelandic passive. I shall do so in 6.4. However, an exposition of the solutions to be proposed seems recommended at this point. In this subsection, I shall illustrate that the defective Case-marking explanation of NP-movement and the so-called Burzio's generalization crucially cannot account for the fact that oblique NP-movement is obligatory (for definite NPs) in Icelandic, just like nominative NP-movement. In 6.1.4, I develop an alternative approach to NP--movement, arguing that NP-movement is due to a condition on the relation between argument positions, the SUBJECT COMMAND CONDITION (closely related to the Extended Projection Principle); furthermore, I argue that the inability of ergatives to assign structural Case, as opposed to lexical Case, follows from the Chain-Visibility Constraint (in 4.3(13)). In 6.1.5, I shall illustrate the scope of the Subject Command Condition, and in 6.1.6, I shall briefly discuss the question what becomes of nominative Infl-Case in sentences with oblique subjects.

Let us start out by considering the question why NP-movement is possible and obligatory (when the NP is definite). As we have seen, ergative verbs do not select any theta-role for the [NP, IP] position. Hence, Promotion *may* take place: it does not lead to any violation of the Theta-Criterion. In this, I am assuming the standard explanation for ergatives (Burzio 1986) as well as for passives (cf. Chomsky 1981, p. 117 ff.). Consider the passive derivation sketched in (1):

- (1)a. [e] was killed John
 b. John was killed [t].

The D-structure object may not only move to [NP, IP], it *must* also do so. It is standardly assumed that the passive morphology 'absorbs' (objective) Case, the D-structure object thus being unable to get Case in situ. Accordingly, it must move to [NP, IP], where it gets nominative Case (or

else the Case Filter is violated). As mentioned in 3.4.2.2, the same explanations are assumed to account for NP-movement or 'Subject-to-Subject Raising' in the NcI construction, cf. (2):

- (2)a. [e] seems [John to be glad]
 b. John seems [[t] to be glad].

In short, all instances of NP-movement are both allowed and forced by interacting principles of Theta Theory and Case Theory.

As we have seen, the 'theta-part' of this explanation seems to be empirically true. On the other hand, the 'Case part' is not. As mentioned in 4.1 and 4.3, and as we shall see more clearly in 6.2-4, ergative lexical items (including passive participles) never assign *purely structural* (accusative) Case, see further below (cf. also Belletti 1988). However, if I am correct that Case always percolates to the source- or trace-position of NP-movement (cf. 4.3), then this defective Case-marking cannot possibly be the 'trigger' of NP-movement. Moreover, even if we did not assume Case percolation, the defective Case-marking explanation of NP-movement immediately breaks down when it comes to oblique (and absolutive) Promotion constructions: as we have just seen, the objective Case is retained. In oblique/absolutive Promotion constructions, then, objective Case is neither 'absorbed' nor (accordingly) does the D-structure object have to move to get Case. All the same, oblique NP-movement is obligatory in Icelandic (unless the NP is indefinite or nontopical, cf. 6.3). This is illustrated in (3) (where, as before, I use V1 sentences to show that the promoted NP is in [NP, IP]):

- (3)a1. Hafði þig ekki vantað vinnu?
 had you(A) not lacked a job
 'Didn't you need a job?'
 2. *Hafði ekki vantað þig vinnu?
 b1. Hafði þér ekki leiðst?
 had you(D) not bored
 'Were you not bored?'
 2. *Hafði ekki leiðst þér?

Why is this so?

The standard analysis just reviewed conforms to the so-called 'Burzio's generalization' due to Burzio (1981). Several versions of it are found in the current generative literature, e.g. the one in (4) (taken from Abraham 1986a, p. 64, but note that Abraham is not specifically arguing for this formulation of the generalization):

(4) There is no Case assignment to the internal argument unless there is a designated subject argument

- where 'designated argument', due to Edwin Williams (see e.g. Williams 1984, p. 640 f.) means, roughly, the same as 'external role' in our approach.

Chomsky discusses this idea of Burzio's at considerable length (see 1981, chapters 2.6, 2.7 and 4.5; 1986a; 1986b). He (1981, p. 113) suggests the tentative formulation in (5):

(5) A verbal element assigns Case to an NP that it governs if and only if it assigns a theta-role to its subject

- but states immediately that this is too strong and of an unclear status. Later on, Chomsky (1981, p. 125) proposes (6):

(6) If some NP governed by V is assigned no Case, then the VP of which V is the head assigns no theta-role

However, Burzio himself (1986, chapter 3.1) argues, in effect, that the 'reverse' of (5) holds, but is cautious enough to restrict his claim to accusative Case. We may paraphrase his formulation (Burzio 1986, p. 185) of this as follows:

(7)a. If a VP assigns no external theta-role, then its V does not assign (accusative) Case
 b. If a V does not assign (accusative) Case, then its VP does not assign an external theta-role

None of these formulations of Burzio's generalization accounts for oblique/absolute Promotion. (4) and (5) are plainly wrong: as we have seen, oblique verbs assign objective D-structure Case even though they do not select any external theta role. In so far as Burzio's 'accusative Case' really means (morphophonological) 'accusative', (7) is also wrong, as seen by lexical accusatives in Icelandic, cf. e.g. (3a) above. If it means 'structural Case' or [+C], then (7) would account for nominative Promotion if Case did not percolate. The same is true of (the more cautious) (6): Given the standard Case Theory, it is a defensible approach to nominative ergativity, but like (7), it has no bearing on oblique/absolute ergativity, that is, Promotion of already Case-marked D-structure objects.

Clearly, then, Burzio's generalization and the standard defective Case-marking explanation of NP-movement wrongly predict that oblique/absolute ergativity should be nonexistent. In addition, Burzio's generalization is

suspicious for conceptual reasons, as it stands. As noted by Abraham (1986a, p. 5), it involves a rather strange conspiracy of different modules of grammar, Case Theory and Theta Theory, predestining NP-movement, as it were. Last, but not least, even for ergatives that do not assign lexical Case, it is only a description. That is, it does not explain why ergatives never assign a purely structural Case. It would of course be a substantial improvement if we could come up with a principled explanation of this peculiar fact.

6.1.4 The Subject Command Condition

Our task, then, is twofold. First, we want to explain the obligatoriness of oblique as well as nominative NP-movement. Second, we would like to be able to explain the fact that ergatives never assign purely structural Case, as opposed to lexical Case. Starting out by addressing the first problem, we might account for the obligatoriness of oblique as well as nominative NP-movement in Icelandic by replacing Burzio's generalization by a filter that takes, roughly, the form (1):

- (1) For X, X = A or V, *[NP, XP] if:
[NP, IP] contains no theta role

Call this the Subjecthood Filter, for ease of reference. As we shall see shortly, it is only a very rude approximation, but it will do for our momentary expository purposes. It filters out all S-structure objects, regardless of their Case properties, in sentences that have only an expletive subject (which correctly predicts the ungrammaticality of e.g. English sentences like **It sinks the boat.*). Consider the pairs in (2) and (3):

- (2)a. *Hafði [e] liðið þér illa?
had felt you(D) badly
b. Hafði þér liðið [t] illa?
- (3)a. *Hafði [e] verið hlýtt þér?
had been warm you(D)
b. Hafði þér verið hlýtt [t]?

Why are (2a) and (3a) out? Clearly not because of any violation of the Case Filter: the dative objects are Case-marked in situ, and being an NS language, Icelandic allows for Case-marked *pro* in [NP, IP], as we saw in 5.3.2. Therefore, we have no account for the ungrammaticality of these sentences unless something like the Subjecthood Filter is at work in

Icelandic, ruling them out.

In 3.4.1(15)-(17), we saw that subjects of raising infinitivals behave like objects with respect to Scandinavian Object Shift. As is well known, they also do so with respect to NP-movement (cf. 3.4), and like other NP-movement, their raising seems to be independent of Case. Hence, the variation in (4) (mentioned in 3.4.2.2) and (5):

- (4)a. *Hafði [e] virst [Ólafur vera gáfaður]?
 N N
 had (it) seemed Olaf be intelligent
- b. Hafði Ólafur virst [[t] vera gáfaður]?
 N N N
 'Did Olaf seem to be intelligent?'
- (5) Hafði pér virst [t] [Ólafur vera gáfaður]?
 D D N N
 had you seemed Olaf be intelligent
 'Did Olaf seem intelligent to you?'

Similar variation is seen in cases like (6) and (7) (the inflection of the participle is irrelevant for the point I am making):

- (6) *Var [e] talinn [Ólafur vera gáfaður]?
 N.m.sg N N
 was believed Olaf be intelligent
- (7) Var Ólafur talinn [[t] vera gáfaður]?
 N N.m.sg N N

[NP, IP] must contain a theta role or an argument if its CP contains any other (definite) nuclear argument. (4a) and (6) violate this, hence their ungrammaticality.

The relevant condition controlling NP-movement, then, must be formulated such that it applies to subjects of raising infinitivals as well as to objects of Vs and As. We can perhaps tackle this problem if we assume, with Chomsky (1986a, p. 91 f.), that subjects of raising infinitivals are s-selected, hence theta-marked, by both the raising verb and the infinitival verb. The relevant condition, then, applies to 'complements' of Vs and As are either partly or exclusively theta-marked by them. On the other hand, it must not apply to prepositional objects (see 6.3.1), i.e. it only applies to complements of 'predicators', As and Vs. Moreover, it must be formulated such that it does not trigger obligatory movement of indefinite (or nontopical) NPs, cf. 6.3 on indefinite logical subjects in the Existential/Presentative Construction. This would seem to suggest (8), instead of (1):

- (8) For a predicator X: *[NP, XP] if
- a. [NP, IP] contains no argument,
 - b. [NP, XP] contains a definite argument, and
 - c. X theta-marks [NP, XP] or takes part in theta-marking it

For a somewhat similar approach (but only for Vs and not taking indefiniteness into account), within the framework of Lexical Functional Grammar, see Zaenen et al. (1985, p. 466).

If this Subjecthood Filter is on the right track, we have an account for (or a description of) the fact that oblique NP-movement is precisely as obligatory as nominative NP-movement: even in a null-subject language like Icelandic, definite A/V-objects are ruled out if [NP, IP] is nonargumental, irrespective of the Case properties of the objects.

The conceptual status of (8), however, is rather unclear. I would like to suggest that it should be replaced by a general condition on the relation between 'nuclear' argument positions, [NP, IP] and [NP, VP/AP], having the effect that definite (or topical) nuclear arguments of V/A must be commanded by an argument in [NP, IP]. Let us call the condition in question the SUBJECT COMMAND CONDITION (SCC). Before we can state it, we have to make the notion 'nuclear argument' more precise. So far, I have used it, roughly, in the sense 'prominent arguments within the clause'. Intuitively, there is something to this understanding, but it is far too unspecific. What we need is a structural notion of 'nuclear arguments', defined in terms of the structural relation between zero-level heads and their arguments. It must be formulated such that: (i), normal V-, A-, and P-objects are nuclear arguments of V, A, and P, respectively, and (ii), subjects of raising infinitivals are nuclear arguments of raising verbs. Being either small clauses or bare IPs, cf. 3.4.1, raising infinitivals are 'prototypical nonbarriers' (in the sense of Chomsky 1986b). In our approach, this is equivalent to saying they are neither Case- nor theta-protected from raising verbs (extending the notion 'protection' so as to cover theta-protection, in the obvious sense, cf. fn. 2 to chapter 4). Therefore, I propose the following definition:

- (9) For a and b, a a zero-level head, b an argument, b is a nuclear argument of a, iff:
- i. a m-commands b, and
 - ii. there is no theta- or Case-protecting head c intervening between a and b

(- where *c* 'intervenes' between *a* and *b* if *c* m-commands *b* but not *a*). Nominative-taking ergatives and raising verbs like *seem*, of course, do not assign Case, cf. below. However, (9ii) makes the natural assumption that

the nuclear argument of some particular head will receive Case and theta role from that head iff the head is an assigner of Case and theta role, respectively.

It follows from (9ii) that prepositional objects are never nuclear arguments of verbs if the preposition is an assigner of Case or a theta role. However, if the preposition loses its ability to assign Case and a theta role, (9) 'allows' (or does not 'forbid') its object to become a nuclear argument of the verb of which the PP in question is a sister. This is precisely what happens, it seems, (under reanalysis of V+P) in pseudopassives of the English type *The bed was slept in*. cf. e.g. Hornstein and Weinberg (1981).¹⁷

Now, we can state SCC as follows:

(10) **The Subject Command Condition:**

*IP if [NP, IP] is nonargumental and [VP/AP, IP] includes a nuclear argument of V/A

- where 'includes' is the opposite of Chomsky's 'excludes' (cf. Chomsky 1986b, p. 9):

- (11)a. a excludes b if no segment of a dominates b
 b. a includes b if a dominates all segments of b

It follows that VP/AP does not include [NP, VP/AP] if the latter is coindexed (i.e. forms a chain) with a position external to VP/AP (VP/AP then not dominating all segments of the chain of which [NP, VP/AP] is a member). As we shall see in 6.3, this explains why indefinite or nontopical NPs are exempted from obligatory NP-movement.

For the relation between an argumental subject and its predicate, SCC has much the same content as Williams' (1980, p. 206) C-Command Condition on Predication, saying, roughly, that a subject must c-command its predicate. Conceptually, it is also similar to prevailing ideas in Relational Grammar (RG), but it has somewhat different consequences than the

¹⁷ Accordingly, we do not expect prepositions that assign lexical Case to be able to undergo V+P reanalysis. At least canonically, lexical Case is inherently related to theta-marking, cf. Chomsky (1986a, p. 193). Therefore, if an assigner of lexical Case loses its Case feature, it seems plausible to assume that its theta selection properties are not observed at syntactic levels, i.e. the Projection Principle is violated, cf. further below (but for some possible counterexamples, see 6.2.3.3). As argued by Holmberg and Platzack (1988), this is presumably the reason why Icelandic has no pseudopassives (all prepositional Cases in the language clearly being lexical). Obviously, however, this explanation only applies to languages that have lexical Case, like German, Russian, and Icelandic, for example (none of these having pseudopassives). Something more is needed to explain the absence of pseudopassives in languages like French, for instance. Moreover, this does not explain why WH-movement, as opposed to NP-movement, may strand a preposition in Icelandic (cf. Maling and Zaenen 1985) whereas neither process may do so in e.g. German.

corresponding theorem of RG, the Final 1 Law.¹⁸

Oblique as well as nominative NP-movement, then, is forced by SCC. Perhaps, SCC should be subsumed under a revised version of the Extended Projection Principle (an idea suggested to me by Christer Platzack). If this is a correct step to take, EPP should be reformulated roughly as follows:

- (12)a. IP contains a structural subject, [NP, IP],
external to VP
- b. [NP, IP] is nonargumental iff [VP/AP, IP]
does not include any nuclear argument of V/A

However, I shall assume that SCC is an independent condition, EPP thus only involving (12a). See further 6.5.3.

It follows from our approach that the inability of ergatives to assign a purely structural Case never triggers NP-movement. In fact, the connection seems to be exactly the reverse, i.e. the nonassignment of structural accusative follows from NP-movement and not vice versa, as we shall see in a moment.

In Burzio's analysis (cf. 1986, p. 185), the nonassignment of the accusative is simply a lexical deficiency of ergatives, related to their non-selecting of an external role. An alternative lexical approach is to assume the lexical redundancy rule in (13):

- (13) For X, X = A, V:
 $\langle X \text{ (th)} \rangle \rightarrow \langle X \text{ (th)} \rangle$
[-C]

Under lexical insertion, the lexical [-C] feature so assigned would be mapped onto a zero-level head, overriding the inherent [+C] feature of the head. The natural assumption is that passive participles (as well as auxiliaries/modals) would be input to (14), that is, we do not have to assume any Case 'absorption' in the passive, cf. 6.4.

This approach is preferable over Burzio's analysis to the extent that it does not categorically exclude that ergatives assign lexical Case. Since lexical Case is inherently "associated with theta-marking while structural Case is not" (Chomsky 1986a, p. 193), it seems reasonable to assume that all assigners of lexical Case would be exempted from or 'immune' to (14).¹⁹

¹⁸ The major difference is that SCC has no bearing on sentences that do not contain any nuclear argument of V/A, whereas the Final 1 Law is meant to bear on all sentences, cf. Perlmutter and Postal (1983, p. 100 f.; 1984).

¹⁹ Or else the Projection Principle would be violated, the theta-selection properties of the item not being observed at syntactic levels, cf. fn. 17 above.

However, even under this auxiliary assumption, natural as it is, the rule in (13) is at best only descriptively adequate. It does not, of course, explain itself, as it were. That is, it does not explain the plain fact that ergatives never assign purely structural Case. The Chain-Visibility Constraint, suggested in 4.3(13), offers an alternative approach that is not only principled but also quite simple. Recall that it requires that an antecedent and its trace always bear one and the same Case. As we saw in 4.3, this effect is secured for lexical Case if it percolates at S-structure as well as at D-structure. In the absence of a lexical Case feature, on the other hand, the Chain-Visibility Constraint forces ergatives not to percolate any Case feature: if they did, the trace would bear another Case than its (nominative) antecedent.

If this is correct, we may assume that ergatives observe the Head Principle of Case in 4.1(1), i.e. zero-level heads dominating ergatives that do not assign lexical Case have a structural Case feature that must remain unassigned. From a conceptual point of view, this account is, of course, much preferable over (13), being entirely principled. However, various facts (some of which I shall mention in 6.5.2-3) indicate that we may have to make an auxiliary stipulation to the effect that it is not possible to assign structural accusative unless structural nominative is also assigned within the minimal IP of the accusative (cf. also Yip et al. 1987). Call this the ACCUSATIVE FILTER (AF). We may formulate it as follows, where '->' means 'realized as':

- (14) * $[+C_j]$ -> structural ACCUSATIVE unless
 $[+C_i]$ -> NOMINATIVE

Ovviously, however, AF does not exclude assignment of structural accusative to the trace of a raised nominative; this is excluded by the Chain-Visibility Constraint, as discussed above.

Belletti (1988) discusses the Case assignment properties of ergatives at some length. Basing her arguments on Finnish data, she suggests that ergatives assign an inherent (i.e. lexical) partitive Case. Thus, the postverbal nominative in (15) is actually partitive:

- (15) There were three linguists at the conference.

- English, as opposed to Finnish, simply not having a morphological partitive case. Moreover, Belletti proposes that partitive Case is only compatible with indefinite NPs (as it normally is in Finnish), thus accounting for the so-called Definiteness Effect (to be discussed in 6.3). Since Belletti claims that her theory offers a universal account for the Case properties of ergatives, her analysis of (15) should extend to the Icelandic (16):

- (16) Það voru þrjú málfræðingar á ráðstefnunni.
 there were three linguists(N) at the conference

Of course, however, Icelandic facts illustrate quite clearly that Belletti's universal claims are rather unfortunate generalizations of a language specific property of Finnish - and so do facts from many other languages, for example German (see 6.5.3). As we have seen, Icelandic ergatives can assign whatever case as long as it is lexical - and it does not seem to make much sense to call these lexical accusatives, datives and genitives (as well as the structural nominatives in (15)-(16)) 'Partitive Case' precisely when they show up on nonraised indefinite or nontopical NPs in the Existential/Presentative Construction (the same cases always showing up on corresponding NP-moved ergative subjects, whether or not definite). That is, the crucial property of ergatives or unaccusatives, seen in Finnish as well as Icelandic, is that they never assign a *purely structural* (accusative) Case.

In sum, the effects standardly attributed to Burzio's generalization follow from two independent principles: the Subject Command Condition and the Chain-Visibility Constraint.

6.1.5 The scope of the Subject Command Condition

As in other GB approaches, NP-movement is always blocked if [NP, IP] contains an arbitrary argument, even if the argument is PRO or *pro*, cf. (1):

- (1)a. [Að PRO reykja sigarettur] ...
 to smoke cigarettes(A)
 b. * [Að sigarettur reykja [t]] ...

The reason is, of course, that NP-movement violates the Theta-Criterion if [NP, IP] contains a theta role, 'lexicalized' or not.

On the other hand, Promotion of nuclear (definite) arguments is obligatory in the passive, even though the passive implies an agent (or a 'performer', cf. 6.4.2). Hence, (2):

- (2)a. Hún var kosin.
 she was elected
 b. *Það var kosið hana.
 N/A.n.sg A
 it was elected her

This suggests that the implied external role (which has an arbitrary interpretation) does not link to the empty subject position in passives: if it did, Promotion would be blocked, as in (1). I shall return to this in 6.4.3.2, where I propose that the passive participle bears the implied role (as already mentioned in 5.3.1).²⁰

Several modals have the interesting property that they can 'depersonalize' main verbs, viz.:

- (3) **eiga** 'shall, ought', **mega** 'may, be allowed',
þurfa 'need, have to', **verða** 'must, have to',
 (**skulu** 'shall').

- the result being the Impersonal Modal Construction (IMC), mentioned in 5.3.1. Consider (4), (4c) exemplifying IMC:²¹

- (4)a. Hýddi Jón strákinn?
 flogged John the kid(A)
 'Did John flog the kid?'
 b. *Hýddi [e] strákinn?
 flogged the kid(A)
 c. Þurfti [e] að hýða strákinn?
 needed to flog the kid(A)
 'Did people(/you, etc.) have to flog the kid?'

(5) contains some declarative IMC-sentences ((5a) is from a well-known folksong):

- (5)a. Það á [e] að gefa börnum brauð.
 it shall to give children bread
 'People should give bread to children.'
 b. Það má [e] ekki skamma drenginn.
 it may not scold the boy
 'People (/We/You, etc.) must not scold the boy.'
 c. Það verður [e] að hjálpa konunni.
 it must to help the woman
 'Someone (/We/You, etc.) must help the woman.'

Referential subjects are, of course, also compatible with these optionally 'depersonalizing' modals, cf. (6) (compare (5a)):

²⁰ For some speakers (of a nonstandard 'dialect'), however, sentences like (2b) are acceptable, cf. 6.5.3.

²¹ Note the structural accusative on the object in (4c) (and (5a-b) below), indicating that *pro* is nominative (cf. the Accusative Filter).

- (6) Þú átt að gefa börnum brauð.
you shall to give children bread

As discussed in 5.3.1, *pro* is arbitrary in IMC, that is, it is an argument. Accordingly, NP-movement is always blocked in the construction, as in infinitivals containing arbitrary PRO (like (1) above). This is illustrated in (7):

- (7)a. Má [e] skila bókinni seinna?
may return the book later(D)
'May I(/we, etc.) return the book later?'
b. *Má bókinni skila [t] seinna?

Now, recall that we distinguished between IMC and the Optionally Ergative Construction (OEC) in 5.3.1, OEC typically involving one of three modals or auxiliaries, *skulu* 'shall', *bera* 'shall' (otherwise not a modal), and the copula. As we saw in 6.1.2.3, OEC offers striking evidence in favor of a promotion analysis of oblique subjects, namely pairs like the following:

- (8)a. Var Ólaf hvergi að finna [t]?.
was Olaf(A) nowhere to find
'Was it not possible to find Olaf anywhere?'
b. Hafði hún hvergi fundið Ólaf?
had she nowhere found Olaf(A)
'Didn't she find Olaf anywhere?'

Furthermore, we noted that the modals involved in OEC seem to 'ergativize' the main verb, cf. (9):

- (9)a. *Hafði Ólaf hvergi fundið [t]?
had Olaf nowhere found
b. *Hafði [e] hvergi fundið Ólaf?
had nowhere found Olaf

That is, the modals, somehow, seem to absorb or incorporate the obligatory external role of the main verb, like passive morphology (cf. 6.4.3.2).

However, OEC is sometimes anomalous in involving NP-movement that seems to be only optional. Consider the genitives in (10) and (11) (of the demonstrative *það* 'it, that', heading a complex NP and referring to the *að*-clause):

- (10)a. Hér skal þess getið [t] að
here shall it mentioned that
'Here one should mention that ...'

- b. Nú er þess að vanta [t] að ...
 now is it to expect that
 'Now, one expects that ...'
- c. Nú ber þess að gæta [t] að ...
 now shall it to heed that
 'Now, one should heed that ...'
- (11)a. Hér skal [e] geta þess að ...
 here shall mention it that
 'Here, I(/We, etc.) will mention that ...'
- b. Nú er [e] að vanta þess að ...
 'Now, one expects that ...'
- c. Nú ber [e] að gæta þess að ...
 'Now, one should heed that ...'

Various factors seem to affect precisely 'how optional' NP-movement is in the construction, above all the theta-properties of the main verb and 'how referential' the D-structure object is. However, I shall not explore this. Let us only note that sentences like (11) seem to violate the Subject Command Condition. I shall tentatively assume that the modals involved absorb or incorporate the external role of the main verb in sentences like (10) (and (8a)), whereas they only 'depersonalize' the main verbs in (11), [NP, IP] thus containing arbitrary *pro*. The sentences in (10) have an arbitrary reading, like the ones in (11) (and like passives, 'personal' as well as impersonal), but the difference between them would be accounted for if the arbitrary reading links to *pro* in (11), like in the IMC-sentences in (4c), (5) and (7a). If that is correct, the sentences in (11) do not violate the Subject Command Condition.

The Subject Command Condition also accounts for a variation that is very typical of Icelandic, namely the ERGATIVE-IMPERSONAL ALTERNATION in active sentences like (12) and in passives like (13) (recall that SCC only bears on sentences with predicates, a VP or an AP, that contain a nuclear argument of V or A):

- (12)a. Hafði ljósið slokkað [t]?
 had the light gone-out
- b. Hafði [e] slokkað á ljósinu?
 had (it) gone-out on the light
- (13)a. Hafði ljósið verið slökkt [t]?
 had the light been turned-off
- b. Hafði [e] verið slökkt á ljósinu.
 had (there) been turned-off on the light

Roughly the same variation is found in Mainland Scandinavian (cf. Áfarli (1987, 1988) on Norwegian), the difference, of course, being that Mainland Scandinavian inserts an expletive pronoun into [NP, IP] in sentences like (12b) and (13b).²²

In both (12) and (13), the *a*- and *b*-sentences are roughly synonymous. Being a nuclear argument of V, the D-structure object is forced to move, by the Subject Command Condition, in the *a*-sentences. Being a prepositional complement in the *b*-sentences, it must not move (cf. Maling and Zaenen 1985).

It might seem possible to explain the Ergative-Impersonal Alternation in terms of Case Theory (sentences like (12b) and (13b) involving insertion of a preposition, for the purpose of successful Case assignment). I shall consider the phenomenon in more detail in 6.3 and 6.4, where we shall see that there is clear evidence against this interpretation. Here, I contend that there do not seem to be any violations of the Subject Command Condition in Icelandic.

6.1.6 The fate of the nominative

Having established the Subject Command Condition, we return to the question: what becomes of the nominative Infl-Case in sentences that have oblique subjects? Several possibilities come to mind, but the basic question is whether or not we allow more than one Case per chain. The simplest possibility is perhaps to assume that an NP or a chain may freely bear an overt lexical Case and an invisible structural Case, whereas two lexical Cases or two structural Cases would be banned. Recently, Belletti (1988, p. 25 f.) has suggested that this is indeed the case.

Call this simple solution the Double-Case Approach. At first sight, it might seem to gain support from the behavior of V-to-I in sentences with oblique subjects. V-to-I behaves the same in these as in sentences with a nominative subject, cf. (1):

²² As is well known, Swedish and Norwegian also have 'pseudopassives' along with impersonal passives like (13b), cf. e.g. Maling and Zaenen (1985) and Áfarli (1987, 1988). Compare the Swedish (i) to the Icelandic (ii):

- (i)a. Det skrattades [t] átt honum.
it was-laughed at him
'People laughed at him.'
b. Han skrattades [t] átt [t]
he was-laughed at
- (ii)a. Það var hlegið [e] að honum.
it was laughed at him
b. *Hann var [t] hleginn að [t].

- (1)a. Ég sagði [að mér hefði ekki [v] leiðst].
 I said that me had not bored
 'I said that I had not been bored.'
 b. *Ég sagði [að mér ekki hefði leiðst].

Since V-to-I must apply if Infl is to be able to assign nominative Case, we would have an account for its obligatoriness in (1) if the dative *must* combine with a structural nominative.

There is an alternative interpretation of the obligatoriness of V-to-I in (1), though. In 6.1.2.2, I tentatively suggested that lexicalization of Infl makes I' capable of assigning theta role to [NP, IP] under c-command at S-structure, the role being transferred from VP to I'. In most cases, the role so transferred will be an external or an agentive/performative role. However, let us assume that [NP, IP] cannot contain any kind of a theta role unless this role transfer takes place, the role transfer being conditioned by 'visibility' or lexicalization of Infl. If that is correct, it follows that Infl must be lexicalized in all sentences containing a theta role in [NP, IP], no matter whether the role is external or internal. - Possibly, role transfer is a necessary condition on predication.

Note that this does not render our Case explanation of V-to-I superfluous or vacuous. V-to-I applies in finite clauses even when no role transfer takes place, that is, clauses with (Case-marked) expletive *pro*. Conversely, insertion of an infinitive marker would secure role transfer in control infinitivals (as in English), that is, if PRO would not have to be Case-marked in Icelandic, we would not expect V-to-I to take place in Icelandic control infinitivals.

Now, this role transfer explanation is clearly rather speculative. Moreover, it leaves one problem unresolved. The Mainland Scandinavian type of I/V Reanalysis (cf. 2.5) should secure role transfer, but as seen in (1b), it is not available (except in adverbial and relative clauses, cf. 2.5). In spite of this, the role transfer explanation seems preferable over the Double-Case Approach for several reasons. First, there is extensive evidence from a wide array of languages that chains (including individual NPs) never involve conflicting Cases (cf. also Chomsky 1981, p. 334; Borer 1986, p. 408). Recall, also, that I suggested, in 4.3, that chains are structurally invisible unless all their members bear one and the same Case (the Chain-Visibility Constraint). Thus, we have good reasons to believe that there is a universal ban on double Case in chains:

- (2) A chain contains no more than one Case

Now, it would be possible to maintain (2) under the Double-Case Approach also if we assume that lexical Case is only *case*, and not *Case*, i.e. if lexical Case is not structural in any sense. However, this seems to be

incorrect. First, there is only one set of inflectional or morphophonological 'realization' rules for Case, as seen by the fact that lexical and structural accusatives are always homophonous. This would seem to be rather peculiar if lexical Case is something quite different from structural Case. Second, zero-level heads percolate lexical Case in the same manner as purely structural Case (albeit at D-structure as well as at S-structure). Third, assigners of lexical Case act as protecting heads, like assigners of structural Case, cf. 4.3 and 5.5.2.1. Fourth, NP-internal agreement behaves precisely the same for lexical Case as for purely structural Case, cf. 4.2.

Recall also (from 5.2.2.2 and 5.5.2.1) that the *finite* verb does not agree in person and number with oblique subjects, as opposed to nominative subjects, cf. (3) vs. (4):

- (3)a. Okkur/Þá langaði í bókina.
 us/them longed for the book
 A 3sg
 'We/They wanted (to get) the book.'
- b. Okkur/Þá hafði langað í bókina.
 us/them had longed for the book
 A 3sg

- (4)a1. Við vildum bókina.
 we wanted the book
 N 1pl
2. Þeir vildu bókina.
 they wanted the book
 N 3pl
- b1. Við höfðum viljað bókina.
 we had wanted the book
 N 1pl
2. Þeir höfðu viljað bókina.
 they had wanted the book
 N 3pl

Since this crucially involves the finite verb, it seems clear that agreement vs. nonagreement is not directly dependent upon lexical properties of main verbs. Rather, we have an account for this if the finite verb only agrees with NPs that bear Infl-Case, Infl-Case not being assigned to [NP, IP] if it contains an NP that is already marked for (lexical) Case (such Case-marking, in turn, being directly dependent upon lexical properties of main verbs). See also Holmberg (1985b). In the Double-Case Approach, on the other hand, it is not clear how the nonagreement in cases like (3) should be explained (the dative subject bearing ('invisible') Infl-Case in this approach).

Recall, from 4.1 and 4.3, that Case assignment seems to be basically free, not applying when its application is not required by the Case Filter. All in all, therefore, the straightforward solution is to assume that Infl simply does not percolate its Case feature in sentences like (3) and (5):

- (5) Okkur líkaði við Ólaf.
 D 3sg A
 us liked with Olaf
 'We liked Olaf.'

If, on the other hand, Infl-Case is required by the Case Filter it *is* assigned or percolated. This is what we get for e.g. Dat-Nom passives of ditransitives (cf. 6.5.3) and for Dat-Nom ergatives, cf. (6):

- (6) Mér líkuðu hestarnir.
 D 3.pl N.m.pl
 me liked the horses
 'I liked the horses.'

As briefly mentioned by Belletti (1988, p. 25, fns. 49 and 50), Italian seems to display the same phenomenon. Consider also Jaeggli (1986b, p. 593 f.) on Spanish as well as Italian. - See further 6.5.3 on Icelandic Dat-Nom passives.

'The fate of the nominative', then, is not a problem. To this extent, our approach is equivalent to the Case absorption approach suggested in Platzack (1985c, 1987a). Platzack does not develop any explanation of the obligatoriness of oblique NP-movement, but as far as I can see, the explanation developed here, viz. the Subject Command Condition, is entirely compatible with his approach (even though I do not accept the 'Case absorption part' of his analysis, cf. 5.3.2).

6.1.7 Summary

The major conclusions of this subchapter may be summarized as follows:

1. There is extensive evidence that oblique subjects are D-structure objects, assigned lexical Case at D-structure and promoted by NP-movement.
2. This oblique Promotion seems to be of the same nature as absolutive Promotion in 'truly ergative languages'.

3. It is possible to account for at least the most important theta-properties of oblique verbs (and adjectives) in the Molecular Lexicon Approach, assuming only abstract or nonspecified theta-grids.
4. The obligatoriness of NP-movement (in languages like English, Romance, and the Scandinavian languages) cannot be explained in terms of defective Case-marking. Rather, it is explained by a condition on the relation between argument positions, the Subject Command Condition, requiring that nuclear arguments of Vs and As that are included by VP/AP be commanded by an argumental subject.
5. The defective structural Case-marking of ergatives is forced by the Chain-Visibility Constraint, requiring that all members of a chain be Case-identical.
6. Like other Case percolation, percolation of Infl-Case is free. Hence, Infl-Case remains unassigned in sentences with oblique subjects (unless the sentence contains an *object* that requires the Infl-Case).

Oblique subjects, then, do not constitute counterevidence against the Case theory proposed in chapter 4. In the next subsection, I shall consider how nominative Promotion in Icelandic bears on the theory.

6.2 Nominative Promotion: NP-movement vs. lexical Promotion

6.2.0 Introduction

As opposed to oblique Promotion, nominative Promotion in Icelandic has not been discussed in any detail in the generative literature (for some initial remarks, see Zaenen and Maling 1984). This is not surprising. From a comparative point of view, oblique Promotion is, of course, more interesting than nominative Promotion, the latter being the 'normal thing', found in many well-known European languages. However, precisely the fact that Icelandic has oblique Promotion makes nominative Promotion in the language particularly interesting. Comparison of the two types gives us a rare opportunity to gain valuable insights into the nature of Promotion and its interaction with Case-marking. Therefore, I shall study some of the most important aspects of Icelandic nominative Promotion in this subsection.

Nominative Promotion verbs in Icelandic are very often the 'ergative pole' of ergative-transitive/causative pairs like the following:

- (1)a. Súpan sauð.
the soup(N) boiled
b. Páll sauð súpuna.
Paul(N) boiled the soup(A)

Most typically, 'inchoative' *-na* verbs and middle *-st* verbs (cf. Ottósson 1986a, 1986b and references cited there) are nominative Promotion verbs in Icelandic. A third rather regular group consists of 'progressive' verbs derived from adjectives with a *-k(k)a* suffix.²³ Fourth, there is an ergative-transitive relation between some strong nominative Promotion verbs (*springa* 'explode', *sökkva* 'sink', *falla* 'fall', *brenna* 'burn', *renna* 'slide', etc.) and corresponding weak transitive verbs (*sprengrja*, *sökkva*, *fella*, *brenna*, *renna*, etc.). An extensive descriptive overview over these verb classes, above all the *-st*-verbs, is found in Ottósson (1986a, 1986b) and in Friðjónsson (1987). Many interesting observations are also found in Zaenen and Maling (1983, 1984) and Ottósson (1987). For the sake of concreteness, I give some relevant pairs below.

First, three 'strong-weak alternations':

- (2)a1. Bókin brann.
the book(N) burned.
2. Þeir brenndu bókina.
they burned the book(A)
b1. Glasið rann yfir borðið.
the glas(N) slid across the table
2. Hann renndi glasinu yfir borðið.
he slid the glas(D) across the table
c1. Báturinn sökk.
the boat(N) sank.
2. Þeir sökktu bátnum.
they sank the boat(D)

Second, some *-k(k)a*-pairs:

- (3)a1. Garðurinn stækkaði. cf. **stór** 'big'
the garden(N) enlarged
2. Ég stækkaði garðinn.
I enlarged the garden(A)
b1. Búið minnkaði. cf. **minni** 'smaller'
the farm(N) diminished
2. Ég minnkaði búið.
I diminished the farm(A)

²³ Plus certain consonant simplifications, and, when possible, *i*-umlaut, e.g. *á*, *ó* → *æ*.

- c1. Skatturinn hækkaði. cf. há 'high'
 the tax(N) raised
 2. Ég hækkaði skattinn.
 I raised the tax(A)

Next, some pairs where the Promotion verb is an ergative *-na*-verb:

- (4)a1. Málmurinn bráðnar.
 the metal(N) melts
 2. Ég bræði málminn.
 I melt the metal(A)
- b1. Rúðan brotnar.
 the window(-glass)(N) brakes
 2. Ég brýt rúðuna.
 I brake the window(-glass)(A)
- c1. Maturinn hitnar.
 the food(N) warms
 2. Ég hita matinn.
 I warm the food(A)
- d1. Myndin dökknar.
 the picture(N) darkens
 2. Ég dekki myndina.
 I darken the picture(A)

As we shall see (in 6.2.4), there is a rather complex relationship between the *-na*-verbs and the corresponding transitives, whereas the relation between transitive and ergative *-k(k)a*-verbs is rather simple, the transitive being derived from the ergative. The correlation is roughly the other way around in 'middle pairs', the middle verb being derived from the transitive (by *-st*-suffixing). (5) contains some typical middle pairs:

- (5)a1. Ég fann hestinn.
 I found the horse(A)
 2. Hesturinn fannst.
 the horse(N) (got-)found
- b1. Ég drap hundinn.
 I killed the dog(A)
 2. Hundurinn drapst.
 the dog(N) (got-)killed (i.e. died)
- c1. Ég týndi úrinu.
 I lost the watch(D)
 2. Úrið týndist.
 the watch(N) (got-)lost

- d1. Ég lokaði dyrunum.
I closed the door(D)
2. Dyrnar lokuðust.
the door(N) closed

Apart from this, there are, of course, many 'isolated' nominative Promotion verbs, that is, nominative Promotion verbs that do not relate, lexically (or phonologically), with any transitive verb, cf. (6):

- (6)a. Páll dó.
Paul(N) died
b. María datt.
Mary(N) fell

Moreover, normal predicative adjectives that take a nominative subject promote the subject from [NP, AP] to [NP, IP], as mentioned in 6.1.2.3. As we shall see, this analysis is supported by a variety of facts, for instance some Verb Formation processes that take adjectives as inputs. One of these processes forms a subclass of inchoative *-na*-verbs, cf. (7):

- (7)a. Húðin var grá.
the skin(N) was gray
b. Húðin gránaði.
the skin(N) became-gray(ish)

Another Verb Formation indicating that adjectives are ergative is a process that forms causative verbs from adjectives by application of *i*-umlaut (when possible), e.g. *u* → *y* and *á, ó* → *æ*:

- (8)a. Flaskan er full/tóm.
the bottle(N) is full/empty
b. Þeir fylla/tæma flöskuna.
they(N) fill /empty the bottle(A)

Pairs as in (1)-(5) and (7)-(8), then, result from various word formation processes. Provisoryly, we may refer to these processes as Word Formation Rules (WFRs), thus following, for example, Aronoff (1976). If we wish to understand the nature of nominative Promotion, we have to study these WFRs. Therefore, I shall start out by briefly sketching my general approach to word formation (6.2.1). In 6.2.2, I present an ergative analysis of all predicative adjectives, arguing that the Promotion involved is syntactic NP-movement and extending this analysis to ergative nominative-taking verbs. In 6.2.3, I discuss the properties of Middle Formation and suggest that it involves lexical Promotion (thus proposing an analysis that is

almost exactly the opposite of Keyser and Roeper's (1984) analysis of English middles and ergatives). In 6.2.4, the nature of causativization or Causative Formation will be considered. As we shall see, it typically leads to ergative pairs like the strong-weak pairs, the *-k(k)a*-pairs, and the *-na*-pairs above.

In many languages, it is hard or impossible to see any clear distinction between syntactic Promotion (or NP-movement) and lexical Promotion. However, due to its having lexical D-structure Case, Icelandic bears in an interesting and a rather clear manner on the matter. Promotion that preserves lexical Case must apply after assignment of D-structure Case, i.e. in the syntax. Promotion that does not preserve lexical Case, on the other hand, presumably applies before D-structure Case assignment, that is, in the lexicon. If this is correct, we expect oblique Promotion always to be syntactic, whereas we expect to find two types of nominative Promotion: lexical Promotion, 'overriding' or, rather, 'bleeding' lexical Case assignment, and syntactic Promotion applying to objects of ergative items that do not assign lexical Case. As we shall see, this seems to be borne out.

6.2.1 Word formation and theta structure

In this subsection, I shall briefly outline my approach to word formation. By and large, I adopt Williams' (1981) theory of word formation, only updating and modifying it in some respects.

WFRs typically involve various phonological processes (suffixation, etc.) and alter syntactic categories or word classes (A → V, etc.). As argued by Williams (1981), however, WFRs also affect the theta structure of lexical items (their 'argument structure' in Williams' theory, see also Carrier-Duncan 1985). In the theory as pursued here, WFRs or lexical operations apply to lexical molecules, cf. the Molecular Lexicon Approach sketched in 6.1.2.2, i.e. they apply to abstract or unspecified theta-grids. This diverges from the approach of Williams, who assumes, for instance, that some WFRs apply specifically to themes (cf. 1981, p. 93 ff.). For the most part, this difference is unimportant for what I shall have to say (but see 6.4.3.2, on Adjectival Participle Formation). If it is not empirically refuted, simplicity and generality speak in favor of my analysis, but it should be stressed that most of the generalizations I will propose can be stated successfully in Williams' more elaborated approach.

WFRs affect theta structure or lexical molecules in various ways. I shall refer to the processes involved in this as *theta operations*. The following theta operations seem to be most common (recall, from 6.1.2.2, that I use capitals to 'designate' the external (agentive/performative) role, thus

(13). That is, causativization takes ergative inputs. As we shall see in 6.2.4, this is borne out.

In our approach, internalization would involve internalization of an agentive (or a performative) role. But since this is excluded by (14b), I tentatively assume that there is no process of internalization in UG.²⁴ As we shall see in 6.4.3, passive role-incorporation differs from internalization in that the incorporated role does not end up in an internal argument position. - Note, however, that these comments are only meant for clarification, not as a criticism against Williams. The difference between his and our approach to causativization is simply a consequence of the fact that Williams did not take ergativity into account (his pioneering work being written before ergative analyses became customary); therefore, he does not assume anything like the External Role Principle.

The rules or operations in (9)-(12) are specified for internal vs. external roles. This might be an unnecessary complication. That is, the rules should perhaps take a maximally abstract and general form, 'eliminate a role', 'add a role', etc. the output subsequently being 'checked' by semantic filters (a possibility pointed out to me by Höskuldur Thráinsson). Interestingly, there are some facts that point in this direction. As mentioned, Middle *-st*-Formation usually involves elimination of the external role of a transitive verb (plus externalization or Promotion of an internal role). In some exceptional cases, however, it seems to eliminate the theme role of the direct object of a ditransitive verb. This is, for instance, the correlation between transitive *biðjast* 'ask, pray' and ditransitive *biðja* 'ask, pray' as well as between transitive *giftast* 'marry' and ditransitive *gifta* 'marry'. Consider (15) and (16):

- (15)a. Páll bað (mig) afsökunar.
Paul asked me (for) apology
'Paul apologized (to me).'
- b. Páll baðst (*mig) afsökunar.
Paul asked (for) apology
'Paul apologized.'
- (16)a. Páll gifti son sinn (ekkjunni).
Paul married son self's (to) the widow.
'Paul married his son (to the widow).'
- b. Páll giftist (*son sinn) (ekkjunni).
Paul married the widow

²⁴ Or rather, I tentatively assume that the External Role Principle is a universal. If it is only a parametric condition (in for instance English and the Scandinavian languages), then there would be nothing blocking agents from being internal roles (e.g. by lexical internalization) in languages where it would not apply. Perhaps, German is such a language, cf. 6.5.3.

Furthermore, it is perhaps possible to account for optional transitivity in general in terms of either 'add a role' or 'eliminate a role' (consider Williams 1981, p. 104 ff.). Moreover, if there is some sort of a hierarchy that says that an external role must be added to a theta-grid before an internal role is added to it, then Add *TH* is simply an instantiation of 'add a role'. In a similar manner, Incorporate *TH* is equivalent to 'incorporate a role' on the natural assumption that there can be only one external role per (a minimal) predication (cf. Williams 1980, 1981, 1984, etc.). Finally, of course, external roles cannot be externalized, that is, Externalize *th* is simply 'externalize a role'.

In spite of the attractiveness of this simple approach, I shall assume the formulations in (9)-(12), primarily for ease of exposition. My purpose here is to consider the interaction of lexical vs. syntactic Promotion and Case-marking. For this purpose, the formulations in (9)-(12) are sufficiently accurate approximations.

WFRs, then, may affect theta-structure as well as phonological form. As mentioned above, they are usually taken to affect syntactic categories also. On the provision that syntactic categories follow from general principles, for instance the principles of X-bar Theory and principles controlling realization of theta-selection or s-selection properties (cf. Chomsky 1986a, p. 86 ff.), this might be an unnecessary assumption. Nonetheless, I shall take it that WFRs affect syntactic categories or syntactic features directly.

As pointed out by Williams (1981) and Carrier-Duncan (1985), many WFRs are *phonological null-formations*, that is, affect only theta-structure. Conversely, there are also some WFRs that affect only phonological form, *thematic null-formations*. As we shall see in 6.4.3, Supine Formation (or 'Perfect Formation') is an example of this, and so is the formation of most derived ergative verbs, cf. 6.2.4. This indicates that there is no intrinsic relation between *phonological operations* (as I shall call it) and theta operations. In other words, there are perhaps no Word Formation Rules in the usual sense, i.e. rules that derive words by combining more than one operation. Instead, I shall assume that the lexicon contains a list of simplex operations, thematic, categorial, and phonological. The outputs of a particular phonological operation, then, may be inputs to a theta operation and, perhaps, vice versa. This approach is supported by the obvious fact that theta operations are not language specific (presumably belonging to UG, at least as parametric options). All the same, they relate to widely different language specific phonological operations, of course. Moreover, a singular theta operation may relate to more than one phonological operation in one and the same language, as we shall see.

Consider suffixing. A language may have a wide variety of suffixing processes:

- (17) a. /X/ -> /X+Y/
 b. /X/ -> /X+Z/
 c. /X/ -> /X+W/
 d. ...
 .
 .
 .

Apart from this, the language has some theta operations, for instance Externalize *th*. It takes various inputs, for example some of the outputs of (17):

- (18) Externalize th:
 Applies to: a. </X+Z/ th>
 b. ...
 .
 .
 .

This is the approach I shall assume, but it is possible that the relation is reverse, i.e. that phonological operations take the outputs of theta operations as inputs. This would seem intuitively plausible, phonological operations serving to 'visualize' the effects of theta operations. However, it seems to make the wrong prediction that all instances of a particular theta operation are 'visualized' by one and the same phonological operation in a language. Besides, theta operations are sometimes not 'visualized', as already mentioned (phonological null-formations). I shall thus stick to the approach in (18).²⁵

Apart from theta operations and phonological operations, I shall assume that the lexicon contains a set of *categorial operations*. For simplicity, I shall often state these as shown in (19):

²⁵ Inflection is quite different from word formation, I believe. First, it never involves any theta operations. Second, it usually takes place in PF. Third, phonological inflectional processes serve to 'visualize' differing values of syntactico-semantic variables (person, tense, etc.). - If this understanding of the difference between word formation and inflection is correct, inflected forms are probably never inputs to word formation processes. Accordingly, supines, for example, are presumably not formed by inflection, even though Supine Formation neither involves theta operations nor categorial operations: as we shall see in 6.4.3.2, Supine Formation feeds both Passive Formation and Adjectival Participle Formation.

- (19)a. A → V
 b. V → A
 c. ...
 .
 .
 .

However, formulations like (19a,b) are, of course, only convenient abbreviations for formulations like (20a,b):

- (20)a. [%V, +N] → [+V, -N]
 b. [+V, -N] → [%V, +N]

In spite of this 'atomic' approach, I shall sometimes make use of combinatory WFRs in the following subsections. These 'rules' should be regarded as convenient abbreviations only.

6.2.2 The ergativity of adjectives

In this section, I shall argue that normal predicative adjectives that take a nominative subject are ergative, that is, promote their subject to [NP, IP] by means of NP-movement (see also e.g. Perlmutter and Postal 1984, p. 98; for a somewhat different analysis, see Stowell 1978, p. 465 ff.). Several sets of facts indicate that this is correct. In the following, I shall take a brief look at some of these facts.

Consider simple cases like the sentences in (1):

- (1)a. Bókin er gul.
 N.f.sg N.f.sg
 the book is yellow
 b. Bíllinn er stór.
 N.m.sg N.m.sg
 the car is big

There is nothing that blocks the nominative subjects from being derived by NP-movement from [NP, AP]. Since adjectives like *gul* and *stór* do not assign lexical Case, Infl-Case and number and gender are free to percolate to AP and A, as we saw in 5.5.2.1. Moreover, the nominative subjects are clearly not agentive (or performative). Rather, they bear a theme-like role, hence an internal role given the External Role Principle.

Comparison with dative-taking adjectives indicates that predicative adjectives never assign an external (agentive/performative) role. As we

saw in 6.1.2.3, we can account for the dative of the subjects of these adjectives if we assume that the adjective assigns a thematic lexical dative to [NP, AP] at D-structure. But in addition, some of these adjectives may surface with an expletive null-subject, cf. (2):

- (2)a1. Er honum kalt?
is him(D) freezing
2. Er [e] kalt?
is (it) cold
b1. Er honum heitt?
is him hot
2. Er [e] heitt?
is (it) warm
c1. Er honum flökurt?
is him nauseated
2. *Er [e] flökurt?

This is not surprising if adjectives do not select an external role. Note the difference between **kalt** and **heitt** on the one hand and **flökurt** on the other hand. It is accounted for if **kalt** and **heitt** select an optional internal role while the internal role of **flökurt** is obligatory:

- (3)a. **kalt:** <A (th)>
b. **heitt:** <A (th)>
c. **flökurt:** <A th>

Due to the Subject Command Condition (in 6.1.4((10)), the internal (definite) argument must be raised to [NP, IP] whenever it is present.

Now, consider the interesting fact that some adjectives may either take a dative or a nominative subject, the dative subjects always being animate 'experiencers' or recipients. This is illustrated for **kalt/kaldur** in (4):

- (4)a1. Er Páli kalt?
D N/A.n.sg
'Is Paul freezing?'
2. Er Páll kaldur?
N N.m.sg
'Is Paul cool(/tough)?'
b1. *Er veggnum kalt?
D.m.sg N/A.n.sg
is the wall freezing
2. Er veggurinn kaldur?
N.m.sg N.m.sg
'Is the wall(N) cold?'

Clearly, the nominative subjects in (4a2, b2) are no more agentive than the dative subject in (4a1). Rather, they bear a theme-like role whereas the dative bears a goal-like role.

Data like (2) and (4) indicate that the theta-structure in (3a) is an oversimplification. Perhaps, the adjectival stem **kald-** has three interrelated theta-grids:

- (5) **kald-**: a. <A>
 b. <A th>
 c. <A th_D>

- where the index "D" in (5c) 'designates' the role as being compatible with and requiring the thematic dative. However, I am not sure that this is necessary here. We can express the same information in only one theta-grid:²⁶

- (6) **kald-**: <A (th)_(D)>

Be this as it may, some ergative verbs behave much the same as adjectives like **kald-**. Consider (7) and (8):

- (7)a. Hlýnaði [e] ekki fljótt?
 got-warmer not soon
 'Didn't it get warmer soon?'
 b. Hlýnaði þér ekki fljótt?
 got-warmer you(D) not soon
 c. Hlýnaði ofninn/*ofninum ekki fljótt?
 got-warmer the radiator(N)/*(D) not soon
- (8)a. Kólnaði [e] ekki fljótt?
 got-colder not soon
 'Didn't it get colder soon?'
 b. Kólnaði þér ekki fljótt?
 got-colder you(D) not soon
 c. Kólnaði ofninn/*ofninum ekki fljótt?
 got-colder the radiator(N)/*(D) not soon

Being 'inchoative' or 'progressive', verbs of this kind are aspectually different from adjectives, the latter being 'stative'. On the other hand, they seem to have precisely the same theta-selection properties as adjectives like **kald-** 'cold' and **heit-** 'hot'.

²⁶ In this case, these alternative ways of formulating the relation between stems and theta-grids are equivalent. As we shall see in 6.4.2, however, they are not in some other cases.

The Dat/Nom variation illustrated above should not be confused with dyadic Dat-Nom verbs. It is most typical of 'weather' verbs and adjectives but by no means restricted to them. The null-subject option, on the other hand, is largely (but not exclusively) restricted to some kind of an 'atmospheric' interpretation. Consider (9) and (10):

- (9)a. ?*Er [e] illt?
is (it) bad(N/A.n.sg)
- b. Er þér illt?
is you(D) ill
'Do you feel badly?'/ 'Does it hurt?'/
'Are you nauseated?'
- c. Ert þú illur.
are you(N) angry(N.m.sg)
- (10) Er [e] illt í sjóinn?
is (it) bad in the sea
'Is the sea rough?'

As seen by this, *ill-* may take an expletive null-subject when it is clear from the context that it has some sort of an 'atmospheric' reading.

Next, consider the variation in (11):

- (11)a1. Er íbúðin hljóðbær?
N.f.sg N.f.sg
is the apartment non-soundproof
2. Er [e] hljóðbært í íbúðinni?
N/A.n.sg D
is (it) non-soundproof in the apartment
- b1. Er áin djúp?
N.f.sg N.f.sg
is the river deep
2. Er [e] djúpt í ánni?
N/A.n.sg D
is (it) deep in the river

This same variation is found for verbs that are either ergative or impersonal, i.e. this is the Ergative-Impersonal Alternation mentioned in 6.1.4, see further 6.3.1. It never involves verbs that select an external role.²⁷

²⁷ Passive *by*-phrases are, of course, not of the same nature as the PPs in cases like (11a2, b2), cf. (i):

- (i)a. Someone was beaten by John.
b. John was beaten.

The fact that it may involve predicative adjectives therefore indicates that they are like ergative and impersonal verbs in not selecting an external role.

Now, let us briefly consider two Verb Formation 'rules' that apply to adjectives, mentioned in 6.2.0. The first is a clear instance of Causative Verb Formation, involving *i*-umlaut when possible (i.e. when the stem vowel is not exempted from *i*-umlaut, in accordance with general rules for *i*-umlaut). The WFR in question is quite common, involving e.g. the derivations in (12):

(12)	A (stem):	V:	<u>i</u> -uml.:
a.	/svart/ 'black'	-> sverta 'make black; defame'	(<u>a</u> -> <u>e</u>)
b.	/kát/ 'happy'	-> kæta 'make happy'	(<u>á</u> -> <u>æ</u>)
c.	/tóm/ 'empty'	-> tæma 'make empty'	(<u>ó</u> -> <u>æ</u>)
d.	/full/ 'full'	-> fylla 'fill'	(<u>u</u> -> <u>y</u>)
e.	/fljót/ 'fast'	-> flýta 'hurry, expedite'	(<u>jó</u> -> <u>ý</u>)
f.	/súr/ 'sour'	-> sýra 'sour'	(<u>ú</u> -> <u>ý</u>)
g.	/dauð/ 'dead'	-> deyða 'kill'	(<u>au</u> -> <u>ey</u>)

This is a rather strong indication that adjectives indeed take an internal role. Consider (13):

- (13)a. Tunnan er full.
N.f.sg N.f.sg
the barrel is full
- b. Þeir fylla tunnuna.
they fill the barrel(A)

If I am on the right track, the D-structure VPs of these sentences are as shown in (14):

- (14)a. [er [full [tunnan]]]
b. [fylla [tunnuna]]

- where (ia) and (ib) mean something quite different. Jaeggli (1986b) suggests that the arguments of passive *by*-phrases inherit the external role assigned to the passive participle suffix through coindexing (see our account for the external role incorporation of the passive in 6.4.3.2).

It seems clear to me that **tunnan** 'the barrel' bears the same role in both cases, that is, the semantic differences between the VPs are due to other factors than role assignment to **tunnan** (i.e. they are due to the dichotomy 'stative' vs. 'progressive' or 'processive', and to nonassignment vs. assignment of an external role). It follows that the Causative Verb Formation in (12) does not involve any 'internalization' of the theme-role borne by the subjects of the adjectives. Like other instances of Causative Verb Formation (cf. 6.2.4), it crucially involves Add *TH*, that is, it takes the general form (15), where, however, I do not indicate the *i*-umlaut (but recall that WFRs of this kind are only convenient 'abbreviations'):

(15) </X/A th> -> TH </X/V th>

I shall discuss some further cases of Causative Verb Formation in 6.2.4, where we shall see that it may also apply to nouns.

Next consider *-na*-Formation, exemplified in (16):

(16)	A (stem):		V:
a.	/gul/	->	gulna
	'yellow'		'become yellow(ish)'
b.	/grá/	->	grána
	'gray'		'become gray(ish)'
c.	/stirð/	->	stirðna
	'stiff'		'become stiff(er)'
d.	/prút-in/	->	prútna
	'swollen'		'swell'
e.	/rot-in/	->	rotna
	'rotten'		'become rotten'

This gives rise to pairs like (17):

(17)a1. Höndin var stirð.
the hand was stiff
2. Höndin varð stirð.
the hand became stiff
b. Höndin stirðnaði.
the hand became-stiff(er)

There are some interesting aspectual differences between the readings of (17a2) and (17b). Nonetheless, these examples illustrate quite clearly that the adjective selects the same role as the verb. Thus, we have a simple account for the relation between the adjective and the verb if both take an internal role, the internal argument being raised to [NP, IP] in the syntax (as required by the Subject Command Condition). That is, the

-*na*-Formation in (16) is a thematic null-formation (not affecting theta-structure), taking the form (18):

(18) </X/_A th> -> </X+na/_V th>

Like (15), (18) is a 'traditional' WFR, combining more than one operation (-*na*-suffixing plus Verb Formation or A -> V). However, this is not important in the present context. I shall return to -*na*-Formation in 6.2.4, where we shall see that some ergative -*na*-verbs seem to have nouns as their base.

My analysis suggests that assigning an external role is a *unique property of verbs*.²⁸ If that is correct, even 'transitive' predicative adjectives (cf. 6.1.2.3) are ergative, the nominative subject being promoted. Consider (19):

- (19)a. Pétur er hlýðinn.
 N N
 Peter is obedient
- b. Pétur er hlýðinn yfirvöldunum.
 N N D
 Peter is obedient (to) the authorities

It seems clear that the subject is no more agentive in (19b) than in (19a).

²⁸ Williams (1985, 1987) discusses - and refutes - the idea that an NP may take an external (syntactic) argument, PRO. However, 'implicit arguments' (unassigned theta roles in Williams approach) are rather troublesome. Consider (i):

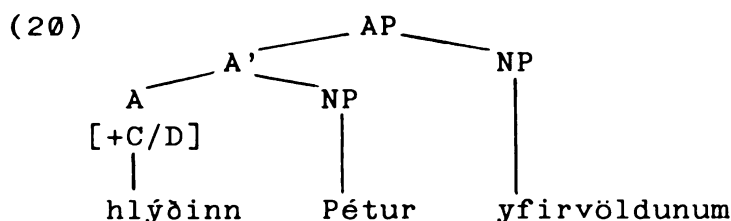
- (i) Yesterday's attempt [PRO to escape] was a flop.

As argued by Williams (*ibid*), there is a control-like relation between *attempt* and the infinitival subject, that is, the 'escaper' is clearly also the (syntactically unrealized) 'attempter'. In Williams' approach (see 1985, p. 300; 1987), the relation involved is an 'association' between the unassigned 'attempter' role and the ('escaper') role assigned to the infinitival subject. As far as I can see, Williams' argumentation is solid. But obviously, it raises the question why verbs usually must assign the roles they select to syntactic positions, whereas NPs or rather nouns, incorporate or 'absorb' the roles they imply. Note that only nouns that are derived from verbs (by Nominalization, cf. Chomsky 1970) can act as controllers in the way *attempt* does in (i) (compare *house*, *bed*, *evening*, etc.). Note also that nouns derived from transitive verbs do not only imply the external role of the verb but also its internal role. Thus, for instance, *operation* implies both an 'operator' and someone or something operated upon (cf. Williams 1985, p. 301). This indicates that the lexical operations involved in Nominalization preserve the theta properties of their input by incorporating the input's theta roles into the output, as informally sketched in (ii) for *operation*:

- (ii) TH </operate/_V th> -> </operate+ion/_N>
 [TH, th]

This is rather similar to Incorporate *TH*, applying to passive past participles. As we shall see in 6.4.3.2, Passive Formation is, in fact, a nominalization process of a sort.

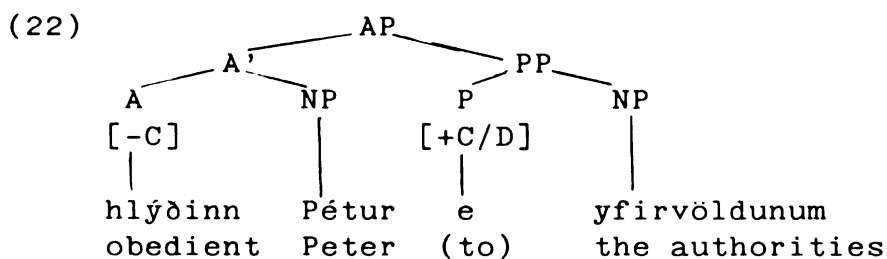
Therefore, I assume that the AP in (19b) has the D-structure (20):



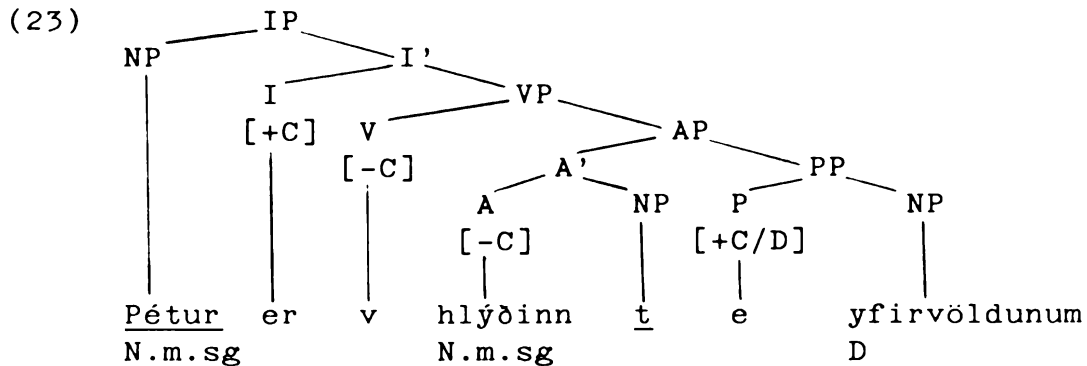
If nothing further happens, the (S-structure) subject NP, *Pétur*, will turn up in the dative. Since the dative is a thematic case here, it seems reasonable to assume that this would lead to a violation of the Projection Principle. In our approach, the Projection Principle must be a condition on theta-selection (see also Chomsky 1986a; Levin and Rappaport 1986, p. 641). Thus, replacing 'subcategorization' with 'theta-selection', I formulate it, informally, as follows (cf. Chomsky 1981, pp. 29 ff., 38):

- (21) Representations of each syntactic level (i.e. LF, and D- and S-structure) are projected from the lexicon in that they observe the theta-selection properties of lexical items

Thus, thematic Case can only be assigned to an NP that bears an appropriate theta role, which in the case of (19b)/(20) is goal. Since the subject NP in (19b)/(20) does not bear this role, it must not be assigned the thematic dative. Therefore, I suggest that (20) must undergo a restructuring process, by which an empty preposition that inherits the lexical Case feature of the adjectival head is inserted. This yields (22):



After NP-movement and Case assignment, we have (23):



In this structure, only the goal NP receives dative and the dative does not protect AP. Hence, both the number and gender of the subject and Infl-Case percolate to AP and A, as desired. - Perhaps, [NP, AP] undergoes cyclic NP-movement, adjoining to AP (and even VP too) on its way up to [NP, IP], but I shall not pursue this.

I conclude this section by contending that subjects of adjectival predicates are always derived by Promotion. For 'basic' adjectives, there seems to be little doubt that the Promotion involved is syntactic NP-movement. For at least some derived adjectives, on the other hand, it seems to be a lexical role-externalization, cf. 6.4.3.2 on adjectival past participles.

6.2.3 Middle Formation

In this section, I shall briefly discuss Middle Formation and Promotion of middle subjects in Icelandic. For our purposes, the most interesting property of the Promotion is that it does not preserve lexical Case, as opposed to ergative Promotion. This indicates that Middle Formation is a purely lexical process.

Middle verbs in Icelandic are formed by *-st*-suffixing. For the sake of explicitness, I shall start out (6.2.3.1) by sorting out various types of *-st*-verbs that are *not* middles, turning to Middle *-st*-Formation in 6.2.3.2. In 6.2.3.3, I shall compare the thematic properties and the Case properties of middles on the one hand and of ergatives and passives on the other hand. This comparison indicates, first, that middles differ from passives in involving Eliminate *TH*, and, second, that they differ from both (verbal) passives and ergatives in applying Externalize *th* rather than syntactic NP-movement.

6.2.3.1 Non-middle -st-verbs

Icelandic has astonishingly many types of *-st*-verbs (cf. e.g. Smári 1920, p. 136 ff.; Valfells 1970; Kress 1975; Ottósson 1986a, 1986b).²⁹ Thus, as we saw in 3.4.2.2, most Icelandic NcI and D/NcI verbs are *-st*-verbs:

- (1)a. Ólafur virðist [[t] vera gáfaður]].
 Olaf(N) seems be intelligent
 b. Mér virðist [t] [Ólafur vera gáfaður].
 me(D) seems Olaf(N) be intelligent

Second, many purely ergative verbs, both monadic and dyadic, are *-st*-verbs, cf. (2):

- (2)a. þér skjátlast.
 you(D) is-wrong
 'You are wrong.'
 b. Mér leiðist Haraldur.
 me(D) bores Harold(N)
 c. Skipið fórst.
 the ship(N) went-under
 d. Pétur bilaðist.
 Peter(N) went-mad
 e. María hræddist Ólaf (?*viljandi).
 Mary(N) feared Olaf(A) (intentionally)

Verbs like *hræðast* in (2e) are like 'transitive adjectives', i.e. they take two internal arguments and promote the nominative one by NP-movement. Compare (2e) to (3), with transitive *hræða* 'frighten':

- (3) Ólafur hræddi Maríu (viljandi).
 Olaf(N) frightened Mary(A) (intentionally)

At least two ergative *-st*-verbs, *gefast* (roughly) 'get' and *bjóðast* (roughly) 'get offered' are rather peculiar in being derived from (di)transitives (by Eliminate *TH*). Consider (4) (see further fn. 33 below):

²⁹ For a recent and a highly interesting discussion of Icelandic *st*-verbs, see also Anderson (1988). Since I had already written this chapter when I first saw Anderson's paper, I was not able to take it into account here.

- (4)a. Pétur bauð mér vinnu.
Peter offered me(D) a job(A)
- b. Mér bauðst vinna.
me(D) offered a job(N)
'I got the opportunity to get a job.'

Third, some *-st*-verbs are reflexive or reciprocal (this probably reflects the origin of *-st*-Suffixing most directly, cf. fn. 31 below); consider (5c) and (6c):

- (5)a. Ég klæddi barnið.
I dressed the child
- b. Ég klæddi mig.
I dressed myself
- c. Ég klæddist (*mig/*barnið).
I dressed
- (6)a. Þeir heilsuðu Pétri.
they greeted Peter
- b. Þeir heilsuðu hvor öðrum.
they greeted each other
- c. Þeir heilsuðust (*hvor öðrum/*Pétri).
they greeted each other

Fourth, as we saw in 6.2.1, several *-st*-verbs are transitive, eliminating the theme-role of a corresponding ditransitive verb (a similar role-elimination is perhaps involved in the formation of reflexive and reciprocal *-st*-verbs). (7) illustrates this:

- (7)a. María krafði Ólaf peninganna.
Mary(N) demanded (of) Olaf(A) the money(G)
- b. María krafðist (*Ólaf) peninganna.

Fifth, most transitive verbs that do not assign lexical Case can form an *-st*-passive, cf. Ottósson (1986a; 1986b, p. 111 f.). As pointed out by Ottósson (*ibid*), the resulting passives most typically have an 'instructive' or an obligational modal reading, either expressed by a modal in the indicative or by subjunctive mood on the *-st*-verb. Compare (8) and (9):

- (8)a. Þú verður að baka kökuna hægt.
you(N) must to bake the cake(A) slowly
'You must bake the cake slowly.'
- b. Þú bakar kökuna hægt.
you bake the cake slowly

- (9)a. Kakan verður að bakast hægt.
the cake(N) must(Ind) to be-baked slowly
- b. Kakan bakist hægt.
the cake(N) be-baked(Subj) slowly

Sixth, there are numerous 'weather-type' *-st*-verbs (cf. e.g. Ottósson 1986b, p. 108):

- (10)a. Það sést [e] vel til fjalla héðan.
it sees well to mountains from-here
'One can see the mountains clearly from here.'
- b. Það heyrir [e] illa hérna.
it hears badly here
'One hears badly here.'

Seventh, several *-st*-verbs take a clausal complement (or a demonstrative pronoun, referring to a proposition), embedded under a PP. Note that the preposition must not be missing:

- (11)a1. Ég vonast *(til) [að PRO ná prófinu].
I hope for to pass the exam
'I hope to pass the exam.'
2. Ég vonast *(til) [að ég nái prófinu].
I hope for that I pass the exam
'I hope that I will pass the exam.'
- b1. Ég býst *(við) [að PRO ná prófinu].
I expect to pass the exam
'I expect to pass the exam.'
2. Ég býst *(við) [að ég nái prófinu].
I expect that I will-pass the exam
- c1. ?Ég ætlast *(til) [að PRO ná prófinu].
I require for to pass the exam
2. Ég ætlast *(til) [að þú nair prófinu].
I require for that you pass the exam

For the purpose of internal role assignment (and/or Case assignment to the *að*-infinitival), these *-st*-verbs seem to need the support of a preposition. Compare (11a2) to (12):

- (12) Ég vona (*til) [að ég nái prófinu].
I hope that I pass the exam
'I hope that I will pass the exam.'

A similar relation between V+NP and V-*st*+PP is seen for several pairs of

verbs that do not take clausal complements, cf. (13):

- (13)a. Ólafur dáði Pétur.
Olaf adored Peter
b. Ólafur dáðist að Pétri.
Olaf admired at Peter
'Olaf admired Peter.'

In both types of cases, the non-*st*-verb takes a nuclear argument, whereas the *-st*-verb can only take a PP-argument.

As if this were not enough, the language has an extremely productive *-ast*-Formation, applying to nouns, that is not to be confused with *-st*-Formation processes that take a verbal input (nor with 'isolated' (ergative) *-st*-verbs). Most or all verbs formed in this manner seem to be intransitive unergative verbs, cf. (14) below. *Ferðast* 'travel' is derived from *ferð* 'journey' (there being no **ferða*), and *djöflast* 'work/behave like the devil' is derived from *djöful*-/*djöfl*- 'devil':³⁰

- (14)a. Þeir ferðast um alla Evrópu.
they travel around all Europe
b. Þeir djöflast allan daginn.
they 'devil' all the day
'The work/behave like the devil all day.'

Now, it would of course be rather nice if it were possible to generalize over all *-st*-verbs (cf. Valfells 1970). In most cases they are 'thematically deficient' in some way, 'lacking' an external or an 'independent' internal role (cf. the reflexive and the reciprocal *-st*-verbs and cases like (7b)). Thus, the most promising generalization would seem to be 'eliminate a role' (or even 'weaken a role' in some appropriate sense). However, it is not clear whether this applies to *-st*-verbs that take a PP-complement, cf. (11) and (13b) (and, of course, it does not apply to the *-ast*-Formation exemplified in (14)). Consider also verbs like *berjast* 'fight' that take an optional PP-complement, cf. (15):

³⁰ This is very common, especially in slang (see e.g. Ottósson 1986b). Several further examples are given below:

- | | | | | | | | |
|-----|--------|-----------|---|---------|---|----------|--------|
| (i) | ótti | 'fear' | - | *ótta | - | óttast | 'fear' |
| | hass | 'hashish' | - | ??hassa | - | hassast | |
| | plebbi | 'pleb' | - | *plebba | - | plebbast | |
| | hippi | 'hippie' | - | *hippa | - | hippast | |

The semantic relation between the basic noun and the *-ast*-verb is extremely vague. If the meaning of the noun is 'N', then the meaning of the verb is often only something like: 'behave like an N' or 'do something that has something to do with N'. Thus, *hassast* means 'smoke hashish', whereas *plebbast* and *hippast* mean, roughly, 'behave like a pleb' and 'behave like a hippie', respectively.

- (15)a. Þeir börðust.
they fought
- b. Þeir börðust gegn hvor öðrum.
they fought against each other
- c. Þeir börðust gegn óvininum.
they fought against the enemy

As compared to *berja* 'hit, beat', *berjast* is 'thematically deficient' in not taking a direct object, but having different semantics, it does not seem to relate to *berja* in any simple manner, e.g. by 'eliminate a role'. The same is true of pairs like *ætla* 'intend' and *ætlast til* 'require, expect, demand'. - Finally, we should keep in mind that there are many underived ergative *-st*-verbs (*skjátlast* 'be wrong', etc.), i.e. *-st*-verbs that are not thematically related to any other verb.

As argued by Ottósson (1986a, 1986b), then, it seems rather unlikely that there is a one-to-one relation between phonological *-st*-Formation and a particular theta operation. This is not surprising if the lexicon contains a list of simplex operations rather than combinatory WFRs, cf. 6.2.1.

6.2.3.2 Middle *-st*-Formation

The data presented above seem to be rather bewildering. However, as convincingly argued by Ottósson (1986a, 1986b; see also Kress 1975), the most central function combined with *-st*-suffixing is that of Middle Formation, relating pairs like the following:

- (1)a. Páll opnaði gluggann.
Paul opened the window(A)
- b. Glugginn opnaðist.
the window(N) opened

As also argued by Ottósson (*ibid*), Middle *-st*-Formation applies to transitive verbs and involves, in our terms, an elimination of the external role of the transitive: Eliminate *TH*. The internal role of the transitive is also promoted, cf. (1b). As we shall see, the Promotion involved is probably lexical: Externalize *th*. In accordance with traditional views, Ottósson takes it that Middle *-st*-Formation is a single inflectional rule. In our approach, however, we must assume that we are dealing with word formation involving three independent operations: Phonological *-st*-Formation, Eliminate *TH*, and Externalize *th*. Let us start out by assuming the tenta-

tive formulations in (2)-(4):³¹

- (2) -st-Formation:
 TH </X/v (th) (th)> → TH </X+st/v (th) (th)>
- (3) Eliminate TH:
 TH </X+st/v (th) (th)> → </X+st/v (th) (th)>
- (4) Externalize th:
 </X+st/v th> → th </X+st/v>

As seen by the parentheses enclosing the internal roles, (2) and (3) apply to intransitive unergative verbs as well as to transitive verbs ((2) and (3), as opposed to (4), furthermore applying to some distransitive verbs). When they apply to an intransitive verb, the result is a 'weather-type' *-st*-verb, cf. (5b):

- (5)a. Ég hellti niður.
 I spilled down
- b. Það helltist [e] niður.
 it spilled down
 'Something (was) spilled (down).'

(4) applies to those outputs of (2) and (3) that are 'monotransitive', that is, take one internal role. Compare (6) to (5):

³¹ Historically, Middle *-st*-Formation is rather interesting (cf. Ottósson in preparation). The *-st*-suffix developed out of the Proto-Scandinavian reflexive **sik**, the ancestor of Modern Scandinavian **sig/seg**. Thus, the (somewhat idealized) development was as shown in (i):

- (i) V sik > V+sik > V+sk > V+st

Note that there are still many minimal pairs of reflexive verbs and middle verbs:

- (ii)a. Steinninn hreyfðist/*hreyfði sig.
 the stone moved / moved itself
- b. Páll hreyfði sig /??hreyfðist.
 Paul moved himself/ moved

The difference is a direct reflection of a difference in theta-structure. As often noted in the literature, reflexive verbs preferably take an agentive subject (hence a [+animate] subject; canonically, reflexives refer to a cognitive 'self', cf. Sigurðsson 1986b, Sells 1987).

- (6)a. Ég hellti mjólkinni niður.
I spilled the milk(D) down
- b. Mjólkin helltist niður.
the milk(N) spilled down
- c. *Það helltist [e] mjólkin/mjólkinni niður.
it spilled the milk(N)/(D) down

As seen in (6c), Promotion is obligatory (or else the Subject Command Condition is violated).

Both Eliminate *TH* and Externalize *th* are most typical of *-st*-verbs in Icelandic. As we shall see, however, neither of them is restricted to *-st*-verbs, nor is their successive application. This suggests that (3) and (4) are too narrowly formulated. That is, the correct formulations seem to be something like (7) and (8) (as, in fact, follows from the approach to word formation sketched in 6.2.1):

- (7) Eliminate TH:
Applies to: a. TH </X+st/v (th) (th)>
b. ...
. . .
- (8) Externalize th:
Applies to: a. </X+st/v th>
b. ...
. . .

I shall return to this in connection with Adjectival Participle Formation in 6.4.3.2.

From now on, I shall use the term 'Middle Formation' as a cover term for the successive application of (7) and (8) in the derivation of *verbs*. Accordingly, only those *-st*-verbs that are subject to both (7) and (8) are *middle verbs* or *middles* (for a parallel understanding, see Ottósson 1986a, 1986b).

Most ergative verbs differ from middles in not being subject to Eliminate *TH*. After application of (7), however, middles have the same theta-structure as ergatives. Nonetheless, these verb types have different theta-structures when they enter the syntax, at least in Icelandic. The reason is that ergatives are not subject to (8) (being subject to syntactic NP-movement, on the other hand). Accordingly, ergatives enter the syntax in the form (9) while middles enter the syntax in the form (10):

(9) <V th>

(10) th <V>

The term 'middle' is thus rather neatly coined. Plausibly, (10) is only possible for verbs that are derived by Externalize *th*, i.e. productively related to verbs that have the internal role 'in situ'.

6.2.3.3 Middles vs. passives and ergatives

My analysis of Icelandic middles and ergatives is almost exactly opposite to Keyser and Roeper's (1984) analysis of English ergatives and middles, exemplified in (1) and (2), respectively:

- (1)a. The boat sank.
 b. John fell.
 c. The water drips down.
- (2)a. Bureaucrats bribe easily.
 b. The wall paints easily.

Sentences like (2) have the reading 'it is easy (for anyone) to ...' As we shall see in 6.5.1, the Icelandic Present Participle Construction has rather similar semantics as English middles.

English middles seem to be rather heavily constrained as compared to Icelandic middles. Thus, for example, 'middle sentences' in English must normally contain an adverbial, cf. *easily* in (2), whereas there is no restriction of this sort in Icelandic. German middles (albeit not as heavily constrained) are subject to some of the same semantic restrictions as English middles, whereas the Romance impersonal *se/si*-construction (often corresponding to Icelandic and German middles) is even less constrained than the Icelandic middle, cf. Pitz (1988).

Keyser and Roeper's (1984) analysis differs from my analysis in two important respects. First, following Fiengo (1980), they assume that English middles are like passives in implying the external role of the corresponding active. Second, they argue that 'middle subjects' are derived by syntactic NP-movement, whereas ergative subjects are derived by lexical NP-movement (corresponding to lexical Promotion or Externalize *th* in my approach). With respect to both these matters, Icelandic facts point rather decisively in exactly the opposite direction. Moreover, Keyser and Roeper's analysis of English middles does not extend to German middles, cf. Abraham (1986a) and Pitz (1988) (nor does it apply to the middle construction in Mainland

Scandinavian, involving either an -s-verb or the reflexive *sig/seg* 'self').

Consider first the 'fate of the external role' in middles and passives. It seems clear that sentences like (2) have a sort of an arbitrary generic reading, just like (3) and (4):

- (2)a. Bureaucrats bribe easily.
- (3) It is easy [PRO to bribe bureaucrats].
- (4) Bureaucrats were often bribed.

In (3), the arbitrary agentive role links to PRO, I assume, that is, the external role of *bribe* is syntactically assigned to PRO. In (4), it is assigned to the participle suffix, cf. 6.4.3.2. In (2), on the other hand, it is not syntactically present in the same manner, it seems. Consider the following contrast (cf. also Keyser and Roeper 1984, p. 407):

- (5)a. *Bureaucrats bribe easily [PRO to keep them happy].
- b. It is easy [PRO to bribe bureaucrats [PRO to keep them happy]].
- c. Bureaucrats were often bribed [PRO to keep them happy].

Instead of Eliminate *TH*, it thus seems possible that English applies (6) to middles - in its syntax:

- (6) Do not assign TH

If this is correct, the external role is present in the theta-grids of English middles at all lexical levels, its presence blocking lexical Promotion or Externalize *th*. Accordingly, the Promotion involved must be syntactic, as argued by Keyser and Roeper (1984). - For an alternative approach, however, see Fagan (1988).

Now, having a theta-role 'dangling around' unassigned is clearly rather problematic. Keyser and Roeper (1984, p. 406) assume that the external role of English middles is assigned to or absorbed by an invisible clitic, which is, roughly, saying the same thing using other words (there being a difference, however, in that the different control properties of middles and passives are left unexplained under the clitic approach).

Be the English facts as they may, it seems clear that Icelandic middles do not imply any arbitrary agent. Rather, the external role of the corresponding active verb is completely eliminated, as argued by Ottósson (1986a, 1986b; see also Kress 1975). For the same approach to German

middles, see Pitz (1988). In passives, on the other hand, the external role is assigned to or incorporated by the participle suffix, as already mentioned a couple of times. Hence, the contrast in (7): the passive in (7a) may take an adverb, *viljandi* 'intentionally', that 'refers to' the implied agent, whereas the middle in (7b) cannot do so at all; conversely, the passive cannot take *af sjálfu sér* 'by itself, automatically', while the middle can:³²

- (7)a. *Glugginn var opnaður viljandi/*af sjálfu sér.*
 the window was opened intentionally/by itself
 b. *Glugginn opnaðist *viljandi/af sjálfu sér.*
 the window opened intentionally/by itself

Second, 'personal' passives can take an agentive *af-* 'by' phrase, whereas middles cannot (cf. e.g. Valfells 1970):

- (8)a. *Lögreglan drap hundinn.*
 the police killed the dog
 b. *Hundurinn var drepinn (af lögreglunni).*
 the dog was killed (by the police)
 c. *Hundurinn drapst (*af lögreglunni).*
 the dog died (by the police)

Perhaps, the agentive *af*-phrase inherits the external role of the participle suffix by virtue of being coindexed with it, cf. Jaeggli (1986b).

Note also that the Icelandic passive seems to imply intentionality more strongly and more regularly than the English and the German passive, for instance (on English, see e.g. Perlmutter and Postal 1984, p. 103). Thus, the passive in the German (9) has the 'ergative meaning' 'died', whereas this is impossible in the Icelandic (10):

- (9) *Peter wurde in einem Unfall getötet.*
 Peter was in an accident killed
 'Peter died in an accident.'

- (10) ??*Pétur var drepinn í slysi.*
 Peter was killed in an accident

³² These tests, of course, are not applicable to Mainland Scandinavian *-s-* verbs (since they may either be passives or middles). On the other hand, the middle *sig/seg*-construction cannot take adverbs like 'intentionally', as we would expect. This is illustrated for Swedish in (i):

- (i)a. *Dörren öppnades av sig själv / med vilje.*
 the door (was) opened by itself / with will
 b. *Dörren öppnade sig av sig själv /*med vilje.*

In (ia), of course, *med vilje* is only compatible with the passive reading of *öppnades*, and *av sig själv* is only compatible with its middle reading.

In so far as (10) has any felicitous reading, it must mean something like 'At the time of an accident, someone killed Peter.'

In sum, there does not seem to be any doubt that middles are thematically quite different from passives in Icelandic, the difference being that middles are subject to Eliminate *TH* while passives are not. There is also evidence, coming from Case-marking, that Icelandic middles are subject to Externalize *th*, whereas ergatives and passives promote their subjects by syntactic NP-movement: As opposed to ergatives and passives, middles never preserve lexical D-structure Case. Consider the ergative pairs in (11) and (12):

- (11)a. Höfundurinn lauk sögunni.
the author finished the story(D)
b. Sögunni lauk.
the story(D) ended
- (12)a. Höfundurinn getur Páls oft í sögunni.
the author mentions Paul(G) often in the story
b. Páls getur oft í sögunni.
Paul(G) mentions often in the story

As illustrated in (13) and (14), the corresponding passives behave like the ergatives in (11b) and (12b) with respect to Case-preserving:

- (13) Sögunni var lokið.
the story(D) was finished (by someone)
- (14) Páls var getið.
Paul(G) was mentioned (by someone)

On the other hand, subjects of middle *-st*-verbs always show up in the nominative, as we expect if they are promoted already in the lexicon (the assumption being that Case assignment in the lexicon is excluded). Consider the difference between the following passives and middles:

- (15)a. Ég týndi úrinu.
I lost the watch(D)
b. Úrinu var týnt.
the watch(D) was lost (by someone)
c. Úrið týndist.
the watch(N) got-lost

- (16)a. Ég óska atvinnu.
I wish (for) a job(G)
b. Atvinnu var óskað.
a job(G) was wished (for) (by someone)
c. Atvinna óskast.
a job(N) wishes

In contrast, even ergative *-st*-verbs preserve lexical Case under promotion, cf. (17):

- (17)a. Páli skjátlaðist.
Paul(D) was-wrong
b. Páli leiddist.
Paul(D) was-bored
c. Páli fataðist.
Paul(D) mis-lucked

As opposed to middle *-st*-verbs, these *-st*-verbs are not derived by Externalize *th* (nor by Eliminate *TH*, there being no corresponding transitive verbs in the language). That is, their datives are promoted by NP-movement in the syntax.³³

These data indicate two things rather strongly: First, lexical Case (i.e. Case that reflects thematic or idiosyncratic lexical properties of Case assigners), is assigned at D-structure, not in the lexicon (as suggested by Zaenen et al. 1985, p. 466); if it were, all Promotion should preserve lexical Case. Second, UG has both lexical and syntactic Promotion.

³³ This is also true of ergative *gefast* (roughly) 'get' and *bjóðast* (roughly) 'get offered', mentioned in 6.2.3.1. On the other hand, they are exceptional among ergatives in being derived from a transitive base verb (by Eliminate *TH*). Consider (i) and (ii):

- (i) Jón gaf mér þetta tækifæri.
John gave me(D) this opportunity(A)
- (ii)a. Mér var gefið þetta tækifæri (viljandi).
me(D) was given this opportunity(N) (intentionally)
b. Mér gafst þetta tækifæri (*viljandi).
me(D) got this opportunity(N) (intentionally)

As we shall see in the next subsection, ergatives, and not transitives, are usually the base verbs in ergative pairs. - On the derived Dat-Nom pattern in cases like (ii), see 6.5.2.

6.2.4 Ergative pairs and Causative Formation

As mentioned in 6.2.1, Causative Formation crucially involves Add *TH*. In other words, it is roughly the reverse of Middle Formation, the latter involving Eliminate *TH* or 'decausativization' (at least in Scandinavian and German). As we have seen, middles are derived from transitives. 'Ergative pairs' are sometimes assumed to arise in the same manner, i.e. the ergative verb is sometimes assumed to be derived from the causative/transitive verb by role-elimination (cf. e.g. Keyser and Roeper 1984, p. 405; Fagan 1988, pp. 193, 199). I do not doubt that some ergative pairs in some languages arise in this manner (cf. fn. 33 above). However, by briefly considering several types of ergative pairs in Icelandic in the following, I shall illustrate that the correlation between ergatives and transitives is usually the opposite: that is, it usually seems to be due to nonapplication vs. application of Add *TH*, and in many cases the 'ergative pole' of ergative pairs is in fact the direct input to Add *TH*. If Add *TH* does not apply, i.e. if the verb in question enters the syntax as an ergative, syntactic Promotion or NP-movement takes place.

Three of the types to be discussed below were mentioned already in 6.2.0: *-k(k)a*-pairs, pairs involving an ergative *-na*-verb, and strong-weak pairs. I shall discuss these types in this order, concluding by considering a fourth type that involves a phonological null-formation. As we shall see, both the strong-weak alternation and this 'null-alternation' behave somewhat peculiarly with respect to Case.

First consider *-k(k)a*-pairs, like the following ones:

- (1)a. Ég seinkaði ferðinni. cf. sein 'late'
I delayed the journey(D)
b. Ferðinni(D) seinkaði.
- (2)a. Ég stækkaði garðinn. cf. stór 'big'
I enlarged the garden(A)
b. Garðurinn(N) stækkaði.

Four operations seem to be involved in this: First, *-k(k)a*-suffixing, applying to certain adjectives. Second, when possible, an obligatory *i*-umlaut. Third, an obligatory Verb Formation, applying to the output of *-k(k)a*-suffixing + *i*-umlaut and yielding an ergative verb. Fourth, Add *TH*, applying to the ergative verb and yielding a homophonous transitive/causative verb. Disregarding *i*-umlaut, I sketch the other three processes in (3)-(5):

- (3) </X/_A th> -> </X+kka/_A th>
- (4) </X+kka/_A th> -> </X+kka/_v th>

- (5) Add TH:
 Applies to: a. </X+kka/v th>
 b. ...
 .
 .
 .

Usually, (5a) is only optional. If it does not apply to an output of (3)-(4), the *-k(k)a*-verb enters the syntax as an ergative, subsequently promoting its object to [NP, IP] by NP-movement.

This approach is supported by the fact that some *-k(k)a*-verbs cannot (or cannot usually, at least) be transitive:

- (6)a. Billinn var grænn.
 the car(N) was green
 b. Billinn hefur grænkað.
 the car(N) has become-(more-)green
 b. *María hefur grænkað bílinn.
 Mary(N) has made-(more-)green the car(A)

Exceptionally, however, (5a) seems to be obligatory:

- (7)a. María var blíð.
 Mary(N) was gentle
 b. *María blíðkaði.
 Mary(N) became-(more-)gentle
 c. Ólafur blíðkaði Maríu
 Olaf(N) made-(more-)gentle Mary(A)

Strikingly, only those *-k(k)a*-verbs that cannot be ergative can undergo Middle *-st*-Formation, cf. *blíðkast* 'become (more) gentle, calm down' vs. e.g. **stækkast*, **grænkast*.

Now, consider ergative pairs where the ergative verb is an inchoative *-na*-verb:

- (8)a. Ég bræði málminn.
 I melt the metal(A)
 b. Málmurinn bráðnar.
 the metal(N) melts
 (9)a. Ég hita matinn.
 I heat the food(A)
 b. Maturinn hitnar.
 the food(N) heats

- (10)a. Ég hita henni.
I warm her(D)
b. Henni hitnar.
her(D) warms
'She becomes warm(er).'
- (11)a. *Aldurinn stirðir höndina.
the age stiffens the hand(A)
b. Höndin stirðnar (með aldrinum).
the hand(N) stiffens (with the age)

These pairs are more complex than the *-k(k)a*-pairs. There does not seem to be any direct relation between *-na*-verbs and the corresponding transitives. Rather, both verb classes are independently or separately derived, usually from adjectives. We already saw this for the *na*-verbs in 6.2.1, *-na*-Formation (most commonly) taking, roughly, the form in (12):

- (12)a. -na-Formation:
</X/A th> -> </X+na/A th>
b. Verb Formation:
</X+na/A th> -> </X+na/V th>

It seems clear that the corresponding transitives are not derived from the output of these operations, nor are *-na*-verbs derived from the transitives. If, for instance, transitive *bræða* 'melt' were derived from ergative *bráðna* 'melt', the derivation would involve a truncation of the *-na*-suffix, which is quite implausible, I believe. Conversely, if *bráðna* were derived from *bræða*, the derivation would involve the *i*-umlaut, *á* -> *æ* (forming *bræða*) and a subsequent 'inverted *i*-umlaut', *æ* -> *á* (forming *bráðna* from *bræða*).

In the light of this, I suggest that the transitive 'counterparts' to *-na*-verbs are the output of Causative Verb Formation discussed in 6.2.1, relating adjectives (in the core cases, at least) and transitives. Recall that the causative formation involves *i*-umlaut when possible. In accordance with certain general phonological rules, an 'extra' *-j-* is sometimes inserted also. Consider the samples in (13)-(15):

- | | | | |
|------|--------------------|---------------------------------------|----------------|
| (13) | A (stem): | Tr.V: | <u>-na</u> -V: |
| a. | /svart/
'black' | svarta
'make black(er),
defame' | *svartna |
| b. | /lang/
'long' | lengja
'make longer' | *langna |

c.	/kát/ 'happy'	kæta 'make happy/ happier'	*kátna
d.	/tóm/ 'empty'	tæma 'empty'	*tómna
e.	/full/ 'full'	fylla 'fill'	(fullna) 'fulfill'
(14)	A (stem):	Tr.V:	- <u>na</u> -V:
a.	/glað/ 'happy'	gleðja 'make happy/ happier'	glaðna 'become happy/ happier'
b.	/bráð-in/ 'melted'	bræða 'melt'	bráðna 'melt'
c.	/súr/ 'sour'	sýra 'sour'	súrna 'become sour'
d.	/hlý(j)/ 'warm'	hlýja 'make warm'	hlýna 'become warm'
e.	/hvít/ 'white'	hvít(t)a 'make white'	hvítna 'become white'
(15)	A (stem):	Tr.V:	- <u>na</u> -V:
a.	/slak/ 'slack'	*slekja	slakna 'become slack'
b.	/blá/ 'blue'	*blæja	blána 'become blue'
c.	/grá/ 'gray'	*græja	grána 'become gray'
d.	/gul/ 'yellow'	*gyl(j)a	gulna 'become yellow'
e.	/prút-in/ 'swollen'	*prýta	prútna 'swell'
f.	/stirð/ 'stiff'	*stirða	stirðna 'become stiff'

- The stars in (15) are only meant to indicate that the causative formation is blocked, not that there are no verbal forms like *græja* etc. in the language (*græja* means 'fix').

As seen by this, both Verb Formations are often blocked by mere idiosyncrasy, cf. e.g. *glaðna* vs. **kátna* and *sverta* vs. **gyl(j)a*. As we would expect, the transitives in (13) form a middle *-st*-verb (not having any corresponding *-na*-verb), whereas the transitives in (14) normally do not. There are only rare exceptions to this, e.g. *gleðja-glaðna-gleðjast* (the *-na*-verb then typically having some 'noncentral connotation' or even

idiomatic reading). Note also that *-na*-Formation and *-st*-Formation do not combine (transitives like *opna* 'open', forming *opnast*, are not formed by *-na*-Formation). As far as I know, *sofnast* 'fall asleep, sleep' is the only exception to this.

Apart from *i*-umlaut, Causative Verb Formation, forming the transitives in (13) and (14), involves the following operations:

- (16)a. -a-suffixing:
 </X/ A th> -> </X+a/ A th>
 b. Verb Formation:
 </X+a/ A th> -> </X+a/ v th>
 c. Add TH

Normally, Add *TH* applies to the outputs of (16a,b). When it does not, the result is an ergative verb, cf. (17c) (as compared to (17b)):

- (17)a. *Báturinn* er fullur.
 the boat(N) is full
 b. Þeir fylla bátinn.
 they fill the boat(A)
 c. Bátinn fyllir.
 the boat(A) fills
 'The boat becomes full (of water).'

In the core cases, then, '*-na*-pairs' arise from independent application of the processes in (12) and (16). However, pairs of this sort also arise in several other ways. First, both Causative Verb Formation and *-na*-Formation apply to some nouns. Consider (18):

- | | | | | |
|------|----------------|---------------|-----------------|-----------|
| (18) | N: | Tr.V: | <u>-na</u> -V: | (cf. A:) |
| a. | hit-i | hita | hitna | (heit) |
| | 'heat' | 'heat' | 'become hotter' | 'hot' |
| b. | fit-a | fita | fitna | (feit) |
| | 'fat' | 'fatten' | 'become fatter' | 'fat' |
| c. | svig-i | *sviga | svigna | (-) |
| | 'curve' | | 'curve' | |
| d. | roð-i | (roða) | roðna | (rjóð) |
| | 'redness' | | 'redden' | 'reddish' |
| e. | stúf-ur | stýfa | *stúfna | (-) |
| | 'stump' | 'cut' | | |

Presumably, this does not involve 'Add *th*'. The fact that nouns can be used predicatively, like adjectives, indicates that they may select an optional internal tole.

In some cases, the transitives and the *-na*-verbs seem to be derived from a verbal base:

(19)	Intr.V:	Tr.V:	<u>-na</u> -V:
a.	vaka 'wake'	vekja 'wake'	vakna 'wake'
b.	lifa 'live'	* lifa	lifna 'come into being'
c.	sofa 'sleep'	* sofa	sofna 'fall asleep'

Often when the causative formation in (16) is blocked from applying (to whatever base), either an 'isolated' or a differently derived causative verb does exist, cf. e.g. transitive *svæfa* 'lull, put to sleep', cf. (19c), and *sveigja* 'curve, bend', cf. (18c). - *Vakna* and *sofna* are normally ergative, but they are exceptional among *-na*-verbs in optionally being intransitive unergatives, it seems, cf. 6.4.2. All other *-na*-verbs seem to be exclusively ergative.

In addition, there are various cases of nonderived or 'isolated' *-na*-verbs, like *gliðna* 'glide (asunder)', not having any obvious base (nor any transitive counterpart). Moreover, weak *-na*-verbs (all *-na* verbs are weak) sometimes seem to be formed from an adjectival past participle of a strong transitive verb. Consider (20):

(20)	Tr.V:	Participle:	<u>-na</u> -V:	(cf. A:)
a.	brjóta 'break'	brot-in	brotna	(-)
b.	rífa 'tear (apart)'	rif-in	rifna	(-)
c.	svíða 'singe, scorch'	svið-in	sviðna	(-)
d.	þíða 'soften, melt'	þið-in	þiðna	(þið)

Since the participles (optionally) are adjectives (derived by Eliminate *TH*, cf. 6.4.3.2), this is actually a subpart of the most common instantiation of *-na*-formation, applying to adjectives.

Somewhat surprisingly, though, there are some transitive-ergative-ergative triples like the following one (where *braut* is 3p.sg.pret.ind. of *brjóta*):

- (21)a. Sjórin**n** braut bátinn í spón.
the sea(N) broke the boat(A) into pieces
- b. Bátinn(A) braut í spón.
- c. Báturinn(N) brotnaði í spón.

It is not clear how transitive and ergative *brjóta* relate to each other: the ergative might be basic, the transitive being derived by Add *TH*, but it is also possible that the ergative is derived from the transitive by Eliminate *TH* (cf. fn. 33 above on ergative *gefast* and *bjóðast*). We shall see more cases of phonological null-alternations of this sort in a moment. It seems clear that they normally involve Add *TH*, but there are no straightforward arguments that this extends to *brjóta*.

The third type of ergative pairs mentioned in 6.2.0 involves strong-weak alternations, the strong verb being ergative (cf. Zaenen and Maling 1984):

- (22)a. Bókin brann.
the book(N) burned.
b. Þeir brenndu bókina.
they burned the book(A)
- (23)a. Glasið rann yfir borðið.
the glas(N) slid across the table
b. Hann renndi glasinu yfir borðið.
he slid the glas(D) across the table
- (24)a. Báturinn sökk.
the boat(N) sank
b. Þeir sökktu bátnum.
they sank the boat(D)

As in the case of *-k(k)a*-pairs, there seems to be no doubt that the ergative verb is basic here. From a historical point of view, at least, the corresponding weak transitive is derived from the preterite singular stem of the strong verb, the derivation regularly involving *i*-umlaut (for those stem vowels that undergo *i*-umlaut). Since the preterite singular of the strong verb is usually derived by some ablaut, the vowel alternations involved in this can be quite complex. Conversely, the *i*-umlaut sometimes levels out the ablaut effects. Consider the small sample in (25) (where the preterite singular forms are in the first person):

- | | | | | | |
|------|--------------|--------------|----|---------------|-----------|
| (25) | Strong verb: | | | Weak verb: | |
| | Inf. | Pret.sg | | Inf. | Pret.sg |
| a. | (rísa) | reis | -> | reisa | (reisti) |
| | '(a)rise | | | 'raise' | |
| b. | (fljóta) | flaut | -> | fleyta | (fleytti) |
| | 'float' | | | 'float' | |
| c. | (fara) | fór | -> | færa | (færði) |
| | 'go' | | | 'move' | |

d.	(sitja)	sat	->	setja	(setti)
	'sit'			'put down'	
e.	(sringa)	sprakk	->	sprengja	(sprengdi)
	'explode'			'blow up'	
f.	(brenna)	brann	->	brenna	(brenndi)
	'burn'			'burn'	
g.	(sleppa)	slapp	->	sleppa	(sleppti)
	'escape'			'release'	
h.	(velta)	valt	->	velta	(velti)
	'roll'			'roll'	
i.	(sökva)	sökk	->	sökkva	(sökkti)
	'sink'			'sink'	
j.	(stökkva)	stökk	->	stökkva	(stökkti)
	'jump'			'drive away'	

Some phonological processes involved in this are not productive any more, e.g. *ng* -> *nk* -> *kk* seen in **sprakk**. Thus, it is unclear to what extent the relations between these doublets are productive or 'alive'. Be that as it may, the *i*-umlaut relation clearly indicates that the weak transitives are derived from the strong ergatives by Add *TH*, historically or synchronically. - Note that this causative formation is very similar to the causative formation formulated for adjectival inputs in (16) above, both involving *a*-suffixing and *i*-umlaut plus Add *TH*. All these operations clearly apply to various sorts of items.

Finally, some transitives and ergatives enter into a phonological null-alteration of the well-known English type *sink-sink*. These verbs, discussed by Zaenen and Maling (1984), are particularly interesting because of their Case-properties. On the one hand, we find verbs like *brjóta* 'break' in (21), and *fylla* 'fill' in (17), repeated below:

- (17)a. *Báturinn* er fullur.
the boat(N) is full
- b. Þeir fylla *bátinn*.
they fill the boat(A)
- c. *Bátinn* fyllir.
the boat(A) fills
'The boat becomes full (of water).'

Here, the transitive assigns the same Case as the ergative, cf. also (21). The same pattern is illustrated for the dative in (26):

- (26)a. þeir hvolfa bátnum.
they capsize the boat(D)
b. Bátnum hvolfir.
the boat(D) capsizes

We already saw many cases of this sort in 6.1.2.3. However, as pointed out by Zaenen and Maling (1984), there is also another type, involving transitive Case-assigners and ergative nonassigners of Case. As for the accusative, this is only what we expect. The resulting Nom-Acc alternation is, for instance, quite regular for *-k(k)a*-pairs, cf. (2) above. However, consider the Dat-Nom alternation in the following examples:

- (27)a. Við flugum flugvélinni hátt.
we flew the airoplane(D) high
b. Flugvélín flaug hátt.
the aeroplane(N) flew high
c. *Flugvélinni(D) flaug hátt.

- (28)a. Ég bakkaði bílnum hægt.
I backed the car(D) slowly
b. Bíllinn bakkaði hægt.
the car(N) backed slowly
c. *Bílnum(D) bakkaði hægt.

- (29)a. Við hringdum bjöllunni.
we rang the bell(D)
b. Bjallan hringdi.
the bell(N) rang
c. *Bjöllunni(D) hringdi.

If we were dealing with a middle null-formation, deriving the ergative from the transitive, this would of course not be problematic, cf. 6.2.3.3. However, there is evidence that this is not the case. Thus, for instance, some of the ergatives involved in this can take a purposive control infinitival, as opposed to all ('truly') middle *-st*-verbs, cf. (30):

- (30) Bílarnir bökkðu hægt til að keyra ekki á.
the cars(N) backed slowly for to drive not on
'The cars backed slowly in order not to collide.'

Moreover, we see the same phenomenon for many of the strong-weak pairs in (22)-(25), cf. (23)-(24) repeated below:

- (23)a. Glasið rann yfir borðið.
the glas(N) slid across the table
b. Hann renndi glasinu yfir borðið.
he slid the glas(D) across the table
- (24)a. Báturinn sökk.
the boat(N) sank.
b. Þeir sökktu bátnum.
they sank the boat(D)

Thus, it would seem that Add *TH* sometimes converts the transitive output into an assigner of lexical Case.

Even more peculiarly, some ergatives seem to convert structural Case into lexical Case. As mentioned above, the Nom-Acc alternation in cases like (2) and (31) is what we expect:

- (31)a. Garðurinn er stór.
the garden(N) is big
b. Ég stækkaði garðinn.
I enlarged the garden(A)
c. Garðurinn(N) stækkaði.

On the other hand, the pattern in (17) and (21) is surprising:

- (17)a. Báturinn er fullur.
the boat(N) is full
b. Þeir fylla bátinn.
they fill the boat(A)
c. Bátinn fyllir.
the boat(A) fills
'The boat becomes full (of water).'
- (21)a. Sjórinn braut bátinn í spón.
the sea(N) broke the boat(A) into pieces
b. Bátinn(A) braut í spón.

At first sight, the accusatives in (17b) and (21a) might seem to be purely structural, like the accusative in (31b). But if that is the case, the retained accusatives in (17c) and (21b) are rather peculiar. As mentioned in 6.2.3.2, datives and genitives are preserved under passivization, whereas structural accusatives are not. Thus, all the datives in (23)-(24) and (27)-(29), for example, are retained in the passive, cf. e.g. (32):

- (32)a. Ég bakkaði bílnum.
I backed the car(D)
b. Bílnum var bakkað.
the car(D) was backed
c. *Bíllinn var bakkaður.
the car(N) was backed(N.m.sg)

In contrast, the accusatives in (17b)/(21a) turn up as nominatives in the passive, just like the accusative in (31b). Consider (33):

- (33)a. Garðurinn var stækkaður.
the garden(N) was enlarged(N.m.sg)
b. Báturinn var fylltur/brotinn.
the boat(N) was filled/broken(N.m.sg)

This is what we expect if both transitive *stækka* and transitive *fylla*, *brjóta* assign a purely structural Case. But if that is correct, it is a puzzle that ergative *fylla* and *brjóta*, as opposed to ergative *stækka*, assign a lexical (retained) accusative, cf. (17c) and (21b).

This is rather problematic. On the one hand, it is unappealing to assume that Add *TH* sometimes converts nonassigners of Case into assigners of lexical Case, cf. the Nom-Dat alternation in (23)-(24) and (27)-(29). On the other hand, it is even more problematic to assume that ergatives like *fylla* convert structural accusatives into lexical accusatives.

Is there any alternative approach to these data? Here is a tentative proposal: Suppose that Icelandic has, roughly, the rule in (34):

- (34) Erase idiosyncratic Case

The rule has at least two domains of application. First, it applies to some ergatives that assign an idiosyncratic dative (whereas thematic dative always seems to be retained). This leads to the Nom-Dat alternation in (23)-(24) and (27)-(29). Second, it applies to all idiosyncratic accusatives in the passive. Consider again the following patterns:

- (35)a. Ég stækkaði garðinn(A).
b. Garðurinn(N) stækkaði.
c. Garðurinn(N) var stækkaður.

- (36)a. Þeir fylltu bátinn(A)
b. Bátinn(A) fyllti.
c. Báturinn(N) var fylltur.

In both cases, the *a*- and the *b*-sentences show the Case pattern we

would expect if the accusative is structural in (35) but an idiosyncratic lexical Case in (36). But if that is correct, which it presumably is, the structural nominative in (36c) is unexpected - unless Icelandic grammar applies (34) to all idiosyncratic accusatives in the passive.³⁴

This analysis gains support from a peculiar 'gap' in the Icelandic passive. As mentioned, it never retains accusative, whereas it always preserves dative and genitive (cf. e.g. Zaenen et al. 1985). If we do not assume (34), we are thus forced to stipulate that transitive verbs, in contrast with ergatives, cannot assign idiosyncratic accusative as opposed to idiosyncratic dative and genitive, which would seem to be rather peculiar. Apart from that, of course, we would not have any account for the structural nominative in cases like (36c).

The hypothesis in (34) might have far-reaching consequences. Above all, it perhaps breaks down the distinction we made between lexical and syntactic Promotion in 6.2.3. If Icelandic grammar has a rule like (34), then there is perhaps no reason to block it from applying to middle *-st*-verbs, which in turn would mean that middle Promotion might just as well be syntactic as lexical. However, recall that ergative *-st*-verbs do retain idiosyncratic dative, cf. (37):

- (37)a. Ólafi misheppnaðist.
Olaf(D) mis-lucked

³⁴ Generally, there seems no doubt that idiosyncratic or unpredictable Case is losing ground in Icelandic. Thus, there is a strong tendency to replace genitive objects of verbs with PPs (e.g. *biða eftir* 'wait for' plus dative instead of *biða* plus genitive), and in some cases, old genitives have become obsolete, cf. (i), where (ia) must be starred in the contemporary language:

- (i)a. *Páll minnti Maríu loforðsins.
Poul reminded Mary (of) the promise(G)
b. Páll minnti Maríu á loforðið(A).

Idiosyncratic accusative is also on its way out of the language. This is generally known as *þágufallssýki* or 'dative sickness', but it involves at least two tendencies: either the accusative is replaced by the nominative or (more commonly) the dative (cf. Svavarsdóttir 1982, Halldórsson 1982). Consider the variation in (ii) and (iii), where "%" means 'nonstandard, but common':

- (ii)a. Mig(A) langar í köku.
me longs for a cake
b. %Mér(D) langar í köku.
(iii)a. Bátinn(A) rak á land.
the boat drifted on shore
b. %Báturinn(N) rak á land.

In (iib), the idiosyncratic accusative seems to have given way to a semantically predictable dative (the subject being an 'experiencer'). In (iiib), on the other hand, the ergative verb seems to have been 'reanalyzed' as a nominative ergative verb, hence as a non-assigner of Case (the subject being a theme). - Conversely, a handful of nominative ergative verbs, e.g. *hlakka* 'look forward to, rejoice', take a dative (or even an accusative) subject in this non-standard 'dialect'.

- b. Honum skjátlaðist.
 him(D) was-wrong
 'He was wrong.'

Thus, if (34) applies to middle *-st*-verbs, it has to 'see' that they are derived by Eliminate *TH*. In the light of this, I shall stick to my lexical analysis of middle Promotion.

6.2.5 Summary

We can summarize the most important conclusions and results of this subchapter as follows:

1. Word formation involves simplex operations. Among these are several theta operations including at least Add *TH*, Eliminate *TH*, Externalize *th* and Incorporate *TH* (6.2.1).
2. All predicative adjectives are ergative. Assigning an external role is a unique property of verbs (cf. 6.2.2)
3. Middle Formation (in Icelandic and many other languages) involves Eliminate *TH* and Externalize *th* (cf. 6.2.3).
4. Causative Formation involves Add *TH*. Application vs. nonapplication of Add *TH* leads to ergative pairs (cf. 6.2.4).
5. Ergative and passive Promotion is syntactic, hence preserving lexical Case with only a few exceptions (cf. 6.2.3.3, 6.2.4).
6. Middle Formation is lexical. Accordingly, it never preserves lexical (D-structure) Case (cf. 6.2.3.2).

Having compared nominative and oblique Promotion and discussed the different properties of Externalize *th* and NP-movement, we are in a position to look more closely into the nature of the Subject Command Condition, controlling NP-movement in languages like Icelandic. I shall do so in the next subchapter.

6.3 NP-movement and *það*-insertion

6.3.0 Introduction

In this subsection, I shall study the interaction of NP-movement and insertion of expletive or impersonal *það* 'there, it' in Icelandic, as well as the so-called DEFINITENESS EFFECT upon both these processes. As we shall see, the Definiteness Effect upon NP-movement is due to the fact that indefinite or nontopical NPs do not have to move to [NP, IP] in order to satisfy the Subject Command Condition (SCC), i.e. they have alternative means to satisfy SCC (or to escape violating it), not available to definite or topical NPs.

It is necessary that we start out by making proper distinctions between several types of predicates, above all ergative and impersonal predicates. As we saw in chapter 5 (5.2.2.2 and 5.3.1), Icelandic has two classes of verbs and predicates that invariably show up in the default (nonagreeing) third person singular when finite: (i), oblique ergatives (that do not take a nominative object), and (ii), verbs and predicates that take a *pro* subject, expletive or arbitrary. Because of this, it is customary in Icelandic grammar to refer to both types as 'impersonal', cf. e.g. Smári (1920, p. 21 ff.), Einarsson (1945, p. 167 ff.), Thráinsson (1979, chapter 7), Bernóðsson (1982) and Rögnvaldsson (1982b). However, we obviously want to distinguish between these types. I shall therefore use the term *impersonal* to refer exclusively to verbs and predicates that take a *pro* subject.

Impersonals and ergatives have another property in common: both predicate types take a nonlexicalized subject position in D-structure. The obvious difference between them, however, is that ergatives, as opposed to impersonals, promote a (definite) D-structure object. Impersonals are the only predicates in Icelandic that always surface with *pro* in [NP, IP], cf. (1a) vs. (1b):

- (1)a. Rígndi (*það) mikið í gær?
 rained (it) much yesterday
 b. Leiddist *(henni) mikið í gær?
 bored her(D) much yesterday

This is a direct consequence of the different theta structure of impersonals and ergatives. (2) shows the relevant theta structures for the verbs in (1) (but note that (2) is a simplification, not showing any optional theta roles, cf. (3) below):

- (2)a. </rigna/> ('rain')
 b. </leidast/ th> ('be bored')

Due to the Subject Command Condition (SCC) in 6.1.4(10), the internal argument of *leiðast* 'be bored' must be promoted. Impersonals, on the other hand, are predicators that do not take any nuclear argument. Therefore, they may freely surface with *pro* in [NP, IP] without violating SCC.

The basic difference, then, between ergatives and inherently impersonal predicates is that ergatives take a D-structure object whereas impersonals never take any (obligatory) nuclear argument. However, some predicates that are normally impersonal sometimes take an optional nuclear role. When they do, they are ergative, as we would expect:

- (3) Gullinu hafði [t] [[right [t]] til jarðar].
 the gold(D) had rained to earth

Moreover, impersonals take PP-complements rather freely. Like optionality of an internal nuclear role, this sometimes leads to an ergative-impersonal variation for one and the same V (or A):

- (4)a. það logaði [e] á kertinu (impersonal).
 it flamed on the candle
 'The candle flamed.'
 b. Kertið [t] logaði [t]. (ergative)
 the candle flamed

This is the Ergative-Impersonal Alternation mentioned in 6.1.5 and 6.2.2.

A second very typical difference between impersonals and ergatives (and other 'personal' predicates) regards the behavior of expletive *það* 'it, there'. Impersonals are the only predicates that always allow 'free' *það*--insertion into [Spec, CP] (in declaratives and, of course, when [Spec, CP] is not occupied by a topicalized element). Hence, the difference between (5c) and (6c):

- (5)a. Snjóaði [e] í gær?
 snowed (it) yesterday
 b. Í gær snjóaði [e].
 yesterday snowed (it)
 c. Það snjóaði [e] í gær.
 it snowed yesterday

- (6)a. Leiddist honum í gær?
bored him yesterday
b. Í gær leiddist honum.
yesterday bored him
'Yesterday, he was bored.'
c. *Það leiddist (honum) í gær.

As we saw in 5.3.1, all Icelandic declaratives that have a *pro*-subject may take the impersonal or the expletive það in [Spec, CP].

However, this neat picture is somewhat obscured by the so-called Definiteness Effect (cf. Safir 1982b; 1985, p. 91 ff.).³⁵ As in most Romance and Germanic languages, and as mentioned in 6.1.4, indefinite D-structure objects seem to be exempted from the Subject Command Condition, that is, their Promotion is only optional. Accordingly, we get the difference between (7b) and (8b):

- (7)a. Um nóttina hafði báturinn [sokkið t].
in the night had the boat(N) sunk
b. *Um nóttina hafði [e] [sokkið báturinn].
in the night had sunk the boat(N)
- (8)a. Um nóttina höfðu nokkrir bátar [sokkið t].
in the night had several boats(N) sunk
b. Um nóttina höfðu [e] [sokkið nokkrir bátar].
in the night had sunk several boats(N)

In many European languages, dummy pronouns are inserted in [NP, IP], presumably in D-structure. This is, for example, true of English *there* and *it*, French *il* (cf. e.g. Kayne 1975, Herchensohn 1982, Burzio 1986) and Mainland Scandinavian *det/der*). Insertion of these elements in the E(xistential)/P(resentative) Construction is typically conditioned by indefiniteness of the 'logical subject', cf. e.g. Safir (1982b, 1985) and Platzack (1983a). As we saw in 5.3.1, það differs from *there*, etc. in being inserted in [Spec, CP]. Nonetheless, indefiniteness does not only interact with NP-movement in Icelandic, as shown in (7) and (8), but also with það-insertion (cf. e.g. Thráinsson 1979; Platzack 1983a; Rögnvaldsson 1982a, 1984a, 1984b; Maling 1987). Það-insertion is basically 'free' under two circumstances: if the predicate takes a *pro* subject, cf. (5c), or if it takes an indefinite subject (no matter whether it is agentive or only 'logical', situated in [NP, IP] or somewhere else). Compare (9) and (10):

³⁵ 'Indefiniteness Effect' would be a more fortunately coined term, I find. All the same, I shall use Safir's term here (cf. Safir 1985, p. 91).

- (9)a. *það hafði báturinn sokkið [t] um nóttina.
 there had the boat(N) sunk in the night
 b. *það hafði [e] sokkið báturinn(N) um nóttina.
- (10)a. það hafði bátur sokkið [t] um nóttina.
 there had a boat(N) sunk in the night
 b. það hafði [e] sokkið bátur um nóttina.
 there had sunk a boat(N) in the night

That is, if the sentence contains a definite subject, promoted ((9a)) or not ((9b)), expletive *það* is normally totally out (but furthermore, of course, (9b) violates the Subject Command Condition). As pointed out by Rögnvaldsson (1984b), some sentences that are somewhat similar to (9b) are acceptable under certain rather constraining pragmatic conditions (see 6.3.2.1 below). Nonetheless, there is no doubt whatsoever that (9) and (10) illustrate the normal situation (cf. also Rögnvaldsson 1982a, p. 115). It is sketched in (11) (for declaratives that do not involve Topicalization):

- (11)a. Definite subject: *það* ungrammatical
 b. Indefinite subject or *pro*: *það* grammatical

As we shall see in 6.3.2.1, however, the crucial factor involved in this seems to be topicality rather than formal definiteness (there being an extensive overlap of the two), but for the moment, this is not important.

As already pointed out by Thráinsson (1979, p. 477 ff.; see also Platzack 1983a), (11) is even true of sentences with a transitive main verb, cf. (12) vs. (13). As seen in (12b), the indefinite transitive subject may often 'drift' to the right, like a floating quantifier (cf. Thráinsson 1986b):

- (12)a. það hefur einhver stúdent étið hákarlinn.
 there has some student(N) eaten the shark
 'Some student has eaten the shark.'
 b. það át [t] hákarlinn einhver stúdent.
 there ate the shark some student(N)
 'Some student ate the shark.'
- (13)a. *það hafa mennirnir étið hákarlinn.
 there have the men(N) eaten the shark
 b. *það hefur Pétur étið hákarlinn.
 there has Peter(N) eaten the shark
 c. *það hefur hann/hún/þú étið hákarlinn.
 there has he/she/you(N) eaten the shark

Moreover, oblique subjects display the Definiteness Effect in much the

same manner as nominative subjects:

- (14)a. það hafði þremur málfræðingum kólnað t.
there had three linguists(D) got-colder
- b. *Það hafði mönnunum kólnað [t].
there had the men(D) got-colder
- (15)a. Það hafði þrjá málfræðinga langað t heim.
there had three linguists(A) longed home
'Three linguists had wanted to go home.'
- b. *Það hafði mennina langað t heim.
there had the men(A) longed home

In cases like (14a) and (15a), as in (10) above, the indefinite logical subject may also stay in its D-structure position, [NP, VP], the result being the E/P Construction with *pro* in [NP, IP] (*pro* thus corresponding to English *there*, Mainland Scandinavian *det/der*, etc.), cf. (10b) and (16):

- (16) Það hafði [e] kólnað þremur málfræðingum.

On the other hand, sentences like (10a), (14a) and (15a), with an expletive in [Spec, CP], the logical subject in [NP, IP], and its trace in [NP, VP], have no direct counterpart in English and Mainland Scandinavian, cf. below (nor have sentences like (12), of course, cf. Platzack 1983a).

In order to understand the interaction of *það*-insertion and NP-movement, then, we have to distinguish between four kinds of predicates:

1. Ergative (and passive) predicates with a definite or a topical subject, derived by obligatory NP-movement
2. Impersonal predicates taking no nuclear argument, hence involving no NP-movement
3. Predicates with an indefinite subject in [NP, IP], either generated in situ (middles, transitives and intransitives) or derived by optional NP-movement (ergatives and passives)
4. Predicates with a nonlexical [NP, IP], i.e. *pro* (the E/P Construction) or a trace (middles, transitives (cf. (12b)), and intransitives), and an indefinite subject 'later' in the sentence

As opposed to the type in 1. all the types in 2.-4. are compatible with expletive *það*. We may conceive of these *það*-types as being *impersonal constructions* in the sense that they involve a predication of some entity

that is indefinite or 'unknown' (to the addressee, at least). The type in 2. then, involves inherently impersonal predicates (no nuclear argument), whereas the types in 3. and 4. are, so to speak, 'depersonalized' by the indefiniteness or the nontopicality of the subject (no matter whether it is a subject or an object at D-structure).

The type in 3. is particularly interesting when it involves an ergative or a passive predicate, hence involving expletive-insertion *plus* NP-movement. In English and Mainland Scandinavian, insertion of an expletive and NP-movement exclude each other, [NP, IP] being the target position of both. Due to its expletive-insertion into [Spec, CP], Icelandic behaves differently, that is, NP-movement and það-insertion are only in a near-complementary distribution. It is the major goal of the following subsections to shed some light upon this rather peculiar distribution. As we shall see, it illustrates that the Definiteness Effect has to be stated separately for expletive-insertion and NP-movement.

I shall proceed as follows: In 6.3.1, I will briefly demonstrate that the Subject Command Condition seems to make essentially correct predictions for the Ergative-Impersonal Alternation exemplified in (4) above. Then, in 6.3.2, I shall describe the Definiteness Effect for það-insertion (6.3.2.1) and NP-movement (6.3.2.2): For það-insertion, it involves certain binding constraints on the (chain-like) relation between það in [Spec, CP] and [NP, IP], but for NP-movement, it involves almost parallel constraints on the relation between [NP, IP] and [NP, VP/AP]. I shall conclude (in 6.3.2.3), by developing an explanation of the Definiteness Effect upon NP-movement (elaborating upon Safir's (1985) ideas), suggesting that it follows from the fact that 'indefinite' or nontopical NPs have alternative means to satisfy the Subject Command Condition not available to topical or 'definite' NPs.

6.3.1 The Ergative-Impersonal Alternation

As we saw in 6.1 and 6.2, all middle verbs and many ergative verbs have a transitive counterpart. But interestingly, many ergatives (and some middles) also have an impersonal counterpart, where the argument corresponding to the subject of the ergative verb is non-nuclear (with respect to V/A), embedded in a PP. Consider the ergative verbs in (1) and (2):

- (1)a. Röddin hækkaði.
the voice became-louder
b. Hún hækkaði.
she/it became-louder
c. *það hækkaði hún.

- (2)a. Byggingin logaði.
the building flamed
b. Hún logaði.
she/it flamed
c. *Það logaði hún.

When ergative verbs like *hækka* and *loga* take a nuclear definite argument, the Subject Command Condition forces Promotion of the argument (with some exceptions, though, cf. 6.3.2.1). After Promotion, the sentence contains a definite subject, *það*-insertion therefore being blocked, cf. (1c) and (2c) and 6.3.2.1. Optionally, however, these verbs are impersonal, i.e. the argument is a prepositional object. In this case, the situation is exactly reversed, that is, Promotion is excluded and *það*-insertion applies freely, cf. (3) and (4):

- (3)a. *Hækkaði röddinni /henni í [t]?
became-louder the voice/it in
b. Það hækkaði [e] í röddinni/henni.
it became-louder in the voice/it
'The voice became louder.'

(4)a. *Logaði byggingunni /henni í [t]?
flamed the building/it in
b. Það logaði [e] í byggingunni/henni.
it flamed in the building/it
'The building was flaming.'

The Ergative-Impersonal Alternation in (1)-(2) vs. (3)-(4) is quite common. Several further examples are given in (5), cf. the 1-sentences vs. the 3-sentences:

- (5)a1. Kemur þetta?
comes this
2. *Það kemur þetta.
it comes this
3. Það kemur [e] að þessu.
it comes to this
b1. Klingir bjallan/hún?
rings the bell/it
2. *Það klingir hún.
3. Það klingir [e] í henni.
it rings in it

- c1. Hann umlaði.
 he murmured
 2. *Það umlaði hann.
 3. Það umlaði [e] í honum.
 it murmured in him
- d1. Hann hummaði.
 he hummed
 2. *Það hummaði hann.
 3. Það hummaði [e] í honum.
 it hummed in him

In all these cases, then, Promotion of definite nuclear arguments of V is obligatory and blocks það-insertion. Conversely, það-insertion applies freely when Promotion does not take place, i.e. when the argument is a prepositional object.

This subject-PP alternation is more common for verbs than for predicative adjectives. Nonetheless, basically the same distribution of NP-movement and það-insertion is seen for predicative adjectives, as illustrated in (6) (see also 6.2.2):

- (6)a. Íbúðin /Hún er hlý.
 the apartment/it(N) is warm
 b. *Það er [e] hlý hún.
 it is warm it
 c. Það er [e] hlýtt í henni.
 it is warm in it

The Ergative-Impersonal Alternation, for example in cases like (6a) vs. (6c), does not seem to have anything to do with Case assignment. Assigners of lexical Case behave the same way, cf. (7) and (8) (recall, from 6.2.2, that some ergatives, like hlý- in (6) and (7), may either take a nominative or a dative subject):

- (7)a. Henni var [t] hlýtt [t].
 her(D) was warm
 b. *Það var [e] hlýtt henni.
 it was warm her
 c. Það var [e] hlýtt.
 it was warm

- (8)a. Henni hafði [t] hlýnað [t].
her had become-warmer
- b. *Það hafði [e] hlýnað henni.
it had become-warmer her
- c. Það hafði [e] hlýnað.
it had become-warmer

This is exactly what we expect if Promotion is forced by the Subject Command Condition and if Promotion of definite arguments blocks það-insertion. If, on the other hand, Promotion were forced by the Case Filter, we would expect (7b) and (8b) to be grammatical (the D-structure objects being Case-marked in situ and Icelandic being a null-subject language). Note that the ungrammaticality of these sentences is due to nonapplication of NP-movement, not to það-insertion as such, cf. (9)-(10):

- (9)a. Var henni hlýtt [t]?
was her warm
- b. *Var [e] hlýtt henni?
- (10)a. Hafði henni hlýnað [t]?
had her become-warmer
- b. *Hafði [e] hlýnað henni?

6.3.2 The Definiteness Effect

6.3.2.1 Topicality and það-insertion

As we saw in 6.3.0, indefiniteness has two interesting effects. First, it renders NP-movement only optional. Second, it licenses það-insertion, no matter whether or not NP-movement takes place. For convenience, I illustrate this again in (1)-(4). First, consider (1) and (2) (and recall, once again, that I use V1 sentences when I wish to avoid the masking effects of Topicalization):

- (1)a. Höfðu þeir sokkið [t]?
had they sunk
- b. *Höfðu [e] sokkið þeir?
- (2)a. *Það höfðu þeir sokkið [t].
- b. *Það höfðu [e] sokkið þeir.

As seen by this, the definite subject must be promoted and það-insertion is impossible. The situation is almost reversed when the subject is indefinite, cf. (3) and (4):

- (3)a. Höfðu margir bátar sokkið [t]?
had many boats sunk
b. Höfðu [e] sokkið margir bátar?
- (4)a. Það höfðu margir bátar sokkið [t].
there had many boats sunk
b. Það höfðu [e] sokkið margir bátar.
there had sunk many boats

This, as well as the Ergative-Impersonal Alternation, indicates that the relevant (initial) generalizations are as follows:

- (5) If [NP, IP] does not contain an argument in D-structure, then NP-movement is:
a. obligatory for a definite [NP, VP/AP]
b. optional for an indefinite [NP, VP/AP]
c. ungrammatical for [NP, PP]
- (6) If [NP, IP] does not contain a definite argument in S-structure (i.e. if it contains nonreferential pro or an indefinite subject), then það-insertion is licensed

If we consider both NP-movement and það-insertion simultaneously, we can also describe their near-complementary distribution (in declaratives) in the following sketchy manner:

- (7)a. Definite [NP, VP/AP]:
- obligatory NP-movement
- ungrammatical það-insertion
b. Indefinite [NP, VP/AP]:
- optional NP-movement
- free það-insertion
c. [NP, PP] (or no argument):
- ungrammatical NP-movement
- free það-insertion

As we shall see more clearly, the major reason for these peculiar distributional facts is that (in)definiteness or (non)topicality interacts separately with both NP-movement and það-insertion. Let us start out by considering

the Definiteness Effect with respect to *það*-insertion, returning to the effects of (in)definiteness upon NP-movement in 6.3.2.2. In the following discussion, I shall use the traditional term 'subject' for D-structure objects of ergatives, even when they are clearly not promoted to [NP, IP] by NP-movement. This might seem to be a rather unfortunate decision. However, as we shall see in 6.3.2.3, these arguments link to the subject position, i.e. they are members of the same chain as [NP, IP].

The licensing of *það*, informally accounted for in (6), indicates that nonreferential *pro* and indefinite NPs have something crucial in common. Or, conversely, they lack some crucial property of (normal) definite NPs. It is not easy to identify the property in question. Thus, it is not formal definiteness, [+def]. This is seen by the fact, demonstrated by Rögnvaldsson (1984b), that the E/P Construction sometimes allows a definite subject. Some examples of this are given below (cf. Rögnvaldsson 1984b, p. 365):

- (8)a. *það festist [e] víst rútan á leiðinni norður.*
 there got-stuck say the bus on the way north
 'The bus got stuck on they way north, they say.'
- b. *það skín [e] alltaf blessuð sólin.*
 there shines always the blessed sun
- c. *það er [e] kominn náunginn sem þú hittir.*
 there is come the guy who you met
 'The guy you met is here.'

Rögnvaldsson does not discuss this for predicative adjectives, but as we would expect under our ergative analysis of these, roughly the same kind of data is found for them as for ergative verbs:³⁶

³⁶ Note however that the corresponding sentences with an indefinite logical subject are always ungrammatical, cf. (i):

- (i) **það er kaldur ofn.*
 there is a cold radiator

For reasons into which I shall not go here, the adjective is obligatorily understood as being attributive here, that is, (i) is out for the same reason as (ii):

- (ii) **Kaldur ofn er.*
 a cold radiator is

- both violating 'predication-semantics', cf. Milsark (1977). Presumably, this is also the case in sentences like (iii), discussed by Platzack (1983a, p. 93) and Maling (1987, appendix):

- (iii)a. **það er maður lækni.*
 there is a man doctor
 b. **Maður er lækni.*
 a man is a doctor

Contrary to what Maling (ibid) claims, Icelandic is not markedly different from e.g. English and Swedish in this respect.

- (9)a. það er [e] [_{AP} óhrein skyrta mín].
 there is dirty the shirt my
 'My shirt is dirty.'
- b. það er [e] [_{AP} kaldur ofninn].
 there is cold the radiator
 'The radiator is cold.'

As argued by Rögnvaldsson (*ibid*), definite subjects in það-sentences are heavily constrained. First, it must be the case that the subject has only one possible referent in the situation: this is reflected by the definite article. Thus, for instance, the bus talked about in (8a) can only be one particular bus, namely 'the bus that goes north' (Rögnvaldsson 1984b, p. 366). Similarly, the guy in (8c) must be 'the guy you met (on some occasion)'. This is, of course, clear from the context, i.e. from the PP in (8a) and the relative clause in (8c). If this background information is lacking, the definite logical subjects are unacceptable. Compare (10) to (8c):

- (10) *það er kominn náunginn.
 there is come the guy

The necessary background information is sometimes deducible from pragmatic context only, cf. the sentences in (9) (that are only felicitous under certain rather special pragmatic conditions into which I shall not go here).

Second, Rögnvaldsson argues, definite as well as indefinite subjects in það-sentences must convey some new information, i.e. they must not have been recently mentioned in discourse (nor be entirely given or presupposed in the discourse situation, as e.g. the personal pronouns usually are). Consider (11) and (12):

- (11)a. Q: Hvað kom fyrir?
 what came for
 'What happened?'
- b. A: Það festist rútan á leiðinni norður.
 it got-stuck the bus on the way north
- (12)a. Q: Festist rútan á leiðinni norður?
 got-stuck the bus on the way north
- b. A1: Já, rútan festist á leiðinni norður.
 yes the bus got-stuck on the way north
- c. A2: ?*Já, það festist rútan á leiðinni norður.

The answer in (12b) is only natural if the question in (12a) is an echo--

question, but it shows that non-pronominalization of definite subjects in answers is sometimes felicitous. Since this is the case, the non-pronominalization of the subject in (12c) is probably not responsible for the unacceptability of the sentence (nor is the definiteness of the subject, cf. (11b)). Rather, all subjects in *það*-sentences, definite or indefinite, must be informationally 'heavy' or *nontopical*. Hence, the acceptability of (11b) as compared to (12c).

Nontopical NPs are canonically indefinite, but under the condition that they can have only one possible referent, they may or must be formally definite in Icelandic. Thus, there is no one-to-one matching of topicality and formal definiteness in the language.³⁷ Since, however, there is an extensive overlap of the two, I shall sometimes use the terms 'indefinite' and 'definite' instead of the more appropriate 'nontopical' and 'topical'.

Expletive *það*, then, is licensed in basically two types of cases: when the sentence contains a nontopical subject (canonically indefinite), and when the sentence has a nonreferential *pro* subject. Now, nonreferential *pro*, of course, is always nontopical. Thus, it seems that (13) is true:

- (13) *Það* is licensed if the sentence
does not contain a topical subject

The Definiteness Effect, then, is actually a 'topicality effect', at least with respect to *það*-insertion. If we look at the matter from a functional point of view, this is not surprising. [Spec, CP] is the target position for Subject-Topicalization as well as for *það*-insertion. Therefore, it is rather natural that the entirely nontopical *það* is excluded in the presence of a topical subject, the subject being a 'more prominent candidate' for the topic position. However, if there were nothing more to this, we would expect *það* to give way to topical objects too. As seen in (14), it does not (cf. also Maling 1987):

- (14) *það* átt hann einhver stúdent.
there ate it(A) some student(N)
'Some student ate it.'

³⁷ The major difference between English and Icelandic with respect to topicality and definiteness seems to be that definite NPs cannot be understood as being nontopical in English (with the exception of generic NPs). Conversely, indefinite NPs can be understood as being topical in Icelandic in some cases where they cannot in English, cf. (i):

- (i) *Bóndi gekk út.*
farmer walked out
'The farmer/Our farmer walked out.'

(In this particular example, though, the indefiniteness is a rather marked stylistic device, typical of narrations.) It should be stressed, however, that the relationship between definiteness and topicality is *normally* the same in Icelandic as in English.

Since this is the case, licensing of *pað* must have something to do with the relation between [NP, IP] and *pað* in [Spec, CP]. Furthermore, we would of course like to have some more formal or at least more specific account for the licensing of *pað*. This is not an easy task, but here is a proposal:

Topical NPs seem to be *referential* in another sense than nontopical NPs. Consider (15) and (16):

(15) The men were attacked by a young lion.

(16) A young lion is not likely to attack man.

The generic subject in (16) is nonreferential; even definite generic NPs are nonreferential, of course. In (15), on the other hand, *a young lion* is referential in the sense that it refers to a specific 'object' in a specific situation (to use the terminology of situation semantics). Nevertheless, it clearly has another type of reference than does the topical definite subject in (17) (cf. also Safir 1985, p. 168 ff.):

(17) The young lion attacked the men.

Canonically, a topical NP is coreferential with another NP in preceding discourse, whereas nontopical NPs are not. Indeed, the 'most prototypical' type of topical N(P)s, personal pronouns, may be conceived of as lexicalizations of various bundles of theta phi-features that link to reference or referential indices, cf. 5.4. It thus seems promising to make a distinction between topical and nontopical arguments in terms of referential indices. No doubt, there are various ways to formalize this intuition. One way to do so is to assume that topical NPs have a special type of referential index, say a 'coreferential index'. Tentatively, I shall take the somewhat more radical standpoint in (18):

(18) All and only topical NPs have a referential index

If this is correct, we have to distinguish between *referential indices* and *identity indices*, left behind by *Move alpha* (the assumption being that movement of even nonreferential NPs always leaves behind a coindexed trace, the identity of the antecedent and the trace being 'read off' from the index). I shall designate all and only referential indices by a star ("i*", etc.). - Note that by making this distinction, I am by no means rejecting Safir's (1985, p. 16 ff.) 'Unity of Indexing Hypothesis'; following Safir, I take it that all subtheories, e.g. Binding Theory and Theta Theory, operate with the same set of indices.

On these provisions, we can state the following filter on *pað*-insertion:

- (19) The **það**-filter:
 ***það**, **það** = [Spec_i, CP], if [NP_i*, IP]

In other words, expletive **það** is always illicit if [NP, IP] bears a referential index. Conversely, **það**-insertion may apply if [NP, IP] is [NP_i, IP], i.e. if it bears only a mere identity index. Obviously, we would like to have some principled explanation why this is the case. Here is a tentative proposal:

Taraldsen (1986b) analyzes expletives in [Spec, CP] as nonoperators. Suppose, instead, that [Spec, CP] is an obligatory operator position, as suggested in 5.2.4. If that is correct, **það** is a semantically empty operator, at least in the sense that it has no theta-features (consider also Chomsky 1982, p. 31). Compare (20) and (21):

- (20) Voru [e] oft margar mýs í baðkerinu.
 were often many mice in the bathtub
 'There were often many mice in the bathtub.'
- (21) Það voru [e] oft margar mýs í baðkerinu.
 there were ...
 'There were often many mice in the bathtub.'

This suggests that **það** is, so to speak, a lexicalization of a 'presentative' operator that may stay empty (as in (20)). However, vacuous quantification is usually taken to be nonexistent in natural language (as opposed to artificial 'languages'), cf. e.g. May (1985), Taraldsen (1986b, p. 152), Chomsky (1986a, p. 98 f.). A potential problem with this assumption is that it seems to presuppose that sentence adverbs and some other adverbial operators in [Spec, CP] somehow 'bind' whole sentences.³⁸ Be that as it

³⁸ Consider also Narrative Inversion (NI), i.e. V1 declaratives with a topical subject, cf. (i):

- (i) Taldi hann vera drauga í eldhúsinu.
 believed he be ghosts in the kitchen
 'He believed that there were ghosts in the kitchen.'

Sentences of this sort normally have the same reading as corresponding sentences with a 'consequence-adverb' or a 'continuity-adverb' in [Spec, CP], most typically **því** 'thus', **þá** 'then', **nú** 'now' (these adverbs are often 'adverbial dummies' of a sort). Thus, it is tempting to assume that NI involves a null-operator in [Spec, CP]. If that is correct, the operator 'binds' or takes scope over the whole sentence, like overt adverbial operators in [Spec, CP]. Note also that the 'wh-system' has an operator of this kind, namely Icelandic **hvort**, English *whether*, etc. Possibly, sentential operators of this sort really do bind sentences in the formal sense that they are coindexed with sentences (the quantification thus not being vacuous). But if that is the case, the coindexing in question is clearly of a different nature than assignment of referential indices (and the same is, of course, true of the often assumed coindexing of Agr and [NP, IP] in finite sentences). - It is not obvious how 'free indexing' should be constrained so as not to become entirely vacuous of content.

may, suppose that það, being an operator, must bind [NP, IP], i.e. bear an index that is nondistinct from the index of [NP, IP]. On the natural assumption that all referential indices are necessarily distinct from all mere identity indices, it then follows that expletive það is ruled out if [NP, IP] bears a referential index.

If það must enter into a chain-like relation with [NP, IP], then it seems clear that both members of the relation must bear compatible indices. However, formulating a specific það-filter implies that the Definiteness Effect upon það-insertion is due to a language specific property of Icelandic. This is probably incorrect or at least misleading. The distinction I made between topical and nontopical NPs opens up a possibility to account for the phenomenon in terms of a general principle of UG, viz. Principle C of the Binding Theory (cf. Chomsky 1981, p. 188):

(22) An R-expression is free

Suppose that only topical or referentially indexed NPs count as 'R(eferential)-expressions' with respect to the Binding Theory (for similar considerations, see Safir (1985) and Reuland (1985)). If that is correct, Principle C should be reformulated as shown in (23):

(23) [NP_i*] is free

- which means that the Binding Theory has no bearing on 'indefinite' or nontopical NPs. The það-filter now follows from Principle C (on the provision that það must bind [NP, IP]): If það binds a topical or a referentially indexed NP in [NP, IP], we inevitably end up with a violation of Principle C, whereas there is nothing that blocks it from binding a nontopical NP.

There is various evidence that the generalization expressed by the það-filter is empirically true. Thus, as we have seen, impersonal það-sentences may contain a lexical subject as long as the subject is nontopical, even when it bears an external role:

(24) það hefur einhver [stolið bókinni].
 there has somebody stolen the book
 'Somebody has stolen the book.'

In the same manner, það-insertion is grammatical in sentences like (25):

(25) það hafa margir [dáið [t]] í styrjöldum.
 there have many died in wars
 'Many people have died in wars.'

- that is, when [NP, IP] is filled by NP-movement of a nontopical D-structure object of an ergative. In passing, note that the chain (or 'chain-like relation') [*það*, *margir*, *t*] in (25) is a typical crossover chain (cf. 5.2.5). Presumably, we do not end up with a crossover violation because of the semantic emptiness of *það* and the absence of a referential index in [NP, IP], but I shall not pursue this.

Further evidence that *það*-insertion is blocked by a referential index or topicality of [NP, IP], and neither by its lexicalization nor by its theta--role, comes from examples like (26)-(28); recall from 5.2.4 that "O" denotes a null-operator in [Spec, CP] (and "[e]" a nonlexicalized subject, i.e. *pro*):

- (26)a. [O] Hefur [t] aldrei talað um þetta.
 has never talked about this
 '(S)he has never talked about this.'
- b. *Það hefur [e] aldrei talað um þetta.
 'There has ((s)he) never talked about this.'
- (27)a. (Páll dáði Önnu og) [O] elskaði [t] Maríu.
 Paul adored Ann and loved Mary
- b. *(Páll dáði Önnu og) það elskaði [e] Maríu
 'Paul adored Ann and (*there) loved Mary.'
- (28) Það verður [e] að tala um þetta.
 it must to talk about this
 'Someone (/We, etc.) must talk about this.'

In all these cases, [NP, IP] is nonlexical but bears an external role. However, expletive *það* is grammatical in only the Impersonal Modal Construction in (28). It seems clear that the reason is that [NP, IP] is arbitrary in (28). That is, the reason why *það* is grammatical in (28), as opposed to (26)-(27), is that [NP, IP] contains no referential index in (28).

6.3.2.2 Topicality and NP-movement

Now, let us look more closely at the interaction of (in)definiteness and NP-movement. As we have seen, definite D-structure objects of ergative Vs and As must normally move to [NP, IP], whereas movement of indefinites is only optional. However, consider again cases like (1) and (2):

- (1) það er [e] [kominn náunginn sem þú hittir].
 there is come the guy who you met
 'The guy you met is here.'
- (2)a. það er [e] [óhrein skyrta mín].
 there is dirty the shirt my
 'My shirt is dirty.'
 b. það er [e] [kaldur ofninn].
 there is cold the radiator
 'The radiator is cold.'

In spite of their definiteness, the subjects in these sentences are nontopical, as we discussed above. As seen, they do not move to [NP, IP].³⁹ Thus, not only það-insertion but also NP-movement is sensitive to (non)topicality rather than (in)definiteness. This is the reason why we get the peculiar near- or half-complementary distribution of það-insertion and NP-movement:

- (3)a. [NP_i*, VP/AP] : NP-movement enforced, *það
 b. [NP_i, VP/AP] : NP-movement free, það free

If obligatory NP-movement takes place, það-insertion always leads to a violation of the það-filter in 6.3.2.1(19) (i.e. of Principle C). Hence, for instance, the complementary distribution of það and NP-movement in the Ergative-Impersonal Alternation, discussed in 6.3.1.

Indefinite nontopical NPs have a very high degree of positional freedom in Icelandic (cf. Rögnvaldsson 1982a, 1984b; Thráinsson 1986b, 1986c), in particular when they contain lexical quantifiers like *einhver* 'some, somebody', *margir* 'many', etc. Consider (4) and (5):

- (4)a. ??það hefur bók stundum [verið t á borðinu].
 there has a book sometimes been on the table
 b. ?*það hefur stundum bók [verið t á borðinu].
 c. það hefur stundum [verið bók á borðinu].
 d. ?það hefur stundum [[verið t á borðinu] bók].
 'There has sometimes been a book on the table.'

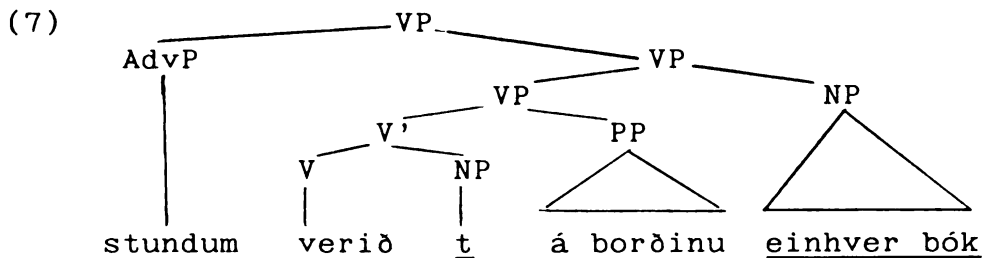
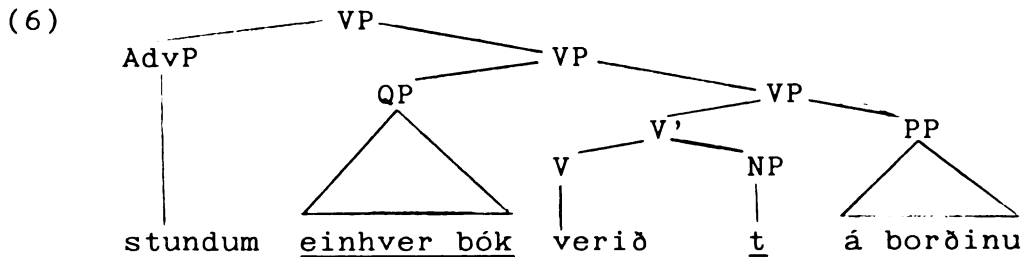
³⁹ In fact, corresponding sentences with a raised NP are ungrammatical:

- (i)a. það er [óhrein skyrta mín].
 there is dirty shirt my
 b. *það er skyrta mín [óhrein [t]].

That is, NP-movement is normally optional for nontopical indefinite NPs but excluded for nontopical definite NPs. Perhaps, sentences like (ib) are processed as violations of Principle C 'before the processor realizes' that the formally definite NP is nontopical.

- (5)a. Það hefur einhver bók stundum
[verið t á borðinu].
 b. Það hefur stundum einhver bók
[verið t á borðinu].
 c. Það hefur stundum
[verið einhver bók á borðinu].
 d. Það hefur stundum
[[verið t á borðinu] einhver bók].
 'There has sometimes been some book on the table.'

As seen in (5), indefinite subjects that are moved have three canonical landing sites: the [NP, IP] position, a QP position, adjoined to the left of VP (cf. 4.3), and an adjunct position to the right of VP. The relevant structures of (5b) and (5d) are shown in (6) and (7):



Obviously, both adjunction processes should be kept strictly apart from NP-movement (cf. Chomsky 1986b).

Rightwards shift of indefinite or informationally 'heavy' NPs is of course a well-known process, albeit rather poorly understood. When it applies to subjects, as in (5d)/(7), we may refer to it as HEAVY SUBJECT SHIFT (HSS). It applies extremely freely in Icelandic, even to subjects of transitives, cf. (8d):

- (8)a. það hafa einhverjir bófar kannski [stolið þessu].
 there have some gangsters perhaps stolen this
 b. það hafa t kannski einhverjir bófar stolið þessu.
 c. *það hafa t kannski stolið einhverjir bófar þessu.
 d. það hafa t kannski stolið þessu einhverjir bófar.

As we would expect, heavy subjects of transitives differ from heavy subjects of ergatives (i.e. in the canonical E/P Construction) in not being able to occur VP-internally, cf. (8c) (see also the discussion in Rögnvaldsson 1982a, 1983; Thráinsson 1986b). That is, heavy nominatives must, of course, not end up in a V-Case domain. In (8b) and (8d), on the other hand, the subject is adjoined to VP (as in (6) and (7)). In our approach, Infl-Case may percolate to both adjunct positions. However, since neither position c-commands [NP, IP], I take it that HSS of at least transitive subjects is a PF-process, applying after all Case assignment (thus following Rögnvaldsson 1983, p. 25; for a different position, see Platzack 1987a, p. 391). An interesting alternative, which I shall not explore here, is that traces of nontopical NPs are like lexical nontopical NPs in being exempted from the Binding Principles.

In sum, then, the formulation of the það-filter in 6.3.2.1(19) seems to make correct predictions about the blocking effects of obligatory NP-movement (i.e. of referentially indexed NPs in [NP, IP]) on það-insertion. As yet, however, I have not developed an explicit enough explanation of the fact that the Subject Command Condition only forces movement of NPs that bear a referential index. I shall discuss this problem in the next subsection.

6.3.2.3 Topicality and chain-formation

The best known approach to the Definiteness Effect upon NP-movement is that of Safir (1982b, 1985). Deviating only minimally from Chomsky (1981) (by subsuming superscripting under indexing), Safir assumes that logical subjects inherit nominative Case by virtue of being coindexed with a nominative Case position. See also Borer (1986) and Platzack (1983a) (who adapts Safir's ideas to Icelandic, Swedish, and German). In a somewhat simplified form, the basic assumptions of this approach are the following (in the Feature Percolation Theory of Case, of course, (1c) can and should be dispensed with):

- (1)a. Indexing is free (except that a trace must bear the same index as its antecedent)
 b. Names must be free (where a 'name' is a definite NP that is not an anaphor)
 c. Coindexing of thematically non-distinct NPs transmits Case

As far as I can see, this makes, roughly, the correct predictions for languages like English and Mainland Scandinavian (that insert expletives into [NP, IP] and have no lexical Case). Compare (2) and (3):

(2) There was an old man crossing the street.

(3) *There was Paul crossing the street.

In the standard theory, both logical subjects are in a non-Case position. Through coindexing with the nominative *there*, however, *an old man* in (2) inherits the nominative. Due to (1b) (a somewhat modified version of Principle C of the Binding Theory), on the other hand, *Paul* in (3) must not be bound by *there*, hence being incapable of inheriting its Case.-Binding of definite NPs, then, but not of indefinite NPs, violates Principle C: indefinite NPs, as opposed to definite NPs, are invisible to the binding principles at S-structure (Safir 1985, p. 132 ff.). Accordingly, indefinite NPs can be bound at S-structure (thereby inheriting Case) without violating Principle C (or (1b)).

This 'binding part' of Safir's theory is quite appealing; I shall return to (a somewhat different version of) it in a moment. On the other hand, Icelandic demonstrates rather clearly that the 'Case inheritance part' cannot be on the right track (see also Reuland 1985, on English, German, and Dutch). Most important, oblique subjects behave much the same as nominative subjects with respect to the Definiteness Effect, as mentioned in 6.3.0. Compare the nominatives in (4)-(5) to the accusatives and the datives in (6)-(9) (the same distributional facts are found in the passive, cf. 6.4.1):

Nominatives:

- (4)a. *Höfðu [e] sokkið bátarnir?
 had sunk the boats(N)
 b. Höfðu bátarnir sokkið [t]?
 "Did the boats sink?"

- (5)a. Höfðu [e] sokkið einhverjir bátar?
 had sunk some boats(N)
 "Did there sink any/some boats?"
 b. Höfðu einhverjir bátar sokkið [t]?

Accusatives:

- (6)a. *Hafði [e] rekið bátana?
 had drifted the boats(A)
 b. Hafði bátana rekið [t]?
- (7)a. Hafði [e] rekið einhverja báta?
 had drifted some boats(A)
 b. Hafði einhverja báta rekið [t]?

Datives:

- (8)a. *Hafði [e] hvolft bátunum?
 had capsized the boats(D)
 b. Hafði bátunum hvolft?
- (9)a. Hafði [e] hvolft einhverjum bátum?
 had capsized some boats(D)
 b. Hafði einhverjum bátum hvolft [t]?

Obviously, it is not a very appealing solution to assume that the accusative in (7a) and the dative in (9a) must be coindexed with [NP, IP] in order to be able to inherit the structural nominative of the latter. If this were the the case, we would not only have to assume the problematic Double-Case Approach of Belletti (1988), discussed in 6.1.6; we would also be forced to assume that Infl-Case is capable of penetrating the domain of a lexical governor that is a Case assigner. Rejecting this, I contend that the Definiteness Effect upon NP-movement, like NP-movement itself, has nothing to do with Case assignment.

In spite of this, Safir (1982b, 1985) seems to be right that nonraised logical subjects must be coindexed with [NP, IP], thus forming a chain with [NP, IP] (see also Reuland 1985).⁴⁰ As predicted by the Feature Percolation Theory of Case, however, the 'purpose' of the chain-formation is *not* to save the nonraised NP from violating the Case Filter. Rather, its 'purpose' is to save the structure from violating the Subject Command Condition (SCC) in 6.1.4(10), repeated below:

⁴⁰ However, this is presumably not the case in languages that do not apply NP-movement. For a discussion, see 6.5.3.

- (10) *IP if [NP, IP] is nonargumental and
[VP/AP, IP] includes a nuclear argument of V/A

The notion 'inclusion' is crucial. Recall, from 6.1.4, that *a* includes *b* iff *a* dominates all segments of *b*. Therefore, VP/AP does not include [NP, VP/AP] if the latter is coindexed with a position external to VP/AP (i.e. VP/AP does not dominate all segments of the chain so formed).

Suppose that assignment of identity indices, as opposed to referential indices, is basically free - a natural enough assumption. If that is correct, the structures in the *a*-sentences in (5), (7), and (9), can be saved from violating SCC by coindexing the nonraised logical subjects with *pro* in [NP, IP], as shown below for (9a):

- (9)a. Hafði [*e*]_{*i*} [hvolftt [*einhverjum bátum*]_{*i*}]?
had capsized any boats

However, this way out is only available for 'indefinite' or nontopical NPs: if topical or referentially indexed NPs are bound (by *pro* or whatever), we end up with a violation of Principle C as formulated in 6.3.2.1(23), repeated below:

- (11) [NP_{*i**}] is free

Moreover, it is not possible to coindex nonreferential *pro* with a topical NP: by necessity, these elements bear incompatible indices (a mere identity index vs. a referential index), i.e. they cannot be members of the same chain. - When the subject is raised to [NP, IP], these problems are resolved, as shown in (12) for (8) above:

- (12)a. *Hafði [*e*]_{*i*} [hvolftt [*bátunum*]_{*i**}]?
had capsized the boats(D)
b. Hafði [*bátunum*]_{*i**} [hvolftt [*t*]_{*i**}]?

The same considerations apply to languages like English, French, and Mainland Scandinavian, the only difference being that these languages insert a lexical expletive into [NP, IP]. Let "ex" stand for "an (external) expletive", whether or not lexicalized. What we are dealing with, then, is the following four relations between the external and the internal argument positions:

- (13)a. *[*ex*_{*i*}, NP_{*i**}]: a nonmoved topical NP
b. [NP_{*i**}, *t*_{*i**}]: a moved topical NP
c. [*ex*_{*i*}, NP_{*i*}]: a nonmoved nontopical NP
d. [NP_{*i*}, *t*_{*i*}]: a moved nontopical NP

The relations in (13b-d) are well-formed chains. Involving incompatible indices, (13a) is not a chain. Accordingly, the nonmoved NP violates SCC (being included by [VP/AP, IP]), and the only possible way to save the structure is to apply NP-movement, yielding the well-formed (13b).

Strikingly, this applies in much the same way in languages with and without lexical Case, e.g. in Icelandic and English. This is not surprising if NP-movement and the Definiteness Effect upon it are independent of Case assignment.⁴¹

6.4 The Passive

Over the last few years, the Icelandic passive has been extensively studied in the generative literature. See for instance Zaenen et al. (1985) and the references cited there; for a useful descriptive overview, see also Friðjónsson (1987). I shall therefore primarily be concerned with the theoretical implications of the passive, largely basing my conclusions on more descriptive works of others. The aim of the section is mainly threefold. First (6.4.1), I wish to demonstrate that passive NP-movement is only a subcase of ergative NP-movement, i.e. it is forced by the Subject Command Condition, not by defective Case-marking. Second (6.4.2), I will argue that the domain of the Icelandic (verbal) passive is precisely that of verbs that select an external role, the reason being that Passive Formation necessarily involves assignment of an external role to the participle suffix (i.e. it crucially involves the theta operation Incorporate *TH*). An important consequence of this is that Passive Formation serves as a test on the Promotion Hypothesis: ergative verbs and other verbs that do not select an external role should not passivize. Finally, in 6.4.3, I shall demonstrate that Passive Formation and Adjectival Participle Formation are word formation processes and discuss the differences between the two as well as their common properties.

⁴¹ Nonetheless, it is clear that ergatives are like passives (see 6.4.1) in never assigning purely structural accusative Case (as discussed in 6.1.4), not even when their D-structure objects remain nonraised:

- (i)a. Höfðu [e]_i [horfið [einhverjir bátar]_i]?
 had disappeared any/some(N) boats(N)
 b. *Höfðu [e]_i [horfið [einhverja(A) báta(A)]_i]?

This indicates that it is impossible to assign structural accusative unless structural nominative is also assigned within the minimal IP of the accusative, as claimed by Yip et al. (1987), in a rather different framework. That is, it indicates that something like the Accusative Filter, suggested in 6.1.4, must be assumed. See further 6.5.2-3.

6.4.1 Passives as derived ergatives and impersonals

The Icelandic passive morphology is basically of the same type as the English passive morphology. It involves the copula, either the stative *vera* 'be' or the futuritive/progressive *verða* 'be(come), will be', plus a participle of the passivized main verb. Having lexical Case, however, Icelandic displays Case and agreement facts in the passive that are not found in languages like English and Mainland Scandinavian, as we would expect.

In fact, the Icelandic passive is, so to speak, an almost exact copy of the ergative/impersonal system of active verbs in the language. Thus, as we have nominative ergative verbs, oblique ergative verbs and impersonal verbs, we have NOMINATIVE PASSIVES, OBLIQUE PASSIVES and IMPERSONAL PASSIVES. This is illustrated in (1)-(3), where the *a*-sentences are in the active voice, the *b*-sentences showing the corresponding passive:

- (1)a. Við kusum pá.
we elected them(A)
- b. Þeir voru kosnir. (nom. passive)
m.pl.N 3pl m.pl.N
they were elected
- (2)a1. Páll bauð ykkur.
Paul invited you(pl.D)
2. Ykkur var boðið. (obl. passive)
pl.D 3sg n.sg.N/A
'You were invited.'
- b1. Páll saknaði ykkar.
Paul missed you(pl.G)
2. Ykkar var saknað (obl. passive)
pl.G 3sg n.sg.N/A
'You were missed.'
- (3)a. Páll söng hátt.
Paul sang loudly
- b. Það var [e] sungið hátt. (imp. passive)
3sg n.sg.N/A
it/there was sung loudly

This illustrates several facts, most of which we have already seen: First, with respect to preservation of lexical Case, passives behave much the same as active ergatives (on some discrepancies, however, see 6.2.3.3). Second, passive sentences show basically the same agreement properties as active sentences, cf. 5.5.2.1: In the presence of a nominative subject, we get agreement on the finite verb and predicative adjectives/passives; note,

in particular, that the agreeing passive participle shows up in the nominative, which renders it rather suspicious that participles should 'absorb' structural accusative.⁴² Third, Passive Formation always involves some sort of a suppression of an external role, cf. (3b).

For us, the most interesting property of Icelandic passives is that they are capable of assigning lexical datives and genitives to the object position, NP-movement of the object nonetheless being obligatory. Consider (4):

- (4)a1. Var þér boðið [t] í veisluna?
 was you(D) invited in the party
 'Were you invited to the party?'
 2. *Var [e] boðið þér í veisluna?
 b1. Var þín saknað [t]?
 was you(G) missed
 2 *Var [e] saknað þín?

Like active ergatives in the language, then, passives illustrate that NP--movement in general is forced by the Subject Command Condition, not by defective Case-marking.

The passive also displays the Definiteness Effect in precisely the same manner as active sentences, both with respect to það-insertion and NP--movement (no matter whether the subject is nominative or oblique):

- (5)a. Það var [e] [boðið mörgum gestum].
 there was invited many guests(D)
 'There were many guests invited.'
 b. Það var mörgum gestum [boðið t].
 (6)a. *Það var [e] [boðið gestunum].
 there was invited the guests(D)
 b. *Það var gestunum [boðið t].

⁴² Agreeing participles do not simply bear the default realization of Case or [+C], nominative. That their Case is really a percolating Case is seen by the fact that they turn up in the accusative in Exceptional Case Marking structures, cf. (i) and (ii):

- (i) Ég taldi [hana hafa verið kosna].
 A f.sg.A
 I believed her have been elected
 (ii) Hún var talin [hafa verið kosin].
 N f.sg.N f.sg.N
 she was believed have been elected

I am indebted to Kirsti Koch Christensen (personal communication) for bringing up the issue.

- (7) það var [e] boðið til veislu.
 there was invited to a party
 'People were invited to a party.'

Sentences like (5a), of course, illustrate rather clearly that passive participles are like ergatives in being capable of assigning lexical Case to the object position.

Finally, many passives display the Ergative-Impersonal Alternation, discussed for active ergatives in 6.3.1. This is exemplified in (8) and (9) for the synonymous *bíða* + Gen and *bíða eftir* + Dat 'wait for':

- (8)a. Hafði þín verið [beðið t]?
 had you(G) been waited(-for)
 b1. *Hafði [e] verið [beðið [þín]]?
 2. *Það hafði [e] verið [beðið [þín]].
- (9)a. *Hafði þér verið [beðið [eftir t]]?
 had you(D) been waited for
 b1. Hafði [e] verið [beðið [eftir þér]]?
 2. Það hafði [e] verið [beðið [eftir þér]].

(For some speakers, though, sentences like (8b2) are acceptable, cf. 6.5.3.)

In short, personal passives, nominative or oblique, 'copy' the syntax of ergatives, and impersonal passives 'copy' the syntax of inherently impersonal predicates, i.e. passives are derived ergatives and impersonals. Thus, they do not display any special behavior with respect to NP-movement and related phenomena, e.g. Case assignment and Case 'absorption' (with the exception of lexical accusatives, cf. 6.2.3.3), long distance agreement, and the Definiteness Effect. What is special about verbal passives is the fate of the external role of the corresponding actives. I shall discuss this, among other things, in the following sections.

6.4.2 The domain of Passive Formation

As we have seen, intransitive verbs may passivize in Icelandic, the result being the (extremely common) impersonal passive. Consider the active--passive pairs in (1) and (2). Note that impersonal passives of 'bare verbs' often have a rather low degree of acceptability (cf. Friðjónsson 1987, p. 79); the VP is preferably 'expanded' in some way, cf. the parentheses in (1):

- (1)a. Ég fór. - Það var [e] farið (snemma).
 I left it was left early
 'People/We, etc. left (early).'
- b. Ég kom. - Það var [e] komið (til mín).
 I came it was come to me
 'Somebody came (to (see) me).'
- c. Ég las. - Það var [e] lesið (og lesið).
 I read it was read and read
- (2)a1. Ég barði að dyrum.
 I knocked on doors
2. Það var [e] barið að dyrum.
 it was knocked on doors
- b1. Ég talaði við Jón.
 I talked with John
- Það var [e] talað við Jón.
 2. it was talked with John

As seen by this, optionally transitive verbs like *lesa* 'read' and *berja* 'knock, hit' may be impersonally passivized as long as the passive contains no nuclear (definite or topical) argument of the verb. Moreover, motion verbs like *fara* 'go, leave' and *koma* 'come, arrive' passivize, cf. further below.

Of course, however, it is by no means the case that all Icelandic verbs can passivize. Chomsky (1981, p. 126) suggests that "passive morphology can only appear with verbs that assign (or participate in assigning) a theta-role to the subject in the active form." Similar observations are frequently seen in more recent GB literature (see e.g. Jaeggli 1986b, p. 593; cf. also Áfarli 1988). Chomsky's proposal is somewhat imprecise since it does not apply to ergatives and middles (i.e. they cannot passivize even though they assign (an internal) theta role to their S-structure subjects), but it is basically on the right track. Passive Formation crucially involves an incorporation of an external role: Incorporate *TH* (cf. 6.2.1). As we shall see in the next subsection, this actually seems to involve an assignment of the external role to the past participle suffix in the passive morphology (cf. Jaeggli 1986b).

Now, since Wasow (1977), it is customary to talk about 'syntactic passives' vs. 'lexical passives' or 'unpassives' (see, for instance, Chomsky 1981, e.g. pp. 54 f. and 117 ff.). What this terminology is meant to reflect is that past participles typically have either adjectival properties or verbal properties, cf. the difference between the sentences in (3) (the same kind of data is found in Icelandic and other Scandinavian languages):

- (3)a. The window was unbroken (*by John).
 b. The window was broken by John.

'Lexical passives' like *-broken* in (3a) undergo processes that are typical of adjectives, e.g. *un-*prefixing, i.e. they are, simply, adjectives. In (3b), on the other hand, the participle is verbal or [+V]. Being inflected for gender, number and Case, verbal participles in Icelandic, at least, must also be [+N]. This might seem to be rather suspicious, but as we shall see, this dual categorial status of verbal participles is reflected in their theta properties. Note also that Holmberg's (1986) system for syntactic or categorial features (cf. 2.2) enables us to make a minimal categorial distinction between adjectival and verbal participles that seems to be essentially correct (whereas this is a problem in other approaches, e.g. Jaeggli 1986b and Levin and Rappaport 1986). Being adjectives, hence non-verbal or, rather, 'deverbal', the former are [%V,+N], whereas the latter are [+V,+N].

Given our ergative analysis of predicative adjectives, we would not be surprised to learn that sentences like (3a) involve syntactic NP-movement, just like sentences of the type (3b). As we shall see in the next subsection, however, this is not the case. That is, Adjectival Participle Formation is like Middle Formation in involving lexical promotion or Externalize *th* (in contrast with Passive Formation), cf. Williams (1981, 1982). Thus, sentences containing verbal or passive participles are 'syntactic passives' in the sense that they involve syntactic NP-movement, whereas sentences that contain adjectival participles are not. However, using this terminology about the verbal participle itself is rather unfortunate. It implies that the formation of verbal participles is syntactic, as opposed to the formation of 'lexical passives'. But this, I find, is highly implausible.⁴³ Therefore, I take it that past participle formation is always lexical (cf. Bresnan 1978). Bresnan (e.g. 1982) argues that the formation of all past participles is due to only one Word Formation Rule. As argued by Wasow (1977) and Williams (1981, 1982), however, this seems to be incorrect, that is, we have to distinguish between Passive Formation and Adjectival Participle Formation, as we shall see more clearly in the next subsection.

Passive Formation crucially involves two lexical operations:

- (4)a. [+V, -N] → [+V, +N]
 b. Incorporate TH

See further 6.4.3. In languages that have impersonal passives, Incorporate

⁴³ Partly by very much the same standards as those applied by Chomsky in 'Remarks on Nominalization' (Chomsky 1970) against syntactic derivations of 'derived nominals'. - Passive participles are derived nominals in a sense, as we shall see.

TH applies to intransitives as well as transitives:

- (5) Incorporate TH:
 Applies to:
- a. TH </X/[+V,+N]>
 - b. TH </X/[+V,+N] th>
 - c. TH </X/[+V,+N] th th>

For the moment, I put aside the notorious problem what, exactly, the form of /X/ is, but see 6.4.3.

NP-movement or object Promotion is quite independent of Incorporate *TH* (see also Hoekstra 1984, e.g. p. 225). The only correlation between the two is that the outputs of (5b,c) enter into syntactic structures that are among the inputs to ergative NP-movement (whereas the outputs of (5a) enter the syntax as impersonals). - As is well known (cf. e.g. Zaenen et al. 1985, Jaeggli 1986b), there are certain restrictions as to which of the internal arguments of ditransitives is raised by NP-movement, Icelandic and other Scandinavian languages, however, being much more permissive in this respect than English, for instance. I shall not go into this here.

In languages that do not have any impersonal passives, Incorporate *TH* is, for some reasons, blocked from applying to intransitives. This is, for example, true of English - on the assumption that 'pseudopassives' involve reanalysis of intransitive verbs and prepositions (V+P), yielding transitives ([_V V+P], cf. e.g. Riemsdijk 1978, Hornstein and Weinberg 1981, Stowell 1982a).

It would, of course, be rather nice if we could deduce this difference between English and Icelandic from some more general or fundamental difference between the languages. Jaeggli (1986b, p. 595 ff.) discusses this problem with respect to German and Dutch, which also have impersonal passives, as is well known (cf. e.g. Comrie 1977). He suggests that the difference between English and German/Dutch is due to different Case assignment properties of intransitive verbs in these languages. Under the assumption that past participles must absorb or be assigned verbal Case, only those verbs that do assign Case can passivize. Jaeggli therefore suggests that German and Dutch intransitive verbs are Case assigners whereas English intransitives are not.

I must admit that I do not find this approach attractive.⁴⁴ First, it is entirely stipulative. Second, there is empirical evidence against it in English, e.g. sentences like *I have come a long way*. (cf. 4.1). Third, we would obviously like to maintain the Head Principle of Case, suggested in 4.1, as a universal principle (the implication then being that intransitives are potential Case assigners in all languages). Fourth, Icelandic (and many

⁴⁴ For certain reasons, into which I shall not go here, Jaeggli (1986b, p. 597) suggests that Mainland Scandinavian has yet another Case system than English and German/Dutch.

other morphological case languages) offers rather clear evidence that past participles of accusative-assigning verbs do not 'absorb' the accusative. Rather, being non-assigners of Case in the passive (as forced by the Chain-Visibility Constraint), they receive percolating Infl-Case, as we saw in 5.5.2.1.

It seems more promising to relate the option of impersonal passivization to the null-subject option. However, if this is on the right track, the relation in question is clearly not direct or intrinsic. This is, for example, seen by the fact that the mainland Scandinavian languages have impersonal passives, cf. the Swedish (6) as compared to the English (7):

(6) Det dansades hela natten.
it was-danced the whole night

(7) *It/There was danced the whole night.

Conversely, Italian and Spanish have no impersonal passives, cf. 5.3.1.

Unfortunately, I have not been able to come up with any satisfactory solution of this problem. As for the Germanic languages, however, here is a simple initial proposal:

Impersonal passives enter the syntax roughly in the form (8):

(8) </X/[+V,+N]>
TH

- where the external role of the corresponding intransitive has been incorporated. Accordingly, the external role cannot be assigned to [NP, IP] in the syntax. If nothing further happens, a null-subject sentence surfaces. Presumably, this is what we get in Icelandic (but on German and Dutch, see 6.5.3). In non-null-subject languages, on the other hand, this is excluded. However, the difference between English and Mainland Scandinavian follows if (8) is compatible with expletive-insertion in Mainland Scandinavian as opposed to English: *There* is excluded on the natural assumption that it must always be coindexed with an argument. Suppose that the rudimentary generalizations in (9) hold true of English expletive *it* and expletive Mainland Scandinavian *det*:⁴⁵

- (9)a. It is inserted iff there is no external role
in the logical structure
b. Det is inserted iff [NP, IP] is a non-theta
position

⁴⁵ Note that there is no external role in English 'Extraposition' structures like *It is nice to swim*, if adjectives cannot assign an external role, as suggested in 6.2.2.

If this is on the right track, we have an account for the difference between Mainland Scandinavian and English with respect to impersonal passivization.

On the other hand, I see no obvious account for the absence of impersonal passives in Italian and Spanish. I shall leave the problem in this rather unsatisfactory state. What matters for our purposes is the fact that we can use Icelandic Passive Formation as a test on our analysis of active verbs in the language. Since it crucially involves Incorporate *TH* (or 'incorporate a role'), it applies to all and only those verbs that select an external role. It follows that (D/)Ncl-verbs, ergatives, middles, impersonals and auxiliaries/modals should never passivize. Below, I shall illustrate that this is borne out in details.

First, impersonal verbs and predicates never passivize. Consider the active sentences in (10):

- (10)a. það rigndi [e] mikið.
it rained much
b. það kólnaði [e].
it cooled
c. það logaði [e] á kertinu.
it flamed on the candle
'The candle flamed.'

As seen in (11), there are no corresponding passives:

- (11)a. *það var [e] right mikið.
there/it was rained much
b. *það var [e] kólnað.
c. *það var [e] logað á kertinu.

Second (D/)Ncl verbs like *virðast* 'seem' do not passivize (recall, from 6.2.3.1, that (D/)Ncl *-st*-verbs are not middles). This is illustrated in (12)-(15). From now on, I shall not gloss the expletive *það* in impersonal passives:

- (12)a. það virtist [e] [[e] vera kalt].
it seemed be cold
b. *það var [e] virst [[e] vera kalt].
was seemed be cold]
- (13)a. Barnið virtist [t] [[t] vera gáfað].
the child seemed be intelligent
b. *það var [e] virst [barnið vera gáfað].
was seemed the child be intelligent

- c. *Barnið var [t] virst [[t] vera gáfað].
 d. *Það var barn(ið) virst [[t] vera gáfað].
 child(the)

- (14)a. Barnið þótti [t] [[t] vera erfitt].
 the child felt be troublesome
 'People found the child troublesome.'
 b. *Það var [e] þótt [barnið vera erfitt].
 was felt the child be troublesome
 c. *Barnið var [t] þótt [[t] vera erfitt].
 d. *Það var barn(ið) þótt [[t] vera erfitt].

- (15)a. Mér fannst [t] [barnið vera gáfað].
 me found the child be intelligent
 b. *Það var [e] fundist (mér) [barnið vera ...].
 was found (me) the child be
 c. *Barnið var [t] fundist (mér) [[t] vera ...].
 d. *Það var [e] barn(ið) fundist (mér) [[t] ...].

Cases like (13) and (14) show particularly clearly that we must distinguish between Passive Formation or Incorporate *TH* and NP-movement. As seen in (13a) and (14a) (cf. also 3.4.2.2), there is, of course, nothing wrong with NP-movement as such in the NcI-construction. What is not possible is passivization of NcI-verbs, the reason presumably being that they do not select any external role to be incorporated by Incorporate *TH*.

Third, ergative verbs do not passivize (on motion verbs, see below). Consider the active/passive pairs in (16)-(17):

- (16)a. Mig langar í ís.
 me longs for icecream
 'I would like to have an icecream.'
 b. *Það var [e] langað í ís.
 was longed for icecream

- (17)a. Mér leið vel.
 me felt well
 b. *Það var [e] liðið vel.
 was felt well

As we would expect, nominative ergative verbs behave the same way:⁴⁶

⁴⁶ The 'string' in (21b), of course, is grammatical if það is referential, i.e. a D-structure object of transitive *stækka* 'enlarge':

(i) Það var [t] stækkað [t].

- (18)a. Margir menn dóu í stríðinu.
many people(N) died in the war
b. *Það var [e] dáíð í stríðinu.
was died in the war
- (19)a. Páll blánaði af bræði.
Paul(N) went-blue of anger
b. *Það var [e] blánað af bræði.
was gone-blue of anger
- (20)a. Páll rann á ísnum.
Paul(N) slid on the ice
b. *Það var [e] runnið á ísnum.
was slid on the ice
- (21)a. Garðurinn stækkaði.
the garden(N) enlarged
b. *Það var [e] stækkað.
was enlarged

As is well known, it seems to be universally true that ergatives cannot passivize (cf. e.g. Perlmutter 1978; Perlmutter and Postal 1984, p. 91 ff.; Hoekstra 1984; Burzio 1981, 1986; Jaeggli 1986b); this, of course, follows directly if Passive Formation always involves Incorporate *TH*.

Fourth, *-st-*middles never passivize:

- (22)a. Dyrnar opnuðust.
the door opened
b. *Það var [e] opnast.
- (23)a. Úrið tapaðist.
the watch got-lost
b. *Það var [e] tapast.

Recall, from 6.2.3. that Middle Formation crucially involves Eliminate *TH* (plus externalize *th*). Accordingly, middles are exempted from Incorporate *TH*. As we would expect, on the other hand, non-middle *-st-*verbs that take an external role (cf. 6.2.3.1) do passivize:

- (24)a. þeir heilsuðust alltaf í kirkjunni.
they greeted each other always in the church
'They always greeted each other in the church.'
- b. Það var [e] alltaf heilsast í kirkjunni.
was always greeted in the church
'People always greeted (each other) in the church.'
- (25)a. María krafðist peninganna.
Mary demanded the money(G)
- b. Peninganna var krafist.
the money(G) was demanded
- (26)a. Ég vonaðist til [að þú næðir prófinu].
I hoped for that you pass the exam
- b. Það var [e] vonast til [að þú næðir prófinu].
was hoped for that you pass the exam
'People hoped that you would pass the exam.'

In addition, *-ast-*verbs, derived from nouns (cf. 6.2.3.1) passivize, of course:

- (27)a. Þeir djöfluðust allan daginn.
they 'deviled' all the day
'They behaved/worked like the devil all day.'
- b. Það var [e] djöflast allan daginn.

Fifth, as we discussed in 3.2.2.3, auxiliaries and modals never passivize. Consider some examples with intransitive main verbs:

- (28)a. Ég hef hringt til Íslands.
I have telephoned to Iceland
- b. *Það er [e] haft hringt til Íslands.
is had telephoned to Iceland
- (29)a. Páll mun tala um þolmynd.
Paul will talk about passive
'Paul is going to talk about the passive.'
- b. *Það er [e] munað(?) tala um þolmynd.
- (30)a. María kann að synda.
Mary knows to swim
'Mary knows how to swim.'
- b. *Það er [e] kunnað að synda.
is known to swim

- (31)a. þú mátt syngja.
you may sing
b. *Það er [e] mátt syngja.
is allowed sing

The ungrammaticality of these impersonal passives has nothing to do with the deficient morphology of some auxiliaries and modals: all the underlined forms above, except munað in (29b), are perfectly grammatical after the perfective auxiliary *hafa* 'have' in active sentences like (32):

- (32) María hefur aldrei kunnað að synda.
Mary has never known to swim
'Mary has never known how to swim.'

Now, note the interesting fact that the passives in (28)-(31) are not ungrammatical because the sentences as such, or their VPs, cannot 'passivize'. The main verbs may passivize:

- (33)a. Það hefur [e] verið hringt til Íslands.
has been telephoned to Iceland
'We(etc.) have telephoned to Iceland.'
b. *Það er [e] haft hringt til Íslands. (= (28b))
- (34)a. Það mun [e] ver(ð)a talað um þolmynd.
will be talked about passive
'Passive will be discussed.'
b. *Það er [e] munað(?) tala um þolmynd. (= (29b))

As far as I can see, we have no account for this if Passive Formation is syntactic and applies to whole VPs or sentences. In a lexical approach to Passive Formation, on the other hand, the explanation of this is quite simple: Auxiliaries and modals cannot passivize because they do not select an external role to be incorporated by Incorporate *TH* (see also 3.2.2 and Thráinsson 1986b, p. 248), but this does not block them from making up a VP with a main verb that selects an external role, hence being able to passivize. As seen in (35), this extends to sentences that contain a transitive main verb:

- (35)a. Ég hef lesið bókina.
I have read the book.
b. *Bókin er höfð lesin.
the book is had read
c. Bókin hefur verið lesin.
the book has been read

Now consider the fact that motion verbs like *fara* 'go, leave' and *koma* 'come, arrive' enter rather freely into impersonal passives, as shown in (1) above. This extends to other verbs of *volitional* (or intentional/conscious) transition. Consider the verb *sofna*. Most normally, it means involitional 'fall asleep', but it may also mean volitional 'go to sleep'. In this second meaning, it may passivize (as pointed out by Friðjónsson 1987, p. 11 f.):

(36) Það var [e] alltaf sofnað snemma.
 was always gone-to-sleep early

- whereas, as we have seen, verbs of involuntary transition cannot:

(37) *Það var [e] alltaf blánað í framan.
 was always gone-blue in the face

As mentioned in 6.2.4, *sofna* and *vakna* 'wake' seem to be the only *-na--* verbs that can either be intransitive or ergative, all other *-na-*verbs exclusively being ergative.

The same distinction is also found for 'durative' or 'situative' verbs like *sofa* 'sleep', *sitja* 'sit', etc. When they are interpreted in such a way that the described situation is understood as being volitional, they may passivize, but when the situation is involitional, they cannot. Compare the following sentences:

(38)a. Við sátum á gólfinu allt kvöldið.
 we sat on the floor all evening
 b. Það var [e] setið á gólfinu allt kvöldið.
 was sat on the floor all evening

(39)a. Við sátum í gildru allt kvöldið.
 we sat in a trap all evening
 b. *Það var [e] setið í gildru allt kvöldið.

Now, verbs of transition are usually taken to be ergative in recent generative literature (cf. e.g. Hoekstra 1984, p. 177 f.). The same would seem to be true of situation verbs (both these verb classes being 'event verbs' in Jackendoff's (1983, 1987) approach). However, recall that it seems to be universally true that ergative verbs do not passivize. If that is correct, those Icelandic verbs of transition and situation that passivize cannot be ergative, which in turn suggests that e.g. *sitja* selects an external role in (38) but an internal role in (39). This freedom in theta selection may seem to be rather curious. All the same, I believe that this is the correct conclusion. When the event described by the verbs in

question is volitional, they select an external role, but when it is not volitional, they select an internal role. Thus, e.g. *fara* 'go, leave' has two theta-grids:

- (40) **fara:** a. <V th>
b. TH <V>

- and the same is true of *sofna*, *vakna*, *sitja*, *koma*, etc.⁴⁷ When these verbs take an external role, they are subject to Passive Formation, but when they take an internal role, they can undergo Adjectival Participle Formation, cf. 6.4.3. - Essentially the same approach is pursued in Áfarli (1988) (and for a parallel approach to other verb classes, see Levin and Rappaport 1986).

The influence of Jackendoff (above all 1972 and 1976) on current ideas about the 'theta-module' is still significant. According to Jackendoff's analysis, subjects of verbs like *go* are themes. On purely intuitive grounds, however, this seems rather unnatural and suspicious when the event described involves volition or conscious intention of the subject - and the passivization facts just reviewed support this suspicion of ours quite strongly. In his more recent works on thematic structure, Jackendoff (1983, 1985, 1987) recognizes the inappropriateness of analyzing volitional subjects of event verbs as mere themes. Therefore, he proposes that these subjects are both themes and agents, thus bearing two theta roles (related to two distinct role tiers, cf. Jackendoff 1987, p. 395 and the references cited there). This does not only require a rather radical revision of the Theta-Criterion (as advocated by Jackendoff); it is also entirely unnecessary for the semantic analysis of event verbs, as we shall see in a moment.

I would like to suggest that there is an inherent relation between agentivity and patienthood: agents necessarily act upon patients, that is, there is no agent without a patient. Hence, volitional subjects of event verbs are not agents. What, then, do these subjects 'do'? Unlike involitional subjects of the same verbs, they *perform* some act (without, however, performing it on 'somebody else'). Let us therefore refer to the theta role in question as PERFORMER and to the subjects that bear it as PERFORMATIVE subjects. All agentive subjects are, of course, performative (whereas the reverse is not true). This suggests that there are hierarchical relations between theta-roles (cf. for instance Hellan 1986). Thus, agents may be defined in terms of performers and patients:

- (41) An agent is a performer that acts upon a patient

In terms of theta-grids, all external roles are performers; of these, in

⁴⁷ Moreover, aspectuals display a somewhat similar selection optionality, as we saw in 3.2.2.

turn, external roles of lexical entries that also select one or more internal roles are agents. As we have seen, however, there are many diadic ergative verbs that promote one of their two internal roles, i.e. not nearly all verbs that are 'transitive' in traditional terms take an agentive subject.

Does the performer of a volitional event verb also bear a theme role? For the purposes of Theta Theory, it does not, I believe. Of course, it is clear that a person that is running, for example, is not only acting intentionally. He or she is also moving. But this is pragmatically entailed and has nothing to do with linguistic structure, as far as I can see.

On the basis of these observations, I now revise the External Role Principle in 6.1.2.2(6) slightly, as follows:

- (42)a. The external role is performative (and internal roles are non-performative)
 b. The external role links to [NP, IP] (when [NP, IP] contains an argument in D-structure)

If (42) is correct, we have an account for the domain of Passive Formation in Icelandic: it applies to all and only those verbs that take an external role.⁴⁸ This is what we expect if it crucially involves Incorporate *TH*. Therefore, as we have seen, Passive Formation serves as a test on our analysis of active verbs in Icelandic, most importantly ergatives and middles: these verb classes do not passivize because they do not take any external role to be incorporated.

6.4.3 Supines and past participles

Consider again the domain of Incorporate *TH* (cf. 6.4.2(5)):

⁴⁸ In this connection, note also that *af*- 'by' phrases are usually ungrammatical or infelicitous in impersonal passives. Compare (i) and (ii):

(i) Jón var barinn (af Ólafi).
 John was hit (by Olaf)

(ii)a. Það var [e] dansað (*af öllu fólkinu í þorpinu).
 was danced by all the people in the village
 b. Það var [e] lesið (*af öllum á kvöldin).
 was read by everybody in the evenings.

As far as I know, roughly the same facts are found in other Scandinavian languages, but not in German. It thus seems to be the case that passive 'by-phrases' in the Scandinavian languages must relate to an (incorporated) agentive role (cf. Jaeggli 1986b on role assignment to passive *by*-phrases), and not merely to a performative role. In this respect, they differ from German and English, it seems.

- (1) Incorporate TH:
 Applies to: TH </X/[+V,+N] (th) (th)>

What is '/X/'? I left this question open in 6.4.2. Thereby, I also left it open how *Passive Formation* relates to two other participle formations, *Adjectival Participle Formation* and *Supine Formation* or *Perfect Formation*. This is a much debated matter in the generative literature (cf. e.g. Bresnan 1978, 1982; Williams 1981, 1982; Hoekstra 1984; Levin and Rappaport 1986; etc.). In the following, I shall try to shed some light on this notorious problem. Most linguists seem to assume that both adjectival and verbal participles have infinitives as a base. As we shall see, however, it seems more promising to assume that both participle types have supines or perfects as a base, supines, in turn, having infinitives as a base.

6.4.3.1 Supines

Many European languages have two perfective auxiliaries, corresponding, roughly, to English *have* and *be*. Following Platzack (1987c), I call them HAVE and BE. Their distribution is a diagnostic of ergativity in the languages in question: ergatives take BE, other verbs HAVE. This is for instance the case in French and Italian (Burzio 1981, 1986, p. 53 ff.; Rizzi 1982, chapter 1; Vikner 1988; Vikner and Sprouse 1988), Dutch (Hoekstra 1984, pp. 176 ff., 265 ff.), and Danish (Platzack 1987c; Vikner 1988; Vikner and Sprouse 1988). The situation is rather similar in German, albeit slightly more complicated (cf. Haider 1984b; Abraham 1985a, 1985b; Vikner 1988; Vikner and Sprouse 1988). On the other hand, English, Spanish, Swedish, and Norwegian (cf. Platzack 1987c; Áfarli 1988; Vikner 1988; Vikner and Sprouse 1988) have only one perfective auxiliary, HAVE. Icelandic takes a somewhat peculiar intermediate position here. As we shall see at the end of this subsection, it has some cases of BE. All the same, HAVE (Icelandic *hafa*) is the general perfective auxiliary in the language. With the exception of only three auxiliaries, namely *hafa* itself (as opposed to the main verb *hafa* 'have'), *munu* 'will', and *skulu* 'shall' (cf. Thráinsson 1986b), all verbs in the language may combine with *hafa* to form a 'perfect tense'. Consider (1) and (2). (1) contains main verbs that select an external role, whereas the main verbs in (2) either select no nuclear role or only an internal role:

- (1)a. Páll hefur lesið bókina.
 Paul has read the book(A)

- b. Ólafur hafur haft ykkur að fíflum.
Olaf has had you(pl.A) for fools
'Olaf has made fools out of you.'
- c. María hefur ekki hringt.
Mary has not telephoned
- (2)a. Það hefur riغت.
it has rained
- b. Mér hefur aldrei virst [Ólafur vera gáfaður].
me has never seemed Olaf be intelligent
'Olaf has never seemed intelligent to me.'
- c. Báturinn hefur sennilega sokkið.
the boat has probably sunk
- d. Mig hefur oft vantað peninga.
me has often lacked money
- e. Mér hefur aldrei liðið illa.
me has never felt badly
- f. Glugginn hefur opnast.
the window has opened
- g. Blaðið hefur gulnað.
the paper has gone-yellow
- h. Jón hefur kannski viljað koma.
John has perhaps wanted come
- i. Mér hefur stundum verið kalt.
me has sometimes been freezing

The underlined main verb forms are *supines*. There seems no doubt that supines are purely verbal (see also Bresnan (1982, p. 20) on 'Perfect Formation' in English). Thus, they always display precisely the same theta-selection and Case assignment as the corresponding finite (and infinite) verb forms:

- (3)a. Pétur kyssti þig.
Peter kissed you(A)
- b. Pétur hafði kysst þig.
Peter had kissed you(A)
- (4)a. Pétur gleymdi þér.
Peter forgot you(D)
- b. Pétur hafði gleymt þér.
Peter had forgotten you(D)

- (5)a. Pétur saknaði þín.
Peter missed you(G)
b. Pétur hafði saknað þín.
Peter had missed you
- (6)a. Mig langaði í kaffi.
me(A) longed for coffee
b. Mig hafði langað í kaffi.
me(A) had longed for coffee

- etc. etc. The same is, of course, true of e.g. English supines. Thus, it seems clear that Supine Formation is only a phonological process, that is, it neither involves categorial nor theta operations:

- (7) Add /part/:
Applies to: (TH) </X/[+V,-N] (th) (th)>

The outputs of (7) are as shown in (8):

- (8) (TH) </X+part/[+V,-N] (th) (th)>

The corresponding traditional Word Formation Rule would take the form shown in (9) (where I disregard the theta structure):

- (9) /X/v -> /X+part/v

Supines always show up in an invariable form that is homophonous with the neuter singular nominative/accusative of the corresponding passive and adjectival past participles. Consider (10) and (11):

- (10)a. Ég hef lesið bókina.
I have read the book
b. Við höfum lesið bækurnar.
we have read the books
- (11)a. Blaðið var lesið.
n.sg.N/A n.sg.N/A
the paper was read
b. Bækurnar voru lesnar.
f.pl.N f.pl.N
the books were read

In (10), the supine is an assigner of Case. As we have seen, Case assigning passive participles always show up in the default neuter singular nomina-

tive/accusative:

- (12)a. Það var [boðið mörgum gestum].
 3sg n.sg.N/A D D
 was invited many guests
 'There were many guests invited.'
- b. Það var [saknað nokkurra málfræðinga].
 3sg n.sg.N/A G G
 was missed several linguists
 'Several linguists were missed.'

On the other hand, passive participles and supines that are nonassigners of Case behave quite differently with respect to agreement:

- (13) Ólafur var barinn.
 m.sg.N m.sg.N
 Olaf was beaten
- (14) Ólafur hafði barið að dyrum.
 m.sg.N n.sg.N/A
 Olaf had knocked at doors

We may schematize this as follows:

- (15)a. Passive participles:
 1: Case assigners: n.sg.N/A
 2: Nonassigners of Case: subject-agreement
- b. Supines:
 1: Case assigners: "n.sg.N/A"
 2: Nonassigners of Case: "n.sg.N/A"

Plausibly, the reason for this difference between supines and passive participles is that the latter are nominal, [+V,+N], whereas supines are purely verbal, [+V,-N]. It follows that supines do not have any phi-features, while passive participles do. Hence, the invariable form of supines as opposed to passive participles (and hence, also, the quotation marks in (15b), cf. below).

The variation in (15a), in turn, is due to Case assignment vs. nonassignment of Case, as we saw in 5.5.2.1. When the participle is a nonassigner of Case, it does not protect its 'VP', Infl-Case and the gender and number of the subject thus being free to percolate to the nominal participle. Conversely, when the participle is a Case assigner, it protects its

'VP' from external phi-features, thus blocking agreement with the subject.⁴⁹ However, being nominal, it is assigned default values for the phi-features in PF and LF, cf. 5.4 and 5.5.2.1. Not surprisingly, the default markings, n.sg.N/A, do not alter the basic form of the participle suffix, Case assigning passive participles thus always showing up in the same form as the supine. This, however, is only a language specific property of Icelandic. In Swedish, supines and neuter singular participles normally have different forms (as pointed out by Platzack 1987c). Compare the Swedish (16) and the Icelandic (17):

- (16)a. Brevet blev skrivet.
 n.sg n.sg
 the letter was written
 b. Jag har skrivit brevet.
 I have written the letter
- (17)a. Bréfið var skrifað.
 n.sg.N/A n.sg.N/A
 b. Ég hef skrifað bréfið.

Now, consider the fact that many languages that make use of perfective BE with ergative main verbs display nominal inflection on the main verb participle, cf. the Italian (18) (taken from Vikner 1988):

- (18) Marie è venuta.
 Mary is come(f.sg)

In cases of this sort, the main verb cannot be a purely verbal supine, [+V,-N]. Rather, inflecting for nominal features, it must be a [+N] participle. However, participles of this sort are often taken to be a verbal category also, which would mean that they are [+V,+N], like passive participles. The alternative analysis is to assume that they are adjectival, [%V,+N]. The latter option seems more plausible to me, but I shall not pursue the matter here.⁵⁰

⁴⁹ It is not obvious that the maximal projections of past participles are VPs, hence the quotation marks.

⁵⁰ As shown by Thráinsson (1986c) and Friðjónsson (1987), participles in the Icelandic BE-construction, to be discussed directly, have many adjectival properties. For instance, they undergo ó- 'un' prefixing quite freely, like most nonderived adjectives:

- (1) Jón er ófarinn.
 John is ungone

Usually, this is rather bad in passives, for example impersonal passives of potentially intransitive verbs like *fara*:

In spite of its general application of HAVE as a perfective auxiliary, Icelandic has many cases like (18), cf. (19):

- (19)a. *María er komin.*
 Mary is come(f.sg.N)
 b. *Pétur er farinn.*
 Peter is gone(m.sg.N)

Thus, there are minimal pairs like the following:

- (20)a. *Þeir hafa farið til Þýskalands.*
 they have gone(Sup) to Germany
 'They have (sometime) traveled to Germany.'
 b. *Þeir eru farnir til Þýskalands.*
 they are gone(m.pl.N) to Germany
 'They are (now) gone to Germany.'

The aspectual differences between the two readings are typical of minimal pairs of this sort. Compare (20) to the German (21):

- (21) *Sie sind (manchmal) nach Deutschland gefahren.*
 they are (sometimes) to Germany gone

The prominent reading of (21) is that of (20b), but if it contains a frequency adverb, it has roughly the same aspectual reading as (20a). In Icelandic, on the other hand, there are heavy constraints on frequency adverbs in sentences with perfective BE, cf. (22):

-
- (ii) *Það verður (*ó)farið á morgun.*
 it will-be (un)gone tomorrow

Here, the prefixing is probably out for all speakers. However, if passive sentences contain 'aspectual material' like certain modals and sentence adverbs, the prefixing is often not this sharply ungrammatical. Some speakers even find sentences like (iii) quite acceptable; the acceptability judgement is mine:

- (iii) *??Það er ennþá ófarið til Reykjavíkur.*
 it is still ungone to Reykjavík
 'We(/You, etc.) have not gone to R. as yet.'/
 'We (etc.) still have to go to R.'

For me, the Impersonal Modal Construction in (iv) is much preferable:

- (iv) *Það á ennþá eftir að fara til Reykjavíkur.*
 it has still after to go to Reykjavík
 'We(/You, etc.) have not gone to R. as yet.'/
 'We (etc.) still have to go to R.'

- As far as I know, ergative BE-participles in languages like Italian do not display any clear nominal properties apart from gender and number inflection.

- (22)a. Þeir hafa stundum farið til Þýskalands.
 they have sometimes gone to Germany
 b. Þeir eru (*stundum) farnir til Þýskalands.

HAVE, then, is compatible with ergative as well as impersonal, transitive, and intransitive verbs in Icelandic. BE, on the other hand is only compatible with ergatives. Since motion verbs like *fara* and *koma* are either intransitive or ergative, as we saw in 6.4.2, they are compatible with both HAVE and the impersonal passive (cf. 6.4.2), on the one hand, and this ergative BE-construction on the other hand.

In fact, however, the ergative BE-construction is rather heavily constrained in Icelandic as compared to languages like Italian and German. Most important, BE is only compatible with nominative-taking ergatives, cf. (23)-(24) vs. (25)-(26):

- (23)a. Laufin höfðu fallið.
 the leaves had fallen
 n.pl.N Sup
 b. Laufin voru fallin.
 the leaves were fallen
 n.pl.N n.pl.N
- (24)a. Blöðin höfðu gulnað.
 the papers had become-yellow(ish)
 n.pl.N Sup
 b. Blöðin voru gulnuð.
 the papers were become-yellow(ish)
 n.pl.N n.pl.N
- (25)a. Mig hafði hungrað.
 me had hungered
 b. *Mig var hungrað.
- (26)a. Mér hafði liðið vel.
 me had felt well
 b. *Mér var liðið vel.

In passing, note that there is an aspectual difference between HAVE and BE in cases like (23) and (24), the former being selected for processes but the latter for ('resultative') states.

(25) and (26) illustrate the behavior of all oblique-taking ergative verbs in Icelandic with respect to HAVE/BE selection (cf. also Vikner and Sprouse

1988, p. 45 f.).⁵¹ - I shall not go into further details of the BE-construction in Icelandic here, but for some interesting comments, see, for example, Thráinsson (1986c), Friðjónsson (1987), and Vikner and Sprouse (1988).

6.4.3.2 Past Participles

The following facts hold true of Icelandic past participles and supines:

1. All verbs that have a passive participle have a supine, whereas the opposite is not true. That is, the set of passive participles is a proper subset of the set of supines.
2. The set of adjectival participles is also a proper subset of the set of supines.
3. However, the set of adjectival participles and the set of passive participles are not identical.
4. The default neuter singular nominative/accusative of all past participles, passive or adjectival, is homophonous with the corresponding supine.
5. Corresponding passive and adjectival participles always display precisely the same inflection (for gender, number and Case).

Apart from inflection, English supines and participles show the same

⁵¹ Interestingly, impersonal verbs behave similarly:

- (i)a. Það rigndi [e] .
 it rained
 b. Það hafði/*var [e] right.
 it had /*was rained

- and so do impersonal predicates involving the copula and an adjective:

- (ii)a. Það var [e] kalt.
 it was cold
 b. Það hafði/*var [e] verið kalt.
 it had /*was been cold

German, on the other hand, distinguishes between verbs like **regnen** 'rain' (selecting **haben**) and predicates like **kalt sein** 'be cold' (selecting **sein**):

- (iii)a. Es hatte/*war geregnet.
 it had /*was rained
 b. Es war/*hatte kalt gewesen.
 it was/*had cold been

behavior.

First, consider the inflectional sameness of passives and 'unpassives', illustrated in (1) and (2) below:

- (1)a. Jón var oft (ó)hræddur við Ólaf.
 N m.sg.N
 John was often (un)afraid of Olaf
- b. María var oft (ó)hrædd við Ólaf.
 N f.sg.N
 Mary was often (un)afraid of Olaf
- c. Þeir voru oft (ó)hræddir við Ólaf.
 m.N m.pl.N
 they were often (un)afraid of Ólaf
- (2)a. Jón var oft (*ó)hræddur af Ólafi.
 John was often (*un)frightened by Olaf
- b. María var oft (*ó)hrædd af Ólafi.
- c. Þeir voru oft (*ó)hræddir af Ólafi.

We have an account for this if the participle suffix is [+N] in both participle types and if the inflectional rules applying to the participles 'see' only the suffix. That is, the participle types only differ with respect to the [V] feature ([%V] vs. [+V]). See further below.

Thus, this inflectional sameness does not necessarily indicate that there is a direct relation between passives and 'unpassives', say a rule that converts verbal participles into adjectives, in the spirit of Bresnan (1982; see also Levin and Rappaport 1986, p. 646). Note also that if Bresnan's approach is to be maintained, then it is necessary to come up with some nonstipulative explanation of the fact that ergative verbs form adjectival participles rather freely, whereas they cannot possibly form a passive participle, as we saw in 6.4.2. Consider the following examples (see also Thráinsson 1986c, p. 42 ff.):

- (3)a. Laufin (*ó)féllu.
 the leaves (*un)fell
- b. Laufin voru (ó)fallin (*af vindinum).
 were (un)fallen (*by the wind)
- (4)a. Pétur (*ó)dó í stríðinu.
 Peter (*un)died in the war
- b. Pétur var (ó)dáinn (*af hermanninum).
 was '(un)died' (*by the soldier)
 'Peter was (still not) dead.'

- (5)a. María (*ó)hvarf.
Mary (*un)disappeared
b. María var (ó)horfin.
was (un)disappeared
- (6)a. Myndin (*ó)gulnaði.
the painting (*un)became-yellow(ish)
b. Myndin var (ó)gulnuð (*af málaranum).
was (un)become-yellow (*by the painter)

In cases of this sort, there is no overt verbal participle to feed Bresnan's rule (1982, p. 23) of Participle-Adjective Conversion. As we shall see directly, however, this is probably not fatal for Bresnan's approach.

Our goal, then, is threefold: First, we want to account for the close relationship between supines, on the one hand, and both participle types on the other hand. Second, we wish to explain the correlations we find between the participle types. Third, however, we also want to account for the discrepancies between the two. I believe we can achieve all this by assuming that participle formation takes supines as inputs, the outputs of participle formation, in turn, being inputs to an adjective formation. That is, we are dealing with three processes: Supine Formation, Passive Formation and Adjectival Participle Formation, Passive Formation applying to the outputs of Supine Formation and Adjectival Participle Formation applying to the outputs of Passive Formation (the latter relation being as in Bresnan's approach).

As we saw in the last subsection, Supine Formation renders (7):

- (7) (TH) </X+part/[+v,-N] (th) (th)>

Both Passive Formation and Adjectival Participle Formation crucially involve categorial operations. Passive Formation nominalizes (7), that is, it involves (8):

- (8) [+V,-N] -> [+V,+N]
Applies to: (TH) </X+part/[+v,-N] (th) (th)>

- thus, rendering (9):

- (9) (TH) </X+part/[+v,+N] (th) (th)>

Adjectival Participle Formation, in turn, involves 'adjectivization' or [+V,+N] -> [%V,+N] = A, that is, it deverbalizes (9), rendering (10):

- (10) (TH) </X+part/[%v,+N] (th) (th)>

Subsequently, both (9) and (10) are subject to certain theta operations. However, at least some of these operations seem to be forced by general principles. To the extent they are, they are not involved in the participle formations as such.

Consider this for the external role of the adjectival output in (10). In 6.2.2, we suggested that assigning an external role is a unique property of verbs, i.e. of [+V] categories. If that is correct, the optional external role in (10) must not be present when the participle enters the syntax. In case the base verb is ergative, this is of course observed. But in case it is transitive, the external role must be eliminated by Eliminate *TH*, like the external role of middle verbs, cf. 6.2.3.2. Thus, Eliminate *TH* has at least the domain of (11a,b):

- (11) Eliminate TH:
 Applies to: a. TH </X+st/v (th)>
 b. TH </X+part/Λ (th) (th)>
 c. ...
 .
 .

As we would expect, then, Adjectival Participle Formation applies to transitives as well as (many) ergatives, cf. (12):

- (12)a. Glugginn var ennþá óbrotinn í gær.
 the window was still unbroken yesterday
 b. Laufin voru ennþá ófallin í gær.
 the leaves were still unfallen yesterday

However, adjectival past participles also have some well-known properties that do not follow from general principles in any obvious manner. Thus, intransitives and impersonals cannot form an adjectival participle, cf. the ungrammaticality of **untelephoned* and **unsnowed* and their Icelandic cognates **óhringdur* and **ósnoður*. This follows if adjectival participles must promote an internal role, but why, in turn, that is the case is unclear. That is, it is unclear why there are impersonal passives but no impersonal 'unpassives'. This does not seem to have anything to do with the adjectival status of 'unpassives', cf. sentences like *It is cold*. with an impersonal nonderived predicative adjective.

It is standardly assumed that all and only those verbs that take a direct object that is a *theme* can form an adjectival past participle (cf. Anderson 1977, Williams 1981, Bresnan 1982). However, the validity of this assumption seems rather questionable. Adjectival Participle Formation crucially applies to verbs that take *some internal role*, cf. Dryer (1985) and Levin and Rappaport (1986). The subsequent Promotion of the internal role seems to

be lexical, Externalize *th*, as argued by Williams (1981, p. 93 ff.). After application of Eliminate *TH* to transitives (and [+V, +N] → [%V, +N] = A), they meet the structural conditions on the Promotion, like adjectival participles of ergatives:

(13) </X+part/_A th (th)>

- Externalize *th* yielding (14):

(14) th </X+part/_A (th)>

Thus, (the whole process of) Adjectival Participle Formation of transitives involves the same theta operations as Middle Formation, cf. 6.2.3.2.

The strongest evidence that Adjectival Participle Formation in Icelandic involves lexical Promotion rather than syntactic NP-movement comes from the Case assignment properties of a class of transitive Nom-Dat verbs, pointed out by Thráinsson (1986c, p. 44 f.) and Friðjónsson (1987, p. 71). The verbs in question form adjectival as well as passive participles and include the items in (15), among others:⁵²

(15)	bjóða	'invite'	breyta	'change'
	dreifa	'distribute'	eyða	'eliminate'
	gleyma	'forget'	ljúga	'lie'
	loka	'close'	stela	'steal'
	útskúfa	'expel'	týna	'loose'
	tapa	'loose'	glata	'loose'
	læsa	'lock'	spilla	'spoil'
	ljúka upp	'open up'	kasta burt	'throw away'

When these verbs are passivized, they always preserve the dative, like all other 'dative verbs' in Icelandic. Hence (16):

- (16)a. Jón bauð honum.
John(N) invited him(D)
- b. Honum var boðið (af Jóni).
him(D) was invited (by John)

As discussed in 6.2.3.3, this is what we expect if passive Promotion always involves syntactic NP-movement in Icelandic, that is, Promotion after D-structure assignment of lexical Case. Now, consider the interesting fact,

⁵² Outside the domain of this verb-class, Adjectival Participle Formation of Nom-Dat (and Nom-Gen) verbs is heavily constrained, but what, exactly, the constraining conditions are is unclear to me.

pointed out by Thráinsson (1986c, p. 44 f.) and Friðjónsson (1987, p. 79 f.), that when these Nom-Dat verbs form an adjectival participle, the participle takes a *nominative subject*.⁵³ Furthermore, the participle agrees with the nominative subject, whereas it does not agree with the dative subject, as we would expect. Consider the following pairs:

- (17)a. Honum var boðið (af Maríu).
 D n.sg.N/A
 him was invited (by Mary)
- b. Hann var (ó)boðinn (*af Maríu)
 N m.sg.N
 he was (un)invited
- (18)a. Honum var spillt (af foreldrunum).
 D n.sg.N/A
 him was spoiled (by the parents)
- b. Hann var (ó)spilltur (*af foreldrunum).
 N m.sg.N
- (19)a. Dyrunum var læst (af lögreglunni).
 f.pl.D 3sg n.sg.N/A
 the doors was locked (by the police)
 'The door was locked (by the police).'
- b. Dyrnar voru (ó)læstar (*af lögreglunni).
 f.pl.N 3pl f.pl.N

This is what we expect if Adjectival Participle Formation involves Externalize *th*, like Middle Formation but unlike Passive Formation. Thus, Icelandic

⁵³ Note that the last two items in (15) above are particle verbs. For many particle verbs, my description that adjectival and verbal past participles are always homophonous is not entirely correct: Adjectival Participle Formation of the verbs in question involves obligatory prefixing of the particle, whereas the prefixing is, at best, only optional in the corresponding passives. This is shown for *ljúka upp* 'open (up)' in (i) and (ii):

(i) Glugganum var lokið upp/?upplokið.
 the window(D) was opened up/up-opened
 'The window was opened (by someone).'

(ii)a. Glugginn var (ó)upplokinn.
 the window(N) was (un)up-opened
 b. *Glugginn(N) var (ó)lokinn upp.

The Particle Preposing + Prefixing applies to nominals that are derived from verbs. Thus, we seem to have the same phenomenon in nouns like *innkeyrsla* 'gateway', cf. *keyra inn* 'drive in(to)', and even *uppástunga* 'proposal', cf. *stinga upp á* 'propose' (where we have 'double' Particle Preposing + Prefixing). For some comments on this rather unusual process, see Worbs (1987, pp. 38 ff., 44). It is quite productive but its exact properties have never been worked out. - Note that the 'optically similar' Particle Prefixing in OV languages like German does, of course, not involve any preposing of the particle.

dic Case facts offer interesting evidence in favor of Williams' (1981, 1982) approach to Adjectival Participle Formation and Passive Formation (with respect to the dichotomy NP-movement vs. externalization). However, we should probably not exclude the possibility that some languages derive sentences with adjectival past participles and middles by syntactic NP--movement (cf. 6.2.3.3 on English middles). As far as I can see, this is not blocked by any principle.

Levin and Rappaport (1986, p. 645 ff.) argue against Williams' externalization analysis of adjectival participles, and suggest, basically, that Bresnan's (1982) simple rule of Participle-Adjective Conversion should be maintained. As we have seen, Participle-Adjective Conversion (or Adjectival Participle Formation) as such can be maintained, i.e. we do not have to assume two unrelated participle formations. Nonetheless, this is clearly only the first chapter of the story: the outputs of Adjectival Participle Formation (in (10) above) undergo theta operations which passive participles are not subject to, namely obligatory Eliminate *TH* (in case *TH* 'is there') plus Externalize *th*. - In passing, note also that Levin and Rappaport's abandoning of Externalize *th* forces them to assume that theta role assignment or linking is subject to quite different rules in sentences with adjectival vs. verbal predicates: Predicative adjectives link nonagentive theta-roles to the [NP, IP] position because of "general properties of adjectives", Levin and Rappaport suggest (1986, p. 646) - without specifying these 'general properties'.

Levin and Rappaport's (1986) account for the 'fate' of the external role in 'unpassives' of transitive verbs is also rather misleading. They (1986, p. 646) assume that "the suppression of the external theta-role of the base verb ... follow[s] from the fact that the adjectival passive participle is created from the verbal passive participle." But this is plainly wrong. The fate of the external role in the two participle types is quite different. It is only 'suppressed', as it were, under Passive Formation, whereas it is totally eliminated in adjectival past participles (when it is indeed present at all in the input). Consider the ambiguous (20):

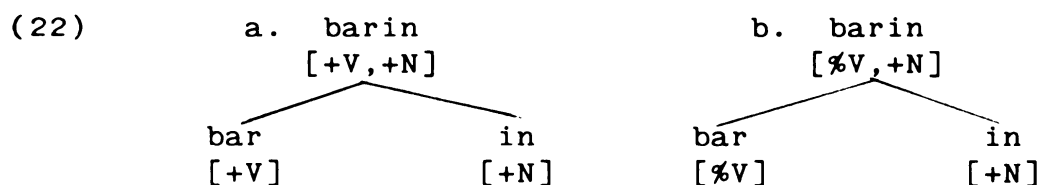
- (20) Glugginn var brotinn.
the window was broken

Clearly, the crucial difference between the passive and the 'unpassive' readings of minimal 'pairs' of this kind is that the external role of the base verb is, somehow, 'implied' in the passive reading but totally absent in the 'unpassive' reading. Consider (21):

- (21)a. Glugginn var (*ó)brotinn af Maríu.
the window was (*un)broken by Mary
b. Glugginn var óbrotinn (*af Maríu).

This indicates that adjectival participles (like middles in Icelandic and many other languages) are subject to Eliminate *TH*, whereas passive participles are subject to Incorporate *TH*. In passives, then, the external role 'is there' somewhere. But where is it?

Basically following Jaeggli (1986b), I suggest that it is assigned to the participle suffix. Tentatively, I also assume that morphemes below the level of the word are different from syntactic categories (V, N, P, A, etc.) in possibly being specified for only one syntactic feature. If that is correct, the suffix of participles perhaps carries the [+N] feature exclusively, the (deverbal vs. verbal) stem carrying only [%V] and [+V] in adjectival and passive participles, respectively (this differs from Jaeggli's approach). Recall also that verbs seem to be unique in being able to assign an external role. Therefore, let us assume that the verbal stem in passives ([+V]), as opposed to the 'deverbal' stem in 'unpassives' ([%V]), assigns the external role to the [+N] participle suffix. This suggests the structures in (22) for e.g. verbal and adjectival *barin* 'beaten' (for a different analysis, see Jaeggli 1986b, p. 600):



Passives, then, have the form (23) when they enter the syntax, whereas 'unpassives' enter the syntax in the 'middle' form (24):

(23) </X+part/[+v,+N] (th) (th)>
 [TH]

(24) th </X+part/A (th)>

Jaeggli (1986b, p. 592) takes it that there is no nonstipulative way to account for the obligatoriness of the 'theta role absorption' (Incorporate *TH*) of passives. However, note that the verbal stem in structures like (22a) is a sister to the participle suffix, hence 'directly theta-marking' the suffix in the sense of Chomsky (1986b, p. 13 f.). Moreover, it is lexical, i.e. it L-marks the suffix (where 'L-marking' is direct theta-marking by a lexical category). Thus, if Chomsky (1986b, p. 14) is right that L-marking is obligatory, it follows that theta-marking of the suffix is obligatory (in case the stem does 'preserve' an external role, i.e. is [+V]). This means, in turn, that the external role cannot be assigned to the

[NP, IP] position, which is of course the desirable result.⁵⁴

The different fate of the external role in passive and adjectival past participles, then, follows from general principles. Being nonverbal, adjectival participles cannot assign an external role, the external role thus being eliminated. Being verbal, passive participles obligatorily assign the external role to the participle suffix.

6.4.3.3 Summary

I summarize the major results of my study of supines and participles as follows:

1. Supine Formation involves only participle-suffixing.
2. Passive Formation involves nominalization of supines, [+V,-N] → [+V,+N]. Due to the obligatoriness of L-marking, the resultant passive participle undergoes Incorporate *TH* - if it is not converted into an adjective.
3. Adjectival Participle Formation involves 'adjectivization' of passive participles, [+V,+N] → [%V,+N] = A. If the base verb selects an external role, the external role must be eliminated, adjectives and other nonverbal categories being unable to assign an external role.
4. In languages like Icelandic and English, passives are subject to syntactic NP-movement of internal arguments (that 'are there'), whereas 'unpassives' are subject to lexical Promotion of an (obligatory) internal argument. This difference between passives and 'unpassives' does not seem to follow from any general principles.

I leave 4. unexplained. In this respect, my analysis is unsatisfactory, like other approaches I know of.

⁵⁴ Note that this approach presupposes that bound morphemes may, at least exceptionally, qualify as 'lexical heads' with respect to theta role assignment. This suggests that participles actually branch in the syntax and not only in the lexicon. Note also that the verbal stem and the suffix in passive participles do not assign a compositional internal role to the D-structure object in a passive sentence. If theta role assignment or linking, as opposed to theta selection, takes place in the syntax, we may assume that the internal role is assigned under sisterhood of a [+V] feature and an object NP, as in active sentences. Like the [-N] feature of active verbs, then, the [+N] feature of passive participles is not a role assigner.

6.4.4 Conclusion

In this section, I have illustrated that past participles, in a sense, 'copy' the syntax of active non-transitive verbs: Passive participles enter the syntax as derived ergatives or impersonals, whereas adjectival participles display much the same properties and behavior as middles. Thus, participles render rather decisive support to my analysis of active verbs in Icelandic as well as to my approach to word formation and the mechanism of NP-movement. Most important:

1. Oblique passives, like oblique ergatives, display that NP-movement of topical or 'definite' NPs is not forced by defective Case-marking. Rather, it is forced by the Subject Command Condition.
2. As we would expect, participles that are non-assigners of Case receive percolating Infl-Case, i.e. they do not 'absorb' accusative Case any more than ergative non-assigners of Case: The defective structural Case-marking of these items (Burzio's generalization) is forced by the Chain-Visibility Constraint, requiring that all members of a chain be Case-identical.
3. Passives display precisely the same Definiteness Effect as actives, both with respect to *það*-insertion and NP-movement. In the same manner as for actives, the Definiteness Effect upon passive NP-movement follows from the Subject Command Condition and general conditions on chain-formation and binding.
4. Icelandic passivization is a reliable test on presence vs. absence of an external role. Thus, it constitutes a rather forceful argument in favor of my analysis of ergatives, middles, (D/)NcI-verbs, and auxiliaries/modals as being verbs that do not select an external role (all these verb classes being unable to passivize).
5. The 'atomic' approach to word formation, sketched in 6.2.1, has enabled us to account coherently for Supine Formation, Passive Formation and Adjectival Participle Formation, as well as for the complex interaction of the lexical operations involved in these processes and syntactic operations, most importantly NP-movement, Case assignment and long distance phi-feature agreement.
6. Comparison of passive and adjectival past participles illustrates that we have to distinguish between lexical and syntactic Promotion, that is, between Externalize *th* and NP-movement. In addition, comparison of the two participle types illustrates that both Eliminate

TH and Incorporate *TH* are possible theta operations in word formation.

6.5 Some residual problems

The phenomena that relate to and affect Promotion are both numerous and complex. In the preceding study, I have tried to account for many of these phenomena, but naturally, I cannot go into the details of all the relevant data. Among the residual problems, I find the following ones most interesting and challenging:

1. The derivation of the Icelandic Present Participle Construction
2. Case assignment and agreement in the Double Object Construction and in passives of ditransitives
3. The absence of NP-movement in German and Dutch

Below, I shall only illustrate very briefly some of the reasons why these phenomena are interesting in the context of my theory of Promotion, leaving a detailed analysis to future research.

6.5.1 The Present Participle Construction

I have mentioned the Icelandic Present Participle Construction (PrPC) a couple of times. Roughly the same construction is known as a characteristic trait of Hittite and Old Scandinavian. It is also found in Modern Faroese (cf. Lockwood 1955, p. 139 f.) and some modern West-Norwegian dialects, but to my knowledge, it was first treated in Modern Icelandic syntax by Friðjónsson (1982). The present participles involved in it usually translate as adjectives derived by *-able*-suffixing to verbs in English (*readable*, *drinkable*, etc. cf. Williams 1981) and seem to have roughly the same theta-properties as the latter; in other constructions, Icelandic present participles normally translate as present participles in English.

As noted by Friðjónsson (1982), PrPC has interesting properties in common with the (much more common and central) passive. First, as we saw in 5.3.1, we have an impersonal PrPC as well as impersonal passives. Consider the active (1), and the passive and the PrPC in (2):

- (1) Við hlógum ekki að þessu.
we laughed not at this

- (2)a. Það var ekki hlegið að þessu.
was not laughed at this
- b. Það er ekki hlægjandi að þessu.
is not 'laughing' at this
'It is not possible to laugh/One should not laugh at this.'

Second, personal PrPCs show much the same Case preservation properties as personal passives. Consider the following active-passive-PrPC triples:

- (3)a. Við drukkum ekki mjólkina.
we drank not the milk(A)
- b. Mjólkinn var ekki drukkin.
the milk(N) was not drunk
- c. Mjólkinn var ekki drekkandi.
the milk(N) was not 'drinking'
'The milk was not drinkable.'
- (4)a. Við buðum ekki Ólafi.
we invited not Olaf(D)
- b. Ólafi var ekki boðið.
Olaf(D) was not invited
- c. Ólafi var ekki bjóðandi.
Olaf(D) was not 'inviting'
'Olaf was not inevitable.'
- (5)a. Við freistuðum þess ekki.
we tried it(G) not
- b. Þess var ekki freistað.
it(G) was not tried
- c. Þess var ekki freistandi.
it(G) was not 'trying'/'tryable'

Moreover, PrPCs and passives of ditransitives display the same Case patterns, cf. (6):

- (6)a. Við bjóðum mönnum þetta ekki.
we offer people(D) this(A) not
'We do not offer this to people.'
- b. Þetta er ekki boðið mönnum.
this(N) is not offered people(D)
- c. Þetta er ekki mönnum bjóðandi.
this(N) is not people(D) 'offering'
'This is not offerable to people.'

With respect to Case and NP-movement, then, passives and PrPCs are very much alike. However, there are also striking differences between the constructions. First, PrPC is clearly a rather marked construction as compared to the passive; it is subject to certain semantic constraints (into which I shall not go here), that are ineffective in the passive. More important, the present participle in the PrPC has some adjectival properties, not shared by passive past participles. Most notably, it often undergoes ó- 'un' prefixing (and is thus reminiscent of corresponding English *-able--* adjectives):

- (7)a. Mjólkin(N) er ódrekkandi.
'The milk is undrinkable.'
b. Ólafi(D) er óbjóðandi.
'Olaf is uninvitable.'

Ó-prefixing to present participles of this sort is more constrained than to basic adjectives and adjectival past participles. All the same, the present participles are reminiscent of adjectival past participles here, and not of passive participles. In the light of this, it is interesting that adjectival past participles have quite different Case properties, as we saw in 6.4.3.2. Compare (8) below to (7b):

- (8) Ólafur(N) var óboðinn.
'Olaf was uninvited.'

These present participles, then, seem to take a position 'between' passive and adjectival past participles, as it were. When it comes to theta-properties, however, they are somewhat similar to English middles like (9) (and, of course, to the corresponding English *-able-* adjectives):

- (9) Politicians bribe easily.

- cf. (10):

- (10)a. Við mútuðum pólítíkusum.
we bribed politicians(D)
b. Pólítíkusum er vel mútandi.
politicians(D) is quite 'bribing'
'Politicians are quite bribable.'

Like English middles (cf. 6.2.3.3), Icelandic PrPC-sentences usually have some adverb (but unlike English middles, PrPC most typically involves the sentence negation, the negation often being 'substituted' by ó-prefixing). Moreover, PrPC is similar to the English middle construction in usually

having a generic reading and involving an arbitrary 'suppressed' external role, the difference being that PrPC also has a possibility reading (like the corresponding English *-able*-construction discussed in Williams 1981). In other words, we can paraphrase the reading of (10b) as in (11):

(11) It is quite possible [PRO to bribe politicians].

- where PRO is arbitrary. As in English middles (cf. 6.2.3.3), the 'syntactically absent' but 'semantically present' external role of the base verb in PrPC is rather troublesome. For ease of reference, we might call the present participles of the Icelandic PrPC 'middle present participles', thus distinguishing them from other present participles in the language, for example 'active present participles', as in (12):

(12) Pólitikusarnir voru syngjandi.
the politicians(N) were singing

However, 'middle present participles' and Icelandic middle *-st*-verbs are clearly 'middle' in somewhat different senses since the latter do not involve any 'semantically present' external role, cf. 6.2.3.3. Moreover, PrPC preserves lexical Case, i.e. it involves NP-movement, whereas middle-*st*-verbs involve Externalize *th*.

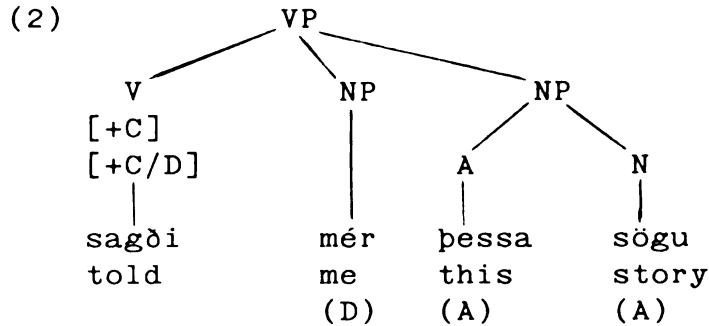
I shall not go into further details of PrPC here, but from these scattered observations, it should be clear that it constitutes an interesting paradigm to compare to the paradigms of the more central Promotion constructions I have been dealing with.

6.5.2 Some comments on the Double Object Construction

The Double Object Construction (DOC) poses several problems that I shall have to leave unresolved, for the most part. The most interesting of these problems is the plain fact that ditransitives seem to assign two Cases. Consider the well-known Dat-Acc pattern in (1):

(1) Ólafur sagði mér þessa sögu.
Olaf(N) told me(D) this(A) story(A)

The straightforward analysis of VPs of this sort might seem to be the traditional (2):



- where V percolates the lexical dative (a predictable goal-Case) to the indirect object and the structural accusative to the direct object.

(Nom-)Dat-Acc is by far the most common Case pattern in the Icelandic DOC. As most clearly illustrated by Yip et al. (1987, p. 227 ff.), however, it exhibits several other Case patterns (see also e.g. Holmberg 1985b). The possibilities are listed in (3):⁵⁵

- (3)a. Dat - Acc, e.g. **segja** 'say, tell', **gefa** 'give'
 b. Acc - Dat, e.g. **leyna** 'conceal'
 c. Acc - Gen, e.g. **krefja** 'demand'
 d. Dat - Dat, e.g. **lofa** 'promise'
 e. Dat - Gen, e.g. **óska** 'wish'

(4) contains examples that illustrate (3b-e):

- (4)a. Páll leyndi mig sannleikanum.
 N A D
 Paul concealed me the truth
 'Paul concealed the truth from me.'

⁵⁵ The verb **kosta** 'cost', showing the unique pattern (Nom-)Acc-Acc (cf. Yip et al. 1987, p. 227 ff.), is ergative, cf. (i):

- (i)a. Slysið kostaði mig heilsuna.
 the accident(N) costed me(A) the health(A)
 b. *Ég var kostaður heilsan/heilsuna.
 I(N) was costed the health(N/A)

- i.e. it is a 'triple object verb', in a sense. On the other hand, **kosta** in the sense 'pay (something) for (somebody)' is monotransitive, cf. (ii):

- (ii)a. Ólafur kostaði drenginn í skóla.
 Olaf(N) paid-for the boy(A) in school
 b. Drengurinn var kostaður í skóla.
 the boy(N) was paid-for in school
 'School was paid for the boy.'

- b. Páll krafði mig greiðslu.
 N A G
 Paul demanded me payment
 'Paul demanded that I would pay him.'
- c. Páll lofaði mér peningum.
 N D D
 Paul promised me money
- d. Páll óskaði mér gæfu.
 N D G
 Paul wished me luck

DOC constitutes a much discussed challenge to Kayne's (1984) 'Binary Branching Theorem' (cf. e.g. Holmberg 1986). But more interestingly for us, structures like (2) also violate our Feature Percolation Theory of Case. In 4.1(16), I suggested the intuitively appealing 'Case-transport hypothesis', repeated in (5):

(5) No category can transport more than one [+C]

(2) obviously violates this. Recall also (from e.g. 4.3 and 5.5.2.2) that (5) explains Case Protection, hence blocking of long distance agreement in cases like (6):

- (6)a. Honum var kalt.
 him was freezing
 D n.sg.N/A
- b. Honum var boðið.
 him was invited
 D n.sg.N/A
- c. Ég taldi [hana vera gáfaða].
 I believed her be intelligent
 N f.sg.A

- as compared to cases like (7):

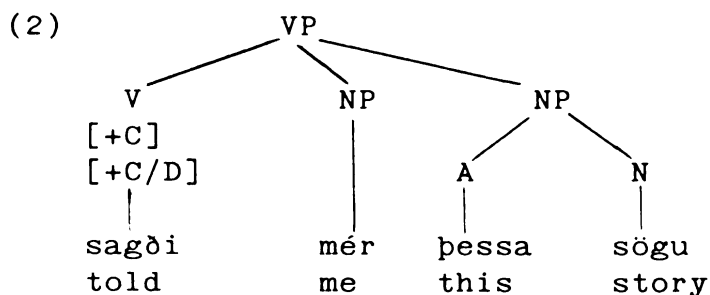
- (7)a. Hann var kaldur.
 he was cool/cold
 N m.sg.N
- b. Hann var óboðinn.
 he was uninvited
 N m.sg.N
- c. Hún var talin [[t] vera gáfuð].
 she was belived be intelligent
 N (f.sg.N) f.sg.N

If structures like (2) were possible, it would be entirely unclear why long distance agreement is blocked in (6), i.e. we would then expect the maximal projections of the assigners of the non-nominatives in (6) to be able to transport both percolating Infl-Case (plus number and gender of the subject) and the non-nominatives, the result being sentences like (8):

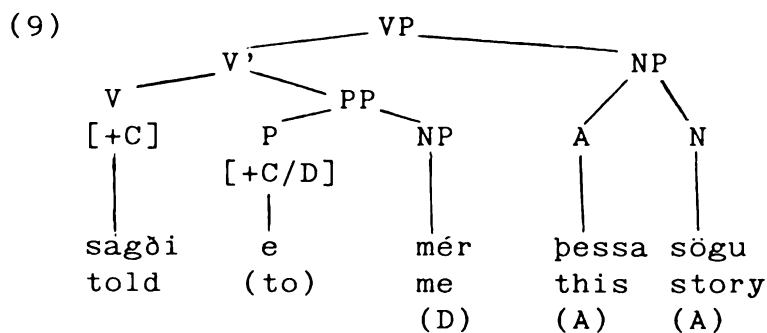
- (8) *Honum var kaldur.
 him was freezing
 D m.sg.N

Since this is impossible, I take it that the 'Case-transport hypothesis' should be maintained, the 'simple' analysis in (2) thus being on the wrong track.

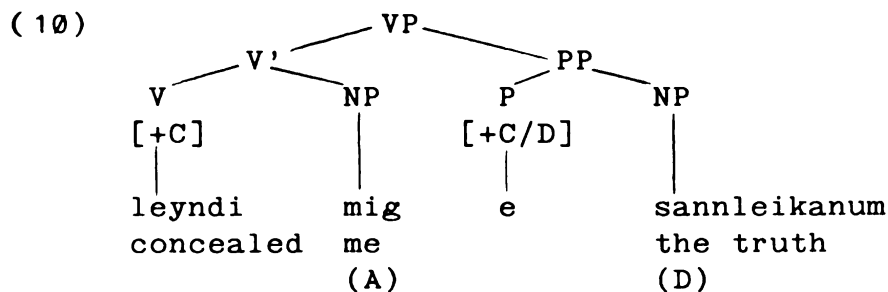
One way to resolve at least some of the problems raised by DOC is to assume a syntactic restructuring process that inserts an empty preposition that inherits one of the Case features of the ditransitive (cf. also Kayne 1984, Holmberg 1986, and my approach in 6.2.2 to 'transitive' adjectives). The restructuring would turn structures like (2):



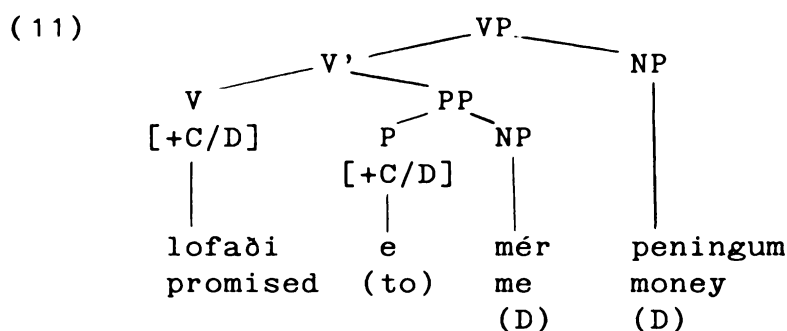
into structures like (9):



- where V percolates only the structural accusative. For the Acc-Dat VP in (4a), the restructuring process yields (10):



Similarly, for instance, it gives (11) for the Dat-Dat VP in (4c):



This analysis, then, has some clear advantages. However, it also involves some problems, for instance the following one: As we have seen, NP-movement cannot strand an overt preposition in Icelandic (cf. Maling and Zaenen 1985). Consider (12):

- (12)a. Var [e] talað við Ólaf?
was talked with Olaf(A)
- b1. *Var Ólaf talað við [t]?
A n.sg.N/A
2. *Var Ólafur talaður við [t]?
N m.sg.N

Since this is the case, the natural assumption would seem to be that it is also impossible to strand empty prepositions. As illustrated in (13) and (14) (where 'p' denotes an empty preposition), this is not borne out:

- (13)a. Ólafur sagði [p mér] þessa sögu.
Olaf told me this story
N D A A
- b. Mér var sögð [p t] þessi saga.
me was told this story
'I was told this story.'

- (14)a. Ólafur leyndi (mig) [p sannleikanum].
 Olaf concealed (me) the truth
 N (A) D
- b. Sannleikanum var leynt [p t].
 the truth was concealed

One way to interpret this, is to say that empty prepositions are invisible at the level of NP-movement, or, alternatively, that they move along with their Case assignees. But clearly, the straightforward interpretation is that they are simply nonexistent, i.e. that data like (13)-(14) constitute a counterargument against the empty preposition analysis of DOC.

Passives of Icelandic ditransitives, like (13b) and (14b), have many highly interesting properties (studied by e.g. Bernóðusson 1982, Holmberg 1985b, Zaenen et al. 1985, and Yip et al. 1987). For example, the accusative of Dat-Acc VPs either turns up as a nominative subject or as *nominative object* in the passive (as first shown by Bernóðusson 1982), and enters into an agreement relation with both the finite verb and the passive participle. Consider (15), where the nominative NP is an object:

- (15)a. Okkur var sögð þessi saga.
 us was told this story
 D 3sg f.sg.N f.sg.N f.sg.N
 'We were told this story.'
- b. Mér voru sagðar þessar sögur.
 me were told these stories
 D 3pl f.pl.N f.pl.N f.pl.N
 'I was told these stories.'

I take it that nominatives that enter into an agreement relation with the finite verb are always an instantiation of Infl-Case (cf. also e.g. Borer 1986; but for a different view, see Taraldsen 1985). If that is correct, both the participle and the object must be in the Case domain of Infl in (15). Moreover, the gender/number agreement of the participle with the object shows that the noun head of the object percolates its gender and number features to the participle, in much the same way, it seems, as N heads of NPs percolate their number and gender to attributive adjectives, cf. my approach to NP-internal agreement in 4.2.

How are the nominatives in (15) Case-marked? Clearly not by Case inheritance through coindexation with the dative subjects! Rather, they are free to receive percolating Infl-Case, because the participles do not assign structural Case (i.e. do not protect their maximal projections). But that, in turn, raises the question why the participles are unable to assign structural accusative. We have an answer if Icelandic grammar (or even UG) has the Accusative Filter suggested in 6.1.4, blocking assignment of

structural accusative unless structural nominative is also assigned (within the minimal IP of the accusative). Accordingly (as pointed out by Yip et al. 1987), there are both Dat-Nom ergatives and passives but no instances of the pattern Dat-Acc (unless there is also a nominative in the clause, as in the case of (Nom-)Dat-Acc ditransitives). Condsier (16):⁵⁶

- (16) *Okkur var sagt þessa sögu.
 us was told this story
 D (n.sg.N/A) A A

I shall not discuss DOC any further here. In the core cases, at least, the problems raised by it seem to be 'technically soluble' in our general framework. But it remains to be seen whether the technical solutions called for are empirically and theoretically feasible.

6.5.3 Subjecthood variation in Germanic

In *Knowledge of Language*, Chomsky (1986a) conceives of movement as a 'last resort'.⁵⁷ As we have seen, the defective Case-marking explanation of NP-movement cannot be maintained. Nonetheless, it is a 'last-resort-explanation' of the ideal type: NP-movement takes place iff the involved NP fails to be assigned Case in situ (and if its movement does not violate any independent principles). The defective Case-marking explanation, then, admits only one type of interaction of NP-movement and Case-marking:

⁵⁶ Note, however, that (18) is much 'better' than (i):

- (i) **Okkur var sagt [t] þessi saga.
 us was told this story
 D n.sg.N/A N N

- where the participle is uninflected and the object nominative. In fact, some speakers accept sentences like (18) (whereas (i) is out for all speakers, as far as I know). These speakers seem to constitute a subset of the speakers who accept sentences like (ii) (cf. 6.5.3):

- (ii) *Það var barið mig.
 it was beaten me(A)
 'I was beaten.'

- instead of the standard (iii):

- (iii) Ég var barinn.
 I(N) was beaten

⁵⁷ But note that if the idea is to be successfully pursued, then we have to understand the notion 'last resort' rather broadly. Thus, it is clear that Topicalization is not a 'last resort' in a narrow syntactic or structural sense (whereas it may very well be if we take syntactico-semantic factors into account).

- (1) [-C] in [NP, VP/AP] : Movement enforced

However, the conceptual system has three other inherently logical possibilities (for 'NP-movement constructions'):

- (2) [-C] in [NP, VP/AP] : Movement not enforced
 (3) [+C] in [NP, VP/AP] : Movement enforced
 (4) [+C] in [NP, VP/AP] : Movement not enforced

(2) is, of course, categorically excluded by the Case Filter since it always results in a non-Case-marked overt NP. On the other hand, both (3) and (4) are exemplified in Germanic languages: Icelandic clearly displays the situation in (3) (and so does Faroese, cf. the facts described in Platzack 1987a), whereas German (and perhaps Dutch) exemplifies the situation in (4), as we shall see directly.⁵⁸ Since Case probably percolates in the same manner in English and Mainland Scandinavian as in Icelandic ([NP, VP/AP] thus always being a Case-position), it is not clear that (1) is at all found in the Germanic languages. If the Percolation Principle of Case is a universal, it is in fact nonexistent in natural language.

German has various constructions with oblique arguments that are superficially very similar to Icelandic sentences with oblique subjects. Consider (5)-(7):

⁵⁸ According to the description in Zaenen et al. (1985, fn. 1), Faroese might seem to differ from both Icelandic and German with respect to NP-movement and Case-marking. They cite the pattern in (i) (from Lockwood 1955, p. 103) as if it were a rule:

- (i)a. Teir fagnaðu Depilsmonnum væl.
 they received the depilsmen(D) well
 b. Depilsmenn vóru væl fagnaðir.
 the depilsmen(N) were well received(pl.N)

However, Lockwood (1955, p. 103) says explicitly that "the dative generally remains in Faroese in the passive construction" (like in Icelandic and German) and gives the following example:

- (ii) Henni var givin bókin.
 her(D) was given the book

About examples like (ib), Lockwood (ibid) also says "this is not a true passive", i.e. the participle is an adjectival one (cf. further Lockwood 1955, p. 134). Adjectival Participle Formation seems to involve Externalize *th* in Faroese as in Icelandic. Thus, the alternation in the Faroese (iii) (cf. Lockwood 1955, p. 103) is precisely the same as seen for Icelandic 'dative-verbs' that form both a passive and an adjectival participle (cf. 6.4.3.2):

- (iii)a. Henni var (*ó)boðið.
 her was (un)invited
 b. Hon var (ó)boðin.
 she was (un)invited

- (5)a. Mir gefällt das nicht. (German)
 b. Mér fellur það ekki. (Icelandic)
 me(D) falls it(N) not
 'I don't like it.'
- (6)a. Mir ist kalt / übel. (German)
 b. Mér er kalt / illt. (Icelandic)
 me is cold / nauseated
 'I am freezing / nauseated.'
- (7)a. Mir wurde geholfen. (German)
 b. Mér var hjálpað. (Icelandic)
 me was helped

In spite of these striking similarities, the oblique arguments have a rather different status in the languages: they are topicalized S-structure objects in German, and clearly not S-structure subjects, cf. e.g. Cole et al. (1980) and Zaenen et al. (1985, p. 476 ff.). Thus, they usually fail to pass 'subjecthood tests' like the ones listed in 6.1.1. Consider, for instance, the following differences between German and Icelandic (these are only two of many contrasts pointing in the same direction):

- (8)a1. Es ist dir kalt.
 it is you freezing
 2. Ist es dir kalt?
 b1. *Það er þér kalt.
 it is you freezing
 2. *Er það þér kalt?
- (9)a. Mir war übel und *(ich) konnte nicht lachen.
 D N
 me was ill and (I) could not laugh
 b. Mér var illt og (ég) gat ekki hlegið.
 D N
 me was ill and (I) could not laugh
 'I was nauseated and unable to laugh.'

As for Dutch, Koster (1986, 1987) points out that NP-movement seems to be only optional. Consider the Dutch sentences in (10) and (11) (taken from Koster 1986, p. 7):

- (10)a. ... dat hem het boek gegeven werd.
 that him the book(N) given was
 b. ... dat het boek(N) hem t gegeven werd.

- (11)a. ... dat haar rampen overkwamen.
 that her disasters(N) over-came
 '... that disasters happened to her.'
 b. ... dat rampen(N) haar t overkwamen.

Similar data are also found in German (cf. e.g. Grewendorf 1986):

- (12)a. ... daß ihm das Buch gegeben wurde.
 that him(D) the book(N) given was
 b. ... daß das Buch(N) ihm(D) t gegeben wurde.

It is unclear, however, whether the NP-movement analysis in the *b*-sentences is on the right track. Haider and Rindler-Schjerve (1988) argue that German is nonconfigurational to the extent that it has no fixed Case positions and illustrate this by (13) and (14) below; all the orders in (14) are grammatical (albeit not pragmatically equivalent):

- (13) daß eine hiesige Firma die Möbel
 that a local company the furniture
 Nom Acc
 meinem Onkel zugestellt hat.
 my uncle delivered has
 Dat
 'that a local company has delivered
 the furniture to my uncle.'

- (14)a. daß Nom Acc Dat zugestellt hat. (= (13))
 b. daß Nom Dat Acc zugestellt hat.
 c. daß Acc Nom Dat zugestellt hat.
 d. daß Acc Dat Nom zugestellt hat.
 e. daß Dat Nom Acc zugestellt hat.
 f. daß Dat Acc Nom zugestellt hat.

However, German word order is not nearly as free as this description implies. There is no doubt whatsoever that Dat-Acc is the unmarked order in the language: datives must always precede accusatives if the dative is a pronoun or if the accusative is indefinite (cf. e.g. Webelhuth 1986). Moreover, Nom-Dat-Acc is the only possible order if all the arguments are pronominal, as illustrated in (15):

- (15)a. daß er mir den gegeben hat.
 that he(N) me(D) it(A) given has
 b. *daß er den mir ...
 c. *daß mir er den ...
 d. *daß mir den er ...
 e. *daß den er mir ...
 f. *daß den mir er ...

In addition, Nom-Dat and Nom-Acc are unmarked for monotransitives, whereas Dat-Nom is the unmarked order for ergatives, as in Icelandic (cf. Webelhuth 1986, p. 774). For a further discussion of word order in the 'middle field' of the German sentence, see, for instance, Abraham (1986b).

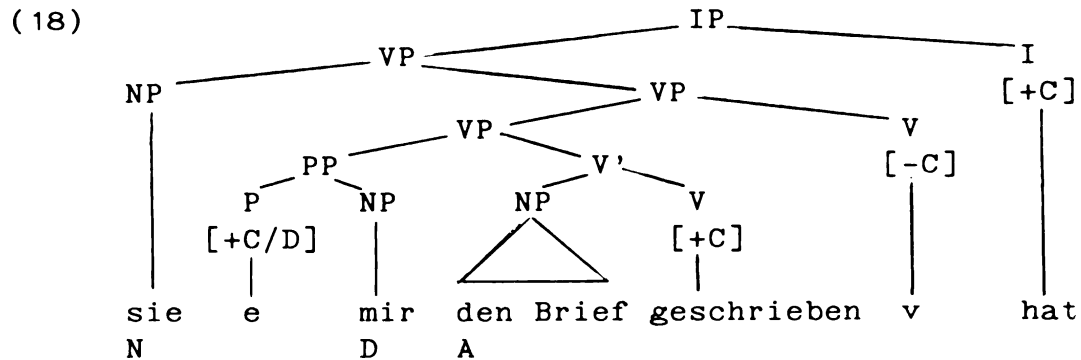
In spite of all this, it seems likely that the variation in (12) is due to some sort of an NP-permutation or alternative base orders rather than to absence vs. presence of NP-movement. Indeed, German probably has no NP-movement at all (cf. e.g. Ebert 1975, Harbert 1977, and Haider and Rindler-Schjerve 1988). If that is the case, the nominative in German sentences like (16b) below is assigned VP-internally (cf. e.g. Webelhuth 1986, Haider and Rindler-Schjerve 1988; see also Reuland 1985 on Dutch):

- (16)a. daß Paul ihn geschlagen hat.
 that Paul(N) him(A) beaten has
 b. daß er geschlagen wurde.
 that he(N) beaten was

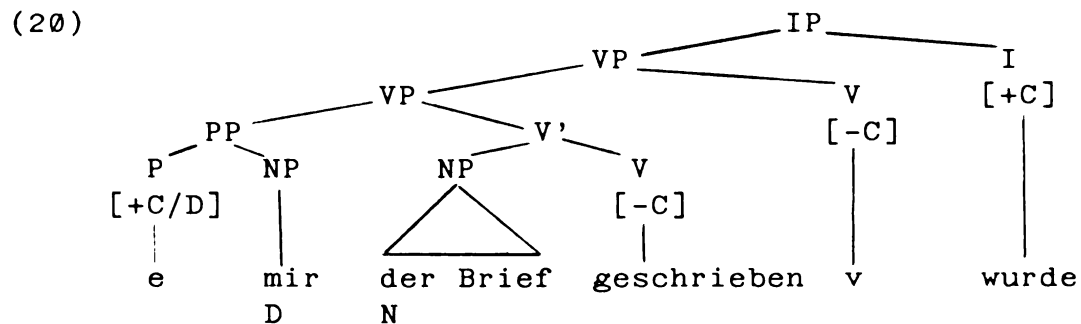
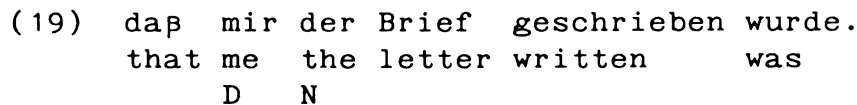
German poses partly the same problem to the standard approach to NP-movement as do Icelandic and Faroese: all these languages illustrate that the [NP, VP] position in sentences with an ergative or a passive main verb is a position of either lexical or nominative Case (structural accusative being the only Case that is excluded from this position). However, in Icelandic and Faroese, lexically Case-marked (topical) NPs are subject to obligatory NP-movement, whereas they are not in German.

In a series of works, Hubert Haider (e.g. Haider 1986b, 1987, 1988, Haider and Rindler-Schjerve 1988) claims that German is exempted from EPP, i.e. has no [NP, IP] position. If that is correct, nominatives are presumably adjoined to VP, usually to the left of it (but to the right of it for ergative Dat-Nom verbs). Thus, it lies near at hand to analyze the IP in (17) as shown in (18):

- (17) daß sie mir den Brief geschrieben hat.
 that she me the letter written has
 N D A

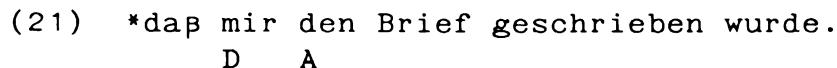


- where nominative Infl-Case freely percolates to the subject. The passive in (19) below, then, has the structure (20):



- where the nominative is also in the Case-domain of Infl.

This line of reasoning seems to be rather promising, but I have to leave it to future research to decide whether it can be maintained. Let me just point out that assignment of structural accusative is excluded in German, as in Icelandic, unless structural nominative is also assigned (the Accusative Filter), i.e. we get Dat-Nom passives and ergatives but no instances of Dat-Acc, cf. (21):



Abraham (1986a, p. 5 ff.) gives several (nonstandard) German examples like the following two:⁵⁹

⁵⁹ My German informants tell me that all sentences like (21) and (22) are totally out in their grammar. Presumably, dialectal or at least geographical variation is involved (all my informants coming from Northern-Germany).

(22) %Es wird jetzt gerade Lyrikgedichte vorgelesen.
 it is now right lyrical poems read (aloud)
 'Right now, lyrical poems are being read aloud.'

(23) %Es wird ihn jetzt gefeiert.
 it is him(A) now celebrated
 'He is being celebrated now.'

Abraham argues that these examples illustrate that passive morphology may assign structural accusative Case. It is not clear, though, what status these data have. Similar examples are often heard in nonstandard Icelandic, cf. (24):⁶⁰

(24) %Það var kosið hana í gær.
 was elected her yesterday
 n.sg.N/A A

Note, however, that sentences of this kind always have an uninflected 'participle', i.e. they are probably anomalous in having a supine instead of a passive participle. As far as I know, inflected participles are totally out for all speakers in cases of this sort:

(25)a. **Það var kosin hana.
 was elected her
 f.sg.N A
 b. **Það var kosna hana.
 was elected her
 f.sg.A A

Since passive participles (and predicative adjectives) do not inflect in

⁶⁰ Interestingly, sentences of this sort are much better if the verb is a reflexive one:

- (i)a. Börnin leika sér allan daginn.
 the children play self all the day
 'The children are playing all day.'
 b. ?Það var leikið sér allan daginn.
 was played self all the day
- (ii)a. Fólkið baðaði sig á laugardögum.
 the people bathed self on Saturdays
 'The people took a bath on Saturdays.'
 b. ??Það var baðað sig á laugardögum.
 was bathed self on Saturdays

Reflexive verbs thus tend to behave like intransitive verbs with respect to passivization and það-insertion. Consider the analysis of French reflexive verbs as intransitive verbs in Rouveret and Vergnaud (1980, p. 140 ff.) and in Grimshaw (1982).

German, they are formally indistinguishable from supines, but it seems most likely to me that sentences like (22) and (23) are of the same anomalous character as the Icelandic (24). If that is correct, they have no bearing on the 'Case assignment power' of passive participles. - Nonetheless, cases of this sort are of course rather interesting. At first sight, (24) seems to violate the Subject Command Condition. However, this is probably not the case. Since the 'participle' is a [+V,-N] supine here, it cannot bear the 'suppressed' external role, i.e. it is exempted from Incorporate *TH*, like other supines. Therefore, the sentence is probably like the Impersonal Modal Construction (cf. 5.3.1 and 6.1.5) in involving an arbitrary subject *pro*. It is exemplified in (26):

- (26) það verður [e] að kjósa hana.
 it must (N) to elect her(A)
 'Someone has (/We have, etc.) to elect her.'

- where *pro* is nominative and bears the external role. As for the German (22) and (23), on the other hand, it is unclear whether the nominative and the external role are borne by *es* or by a null-NP in a VP-adjoined 'subject position'.

If the analysis in (18) and (20) is on the right track, the dichotomy between German (and perhaps Dutch also) and English/Romance/Scandinavian with respect to NP-movement and subjecthood has nothing to do with Case assignment. That is, it should be possible to assign nominative into VP in all Germanic languages (in fact, in all languages) as long as the VP is not protected by a Case assigner. As we have seen, there is extensive evidence that this is correct, cf. (27), for instance:

- (27)a. það höfðu [e] verið skrifaðar sögur.
 there had been written stories(N)
 b. *það hafði [e] verið skrifuð sagan.
 there had been written the story(N)

As seen in (27a), there is nothing wrong with VP-internal nominatives in Icelandic (nor is there in other Scandinavian languages or English). What is wrong with the sentence in (27b), therefore, is not the VP-internal nominative, but the fact that the sentence violates the Subject Command Condition (SCC), topical or 'definite' object NPs being unable to form a chain with [NP, IP], i.e. unable to escape an SCC violation by other means than NP-movement, cf. 6.3.2.3. It thus seems to be the case that SCC, forcing NP-movement in, for instance, Scandinavian, English, and Romance, is ineffective in German (and perhaps Dutch), German (and perhaps Dutch) therefore having no NP-movement. This is not surprising if German is exempted from the Extended Projection Principle, that is, has no *specific*

subject position, [NP, IP], as claimed by Haider (1987, 1988) and Heider and Rindler-Schjerve (1988). If Haider is right, SCC has no domain of application in German: SCC crucially constrains the relation between [NP, IP] and other argument positions.⁶¹

6.6 Summary

In this chapter, I have discussed and analyzed Promotion at considerable length. The major achievements of the chapter can be summarized as follows:

1. All nonagentive and other nonperformative subjects (NPs in the [NP, IP] position) are derived by Promotion, either syntactic NP-movement or lexical Externalize *th*. NP-movement normally preserves inherent or lexical Case, whereas Externalize *th* never does (since it 'bleeds' assignment of lexical or D-structure Case).
2. NP-movement, oblique or nominative, is not forced by defective Case-marking, but by the Subject Command Condition, requiring that nuclear arguments of V/A be coindexed with [NP, IP] or commanded by an argument in [NP, IP].
3. Ergative verbs and other predicators (passives, adjectives, etc.) that do not select an external role are not inherent nonassigners of Case. The only Case their D-structure objects must not receive is structural accusative. This is forced by the Chain-Visibility Constraint (requiring that all members of a chain be Case-identical) and the Accusative Filter (filtering out structural accusative unless structural nominative is also assigned).

⁶¹ Note that German displays a much weaker Definiteness Effect than English and the Scandinavian languages (cf. e.g. Askedal 1982, Platzack 1983a). In so far as it does have DE (cf. e.g. Safir 1985, p. 104 ff., Belletti 1988, p. 14), it follows from the present analysis that definiteness or topicality only has effects upon *es*- 'there, it' insertion, and, of course, not upon NP-movement (German not having any NP-movement). Consider the following grammaticality judgements of my informants:

- (i)a. Es hat mir ein alter Herr geholfen.
there has me(D) an old man(N) helped
- b. Es hat mir der Peter geholfen.
the Peter
- c. Es hat mir ER DA geholfen.
he there
- d. *Es hat mir er geholfen.

4. 'Indefinite' or nontopical NPs are exempted from obligatory NP-movement because they have means to satisfy (or escape violating) the Subject Command Condition by coindexing with [NP, IP] without violating the Binding Principles and general conditions on chain-formation (cf. also Safir 1985). In contrast with general beliefs, this has nothing to do with (nominative) Case assignment to the nonraised 'indefinite' NP (as seen by the fact that obliques display much the same Definiteness Effect as nominatives in Icelandic).
5. Verbal passives are lexically derived ergatives and impersonals (and adjectival passives are lexically derived middles). Therefore, verbal passives behave much the same with respect to NP-movement and Case assignment as nonderived ergatives and impersonals.
6. The Subject Command Condition, controlling NP-movement, has no domain of application in languages that are exempted from the Extended Projection Principle. This probably explains some striking differences between German and Scandinavian/English with respect to NP-movement and subjecthood.

7. Concluding remarks

In this work, I have studied verbal syntax and Case in Icelandic in some detail. Three major topics were dealt with: Sentence structure and Case (chapters 1-4), nonlexical NPs and Case (chapter 5), and Promotion, theta structure, and Case (chapter 6). The most important achievements of this inquiry into the nature of Case and Case assignment are the following:

- Nominative Case is an Infl-Case in Icelandic, whereas it is a Comp-Case in the mainland Scandinavian languages. Accordingly, Icelandic, as opposed to Mainland Scandinavian, applies verb movement to Infl, in order for Infl to be capable of assigning nominative Case.
- Government and m-command should be kept strictly apart. Government is a sisterhood relation of a head and its complement (controlling direct theta-marking).
- Structural Case is an inherent feature of the X-bar system, i.e. structural Case is a head-feature of zero-level heads (in the sense of X-bar Theory). Moreover, lexical or inherent Case is mapped onto zero-level heads in D-structure. Like other head-features, Case percolates within the m-command domain of the head (in so far as this domain is unprotected by other Case assigners).
- There is no absolute Minimality Condition. A zero-level head acts as a barrier or a protecting head with respect to Case assignment iff the head itself percolates or assigns Case. It follows that Case assignment cannot be accounted for in terms of (nonrelativized) government.
- All traces (of Case-marked antecedents) are Case-marked. Due to the Chain-Visibility Constraint, a trace and its antecedent are always Case-identical: Chains bear (no more than) one Case, assigned to two positions. The resultant Case-identity of the positions involved renders the Chain structurally visible.
- Like many Asian languages, all Germanic languages are null-topic languages. In at least the Germanic languages, null-topics seem to be nonlexical operators in [Spec, CP], binding a variable in an A-position. The nonlexical chains involved in this bear Case.
- There is no independent Null-Subject Parameter in Universal Grammar. Rather, the difference between so-called null-subject languages and non-null-subject languages is due to a parametrization of the Case Filter. In non-null-subject languages, the Case Filter involves a Case ban on non-lexical NPs that are non-traces, whereas there is no such ban in null-subject languages. Accordingly, *pro*/PRO may occur in positions of obligatory Case in null-subject languages only. - Moreover, there are no lexical

nulls in UG, *pro*/PRO therefore being nonlexical argument positions that are identified or assigned theta features by interpretive means (these interpretive procedures sometimes involving either partial or complete theta feature inheritance through coindexing).

- There are no combinatory Word Formation Rules in the usual sense. Rather, word formation involves successive application of simplex lexical operations: theta operations, categorial operations, and phonological operations.

- All past participles are lexical in the sense that they are formed in the lexicon. Nonetheless, passive sentences are derived by syntactic NP-movement, whereas adjectival past participles are derived by lexical promotion (the theta operation 'Externalize a role'). - Passive past participles are lexically derived ergatives.

- Ergative lexical items, for example passives, are capable of assigning lexical Case, as opposed to structural accusative Case.

- NP-movement is independent of Case assignment, i.e. it is not forced by 'defective Case-marking'. Instead, it is forced by a general condition on the relation between [NP, IP] and other argument positions, the Subject Command Condition. It requires that nuclear arguments of verbs and predicative adjectives either be commanded by an argument in [NP, IP] or be coindexed with [NP, IP]. It follows that NP-movement behaves much the same in languages that have lexical Case, like Icelandic, and languages that have only structural Case, like Mainland Scandinavian and English. Moreover, this predicts that languages that are exempted from the Extended Projection Principle, i.e. have no [NP, IP] position, do not apply NP-movement. German seems to be such a language.

Many of the fascinating Icelandic facts that have lead me to these conclusions involve long distance agreement of Case and other phi-features, for instance Subject-Predicate Agreement. These facts may seem rather exotic. Cross-linguistically, however, they are everything but unusual. With the exception of Icelandic and Faroese, Germanic and Romance languages have joined in a strange 'conspiracy' not to show predicative Case (on passive participles and predicative adjectives). Romance languages do have Subject-Predicate Agreement for gender and number, but having morphological case for only pronouns, they render predicative Case invisible (and roughly the same is true of the mainland Scandinavian languages). Conversely, German has morphological case for nouns and adjectives, but is 'abnormal' in having no Subject-Predicate Agreement. Most other Indo-

European morphological case languages, modern or old, are or were basically like Icelandic with respect to long distance phi-feature agreement, it seems. This includes, for instance, Latin, Ancient Greek, all Old Germanic languages, and Russian (some of these languages, however, exhibit complications that are not found in Icelandic). It seems rather trivial and obvious that universal Case Theory should account for 'visible' Case in these languages, as well as in languages like English and Romance.

However, perhaps the most striking conclusion of this work is how similar the mechanism of Case assignment is in English and Icelandic, after all. Proponents of formal syntactic theory are often accused of drawing far too general conclusions from a far too narrow base. To a certain degree, this criticism is justified, but much too often, it is merely conservative and ignorant. In this work, I hope to have shown that Case in a fairly rich morphological case and lexical Case language like Icelandic is controlled by the same structural principles as Case in 'impoverished' Case languages like English, Mainland Scandinavian, and Romance.

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