Deriving Syntactic Effects of Morphological Case by Eliminating Abstract Case

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It has often been observed in the literature that the presence of a morphological case system tends to correlate with certain syntactic phenomena such as relatively free argument order or the occurrence of nominal complements of adjectives. This paper proposes a theoretical explanation of this traditional observation based on the Minimalist framework. Two main claims are made. First, it is argued that the UG concept of abstract Case, which has played a central role for the analysis of nominal constituents in the generative literature, can be eliminated from the grammar because the phenomena that have been related to abstract Case can be derived from the interaction of the categorial feature matrices of the elements contained within a clause. And secondly, as a consequence which is made possible by the elimination of the concept of abstract case, it is proposed that syntactically represented case features only occur in language with a rich morphological case system and that these case features are the source of the syntactic phenomena that have traditionally been related to morphological case. This paper thus provides [...]
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Keywords morphological case, abstract case, categorial features

1. INTRODUCTION

A traditional observation made in the literature is that the presence of a morphological case system allows nominal constituents to occur in a relatively free order within the clause. One source for this observation is the fact that the loss of morphological case and the loss of free word order generally seem to be closely linked in diachronic developments. For example, Sapir (1921: 168) talks about "the drift toward the abolition of most case distinctions and the correlative drift toward position as an all-important grammatical method". Similar points are made by Jespersen (1922: 361) who notes:

"This, then, is the conclusion I arrive at, that as simplification of grammatical structure, abolition of case distinctions, and so forth, always go hand in hand with the development of a fixed word order, this cannot be accidental, but there must exist a relation of cause and effect between the two phenomena."

This "non-accidental" correlation between case morphology and word order is also assumed in more recent work. For example, in his comparative study of English and German, Hawkins (1986: 40) observes:

"It is plausible to argue that the case system of German is responsible for the greater clause-internal word order freedom of that language. Across languages the existence of rich surface case marking typically correlates with word order freedom of the kind we have seen in German."

Similarly, Baker (1996: 18) considers for example Japanese, Hindi or German as languages "where the nonconfigurational characteristics seem to be due to Case marking" and, as the footnote related to this statement suggests (1996: 36, fn.12), Baker's observation concerns in
particular the property of word order freedom. Finally, in his study of case, Blake (1994: 15) summarizes the situation as follows:

"It has frequently been observed that there is a correlation between the presence of case marking on noun phrases for the subject-object distinction and flexible word order and this would appear to hold true."

A standard illustration of the correlation between case morphology and word order freedom is the following contrast between German and Dutch (examples based on Fanselow, 1997: 1; Neeleman, 1994: 416):

(1) a. dass der Mann dem Kind das Buch zeigte (SU-IO-DO) \((German)\)
    that the-NOM man the-DAT child the-ACC book showed
    'that the man showed the book to the child'

    b. dass der Mann das Buch dem Kind zeigte (SU-DO-IO)
    c. dass das Buch der Mann dem Kind zeigte (DO-SU-IO)
    d. dass das Buch dem Kind der Mann zeigte (DO-IO-SU)
    e. dass dem Kind der Mann das Buch zeigte (IO-SU-DO)
    f. dass dem Kind das Buch der Mann zeigte (IO-DO-SU)

(2) a. dat Jan de mannen deze film toont (SU-IO-DO) \((Dutch)\)
    that Jan the men the picture shows

    b. * dat Jan deze film de mannen toont (SU-DO-IO)
    c. * dat deze film Jan de mannen toont (DO-SU-IO)
    d. * dat deze film de mannen Jan toont (DO-IO-SU)
    e. * dat de mannen Jan deze film toont (IO-SU-DO)
    f. * dat de mannen deze film Jan toont (IO-DO-SU)

As (1) shows, all six possible orders of arguments with a ditransitive verb are grammatical in German. In Dutch however, the order of arguments is generally restricted to the order SU-IO-DO. Given that German has a productive morphological case system which distinguishes different cases with both pronouns and full DPs and given that Dutch does not have such a system, it has often been assumed that the variation with respect to argument ordering shown in (1) and (2) is the result of the presence or absence of a morphological case system.

Another syntactic phenomenon that has sometimes been related to the presence of case morphology, apart from word order freedom, is the occurrence of nominal complements of adjectives. Thus, van Riemsdijk (1983: 223) points out that there appears "to be a correlation between the existence in a language of a morphological case system and the possibility for adjectives to assign case", where "to assign case" means to license the presence of an overt nominal complement. Similarly, Maling (1983: 254) suggests that "the loss of transitive adjectives in English can be seen as a consequence of the almost complete loss of morphological inflection" and she concludes that "in sum, there is a correlation between having transitive adjectives and having surface morphological case". An illustration of this correlation is given in (3) (3a from van Riemsdijk, 1983: 225).

(3) a. Der Hans ist seiner Freundin überdrüssig geworden \((German)\)
    The John is his girlfriend weary become
    'John has grown tired of his girlfriend.'

    b. * John is weary his girlfriend.
German, a language with a rich morphological case system, productively allows the presence of a nominal element in the complement position of an adjective. In English however, a language without a productive morphological case system, nominal complements of adjectives are ruled out.

The observations quoted above and the examples in (1) to (3) suggest that the occurrence of a morphological case system can have an influence on the distribution of nominal arguments. Thus, there seems to be a tendency for languages with a rich morphological case system to allow variable argument order and to license nominal complements of adjectives and for languages without rich case morphology to lack these properties. Although there are certain exceptions to these correlations, the general tendency is robust enough that, as Jespersen already observed, it is unlikely to be accidental. A theoretical explanation therefore should be available which accounts for this tendency and this is the issue that this paper will focus on. I will start by showing that the standard generative approaches to the distribution of nominal elements do not provide any insights with respect to the syntactic role of case morphology. Based on proposals made within the Minimalist framework, I will then propose an explanation for the interactions between case morphology and the distribution of nominal arguments discussed in this introductory section. Two main claims will be made. First, it will be argued that categorial properties play a much more important role for the status and distribution of the various components within a clause than has traditionally been assumed. And secondly, I will propose that there is a close connection between morphology and syntax in the sense that properties of the inflectional morphology are reflected in the syntactic structure and, as a consequence, in the syntactic processes occurring within a clause.

The paper is organized as follows. In section 2, I will discuss the status of abstract Case in the generative framework and its relation to morphological case and I will argue that the concept of abstract Case should be eliminated from the grammar. Section 3 then sketches a system in which the effects that have been related to abstract Case are derived from the categorial features of nominal elements. Section 4 shows that, once the notion of abstract Case has been eliminated from the grammar, the word order options which are generally related to morphological case can be derived in a simple way in terms of a Minimalist feature checking system. Finally, section 5 is of a more speculative nature and it discusses the notion of "richness" in the context of case morphology and the question as to how certain phenomena which are not in line with the correlations introduced in this section can be integrated into the framework proposed in this paper.

2. Abstract Case

2.1. The concept of abstract Case: two problems

Ever since Chomsky (1981) and Rouveret and Vergnaud (1980), the notion of case has played a central role for the analysis of the distribution of nominal elements within the generative literature. However, the notion of case as used in frameworks such as Government and Binding (GB) Theory and Minimalism is independent of morphological manifestation because it is assumed that every nominal element has to bear case regardless of whether this case can be represented morphologically or not. Thus, the notion of case is used in an abstract sense, and the relevant concept is abstract Case rather than morphological case. Abstract Case is then argued to play a crucial role for determining the distribution of nominal arguments within the clause structure across languages, i.e. in languages which have a rich morphological case system but also in languages which do not have such a system. The exact status of abstract Case is not identical in GB Theory and Minimalism. However, I will argue
that the concept of abstract Case raises the same two important problems within both frameworks.

The first problem that the concept of abstract Case raises is that this concept is a pure stipulation. Within the GB framework, the main aspect of Case Theory is the Case Filter which requires that every overt NP must be assigned abstract Case (Chomsky, 1981; Rouveret and Vergnaud, 1980). Although the Case Filter (plus several additional assumptions such as the status of infinitival inflection as opposed to finite inflection) has desirable consequences for the analysis of the distribution of overt NPs, it is simply a stipulated principle which does not seem to be derivable in any way. Attempts have been made to relate the Case Filter to more fundamental properties of the grammar but they are equally stipulative. In particular, it has been proposed that Case can be related to Theta Theory under the assumption that Case makes an argument "visible" for Theta role assignment (Visibility Condition, cf. Chomsky, 1986: 94, referring to Aoun) and that therefore Case is a prerequisite for Theta role assignment. However, apart from the fact that the Visibility Condition raises some empirical problems (cf. clausal arguments, expletives), it still faces the same basic conceptual problem as the Case Filter. There is no independent motivation for assuming that Theta role assignment should depend on Case assignment and the Visibility Condition is therefore by no means less stipulative than the Case Filter.

The stipulative nature of abstract Case reappears in a different form within the Minimalist Program. Within the Minimalist Program, syntactic processes are driven by the presence of features which are uninterpretable (-Interpretable) for interface interpretation and therefore have to be made invisible in the course of a derivation. Within Chomsky's (1995) version of the Minimalist Program, a feature can be rendered invisible once a local configuration (head-specifier, head-adjointed head or head-adjointed feature) has been established between the element bearing the uninterpretable feature and another element bearing a feature of the same type. This process is referred to as feature checking. Given the Minimalist assumption that feature checking is the driving force behind syntactic processes, abstract Case is expressed in terms of uninterpretable features by Chomsky (1993, 1995). Thus, Case Theory is reinterpreted in terms of checking of abstract Case features like Nominative or Accusative which are generated on heads (Nom on T, Acc on V) and on nominal constituents. As pointed out by Chomsky (1995: 278ff.), we may assume that abstract Case features are not relevant for the LF interface and therefore have to be checked by the time the derivation reaches LF. Furthermore, in languages which do not have an overt morphological case system, Case is also irrelevant at the PF interface. Hence, abstract Case features are generated on two elements (a head and a nominal constituent) although they do not play any role at all at the two interfaces. It therefore seems that their sole purpose is to be eliminated and one may therefore wonder why abstract Case features get generated at all. Chomsky's (1998, 1999) framework does not lead to an improvement here. It is argued that a Case feature activates a nominal element so that the nominal element can participate in some syntactic operation (Agree or Move; cf. 1998: 43, 1999: 4). However, it remains unclear why the presence of a Case feature should have such an effect or, in other words, why a nominal element could not simply undergo syntactic operations without bearing a Case feature. Thus, at first sight, it seems that the Minimalist version of Case Theory is equally stipulative as its predecessor within the GB framework.

Let us now turn to the second problem raised by the concept of abstract Case. Within GB and Minimalism, abstract Case is represented syntactically by Case features such as Nominative, Accusative or Dative. The relation between these abstract case features and morphological case has not been discussed in much detail in the literature, but the minimal assumption for languages with case morphology would certainly be that morphological case
is simply a morphological realization of abstract Case. But this assumption is problematic. Given such a system, languages with case morphology and languages without case morphology cannot be distinguished syntactically because syntactically represented case features are present in both types of languages. Given this parallel syntactic treatment of case, it is difficult to see how case morphology could have an influence on the syntax. Thus, the observations made in section 1 according to which the presence or absence of a rich morphological case system can have an influence on the distribution of nominal arguments seem to be problematic within a system in which case is syntactically represented in all languages.

In summary, we have seen that the theory of abstract Case raises two important problems. First of all, the basic concept of this theory, i.e. abstract Case, is a pure stipulation. And secondly, such a theory treats all languages alike with respect to case, regardless of whether case is represented morphologically or not. Hence, it seems to be difficult to account for syntactic effects of case morphology such as the ones discussed in section 1.

2.2. Avoiding the problems by eliminating abstract Case

The most obvious way to deal with the problems mentioned in the previous section would be to simply eliminate the concept of abstract Case from the grammar. This is indeed the approach that I will pursue here. Without the notion of abstract Case, we can eliminate a stipulated component of the grammar. Furthermore, once abstract Case is eliminated, languages with a morphological case system can be distinguished fairly easily from those without such a system if we assume that a rich case system is a trigger for the presence of case features which are syntactically represented. Thus, the idea would be that it is only in languages with rich case morphology that a language learner can find clear evidence for distinguishing between different cases like Nominative, Accusative or Dative and that it is therefore only in such languages that the presence of features which make this distinction is triggered. Other languages simply lack case features because there is no evidence for their existence. What we can assume then is that syntactic effects of case morphology as shown in (1) and (3a) are the result of features which are only present in languages with rich case morphology (cf. also Neeleman, 1994: 419, and Weerman, 1997, for the same basic proposal for deriving syntactic effects of morphological case).

In order to obtain the right results in terms of a system without abstract Case, the following two things are necessary: (i) A framework deriving phenomena that have been related to Case Theory from independent aspects of the grammar; and (ii) a framework in which case features can play the syntactic role necessary for deriving effects as shown in (1) and (3a). In the remainder of this paper, I will outline a system which meets both of these requirements. My analysis will be based on certain aspects of the Minimalist Program (mainly Chomsky, 1995) and it will consist of two main claims. First, in section 3, I will argue that effects of abstract Case can be derived from categorial feature checking. More precisely, I will propose that categorial feature checking has the function of establishing adequate categorial feature matrices for the interface representation and that categorial features therefore determine the distribution of elements, e.g. of nominals, within a clause. And secondly, in section 4, I will argue that Case features on heads (e.g. V or T) in languages with case morphology are uninterpretable and therefore have to be checked. Case feature checking is then the source of the phenomena shown in (1) and (3).
3. **Abstract Case as Categorial Feature Checking**

In the previous section, I argued that the concept of abstract Case raises several problems and that it therefore would be desirable to eliminate Case Theory from the grammar. However, such a move means that phenomena which have standardly been related to Case Theory have to be accounted for in a different way. In this section, I will outline a framework which does exactly that, i.e. it accounts for standard Case-theoretical phenomena independently of the concept of abstract Case. What I will propose is that abstract Case features are actually features contained within the categorial feature matrices of nominal elements. The framework proposed has relatively far-reaching consequences but, given that the main goal of this paper is to account for syntactic effects of morphological case, I will not be able to pursue these issues in any detail here. Instead, I will only focus on the main issues that will be crucial for the analysis of cases involving morphological case such as the ones shown in (1) to (3) (but cf. Haeberli, 1998, 1999: chapter 2, 2000, for more details on categorial feature checking).

### 3.1. The proposal

For my analysis of phenomena that have been dealt with in terms of Case Theory, I will pursue a proposal made by Chomsky (1995) for dealing with the Extended Projection Principle (EPP). Chomsky (1995) reanalyses the EPP as an uninterpretable categorial D feature on T (Infl). I propose now that, by analogy, we can assume that D bears an uninterpretable T-feature. Such an assumption immediately accounts for one phenomenon that has generally been related to Case within the Minimalist framework, namely object movement out of the VP in Icelandic or Dutch as illustrated in (4).

(4)  
\begin{align*}
\text{a.} & \quad \text{Hann las} \textit{ ekki bækurnar} \quad \text{(Icelandic)} \\
& \text{He read not books-the} \\
\text{b.} & \quad \text{Hann las} \textit{ bækurnar ekki} \\
& \text{He read books-the not} \\
\text{c.} & \quad \text{Jan heeft} \textit{ gisteren Marie gekust} \quad \text{(Dutch)} \\
& \text{John has yesterday Mary kissed} \\
\text{d.} & \quad \text{Jan heeft} \textit{ Marie gisteren gekust} \\
& \text{John has Mary yesterday kissed}
\end{align*}

According to standard Minimalist analyses, (4b) and (4d) are the result of object movement to AgrOP for Case checking. In terms of the proposal made above, the object DP moves to TP for categorial T-feature checking. Assuming that the subject also has to move to TP for categorial feature checking (in 4 possibly before moving on to AgrSP or CP), we can analyze (4b) and (4d) as object movement to the lower [Spec, TP] for T-feature checking in a multiple specifier configuration.

Given the above proposal, an uninterpretable categorial T-feature on D replaces the abstract Case feature used in standard Minimalist analyses (cf. also Emonds, 1985: 52ff., for interpreting abstract Case as categorial features and Pesetsky and Torrego, 2000, for analyzing Case as uninterpretable T on D³). But although such a proposal allows us to eliminate the concept of abstract Case, the problem raised in section 2.1 is not solved yet. At first sight, it looks as if the categorial T-feature on D was just another feature whose presence is entirely unmotivated. If this was indeed the case, categorial feature checking would be no genuine conceptual improvement as compared to abstract Case feature checking. However, I
will argue that categorial feature checking is independently motivated, namely by the way in which syntactic categories are defined, and I will propose that effects of abstract Case can be reanalyzed as an interaction of the theory of syntactic categories and of checking theory.

In order to obtain this result, I will make use of the theory of syntactic categories which goes back to Chomsky (1970) and which has been adopted in much subsequent work. Chomsky (1970: 208) argues that "there is no reason to retain the notion of category" and that we therefore "might just as well eliminate the distinction of feature and category, and regard all symbols of grammar as sets of features". Thus, syntactic categories should be analyzed as combinations of features rather than as theoretical primitives. This proposal is made more explicit in later work of Chomsky's (Chomsky, 1974). Chomsky proposes that syntactic categories can be defined on the basis of the features V and N and that therefore V, N or A are defined as follows (cf. also e.g. Stowell, 1981).4

(5) a. verb: \([-N, +V]\]
b. noun: \([+N, -V]\]
c. adjective: \([+N, +V]\]

I will propose now that feature matrices as illustrated in (5) are the source for categorial feature checking within the Minimalist Program. Consider for example the feature matrix of a verb. A verb must be specified as being verbal and as not being nominal. What we could assume then is that not being nominal actually means that the nominal feature in the verbal feature matrix is uninterpretable and that it therefore has to be eliminated, or, in other words, it has to be checked. Thus, the central assumption is that categorial feature matrices always start out with positive values (e.g. \([+N, +V]\) for lexical categories) and that the adequate feature matrices for particular categories are established through checking in the course of a derivation. A verb for example starts out with an uninterpretable N-feature that has to be checked or a noun has a V-feature that has to be checked so that the adequate categorial status is established for the interfaces. As for the interpretability of categorial features, I will assume that the crucial aspect is PF interpretability rather than LF interpretability. I will return to this point in section 3.2.2 below.

The approach proposed above according to which the content of categorial feature matrices is established in the course of a derivation depends on two main assumptions. First, when a categorial feature matrix is inserted in the derivation, its features must be specified as to whether they are interpretable or not, i.e. as to whether they have to be checked (i.e. eliminated) in the course of the derivation or not.5 And secondly, the format of the clause structure must be examined at the interfaces with respect to the categorial feature matrices. In other words, there must be an interface filter which determines whether the clause structure has been built adequately during the derivation or not. It should be pointed out though that both of these assumptions could be avoided if the underlying motivation for categorial feature checking was conceived in a slightly different way (cf. Haeberli, 1999: 78ff., 2000: section 6). However, it would go beyond the scope of this paper to pursue this alternative option here, and my discussion will therefore be based on the assumptions made in this paragraph.6

The proposals made above for N and V can then be extended straightforwardly to D and T if we assume that these categories are defined in a way which is parallel to what we have seen for lexical categories. Thus, D is defined as \([+D, -T]\) (at least partly, cf. section 3.2.2 below) and T has the categorial feature specification \([-D, +T]\). In order to be specified as \([+D, -T]\), a DP has to check its T-feature in the course of a derivation. Hence, categorial T-
feature checking as proposed in the introductory paragraph for DP-movement in (4) is necessary for obtaining an adequate feature matrix for the DP.

In summary, I have proposed that Case Theory can be replaced by a more general system for defining syntactic categories in which adequate categorial feature matrices are obtained through checking in the course of a derivation. The basic idea is that, apart from a variation due to the lexical/functional distinction, every syntactic category initially consists of the same set of categorial features and that a specific category only gets defined in the course of a derivation by entering categorial feature checking relations with other elements. The main consequence of this proposal for our purposes here is that abstract Case features can be reanalyzed as uninterpretable verbal features (V, T) in the feature matrices of nominal constituents. Compared to abstract Case features, uninterpretable verbal features have the advantage that their existence is independently motivated since they also occur in an interpretable form as features defining verbal elements. Thus, the first problem raised for the concept of abstract Case in section 2 can be avoided here since we do not simply have to stipulate the existence of some feature whose sole function is to be eliminated again. Note however that the framework outlined here also has another important consequence. As pointed out in the introduction to this section, categorial feature checking first was introduced by Chomsky (1995) in the context of the EPP and the assumption is that the EPP is the result of an uninterpretable D-feature on T. But in Chomsky's analysis, it is entirely unclear why T should bear an uninterpretable D-feature. However, in this respect, Chomsky's (1995) analysis of the EPP does not differ from earlier analyses because the EPP has never been derived in a satisfactory way. In terms of the system proposed here however, the presence of a D-feature on T can be related to the theory of syntactic categories because T has to check a D-feature in order to obtain the adequate categorial status. In other words, abstract Case and the EPP are simply two sides of the same coin, namely categorial feature checking for obtaining adequate categorial feature matrices. Thus, the more general result of the proposals made here is that we have eliminated two stipulated components of the grammar (Case Theory and the EPP) by combining two independently motivated components, i.e. the theories of syntactic categories and the theory of checking.

3.2. Some theoretical assumptions

The prominent role that the theory of syntactic categories and checking theory play in the system outlined in section 3.1 means that some general issues related to these two theories have to be made more precise before we can consider additional consequences of this system for our analysis of case. In this section, I will address the main issues which will be relevant for our later discussion.

3.2.1. Checking Theory

The model of the grammar that I will use for my analysis of checking is Bobaljik's (1995) and Groat and O'Neil's (1996) Single Output Model which postulates that a derivation produces a single syntactic structure and that this structure is fed both to the LF interface and to the PF interface (cf. Haegerli, 1999: 39ff., 2000: section 4.3, for a discussion of the reasons for choosing this model within the framework proposed here). For the purposes of categorial feature checking, the Single Output Model means that the LF and the PF component both only have access to categorial feature matrices which cannot be modified through subsequent checking any more and which therefore have been entirely specified. The Single Output Model is illustrated in (6) (from Bobaljik, 1995: 349).
As for feature checking, I will adopt the main points outlined within Chomsky's (1995) Minimalist system:

(i) Checking makes an uninterpretable feature invisible. The motivation for checking is Full Interpretation (FI) in the sense that checking eliminates uninterpretable, i.e. superfluous symbols from interface representations.

(ii) The main checking configurations are (a) Spec-head configurations and (b) head-head configurations.

(iii) Checking operates through attraction of the closest element which can satisfy the checking requirements.

Here, I will make some additional assumptions with respect to each of the above points.

(i) Feature checking is an asymmetric process. One element has a feature that needs to be checked, the other one acts as a checker. This assumption excludes the possibility that two uninterpretable features check each other. Within Chomsky's (1995) system, mutual checking is allowed, but this option only seems to be necessary for Case checking. Since the framework proposed here does away with abstract Case features, it also does not seem to be necessary to maintain the option of mutual feature checking. Instead, feature checking can be defined simply as a uniform process involving one checker and one checkee.

(ii) Chomsky (1995) distinguishes between XPs in specifier positions and XPs in complement position in the sense that only the former can enter checking relations. However, as discussed by Bobaljik (1995: 312ff.), there does not seem to be a principled reason for ruling out feature checking between a head and its complement within Chomsky's system and the distinction between specifiers and complements with respect to feature checking is unmotivated. I will therefore assume that this distinction proposed by Chomsky should be eliminated and that therefore heads and their complements (and hence for example verbs and base-generated objects) can enter checking relations (cf. Bobaljik 1995 for a more detailed discussion of some consequences of this proposal). This assumption together with a "bare phrase structure" type of syntactic structure (cf. Chomsky, 1995: 242ff.) allows a simple and unified definition for checking configurations (vs. Chomsky's, 1993: 11, 1995, definition of "checking domain"). In particular, if we assume that feature specifications are identical at every level within a projection, a checking configuration can simply be characterized as a configuration of immediate dominance because the feature that triggers attraction occurs on a node which immediately dominates the attracted element regardless of whether checking occurs with an element in a specifier position or in a complement position or in a position which is adjoined to the head.

(iii) If we consider the process of feature checking in terms of attraction, we basically can identify three distinct steps:
I. An uninterpretable feature selects the closest interpretable feature of the same type (cf. i). The structural relation required can be defined as a dominance relation if we assume again that feature specifications are identical at every level within a projection. Such a proposal captures the c-command condition for movement chains, i.e. it ensures that an element which is in a position which is lower in the tree does not attract an element from a higher position and thereby triggers a lowering operation. Thus, the main result is that a checking relation is always initiated by an uninterpretable feature occurring on a dominating node in the structure and never by a lower feature. However, I will assume that once a checking relation is initiated the lower element can also select features of the higher element to check its own uninterpretable features ("free riders", cf. also point III below).

II. The second step in the feature checking process is that the checker gets attracted. In other words, the relation of dominance is changed into the more local relation of immediate dominance (cf. (ii) and (iii.1) above).

III. And finally, the checking relation is established. This means first of all that the attracting feature is eliminated by the attracted element. But I will also assume that once a checking relation is established, additional uninterpretable features can be checked, in particular also uninterpretable features on the attracted element (as "free riders", cf. e.g. Chomsky, 1995: 268, 282).

Having made checking theory more precise, let us now reconsider the theory of syntactic categories.

3.2.2. The theory of syntactic categories

In section 3.1 above, I have given a general introduction to the theory of syntactic categories that I am assuming here. Thus, the main idea is to adopt a system in which categories are defined in terms of feature matrices along the lines of Chomsky (1970) and much subsequent work but to interpret this system as a system in which the adequate categorial feature matrices only get established through checking in the course of a derivation. In this section, I will briefly discuss some additional issues that arise with functional categories and with the interpretability of categorial features.

The functional feature matrix for D and T proposed in section 3.1 only focuses on functional features. However, it has been proposed in the literature that functional feature matrices do not only consist of functional features but that they consist of both lexical and functional features. Thus, Grimshaw (1991) and van Riemsdijk (1990) both propose that functional feature matrices contain lexical feature values (N and V) plus a functional feature value F. Thus, D would have the feature matrix of a noun ([+N, -V]) plus a feature F or T would have a feature matrix of a verb ([N, +V]) plus a functional feature F. I will adopt here Grimshaw's and van Riemsdijk's proposals according to which lexical features are part of functional feature matrices. However, I will also maintain the proposal made in section 3.1 that, by parallelism to the lexical features, there are two types of functional features. Thus, we obtain a nominal functional feature F(N) and a verbal functional feature F(V). For concreteness' sake, I will refer to the former as D and to the latter as T. D and finite T can then be defined as follows:

(7) a. D: [+D, -T; +N, -V]  
b. T: [-D, +T; -N, +V]
An additional issue that arises with respect to functional categories is what the status of the numerous additional functional categories is that have been proposed in the recent literature, such as Agr, Asp or Neg. It does not seem to be possible to define each of these categories in terms of the inventory of categorial features assumed so far. Assuming for the moment that the presence of projections headed by elements such as Agr, Neg or Asp are indeed necessary for the analysis of certain phenomena, the most straightforward way for integrating such elements into the system proposed here would be to propose that they actually start out as features on categories which are defined in terms of the inventory of categorial features assumed so far, for example on V or T in the case of functional categories in the clausal domain. As for the realization of specific projections, I will assume, along the lines of a proposal made by Nash and Rouveret (1997), that such projections are created through proxy categories, i.e. functional heads which have no features of their own and which are created only in the course of the syntactic derivation. A proxy projection then becomes for example an Agr projection through movement of an Agr feature from its host head (e.g. T) to the proxy category. For our purposes, the concept of proxy category will have desirable effects for the analysis of argument order variation in languages with rich case morphology (cf. section 4).

The general picture that we have obtained then is that there is a pool of four categorial features (two lexical features (N/V) and two corresponding functional ones (D/T)) which get combined in categorial feature matrices in such a way that they define the basic cornerstones of the clause structure (TP-VP and DP-NP). Then, each of these feature matrices can be associated to more specific features (e.g. Agr or temporal features such as Past for T etc.). Thus, the categorial feature matrices are the anchoring points for other features.

The last point that I will address here is the issue of interpretability of categorial features. In section 3.1, I argued that some categorial features are uninterpretable and others are interpretable and that by eliminating the uninterpretable features in the course of a derivation we obtain the adequate categorial feature matrices for the interfaces. The question that arises then is to what extent features like V or N are interpretable. Here I will follow Déchaîne and Tremblay (1998) who observe that the correspondence between concepts and categories is variable crosslinguistically and sometimes within a language and who therefore argue that categorial features are not semantically rooted and hence not interpreted at LF. Categorial features are therefore purely morphological features. In terms of the model of the grammar shown in (6), this means that categorial feature matrices are only interpreted by the PF wing of the grammar which includes a morphological component. Thus, interpretability of categorial features refers to interpretability for the PF component. And more generally, this proposal means that for a feature to be considered as interpretable during a derivation it simply has to be interpretable at least for one of the two interfaces. An uninterpretable feature however is a feature which cannot be interpreted by any of the two interfaces. Given the model in (6), a derivation thus produces a single representation and all the elements contained in this representation must be fed to at least one of the two interfaces. Features which are interpretable only for one of the two interfaces are simply fed to the interface for which they are interpretable but not to the other one. As we will see in section 4, this assumption will also be important for the analysis of morphological case.

3.3. Replacing abstract Case by categorial feature checking

Having made certain theoretical background assumptions more precise, we now can return to the reanalysis of abstract Case in terms of categorial feature checking. In the following subsections, I will show how categorial feature checking derives a few basic phenomena
which have generally been related to abstract Case within the generative literature and which will be important for our discussion of morphological case. For a discussion of many additional phenomena the reader is referred to Haegerli (1998, 1999: chapter 2, 2000)

3.3.1. Licensing of subjects of finite clauses

Consider first the simple case of a nominal subject of a finite clause as shown in (8).

(8) Steve scored again.

In terms of the GB Case Theory, (8) is grammatical because finite T can assign Nominative Case (NOM). Assuming that subjects are generated VP-externally, the subject moves to [Spec, TP] and then can satisfy the Case Filter due to Case assignment by T. Within Chomsky's (1995) version of Minimalism, both finite T and the subject DP bear an uninterpretable abstract NOM Case feature and after subject movement to [Spec, TP] these features are checked. Given that no uninterpretable features remain, the derivation converges.

In terms of categorial feature checking, the situation is the following. Finite T, being defined as a category whose sole uninterpretable categorial features are T and V (cf. 7a above), has to attract a nominal element for eliminating, i.e. checking, its uninterpretable D- and N-features. In (8), finite T attracts the subject DP and thus can check its D- and N-features. This checking relation can then also be used by the DP for checking its own uninterpretable T- and V-features (cf. 7a) against the interpretable T- and V-features of finite T. DP-movement to TP therefore licenses the categorial feature matrix of both the TP and the DP. The notion of abstract Case is therefore not needed in terms of such a framework.

3.3.2. Licensing of objects of V - overt vs. non-overt object movement

Let us now consider the licensing of nominal complements of V. In the standard GB analysis, nominal complements of V are licensed because V assigns Accusative Case (ACC) to its complement. Within Chomsky's (1995) version of the theory of abstract Case, the licensing of complements of V is slightly more complex. The assumption is still that V bears an ACC feature but in addition it is assumed that this ACC feature has to be checked by the object DP's ACC feature in a specifier-head relation at some stage of a derivation, i.e. overtly or non-overtly depending on whether feature checking takes place before or after Spell Out. The overt/non-overt distinction is motivated on the basis of contrasts as shown in (4) above and repeated below in (9) for Icelandic.

(9) a. Hann las bækurnar ekki He read books-the not
    b. Hann las ekki bækurnar He read not books-the books-the

According to numerous analyses within the Minimalist framework, the object in (9a) has moved out of the VP past negation for overt ACC checking either in [Spec, AgrOP] or in an outer specifier of vP. In (9b) however, the object remains in its VP-internal base position and ACC is checked non-overtly.

Let us consider (9) now in the light of categorial feature checking. When an object DP is inserted in the derivation, it merges with a V-head. This V-head has an uninterpretable N-feature, and it therefore selects the N-feature of the object DP as its feature checker. At the same time, the object can select the V-feature of the V-head for its own uninterpretable V-feature (cf. 7a). However, the object DP also has an uninterpretable T-feature. I will propose
now that the presence of this T-feature prevents the DP from entering a categorial checking
relation with V at this stage of the derivation. Thus, we may assume that the functional
features have priority over the lexical features within a functional feature matrix and that the
lexical features therefore only become accessible for checking once the functional features
have been checked.10 Thus, N on DP is selected by N on V but checking cannot take place
right after the DP and V have merged. For the lexical features on the object DP to become
accessible, T on DP has to get checked and this is only possible if the object moves to TP.

But how can the DP move to TP now? Maintaining the Minimalist overt/non-overt
contrast, we can distinguish two options. First of all, I propose that overt object movement as
in (9a) is the result of multiple attraction by D on T. Thus, the uninterpretable categorial D-
feature on T can function as a multiple attractor and attract an object DP after having already
attracted the subject DP (cf. section 3.3.1), thereby creating a multiple specifier configuration
in TP. As for the motivation for reactivating D on T, I propose that it is related to the
presence of the uninterpretable N-feature on V which has selected the object DP as a checker
and which, through head movement to T, now occurs within the complex T-head. Thus, the
idea is that uninterpretable D on T always attracts in combination with an uninterpretable N-
feature and that it therefore can attract more than once if more than one N-feature is available
within the T-head. First, D on T attracts the subject in combination with uninterpretable N in
the feature matrix of T, then it can be reactivated if an additional uninterpretable N-feature
occurs within the complex T-head. Once D on T is reactivated due to presence of
uninterpretable N on V, the object DP can move to the lower specifier position of TP.
Reactivated D on T, T and V on the object DP and N on V then can all get checked under
TP.11 As for non-overt movement as in (9b), I propose that it applies when D on T does not
get reactivated. Instead, we may assume that it is simply N on V which, after V-movement to
T, attracts the DP to TP. This result can be obtained either by assuming that the DP also
moves to a specifier position of TP but that it leaves its phonological features behind (cf. e.g.
Groat and O’Neil, 1996, for an analysis of non-overt movement in these terms) or by
assuming that N on V merely triggers non-overt head movement (cf. Haeberli, 1999: 75ff.,
2000) or feature movement (i.e. movement of the categorial features to the T-head along the
lines of the proposals made by Chomsky, 1995). For our purposes, it is not crucial what type
of analysis we adopt for non-overt movement.

Before we turn to another issue that has been related to Case Theory, it should be
pointed out that the analysis of overt object movement as in (9a) in terms of multiple
attraction to TP has two desirable consequences. First of all, it has often been observed that
argument movement out of the VP generally leads to crossing paths rather than to nesting (cf.
e.g. Chomsky, 1993; Haegeman, 1993; Collins and Thráinsson, 1996). In other words, the
base order of arguments generally seems to be preserved after movement. This ordering
restriction found with argument movement out of the VP follows directly from the multiple
[Spec, TP] analysis of object movement if we adopt proposals made by Mulders (1997) and
Richards (1997). Both of these authors argue that in multiple specifier configurations the first
element that gets attracted moves to the highest specifier position, the next element to the next
lower specifier, the next element to the next lower specifier and so on. This ordering can be
motivated in terms of the Shortest Move condition because the lowest specifier position is
always the closest one for an element that moves into a multiple specifier configuration.
Thus, if there are three arguments that get attracted by D on T, they occur in exactly the same
order as within the VP (subject-indirect object-direct object). The reason for this is that for
example DO movement for obtaining a S-IO-DO order involves a shorter movement than
DO movement for obtaining a DO-S-IO order because the latter order would involve DO
movement past the specifier positions occupied by the subject and the IO. Thus, in terms of
closeness (and hence economy) of movement the S-IO-DO order is preferred over the DO-S-IO order and economy conditions therefore impose the S-IO-DO order.

A second property of object movement which can be argued to follow directly from the analysis proposed above is the fact that object movement out of the VP is generally restricted, as it has often been observed in the literature (cf. e.g. Diesing, 1992, 1996; Enç, 1991; de Hoop, 1992; Laka, 1993; illustrations in (10) from Diesing, 1996: 75; de Hoop, 1992: 138/9).

(10) a. Hann las *ekki bækur
    He read not books
    (Icelandic)

b. ?* Hann las bækur ekki

c. dat de politie *gisteren taalkundigen opgepakt heeft
    that the police yesterday linguists arrested has
    (Dutch)

d. * dat de politie taalkundigen gisteren opgepakt heeft

In (10), the bare plural object cannot undergo movement past a VP-peripheral element. The conclusion that has often been drawn on the basis of data like the ones in (10) as compared to those shown in (4) or (9) is that object movement past a VP-peripheral adjunct is only possible for what can roughly be characterized as specific objects and that objects with an existential (i.e. non-specific) interpretation cannot move out of the VP. However, Laka (1993) argues that the crucial factor determining movement in cases like (10) is not a semantic notion like specificity as such, but rather the categorial status of nominal arguments. Laka proposes that objects which have to remain in their base position are NPs whereas objects which can move out of the VP are DPs. Exactly the same proposal has been made independently by Philippi (1997: 68ff.) (cf. also Chomsky, 1995, on the NP/DP distinction in the context of expletive-associate constructions). Thus, in (10) the objects are NPs and cannot move out of the VP whereas in (4) and (9) the objects are DPs and they can move out of the VP.

If we adopt this analysis, the categorial feature checking system proposed here provides a simple explanation for the movement contrasts among different types of objects. When an NP is merged with a verb, the verb’s N-feature can be checked immediately by the NP’s N-feature (hence [-N, +V]) whereas the NP is specified as [+N, -V] through V-feature checking by the verb. The NP’s and the VP’s feature matrices are therefore correctly established VP-internally. Given that the object does not have an uninterpretable T-feature that has to be checked, there is simply no motivation for moving the object to TP and this movement therefore can be argued to be ruled out for reasons of economy - hence for example the ungrammaticality of (10b) and (10d). Or alternatively, since we have linked overt object movement to multiple attraction by D on T, (10b) and (10d) can be ruled out because an object NP, which lacks a D-feature, simply cannot get attracted by D on T. As for DPs however, they have an uninterpretable T-feature and they can be attracted by D on T. They therefore can move out of the VP as shown in (4) and (9).

To summarize this subsection, I have proposed an analysis of object movement out of the VP in terms of multiple attraction by the categorial D-feature on T in combination with an unchecked N-feature of V. This analysis replaces the abstract Case analysis that has generally been assumed within the Minimalist framework. Furthermore, combined with proposals made independently by Mulders (1997), Richards (1997), Laka (1993) and Philippi (1997), the analysis provides a simple explanation for ordering and referential restrictions that can be observed with object movement out of the VP.
3.3.3. N/A do not assign structural Case

Let us finally turn to another phenomenon which has been related to abstract Case in the literature, namely the absence of nominal complements of N and A.

(11) a. * The coach is proud Steve.
    b. * The description Steve was inadequate.

In terms of the GB theory of abstract Case, the examples in (11) have been accounted for under the assumption that structural Case can only be assigned by [-N] categories. This proposal accounts for the fact that in (11) nominal elements cannot be licensed by the [+N] categories A ([+N, +V]) and N ([+N, -V]). However, since abstract Case is an independent property which is not related in a clear way to categorial features, the restriction of structural Case assignment to [-N] categories is accidental within the GB framework. In other words, there does not seem to be any reason why [+N] categories should not have the capacity to assign structural Case. Thus, the restriction of structural Case assignment to [-N] categories is simply a description of the facts. The Minimalist version of Case Theory does not lead to any improvement here. It remains unclear why A or N could not bear a structural Accusative feature against which the Case feature of a nominal constituent could be checked.

Within the framework proposed here, the fact that examples like (11a) or (11b) are ungrammatical can be derived from the categorial feature matrices of A and N. A and N simply do not have the adequate feature matrices for initiating a categorial feature checking relation with nominal complements and hence for allowing nominal complements to check their uninterpretable categorial features. N, being defined as [+N, -V], cannot initiate a checking relation with a nominal complement because a nominal complement does not have the capacity of checking the uninterpretable V-feature of N, given the proposal made in section 3.2.1 (point i) according to which checking always requires an interpretable feature. The result is that the nominal complement also cannot check its own uninterpretable V-feature and its feature matrix therefore cannot be specified adequately by the time the derivation reaches the interfaces. As for A, being defined as [+N, +V], it does not initiate a feature checking relation because its feature matrix does not contain any uninterpretable features. Furthermore, based on the c-command condition on movement chains, I proposed in section 3.2.1 (cf. point iii.I) that only dominating features initiate feature checking relations. Hence, the nominal complement of A also cannot initiate a feature checking relation with A because the nominal complement does not dominate A. A nominal complement of A therefore cannot check its uninterpretable V-feature against the V-feature of A and again the feature matrix of the nominal element cannot be specified adequately for the interfaces.1314

In summary, the contrast between V and A/N with respect to the licensing of nominal complements follows from the categorial feature specifications within the framework proposed here. Only V has the adequate categorial feature matrix for entering a checking relation with a nominal complement and for enabling the nominal complement to check its own uninterpretable verbal feature. A and a nominal complement simply do not enter a checking relation at all because the dominating element (A) does not have any uninterpretable features which would initiate a checking relation. N and a nominal complement both have exactly the same checking requirements (i.e. checking of an uninterpretable V-feature) and they therefore also cannot enter a checking relation.
4. DERIVING SYNTACTIC EFFECTS OF MORPHOLOGICAL CASE

In section 3, I argued that standard phenomena which have been dealt with in terms of the theory of abstract Case can be reanalyzed in terms of categorial feature checking. As a matter of fact, in some instances we have seen that categorial feature checking is not a simple reinterpretation of Case-theoretic analyses but that categorial feature checking derives certain effects in a less stipulative way than Case Theory (cf. e.g. the absence of nominal complements of A and N or the occurrence of ordering and referential restrictions on object movement). Let us therefore assume then that abstract Case can indeed be dispensed with. In this section, I will argue that such a conclusion is also desirable from the point of view of the analysis of syntactic phenomena which have traditionally been related to the presence of a morphological case system, such as argument order variation or the occurrence of nominal complements of adjectives (cf. section 1).

Within a system which does away with the concept of abstract Case, we simply can assume that in languages in which case does not play a role, case is also not syntactically represented. But what about languages which have a rich morphological case system? The question that arises is what the status of morphological case is in the grammar of such languages. Two aspects have to be distinguished here, namely the case on nominal constituents and the source of this case. Let us start by considering the former aspect, i.e. the case on nominal constituents. Within the system proposed here, morphological case can be conceived of as a morphological reflex of uninterpretable V-features on nominal elements. Thus, the idea would be that the reason why morphological case on nominal elements exists at all is that nominal elements contain verbal features which get eliminated in the course of a derivation and that morphological case is basically a phonologically realized remnant of this feature. But at PF, different types of cases have to be distinguished. Therefore propose that the V-features of nominal elements are linked to a case feature which is syntactically represented (e.g. NOM, ACC, DAT). These features then determine the morphological shape of the nominal element and they therefore have to be available at PF. But for these features to be available at PF means that they are preserved throughout the derivation, i.e. they are +Interpretable at least for PF. As for LF, I will assume here that case features like NOM, ACC or DAT do not get interpreted by that interface. The main reason for this is that these cases are often not transparent semantically, and the simplest assumption would therefore be that LF does not interpret them, i.e. that cases like NOM, ACC or DAT are a purely formal property. Thus, case features have the same status as categorial features because, as proposed in section 3.2.2, categorial features also only get interpreted by the PF component. Hence, I will consider case features on nominals as +Interpretable in the sense of being interpretable for at least one of the interfaces.

Let us now consider the source of morphological case and hence of the case features on nominals. The case of a nominal element of course depends on its context. Thus, for example the object of a German verb like helfen (‘to help’) is marked as Dative, whereas the object of a verb like unterstützen (‘to support’) is marked as Accusative. The way in which I will express this contextual information is by means of case features. Thus, the idea would be that not only the V-features on nominal elements are linked to case features but also V-features on V and T. For example in a language like German, V on T is linked to NOM whereas V in verbs is linked to either ACC, DAT or GEN. What is important now is that these features are entirely uninterpretable. They do not contribute anything to the semantic interpretation (LF) nor to the phonological output (PF). Hence, if, as proposed in section 3.2.2, only features which are interpretable for at least one of the two interfaces are legitimate at the end of a derivation, then case features on verbal elements have to be eliminated, i.e. checked, and
they are attractors. Case features on nominals however are, as proposed above, +Interpretable at PF. They therefore can act as checkers for the case features on heads and can get attracted by them.17

Given these assumptions concerning the role of morphological case in languages with a rich morphological case system, the syntactic effects of case morphology discussed in section 1 can now be accounted for. Let us start with the contrast between German and Dutch with respect to the distribution of nominal arguments, as illustrated in (1) and (2) above. Dutch does not have a rich morphological case system. Furthermore, I have argued in section 3 that abstract Case does not exist. Hence, we conclude that case does not play a role in the grammar of Dutch and that there are therefore no case features which are syntactically represented. Argument movement out of the VP thus can only occur for the purposes of categorial feature checking, but, as argued in section 3.3.2, such movement always preserves the underlying order of arguments. Hence, given a base order SU-IO-DO, this order cannot be changed even if one or more of the arguments move out of the VP for categorial feature checking because the highest argument always gets attracted first, then the second one to the next lower specifier and so on. The result is that, as shown in (2) above, the order of arguments is rigid in Dutch regardless of whether arguments stay VP-externally or whether they move to TP for categorial feature checking.

What about German now? German has a rich morphological case system with case distinctions on both pronominal and nominal elements. Given the proposals outlined earlier in this section, I will assume that the presence of a morphological case system triggers the presence of a system of syntactically represented case features whose role is to determine the specific morphological case borne by a given nominal element. These case features occur in a +Interpretable form on nominal elements and in an uninterpretable form on verbal elements. Thus, there are two types of attractors which determine argument distribution: categorial features and case features. The crucial features for our purposes are the case features because they allow the distinction of the different arguments (NOM attracts NOM, ACC attracts ACC etc.) and because they therefore can be argued to be the source of argument reordering.

The proposal that I will make for accounting for argument order variation in German as shown in (2) is the following. First, we may assume that categorial features attract nominal arguments to TP as in Dutch. Thus, D on T attracts the subject in combination with N on T but it also can attract objects in combination with unchecked N-features which have been moved to T as the result of V-movement. These movements check the categorial features on T, V and the arguments but the result is the same as in Dutch, i.e. the arguments occur in the same order as in the VP. However, at this point there are still additional features in T, namely the uninterpretable case features NOM, ACC and DAT. I propose now that these features create independent checking configurations and that this result is obtained through the creation of proxy categories above TP (cf. Nash and Rouveret, 1997).18 As discussed in section 3.2.2, proxy categories are functional heads which have no features of their own and which are created only in the course of the syntactic derivation. A proxy projection then becomes a specific feature checking projection through movement of some feature which requires checking to the proxy head. Thus, the presence of case features in T licenses the creation of proxy projections above TP. Once the first proxy projection has been created above TP, a feature has to move from T to the proxy head for determining the feature checking relation that has to be established in this projection. Three case features are available under T at this point, NOM, DAT and ACC. What is crucial now is that there is no reason for preferring one feature to another one with respect to movement to the proxy head since the three features all occur under T. And as there is no reason for preferring one
specific feature to another one, any feature can move to the first proxy head. Suppose that DAT moves first. This means that the uninterpretable DAT feature attracts the DAT argument (the IO) to the specifier position of the proxy projection and the verbal DAT feature is checked. Then another proxy category is created for checking a different case feature. Two case features are remaining, namely NOM and ACC. Again, there is no reason for preferring one to the other for movement to the proxy head, and any choice is possible. Suppose then that it is NOM which moves now. Thus, NOM attracts the subject to the specifier position of the proxy projection and NOM is checked by the subject's interpretable NOM feature. Finally, another proxy head is created for the remaining case feature, i.e. ACC, and the DO gets attracted to the specifier position of this projection for ACC checking. The result of this derivation is the order DO-SU-IO as shown in (1c). But since movement of the case features to the proxy heads is not restricted, any other of the six orders shown in (1) can be derived. If NOM is checked first, then ACC and finally DAT, we obtain the order IO-DO-SU as shown in (1f) and so on. Thus, the presence of case features leads to the free ordering of arguments in a language like German. And since I have related the presence of case features to morphologically visible evidence for a productive case system, we can account for the correlation between free argument order and the presence of a morphological case system.

Let us now turn to the second phenomenon discussed in section 1 which has been related to the presence of a morphological case system, i.e. the licensing of nominal complements of adjectives. As shown in section 3.3.3, the ungrammaticality of nominal complements of adjectives in languages like English (cf. example 3b) can be accounted for in terms of categorial feature checking. Being defined in terms of a positive feature matrix ([+N, +V]), adjectives are not attractors. Hence, they do not initiate a checking relation with their complements and a nominal complement therefore cannot check its uninterpretable verbal feature. But what about languages with case morphology and hence with case features now? In such languages, adjectives can assign specific cases (e.g. in German basically DAT or GEN). Hence, A can bear a case feature and, more precisely, we may assume that V in the feature matrix of A is associated to a case feature in the same way that V on T or V in the verbal feature matrix is. Like case features on V and T, this case feature is also uninterpretable and it therefore has to be checked. This is the crucial point now that distinguishes languages with and without a case system. The presence of a case feature introduces an uninterpretable feature in the feature matrix of A. A thus has to act as an attractor, i.e. it has to enter a checking relation with its complement so that its case feature can be checked. As a side effect of this checking relation ("free rider", cf. section 3.2.1 points (iii.I) and (iii.III)), a nominal complement of A can also select the V-feature on A as a feature checker and use this feature as a checker exactly like a nominal complement of a verb can use the V-feature of the verb for checking its uninterpretable V-feature. Thus, nominal complements of A are licensed in languages with case morphology due to the checking relation initiated by the case feature on A.

In conclusion, the picture we have obtained now for explaining syntactic effects of morphological case is the following. First of all, I have argued that the notion of case does not play a role in languages without a morphological case system. The result is that the licensing of nominal arguments is only determined by categorial feature checking and categorial feature checking has the effect that arguments always occur in the same order even if they move out of the VP and that nominal complements of adjectives are not licensed. However, for languages with a morphological case system, I have proposed that the source of the specific morphological cases on nominal elements is a case feature system consisting of syntactically represented uninterpretable case features related to V-features on verbal
elements and of syntactically represented PF-interpretable case features related to V-features
on nominal elements. The uninterpretable case features then license argument order variation
and nominal complements of adjectives through the feature checking relations that they enter
with nominal elements. Syntactic variation between languages with case morphology and
without case morphology can thus be related to the following parameter:

(12) Case is syntactically represented: Yes/No
Yes: If a language has a rich morphological case system.
No: If a language does not have a rich morphological case system.

The system that we have obtained now is in line with proposals made by Bobaljik (1995),
Bobaljik and Thráinsson (1998) and Thráinsson (1996) in a different context. These authors
argue that the syntactic representation of agreement is also closely related to morphological
properties (i.e. to the status of verbal agreement morphology within a given language). The
proposals made in this section thus can be seen as supporting a more general hypothesis
concerning the language faculty, i.e. the hypothesis that morphological properties have a
crucial influence on the format of the syntactic structure.

5. SOME ADDITIONAL ISSUES

Before concluding this paper, I will briefly speculate on two additional issues which arise in
terms of the analysis proposed in the previous section. First, I will address the question as to
what characterizes a language as a language with a rich morphological case system. And
secondly, I will consider two main exceptions to the correlations between case morphology
and syntactic properties discussed so far and I will show how these exceptions could be
integrated into the framework proposed in this paper.

5.1. What is a "rich morphological case system"?

Given the distinction between languages with a rich morphological case system and
languages without such a system, we may wonder exactly how we can draw the distinction
between these two types of languages. A precise answer to this question would require a
detailed study of various languages, but I will have to leave this for future research. In this
section, I will simply discuss two observations that can be made in this respect on the basis
of the languages that I have mainly focused on in this paper, i.e. on the Germanic languages.

The simplest crosslinguistic distinction with respect to case would be one which
distinguishes languages which have morphological case and languages which do not show
any manifestation whatsoever for case distinctions. However, this distinction cannot be the
relevant one for our purposes. The analysis of the word order differences between German
and Dutch has been based on the assumption that only German has the morphological
properties which trigger the presence of case features whereas Dutch does not have these
properties. Similarly, English is also a language with rigid word order and we therefore have
to conclude that it also does not qualify as a language with case features. But both in Dutch
and in English there is some remnant of morphological case, namely within the pronominal
system. Thus, a morphological distinction is made in these languages between Nominative
and Accusative. But this distinction does not seem to be sufficient for triggering a system of
syntactically represented case features, otherwise we would expect the same type of word
order variation in these languages as in German. I therefore propose that the following
condition holds for a "rich morphological case system" and hence for the representation of syntactically represented case features:

(13) For case to be represented syntactically, morphological case must be productive.

What (13) means is that in languages like Dutch or English where case distinctions are restricted to a subclass of nominal elements, no case features are represented. However in a language like German where case is manifest both on pronouns and within full NPs or DPs, case features are syntactically represented. Note that the condition in (13) is somewhat reminiscent of the system developed by Bobaljik (1995), Bobaljik and Thráinsson (1998) and Thráinsson (1996) for the syntactic representation of agreement. Although the way Bobaljik and Thráinsson formulate the relevant condition is different, the consequence of their system is basically also that agreement is represented syntactically if agreement morphology is productive, i.e. if it occurs across paradigms.22 Thus, AgrP is not present in English because English only has agreement morphology in the present tense but not in the past tense, whereas Icelandic does have AgrP because it has agreement in both the present tense and in the past tense. Similarly, I propose that Dutch or English do not have a case system because they only have case with pronouns but not with full NPs/DPs, whereas German has a case system because it has case distinctions with both pronouns and full NPs/DPs.23

With respect to richness of case morphology as a trigger for a syntactic case system, an additional observation can be made on the basis of the Germanic languages. If we consider a language like Swiss German, we have to conclude that a rich morphological case system does not depend on a large number of morphological case distinctions. Swiss German generally behaves exactly like Standard German with respect to argument order variation. Thus, the different word order options shown in example (1) are also grammatical in Swiss German. Similarly, numerous adjectives license the presence of a nominal complement. Given the framework outlined here, we therefore have to conclude that Swiss German, like Standard German, has syntactically represented case features. However, it is interesting to note now that the morphological case paradigm with full DPs/NPs is generally considerably poorer in Swiss German. This is illustrated in (14). (M. 'the/every man', F. 'the/every woman'; Swiss German paradigms based on an Eastern dialect)

<table>
<thead>
<tr>
<th></th>
<th>Standard German</th>
<th>Swiss German</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOM</td>
<td>der/jeder Mann</td>
<td>dä/jedä Maa</td>
</tr>
<tr>
<td>ACC</td>
<td>den/jeden Mann</td>
<td>dä/jedä Maa</td>
</tr>
<tr>
<td>DAT</td>
<td>dem/jedem Mann</td>
<td>äm/jedäm Maa</td>
</tr>
<tr>
<td>GEN</td>
<td>des/jedes Mannes</td>
<td>----</td>
</tr>
<tr>
<td>F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOM</td>
<td>die/jede Frau</td>
<td>d/jedi Frau</td>
</tr>
<tr>
<td>ACC</td>
<td>die/jede Frau</td>
<td>d/jedi Frau</td>
</tr>
<tr>
<td>DAT</td>
<td>der/jeder Frau</td>
<td>dä/jedärä Frau</td>
</tr>
<tr>
<td>GEN</td>
<td>der/jeder Frau</td>
<td>----</td>
</tr>
</tbody>
</table>

As (14) shows, the Swiss German case paradigm is poorer in two respects. First of all, Swiss German does not have a Genitive case any more. And secondly, the Nominative/Accusative distinction is entirely absent with full NPs/DPs. In Standard German, this distinction is still made with masculine nominals.

The Swiss German case paradigm leads to two conclusions. First of all, (13) can be met even if a single case distinction is made within the non-pronominal case paradigm. The second conclusion is based on the observation made above that, despite the absence of the
Nominative/Accusative distinction with full NPs/DPs, a subject and a DO can be ordered freely. Subjects and DOs therefore have to be marked with different case features within the system proposed here because if they had identical features they could not be distinguished for attraction and we would obtain a rigid order. Given (13), the S-DO distinction must be based entirely on the distinctions made within the pronominal system because in the pronominal system Nominative and Accusative are still distinguished. Thus, the conclusion is that once (13) is met and a syntactic case feature system is triggered, additional distinctions can be triggered by the pronominal system.

5.2. Exceptions to the generalizations

As pointed out in section 1, it would not be attractive to assume that the correlations between case morphology and the distribution of nominal arguments observed in the literature are entirely accidental. The goal of the preceding sections therefore has been to propose a theoretical explanation of these correlations. Although such an approach accounts for the numerous cases in which these correlations hold, it does not immediately give the right results for certain exceptions that have been observed in the literature. In this section, I will consider two cases which have often been discussed as counterexamples to the interaction between case morphology and the distribution of nominal elements, and I will briefly speculate on how such cases can be dealt with in terms of the framework outlined so far.

5.2.1. Word order in Icelandic

Icelandic has a very rich morphological case paradigm and, as expected in terms of the analysis given in section 4, it licenses nominal complements of adjectives. However, its argument order is fairly rigid. Apart from object inversion with DAT-ACC ditransitive verbs, the order of arguments in Icelandic cannot be changed (cf. e.g. Collins and Thráinsson, 1996: 409, 410, 415f., for illustrations). If we assume that Icelandic has syntactically represented case features (cf. 13), we may wonder now why these features do not license the same degree of argument order variation as found in German. The answer to this question that I will sketch here is that an additional syntactic property of Icelandic intereferes with the derivation of variable argument order.

The proposal is based on an observation concerning the analysis of argument order variation in German outlined in section 4. The assumption there was that arguments first check their categorial features and that they then move on to check their case features. This allows reordering of the arguments in proxy categories above TP. However, checking above TP is not the only possible option for case checking. Verbal case features already get introduced on V-heads and not only in T, and we therefore could assume that these case features already can be checked in a lower position, or more precisely in a proxy category which occurs right above the verbal head which introduces the case feature in the derivation. I suggest now that this is the option chosen in Icelandic. Consider for example a derivation involving a ditransitive verb. If we assume that the external argument is generated in a separate V-projection (i.e. v in Chomsky's, 1995, terms), we obtain a structure with two V-heads and with the subject in the higher specifier position, the IO in the lower specifier position and the DO in the complement position of the lower V. The lower V then can be assumed to introduce the case feature of the lowest argument, e.g. ACC. As for the higher V-head, it introduces the case feature of the IO, e.g. DAT. But if these features are checked immediately, then ACC is checked in a proxy projection between the two VPs and DAT is checked above the higher VP. As for the subject, it has to check NOM and NOM, being
related to T, is checked above TP. The result is that, after case checking, the arguments occur in exactly the same order as in their base positions.

Thus, the contrast between German and Icelandic can be accounted for in the following way within the framework proposed here. In both languages, case is syntactically represented by means of case features. But the syntax has two options as to how to treat these case features. Whereas in German case feature checking occurs only after categorial checking, case feature checking in Icelandic occurs immediately after insertion of the case features in the derivation regardless of whether the categorial features have already been checked or not. This contrast can then be expressed in terms of a relation between case and categorial features. In German, case features are closely linked to categorial features. We thus could assume that they are subfeatures of categorial features and thus only become available for checking once the categorial features have been checked, in the same way that lexical features only become available for checking once the functional features have been checked (cf. section 3.3.2). In Icelandic however, case features, although being related to categorial heads such as V or T, are features which are independent of the categorial features and they therefore get checked whenever they get introduced into a derivation.

Given these proposals, the contrast between German and Icelandic concerning argument order variation can be expressed in terms of a parametric choice with respect to whether case features are independent features or not. Whereas case features which are subfeatures of categorial features give rise to free argument order (German), independent case features generally do not have the capacity of reordering arguments (Icelandic). Note finally that there may be additional manifestations of this parametric variation with respect to case features. As argued in Haeberli (1999: chapter 5), the parametric choice made in Icelandic can be independently motivated on the basis of other phenomena which occur only in Icelandic and not in German such as the occurrence of oblique subjects and Nominative objects or certain properties of object inversion.24

5.2.2. Nominal complements of adjectives in Dutch and Swedish

In section 5.2.1., we discussed a case in which a language with case morphology allows less distributional options for nominal arguments than we would expect on the basis of the generalizations and analyses discussed in sections 1 and 4. However, the opposite scenario can also be found, i.e. a language without case morphology which allows more options than expected. Thus, it has been observed that in Dutch and Swedish, two caseless languages, some adjectives license nominal complements (cf. Platzack, 1982; Weerman, 1997). Although such adjectives do not occur as productively as for example in German and although nominal complements of adjectives are indeed generally ruled out, the question arises as to how the few adjectives taking nominal complements in Dutch or Swedish can be dealt with in terms of the proposals made in this paper. While I proposed that the exception in section 5.2.1. is the result of an additional syntactic factor which interferes, I will suggest a different approach for the case discussed in this section. Both Dutch and Swedish are languages which, in earlier stages of their history, had a rich morphological case system and which licensed nominal complements of adjectives more productively. The occurrence of some nominal complements of adjectives could then be argued to be a relic of an option which used to be productive at an earlier stage of these languages.25 As for the formal analysis of this residue within the framework adopted here, there are two main possibilities. First of all, we could assume that the relevant adjectives license an empty prepositional head and that, as a result, nominal complements of adjectives are nominal only at the surface. Alternatively, it could be argued that a few adjectives have maintained the ability to establish
a checking relation with their complement in languages like Dutch or Swedish. After the loss of case features in the history of these languages, a different (entirely abstract) feature would thus have taken over the function of initiating a feature checking relation with the complement. As a consequence of this feature checking relation, these adjectives still allow their complement to select their V-feature as a feature checker.26

6. SUMMARY

The aim of this paper has been to propose an analysis of the traditional observation made in the literature according to which the presence of a morphological case system generally correlates with certain syntactic properties such as argument order variation or the occurrence of nominal complements of adjectives. I argued that these correlations can best be accounted for if we eliminate the theoretical concept of abstract Case which has played a central role for the analysis of the distribution of nominal elements within recent generative frameworks such as GB Theory or Minimalism. The elimination of this component of the grammar is also desirable from a more general conceptual point view because the notion of abstract Case is a mere stipulation. I therefore proposed a framework in which phenomena that have been related to abstract Case are derived from the interaction among the categorial feature matrices of the elements contained in a clause. Although categorial distinctions have traditionally been defined partly in terms of distributional properties, the proposals made in this paper suggest that categorial properties play a much more important role for the status and distribution of the various components within a clause than has traditionally been assumed. Once the concept of abstract Case is eliminated from the grammar, syntactic effects of morphological case can then be accounted for under the assumption that case only plays a role in languages which show morphological evidence for a case system. More precisely, I proposed that productive morphological case triggers the presence of a syntactically represented case feature system. Case features are syntactically active in the sense that they create case checking projections in the clause structure and can function as attractors within Chomsky's (1995) feature checking system. This property is then responsible for syntactic phenomena such as argument order variation or the occurrence of nominal complements of adjectives. The analysis of the syntactic effects of morphological case thus supports proposals made for independent reasons by Bobaljik (1995), Bobaljik and Thráinsson (1998) and Thráinsson (1996) according to which morphological properties have an important influence on the format of the syntactic structure.
NOTES

1 An anonymous reviewer observes that the Minimalist distinction between strong and weak features might create the possibility of distinguishing different types of syntactically represented Case features. However, it is not clear how feature strength could be related to case morphology in a non-stipulative way. A priori morphologically represented case could just as well be argued to be the source of a strong syntactic Case feature as it could be argued to be the source of a weak syntactic Case feature. So whatever correlation one would propose (e.g. the syntactic Case feature is strong if case morphology is present), it would not follow from any theoretical necessity but it would mainly be a stipulation based on the observed facts.

Apart from this basic problem, the strong/weak distinction would not be sufficient for deriving the phenomena illustrated in (1) to (3) in section 1. If, for example, German and English differed with respect to the strength of abstract Case features, it would still have to be explained why one type of feature (the one found in English) simply leads to ungrammaticality in the context of nominal complements of adjectives (rather than e.g. to non-overt movement). Similarly, the word order contrasts between German and Dutch could not be derived from a simple variation in strength of Case features, but several additional assumptions would have to be made, e.g. to account for object movement (scrambling) which does not lead to argument reordering in Dutch or to account for all the possible orders in German (optionally strong features and/or Case feature checking in more than one domain of the clause structure; cf. Haegerli, 1999: 111f., for more detailed discussion). Syntactic effects of morphological case thus could not simply be explained by relating strength of Case features to the presence/absence of case morphology, even if such a correlation was possible.

2 However, the framework that I will propose here for implementing this idea is considerably different from the ones proposed by Neeleman and Weerman, mainly in three respects. First of all, I will propose that effects of abstract Case can be derived entirely independently of the notion of case. Neeleman (1994: 419) still seems to assume some kind of abstract Case for languages without case morphology. As for the system proposed by Weerman (1997), it is more in line with the goal pursued here because it eliminates the notion of abstract Case. However, the elimination of abstract Case is mainly obtained by introducing an abstract element of a different type, i.e. an empty functional head in the DP-structure. This functional head either has to be stipulated like the concept of abstract Case or its presence would have to be related to a strictly universal functional structure.

The second main difference between the approach proposed as compared to Neeleman's and Weerman's systems is that no "linking rules" between case morphology and thematic roles are necessary for explaining argument order variation in the analysis proposed here. This may be a desirable result because, as Neeleman (1994: 420) observes, "little is known about the linking rules" (cf. also fn. 16 below on linking case and thematic roles).

Finally, the third difference between the analysis proposed below and the one adopted by Neeleman and Weerman is that while Neeleman and Weerman assume that argument order variation is the result of different base generated orders, I will adopt a movement analysis of word order variation. Both of these theoretical options have been argued for in the literature, but it would lead us too far afield here to compare these approaches in detail here (but cf. Haegerli, 1999: chapter 3, for discussion).

3 Interestingly, Pesetsky and Torrego derive their proposal from a domain of the syntax which is considerably different from the one discussed in this paper. While my proposal deals with the inflectional domain, Pesetsky and Torrego focus on phenomena related to the C-domain. That the investigation of two distinct empirical domains leads to very similar
conclusions seems very promising and it would of course be desirable to unify the two approaches. However, I will have to leave this issue for future research.

4 In the feature system in (5), P is generally also included and it is defined as a [-N, -V] category. However, I will assume here that P is not a purely lexical category and that it therefore cannot simply be defined as [-N, -V]. One reason for this assumption is that within the set of categories traditionally defined in terms of lexical features (N, V, A, P), P has always had a peculiar status. In terms of the standard textbook distinction between open classes and closed classes, N, V and A are generally classified as open class words whereas prepositions are classified as closed class (i.e. "function") words. This contrast is also expressed in discussions of the feature system proposed by Chomsky. Among the categories N, V, A and P, Chomsky (1981) for example only refers to "the first three" as lexical categories (1981: 48), thereby excluding prepositions. Within the feature system I am adopting here, there are additional reasons for not defining P as [-N, -V]. However, given that the status of P is not central for our discussion, I will have to leave these issues aside here (but cf. Haeberli, 1998: 83ff., 1999: chapter 2, for more details on the analysis of P within the categorial system adopted in this paper).

5 For lexical categories, it could be argued though that the status of the categorial features does not have to be pre-specified but that it is determined through the structural context. Thus, in a way which is reminiscent of Marantz's (1997) proposals, it could be argued that for example the nominal feature of a lexical category only is identified as uninterpretable once a verbal functional element is introduced within the extended projection and that therefore the categorial status of a lexical head depends on the occurrence of specific functional elements in the structure.

6 In short, the main idea of the alternative system would be the following. Suppose that language is, to use Chomsky's (1995) terminology, to a large extent a "perfect" system and that "perfection" in the domain of categorial feature matrices consists of having a complete feature matrix with all the relevant features positively specified (thanks to Luigi Rizzi, p.c., for this suggestion). In terms of this assumption, feature matrices like [+N, -V] or [-D, +T] would be "imperfect" because they contain negatively specified categorial features. Hence, we could argue that such categories have to make up for their "imperfection" by establishing a local configuration with an element which contains the missing feature(s). Once such a local configuration has been established, the categorial feature matrix is licensed because the locally available features compensate for the "imperfection" of the category. This system could then derive the same results as a system based on checking if we assume that the way in which categorial feature matrices are licensed is identical to checking in terms of the derivational properties (cf. in particular the conditions formulated in section 3.2.1 below). The notion of checking could then be dispensed with and the two assumptions made in the text would not be necessary, either, because each element gets inserted already with the adequate categorial feature matrix. An additional interesting consequence of this alternative approach is that it leads to a model of the grammar which is reminiscent of a model that has been used in chemistry to explain why atoms join together to form molecules in the way they do ("covalent bonding"; cf. Haeberli, 1999: 79ff., 2000: section 6, for discussion).

7 An anonymous reviewer observes that the data in (4a/c) suggest that movement to TP for categorial feature checking does not obligatorily occur in the overt syntax and that the categorial features in T therefore might not be sufficient for filling the subject position (i.e. for satisfying the EPP). However, the situation in (4) is not entirely comparable to the situation found in EPP contexts. When T is merged during a derivation, it has to check its uninterpretable D-feature. As discussed in more detail below, T therefore attracts the closest potential checker, i.e. a subject DP. This attraction process is necessary for establishing the
adequate feature matrix of T and we may therefore assume that the presence of a DP in [Spec, TP] is obligatory. Hence the occurrence of EPP effects, i.e. phenomena which suggest that the subject position has to be filled obligatorily. If we consider (4) now, we can observe that a subject DP first gets moved to TP. T (the attractor) therefore has obtained its adequate feature matrix after subject movement already. Additional elements in TP are therefore not necessary from the point of view of the attractor and this context can now be argued to be the source of optional movement. Thus, as proposed in the text, EPP-effects can be related to the categorial features of T even though the object movement data in (4) suggest that movement to TP can sometimes be optional.

And in addition CP/PP. A discussion of the status of C and P within the framework proposed here would lead us too far afield. But cf. Haeberli (1998: 83, 1999: chapter 2, 2000) for the proposal that C and P can be defined in terms of the categorial features introduced so far (i.e. N, V, D, T) and that such an analysis accounts for certain phenomena related to CPs and PPs (e.g. clausal subjects, locative inversion).

Note that the same categorial feature checking analysis can be extended to other contexts involving subjects, i.e. to what has been referred to as "NP-movement" within the GB framework. In passives or in raising constructions, it is simply the underlying object or the subject of an embedded non-finite clause which is the closest element for attraction by finite T and which therefore gets moved to finite [Spec, TP] (cf. Haeberli, 1998: 89ff., 1999: chapter 2, 2000, for discussion and also for an account of the absence of raising out of finite clauses).

As for the fact that only finite T licenses overt nominal subjects but not non-finite T (cf. e.g. *Steve to have scored again is not surprising), it can be related to a specific property of non-finite T-heads, as within GB or Minimalism. Within GB and Minimalism, the absence of nominal subjects in non-finite clauses has been related either to the lack of Case assignment or to the presence of a Null Case which does not license overt nominal elements. Within the categorial feature checking system proposed here, the same result can be obtained by assuming that the categorial feature matrix of non-finite T differs from the one that defines finite T. Thus, by defining non-finite T as [-D, +T; -N, -V] we obtain the result that a DP cannot check its uninterpretable V-feature against T. As a consequence, a DP cannot be licensed as a subject of a non-finite clause (cf. again Haeberli, 1998: 87ff., 1999: chapter 2, 2000, for more details). As for the licensing of PRO, cf. Haeberli, 1999: 66ff., 2000, for an analysis within the framework proposed here.

A possible motivation for this hierarchy among features is that it can have the role of a rescue device for functional feature matrices in the sense that an unchecked lexical feature sometimes allows the licensing of an otherwise inadequately specified functional feature matrix (cf. the short discussion below of non-overt object DP movement as the result of attraction to TP by unchecked N). Note furthermore that in Haeberli (1999, 2000) the proposal according to which functional features have priority over lexical features within functional feature matrices is shown to hold in other contexts as well. First of all, it is the functional features within functional feature matrices which determine the main categorial distinctions within the functional domain. Thus, for example the traditional Infl category is defined as [-D, +T] within the framework adopted here. As for the lexical features, their values simply define various subtypes of Infl. Finite Infl is defined as [-N, +V] whereas non-finite Infl is defined as [-N, -V] (cf. fn. 9). Similar observations can be made for P and C (cf. Haeberli, 1999, 2000). Finally, the assumption that functional features have priority over lexical features within categorial feature matrices also has desirable consequences for the analysis of certain raising phenomena (cf. Haeberli, 1999: 69ff., 2000).
 Rather than using the notion of "reactivation" of an uninterpretable feature, Chomsky (1995: 280f.) distinguishes between feature deletion and feature erasure in order to deal with multiple attraction. Chomsky proposes that an erased feature is inaccessible to any operation, whereas a deleted feature is invisible at LF but still accessible to the computation. Thus, what I have been calling reactivation of D on T would correspond to the option of deletion rather than erasure of D on T in Chomsky's terminology.

Two additional points should be addressed here briefly. First of all, object movement out of the VP cannot be found in every language. Thus, reactivation of D on T is an option which is subject to parametric variation (cf. also Chomsky, 1995: 281, for feature deletion). Object movement is therefore only possible in those languages in which the relevant parameter setting allows D on T to act as a multiple attractor. Finally, it should be pointed out that the analysis in the text can easily be extended to constructions involving more than two arguments. In terms of a VP-structure consisting of different shells, we can assume that the presence of a third argument for example entails the presence of an additional VP-shell. Hence, an additional uninterpretable N-feature occurs in T after V-movement, and D on T can attract a third time, thus giving rise to structures in which three arguments occur outside the VP.

As pointed out by an anonymous reviewer, the intuition behind the approach proposed in the text can also be found in de Hoop's (1992) analysis of scrambling in terms of different NP types.

Note also that multiple attraction by D on T would not be sufficient for licensing a DP complement of A because I have argued that reactivation of D on T as an attractor depends on a checking relation between lexical features. Thus, for example in the case of object movement out of the VP, D on T is reactivated because of the presence of an uninterpretable N-feature within the complex T-head and this N-feature has already selected the object DP as its feature checker. This option does not arise with A since A has not selected its complement for feature checking in the context discussed here.

The only option which would make (11) grammatical is of-insertion (e.g. The coach is proud of Steve). The question that arises then is what the status of this option would be within the framework proposed here. The standard generative analysis of of-insertion is based on the assumption that elements such as A and N which do not assign structural Case have the capacity of assigning inherent Case. Of would then simply be the overt manifestation of the inherent Case that has been assigned to the nominal complement. An analysis along these lines can be maintained within the framework proposed here. Suppose that the categories A and N, which take complements but which cannot license them if they are nominal, have the capacity of attributing a dummy prepositional licenser to their complements, i.e. of. Of then licenses the nominal element in the same way any other preposition would license its complement (cf. Haerli, 1999: 58ff., 2000, for an analysis of licensing by P within the categorial feature checking framework adopted in this paper).

Similarly, verbal agreement can be interpreted as a phonological reflex of a checked nominal feature within the system proposed here.

Note however that nothing in the analysis that follows hinges on the status of case features at LF. Whether a feature is fed to one interface (PF) or to two (PF and LF) has no consequences on the way in which a syntactic derivation proceeds within the framework adopted here. As for the observation that cases like Nominative, Accusative or Dative are often not transparent semantically, it can be illustrated by the following observations based on German. For example, an argument can be marked Nominative if it is an agent (e.g. simple transitives), an experiencer (subject experiencers), a theme (passives, ergatives) or a goal (recipient passives). Similarly, an argument can be marked Accusative if it is a theme
(as an object of a transitive verb), an agent (in ECM contexts) or an experiencer (cf. e.g. *Mich friert* – Me(ACC) is-cold, 'I am cold'). As for Dative, it generally marks goal arguments with ditransitive verbs but the Dative argument is not always clearly a goal (cf. e.g. *Er hat den Hans einer schweren Prüfung unterzogen* – He has the John (ACC) a difficult exam (DAT) subjected, 'He made John go in for a difficult examination') and it also can occur for example as an experiencer (cf. e.g. *Mir ist kalt* – Me(DAT) is cold, 'I am cold'). These examples show that case morphology does not contain any semantic information which could be interpreted straightforwardly by the LF component.

A potential objection against this analysis could be that case features on heads are irrelevant both at the PF and at the LF interface and that they are therefore conceptually as undesirable as abstract Case features. In other words, the criticism of abstract Case formulated in section 2.1, i.e. the fact that abstract Case features do not have any function but just get introduced in order to get eliminated again, could also be argued to apply to the case features discussed here. However, the two cases are substantially different. First of all, the case features on heads discussed here do have a function to the extent that they determine the morphophonological shape of nominal elements and they therefore do have an effect on the interfaces. And secondly, the source of morphological case simply has to be encoded somehow. Some information has to be available which determines for example that a German verb like *helfen* takes an object in the Dative case rather than in the Accusative. The case features on heads that I propose therefore encode information which is necessary regardless of the theoretical framework we adopt. As for abstract Case features however, they have a purely theory-internal motivation.

The creation of proxy categories can be motivated by a slightly modified version of Nash and Rouveur’s (1997: 297) Single Checking Hypothesis according to which a functional head can only be involved in a single checking relation in its checking domain. Assuming multiple specifiers, we cannot maintain the Single Checking Hypothesis in the form proposed by Nash and Rouveur. However, I propose that the Single Checking Hypothesis should be reinterpreted as a condition according to which only a feature of one type can be checked within a given projection. Thus, in TP, categorial features get checked, whereas features like NOM or ACC have to get checked in independent projections.

This proposal implies that each case feature is considered as a distinct feature and therefore requires a distinct proxy head in terms of the revised Single Checking Hypothesis outlined in fn. 18. Note however that this assumption is not crucial for the point made here. Different argument orders could also be obtained if there was simply a single proxy category for case checking. In terms of such a scenario, the first feature would attract an argument to the outer specifier, the next feature to a lower specifier and the third feature to the lowest specifier. But again since these features are distinctive and since no order of feature movement to the proxy head is imposed, all possible orders can be derived.

As pointed out in the text, the case feature on A is generally of the type DAT or GEN, but not ACC or NOM. Within the framework adopted here, this restriction can be related to the distinct status of the various features within the morphological case system. NOM and ACC can be argued to be default case features for specific categorial feature matrices, i.e. NOM for a [-D, +T; -N, +V] category and ACC for a [-N, +V] category. A having neither of these categorial feature specifications, it gets associated to one of the remaining cases, i.e. DAT or GEN.

As for the status of nominal complements of nouns, the system proposed here does not provide any new insights. As pointed out for example by Weerman (1997: 436f.), the presence of nominal complements of nouns also seems to correlate with the presence of morphological case. Within the system proposed here, the presence of a GEN feature on N
still does not allow the licensing of a nominal complement because a nominal projection simply does not have the necessary verbal features for categorial licensing of a nominal complement. The only way to analyze nominal complements of N is therefore by assuming that Genitive case can represent an empty preposition in languages with case morphology. Thus, it is a preposition that licenses the nominal complement just as in contexts of of-insertion (cf. fn. 14 above). The only difference between these two cases is that with of-insertion it is the preposition that is spelled out whereas in the case discussed here the presence of the preposition is expressed by the Genitive case on the nominal element.

22 Cf. also Vikner (1997) for a morphological condition in terms of productivity which is argued to have syntactic effects. However, in Vikner's analysis, productivity of agreement does not determine the syntactic structure but simply the option of V-to-I movement.

23 The question that may arise at this point however is how the morphological shape of pronouns is determined in languages like Dutch or English, if it is not on the basis of syntactically represented case features. What I will assume here is that the Nominative/Accusative distinction in Dutch or English is the result of a post-syntactic process, i.e. of a process which takes place in the PF branch of the model shown in (6). This process could be argued for example to realize a pronoun in [Spec, TP] in the Nominative form (cf. also e.g. Emonds, 1985: 237; Hudson, 1995, for relating pronominal case distinctions in languages like English to surface rules).

24 As a matter of fact, these additional phenomena are the crucial ones from the point of view of acquisition. They provide overt evidence to the language learner and they therefore have the capacity of triggering the parameter setting found in Icelandic (i.e. case features as independent features). As for the phenomenon of the absence of variable argument order, it is characterized by the ungrammaticality of certain word orders and ungrammatical options are not part of the language learner's input. Hence, this phenomenon does not actually contribute to the parameter setting during the acquisition process of Icelandic but it is mainly a side effect of the parameter setting triggered by phenomena such as oblique subjects, Nominative objects and object inversion. Cf. Hauberli (1999: chapter 5) for a more detailed discussion.

25 Platzack (1982: 46) points out however that not every adjective that allows a nominal complement in Modern Swedish can be traced back to an ancestor with the same property in Old Swedish. Thus, the analysis in terms of a relic suggested in the text is not meant to apply to individual lexical items but rather to the option in general. As for the maintenance of the 'adjective-DP/NP' option in Swedish after the loss of the morphological case system, Platzack (1982: 46, 53) suggests that it may be related to an external factor, i.e. the influence of German on Swedish.

26 The conclusion that we reach then is similar to the one reached by Platzack (1982) for Swedish, i.e. that the option which licenses nominal complements of adjectives makes "the Swedish grammar marked to a certain extent" (1982: 53). In our analysis, the markedness is related to abstract elements whose presence within the syntactic representation is not independently required (i.e. an empty P or an abstract attractor). Note that this marked option can be acquired by the language learner because there is positive evidence for its existence (i.e. the occurrence of adjectives with a nominal complement in the input). If this positive evidence did not exist, there would be no motivation for introducing any abstract elements related to A, and languages without nominal complements of adjectives therefore are not expected to develop this option over time. The empty P/abstract operator option is thus restricted to the scenario sketched in the text, i.e. to contexts in which a historical residue is maintained within the grammar of a language.
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