

ON THE DISTINCTION BETWEEN SYNTACTIC AND SEMANTIC CASE

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**A THESIS SUBMITTED TO THE
FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS OF THE DEGREE OF
DOCTOR OF PHILOSOPHY**

**Department of Linguistics
McGill University
Montréal**

August 1992

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Abstract

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This thesis examines the distinction between syntactic case and semantic case, part of a broader distinction between lexical and functional elements. Several tests, involving predication, nominalization, and iteration are proposed for determining the semantic status of particular case functions. The results of these tests show that only subject and direct object markers are syntactic, all other cases being semantic. Further, semantic cases behave like adpositions, and should therefore be placed in the same syntactic category as them. This enables one to defend a structural account of restrictions on predication. The tests also indicate that English has underlying semantic cases, which are related, but not identical, to theta roles.

The small number of syntactic cases is consistent with my claim that their content consists of one binary feature value, while the content of semantic cases is not necessarily so limited.

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Résumé

ON THE DISTINCTION BETWEEN SYNTACTIC AND SEMANTIC CASE

Cette thèse examine ce qui différencie les cas syntactiques des cas sémantiques. Ces différences font partie de différences plus générales séparant les catégories lexicales des catégories fonctionnelles. Plusieurs tests, mettant en jeu des procédés de prédication, de nominalisation et d'itération, sont proposés pour établir le status sémantique de certain cas. Les résultats de ces tests démontrent que seuls les marqueurs de sujets et de compléments directs sont syntactiques, tous les autres étant sémantiques. De plus, les case sémantiques se comportent comme des adpositions et, de ce fait, devraient être placés dans la même catégorie que ceux-ci. Cela nous permet de mettre de l'avant une explication structurale des restrictions liées au procédé de prédication. Ces tests nous révèlent aussi que l'anglais a des cas sémantiques en sous-jacence, se rattachant aux rôles-théta, sans pour autant être identiques à ceux-ci.

Le petit nombre des cas syntactiques est compatible avec notre assertion que leur contenu consiste en une seule valeur de trait binaire, alors que le contenu des cas sémantiques n'est pas ainsi limité.

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I remember
how the darkness doubled
I recall
lightning struck itself
I was listening
listening to the rain
I was hearing
hearing something else.

Tom Verlaine
"Marquee Moon" (1977)

Acknowledgements

Pride of place here goes to my advisor, Lisa Travis, who has borne with me for all this time; this thesis is much the better for her many ideas, suggestions, and comments. Were it not for her I might not have decided to go into syntax; I am glad that I did.

The intellectual debt that this thesis owes to the work of Mark Baker will be evident; his theory of incorporation is a major part of my account of predication and nominalization; I thank him for his time and helpful discussion. Nicole Domingue is one of the kindest people I have ever met; she has been extremely supportive to me over the years, and I cannot thank her adequately for her help and encouragement. Glynne Piggott has also been a great source of support, and again I am very grateful to him. C. D. Ellis was the chair of the Department of Linguistics when I arrived at McGill, and I thank him for his help and support. I thank Michel Paradis, Karina Wilkinson, and Brendan Gillon for useful discussion. The Department of Linguistics has been very generous in financial support, for which I am most thankful.

Among faculty members at other departments and other universities, I must first thank my first linguistics teacher, John R. Costello of New York University. I shall never forget his support and encouragement over all these years; I hope that I can someday live up to his faith in me. I also thank Peggy Speas, A. U. Turgay, Ken Hale, Jerry Krauel, Marc Picard, and A. Teffeteller for discussion and suggestions. I would like to thank two scholars in fields far removed from linguistics for intellectual inspiration: H. G. Dowling (herpetology) and E. Karp (geology).

I am a student of linguistics because I am fascinated by languages, and I would like to thank my language teachers; even though I have never managed anything close to fluency in any language other than English, I have greatly enjoyed studying languages, and these studies have helped my linguistic work. I thank Bluma Trell (Ancient Greek), Stephanie Russell (Latin), Robert Raymo (Medieval Latin), Ellen Ervin (Turkish), Robert Wallace (Albanian), and Matthew Jaffe (Akkadian by correspondence) for making the study of languages fun, and for contributing to my ideas on linguistics.

I thank my fellow students at McGill for their help, friendship, discussion, and native speaker intuitions: Fauzia Abdalla, Shanley Allen, Carl Alphonse, Mengistu Amberber, Afsaneh Assil, Jean-Charles Beaumont, Doris Belland, Susan Bennett, José Bonneau, Tamara Booth, Cindy Brown, Ted Caldwell, Mark Campana, Adriana Chamorro, Dongdong Chen, Orly Cohen-Pica, Jenny Dalakis, Jody Davis, Leslie deFreitas, Natividad del Pilar, Jean duPlessis, Marc Fabiani, Joyce Garavito, Jo-Ann Gendron, Louise Glackmeyer, Eithne Guilfoyle, Nancy Hildebrandt, Jennifer Hocking, Henrietta Hung, Edward Ikeda, Rita Jaugelis, Alan Juffs, Sonja Knoll, Greg Lamontagne, Zofia Laubitz, David Lipscomb, Anna Maclachlan, Heather Matthew, John Matthews, Jonathan Mead, Cathy Mealing, Dean Mellow, Amanda Miller, Alison Mitchell, Alan Munn, Masanori Nakamura, Máire Noonan, Roberto Ong, Jennifer Ormston, Averill Paes, Iliana Panova, Tom Patrick, Eleanora Pilkovic, Dominique Rodier, Sam Rosenthal, Ben Shaer, Evelyn Styan, Masakazu Tajima, Doris Tophinke, José Tourville, Martha Trahey, Mireille Tremblay, and Mihoko Zushi. Thanks to Dominique Rodier for translating the abstract into French.

I would like to pay tribute to my fellow members of the linguistics department's softball team, the Laryngeal Slides, which became co-champions of the Thomson House league several days ago; after 8 often frustrating seasons it feels great to finally achieve this.

Aside from some of those listed above, various other people served as informants, and showed great patience, often giving judgements on the spot. For this, I thank Thomas Gardner, Bodil Guay, Adil Özdemir, Jozsef Mak, Jane Poirier, Rachel Selbach, and Ildiko Tokes, among others.

Friendships are one of the things that make life worthwhile, and I thank the following people for their support and friendship: Jean-Jacques Tremblay, Julie Mathews, and the gang from New York: Jeff Borda, Sacha Brown, Rich Gordon, John MacAndrew, Charlie Shuttleworth, and Dean Stathis.

Special thanks to Lucie Martin, Cheryl Cook, and Lise Vinette.

They only moved in recently, but I thank the turtles Pericles, Diogenes, and Kepler for bringing more joy into my apartment.

I thank my mother, Irene Libert, and my late grandmother, Daisy Ivens, for their great emotional and financial support.

Finally I thank Debby Poirier for her support and for bearing with me through these difficult times. She has read more of this thesis than anyone except Lisa, has suffered with me, and has made my life immeasurably happier than it would have been had we not met.

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Note on Translations and Examples

The translations of French and German quotations are my own. The many examples taken from other sources have generally been kept in the same form as the source or close to the form in the source. This means, for example, that Russian examples have been reproduced in Cyrillic script or transliterated, depending on whether this has been done in the source. In a few instances I have taken examples from sources which give a translation in a language other than English. In such cases I give the example, and the translation in the source, and then my translation of the translation into English.

CHAPTER 1

INTRODUCTION

This thesis is concerned with one distinction which has been made in the classification of cases, namely the distinction between syntactic case and semantic case. The cases which occur in natural languages have been subject to a fair number of systems of classification, starting at least with the Greeks, who distinguished between the *ορθη* ('upright') nominative and the *πλαγια* ('oblique') cases. Some more recent distinctions used in the classification of case are given in (1).

- (1) Some Distinctions in the Classification of Case
 independent, adnominal, adpronominal, adadjectival, adverbial, adadverbial, appositive, predicative (Blake 1930)
 cases standing as primaries, adjunct-case, subjunct cases
(Jespersen 1924)
 structural vs. inherent (Chomsky 1981, 1986a)
 complete vs. partial (Mel'čuk 1986)
 synthetic vs. analytical (Mel'čuk 1986)
 primary vs. secondary (Mel'čuk 1986)
 simple vs. compound (Mel'čuk 1986)
 autonomous vs. non-autonomous (Mel'čuk 1986)
 adjectival vs. nominal (Mel'čuk 1986)
 case I, II, III, IV (Mel'čuk 1986)
 direct vs. oblique (Babby 1980)
 lexical, GEN(QP), configurational (Babby 1986)
 stasis/epistasis, convergent, transactional
(Danielsen 1983/1992:112-3)

syntactic/abstract/grammatical vs. semantic/concrete/
adverbial (Kuryłowicz 1949/1960, Mel'čuk 1986)

One of the most important distinctions is that between syntactic case and semantic case, for it presumably concerns one of the central issues of linguistics, namely the meaningfulness or type of meaning of linguistic elements. Further, the membership of a case in one or the other of these groups could determine at what level a marker of this case can appear,¹ and could partly determine the behavior of NPs bearing that case. However, there is no universally accepted notion of just what is meant by the terms syntactic case and semantic case,² and as a consequence, some individual cases are classified as syntactic in one work and semantic in another, e.g. the instrumental, which Mel'čuk (1986:71-2) lists among the syntactic cases, but which might appear to some (e.g. Rumsey 1980:2) to be semantic. This problem is a subcase of the more general problem of determining whether linguistic constituents have "grammatical" or "lexical" type meaning, if indeed it is proper to make such a distinction. I hope to be able to contribute to the solution of this problem by examining the syntactic/semantic case distinction.

In this thesis I shall do the following:

¹ In Government-Binding Theory, some cases are marked at D-Structure, and others at S-Structure. V. 1.1 for discussion of the levels posited in this framework.

² The notion of semantic case has not received a great deal of attention in generative grammar; in the early days of generative grammar the focus was not on languages with rich case systems.

1) argue that there are two types of case, which differ in the kind of meaning they possess, and which display different syntactic behavior; hence I claim that there is validity to the syntactic/semantic case distinction, and by extension, that the general lexical/functional distinction made among constituents is valid.

2) give some ways in which these two groups of cases differ, or behave differently.

3) claim that the different types of behavior can be used as criteria, or tests, to determine the membership of these two groups for elements whose classification is unclear.

4) argue that the category case, as currently and traditionally conceived of, is an unnatural class from a syntactic point of view, which in fact includes members of two different syntactic categories. (Likewise, individual cases may be unnatural entities, syntactically speaking, containing case functions which have been grouped together because of phonetic identity.)

5) claim and attempt to show that one of these two groups or categories behaves in the same way as (most) adpositions, and so should be grouped with them into a new category, which I shall subsume under the label P, the category consisting of the other cases (and some adpositions) being labelled K.

6) argue that the membership of the category K is quite limited and make the related claim that the information content of Ks can be summed up in a small number of binary feature values, perhaps only a single one.

7) claim that this may be true of functional categories in general, and that this is the nature of the difference between

functional and lexical categories (as well as the reason for the closed class nature of the former): the information content of functional categories consists of values for a small set of binary features, while the content of lexical categories is not necessarily so limited: the content of many lexical items either requires a large number of binary features, or cannot be completely stated in binary features at all.

Some of these claims and arguments are not new; this will be pointed out in the appropriate places. However, I trust that I have brought together the data, claims, and arguments in a new arrangement to show the relevance and reality of the syntactic/semantic case distinction, and a methodology for the classification of case within Government-Binding Theory. In this thesis I shall concentrate on nominative-accusative case marking systems; the ideas brought up here should also be tested on ergative case marking systems, but I leave this for further research.

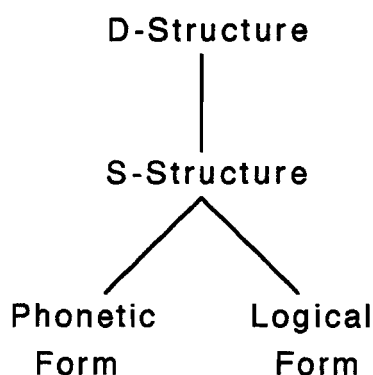
The rest of this chapter is arranged as follows: Section 1.1 consists of an overview of the framework in which this thesis is written, Government-Binding Theory. In section 1.2 I examine some conceptions of the category case and outline my notion of case; I also discuss the difference between case and case function, the latter being my concern in this thesis. Section 1.3 gives an outline of the theory of functional categories and contains a subsection on a functional category of relevance for this thesis, Case (K), whose maximal projection is the Case Phrase (KP). In 1.4 I review some

previous notions of the syntactic/semantic case distinction and discuss the distinction between structural and inherent case, and in 1.5 I give a sketch of the contents of the rest of the thesis.

1.1 Government-Binding Theory

I shall be working in the version of Transformational-Generative Grammar (TGG) known as Government-Binding (GB) Theory, as developed in Chomsky (1981, 1982, 1986a, 1986b; my description of the theory follows in part the summary given in Chomsky (1982)). This grammatical theory is transformational in that several levels of representation are posited, with a system of rules serving to map the different levels onto each other. The structure of the grammar, with the commonly recognized levels of representation, is given in (2).

(2)



D-Structure is a product of rules belonging to the Base Component, into which individual lexical items from the Lexicon are inserted. D-

Structure is "a "pure" representation of thematically relevant GFs [grammatical functions]" (Chomsky 1982:9). The rendering of D-Structure into S-Structure is brought about by rules belonging to the Transformational Component. There is now stated to be only one such rule, Move- α , under which NP-movement and wh-movement (and head movement, following e.g. Baker 1988a:33) are subsumed. Phonetic Form (PF) is the level at which the actual phonetic shape of sentences appears, after the rules of the Phonological Component as well as scrambling or other post-S-Structure rules have applied. Logical Form (LF) is a level of "semantic interpretation" (Chomsky 1986a:67), where e.g. the scope relations holding among different constituents of a sentence are represented. The Semantic Component (including the rule of quantifier raising (QR)) accomplishes the transformation from S-Structure to LF.

Within the last 15 years, linguists working in the TGG framework have transferred their interest from the study of rules to the study of principles. The study of individual rules or processes such as there-insertion is not of much import from an explanatory point of view; what is more useful and fruitful is the study of the principles underlying and/or constraining these rules and processes. It is claimed (e.g. in Chomsky 1982:6) that a set of subsystems of the grammar, listed below, contains these principles.

- (3)
1. X-bar theory
 2. θ -theory
 3. Case-theory
 4. Binding theory
 5. Bounding theory
 6. Control theory
 7. Government theory (ibid.)

X-bar theory constrains the possible forms that a syntactic representation can have. A relevant question is, what are the types of elements or constituents which can appear in such a representation? It is generally held that there are the following possible constituents: the lexical, or major, categories Noun (N), Verb (V), Adjective (A), and Preposition (P),³ and the nonlexical categories such as Inflection (I) and Complementizer (C).

X-bar theory is concerned with the arrangements of these constituents in a syntactic tree (a phrase marker). In earlier versions of TGG the order and hierarchical structure of constituents in sentences were determined by phrase structure rules such as $S \rightarrow NP VP$ (v. e.g. Chomsky 1965). It is now held that these rules can be done away with, as the information they convey is redundant, being contained in lexical entries and the general model of X-bar theory. The latter is given below:

³ Adpositions in general, i.e. prepositions and postpositions, is meant by this; here P is used for adposition in the traditional sense, not for the realigned category which I am arguing for.

- (4) a. $X' = X X''$
 b. $X'' = X'' X'$ (the order of elements may vary; based on Chomsky 1986b:3)

X-bar theory states that every maximal projection (X'' or XP) must contain a head of the same category (X), e.g. every NP must be headed by a N, or, to look at it "from the bottom up", every category projects a maximal projection with the same categorial features. A zero-level category (i.e. X) may have a complement as a sister; this complement will be a X'' . There is an intermediate level category between the zero-level category and the maximal projection; it will be the mother of X and its complement, and the sister of the specifier of X . In the version of X-bar syntax discussed in Chomsky (1986b), not only lexical categories, but also the nonlexical categories project to maximal projections, e.g. IP or I'' (=S in earlier works) and CP or C'' (=S' in earlier works). X-bar theory gives us a very small set (relatively speaking) of possible configurations of syntactic structure.

θ -theory is concerned with the assignment of θ -roles (thematic roles such as agent and patient) to constituents, i.e. it deals with the question of which constituent in a sentence bears which thematic role. The principle known as the θ -Criterion is central to θ -theory; as stated in Chomsky (1981:36) it says that "Each argument bears one and only one θ -role, and each θ -role is assigned to one and only one argument". The Projection Principle, stating that "the θ -marking properties of each lexical item must be represented categorially at

each syntactic level" (Chomsky 1982:8) broadens the scope of the θ -Criterion, so that it applies at LF, S-Structure, and D-Structure.

Case theory will clearly be of importance in this thesis. This subsystem is to case what θ -theory is to θ -roles; it determines the distribution of case, i.e. which constituents can or must bear case, and which cases can or must be assigned to which constituents. The Case Filter is a crucial part of case theory; it states, "*NP if NP has phonetic content and no Case" (Chomsky 1981:49). The instances of case will often (in e.g. French and English) be abstract cases, i.e. they will not be phonetically overt. It may be possible to subsume the effects of the Case Filter under a visibility condition stating that "a noun phrase can receive a θ -role only if it is in a position to which Case is assigned or is linked to such a position" (Chomsky 1986a:94).

Binding theory determines the possibilities of coreference of anaphors, pronominals, and nouns with antecedents, and where those antecedents can be. The three principles of the binding theory are given in (5).

- (5) Principle A: "An anaphor is bound in its governing category"
Principle B: "A pronominal is free in its governing category"
Principle C: "An R-expression is free" (Chomsky 1981:188)

In chapter 5 I shall briefly discuss the relation between binding theory and the syntactic/semantic case distinction.

Bounding theory sets limits on how far constituents can be moved. Control theory determines whether there is an antecedent coreferent with the abstract pronominal element PRO, and where this antecedent can be.

Government theory will be relevant for our purposes, since "θ-role and Case are assigned under government" (Chomsky 1982:7). That is, the structural relation government must hold between the assigner of a case or a θ-role and the constituent to which that case or θ-role is assigned. Government is a subcase of c-command, another important structural relation, which will be relevant in the discussion of predication in chapter 2. Both c-command and government have various definitions; one definition of each relation is given below.

- (6) α c-commands β iff α does not dominate β and every γ that dominates α dominates β . (Chomsky 1986b:8)
- (7) α governs β if $\alpha = X^0$ (in the sense of X-bar theory), α c-commands β , and β is not protected by a maximal projection. (Chomsky 1982:19)

A subcase of government is proper government. This relation plays a significant role in GB Theory, as the Empty Category Principle "states that each trace must be 'properly governed'" (Chomsky 1982:7). One formulation of proper government is given in (8).

- (8) α properly governs β iff α θ -governs, Case-marks, or antecedent governs β . (Chomsky 1986b:22)⁴

1.2 Case

1.2.1 Definitions of Case

In spite of the fact that case is a frequent topic in works in the GB framework, and the fact that case theory is an important component of this framework, to my knowledge, adequate and comprehensive definitions of case are generally lacking in the GB literature, and in that of related frameworks. Traditional grammar has also been found wanting in this respect according to Hjelmslev, who mentions a negative definition "que l'on a dû donner à la catégorie casuelle" ('that one has had to give to the category case') (1935:74): "ce qui reste dans la déclinaison quand les catégories de genre et de nombre en ont été écartés" ('what is left in declension when the categories of gender and number have been set aside'). Hjelmslev later (1935:96) gives the "general definition": "Est cas une catégorie qui exprime une relation entre deux objets." ('Case is a category which expresses a relation between two objects'). He says of this definition: "La définition est juste et contient l'essentiel, mais elle n'est pas encore définitive" ('The definition is correct and contains the essential point, but it is not yet definitive') (ibid.).

⁴ Chomsky (1986b:19) defines θ -government thus: α θ -governs β if α is a zero-level category that θ -marks β , and α , β are sisters, or β is the head of a sister of α .

De Groot (1939/1978:106) doubts whether there can be a universal definition of case: "Il ne sera probablement pas possible de donner une définition de «cas» qui s'applique à toutes les langues, pas plus que d'une adverb ou de la forme de genre ou du génitif, puisque dans les différent langues les cas sont des systèmes de formes différents, qui font partie de systèmes différents plus étendus." ('It will probably not be possible to give a definition of "case" which applies to all languages, no more than [it would be possible to give a definition] of an adverb or of the form of gender or of the genitive, since in different languages cases make up systems of different forms, which are part of different more extended systems'). Pedagogical grammars of specific "case languages" often lack a useful definition of case (e.g. the definition in Kennedy's (1962) grammar of Latin: "A Case is a form of a Noun, Adjective, or Pronoun standing in a particular relation to other words in the sentence" (p.13)).

I shall not attempt a formal definition of case here. In fact, I shall argue for a somewhat different notion of case than that which is generally assumed, using evidence presented in this thesis. However, we shall examine two previous definitions of case to get a rough idea of what is meant by the term. Let us begin with the definition of Pei and Gaynor (1969:35):

In the flexional languages, [case is] a morphological variant of a noun, adjective, pronoun, numeral, or participle, distinguished from other such variants of the same word by a specific declensional ending, by a zero-ending, by an internal

vowel change, etc., indicating the grammatical function or syntactical relationship of the word. As applied to non-flexional languages, case means in general the grammatical function or syntactic relationship of a word, indicated by a preposition, postposition, suffix or a particle, or even by word order alone.

Although this definition comes from a relatively non-technical source, it does approach an insight about case: that the term can be used in more than one way, depending on whether one is talking about languages which explicitly mark their case relationships, and that even languages without such overt marking can be said to have cases. Case as used for "flexional" languages means morphological, or overt case, and when used in reference to "non-flexional" languages means what would now be called abstract case. To be more precise, one might want to say that case in its abstract meaning can be applied to both flexional and non-flexional languages, since the same sorts of grammatical relations will be present in both kinds of language. This definition does not consider semantic case; it says nothing about the ability of case to contribute to the semantic content of a sentence.

A more adequate definition may come from Mel'čuk (1986:37), working in the Meaning-Text Theory (MTT). Mel'čuk notes that case is used with various meanings, and so uses the terms "case 1", "case 2", and "case 3" in an attempt to be more precise:

- (9) Case 1 = a (grammatical or, more precisely, inflectional) category; this sense can be seen in such sentences as: "The Czech noun is inflected for case; Tartar possesses case as an autonomous category; Case is widely discussed nowadays."

Case 2 = an element (= a grammeme) of case 1, i.e., a specific case: nominative, accusative, superessive, etc. Cf. "Bats has twenty-two cases; The nominative is the case of naming objects; This verb requires the dative case."

Case 3 = a case form, i.e., a linguistic₁ form which expresses a case 2 (roughly, a particular case marker or a particular wordform); cf. "členami is in Russian the instrumental case of člen 'member' in the plural; The genitive case never appears after plural in regular English nouns; Give me the dative case of chłopiec both in singular and plural." (Mel'čuk 1986:37)

Mel'čuk's definition of case 1 is not simple; as he says, "The definition of case 1 which follows is extremely complex; I did my best trying to come up with something simpler and more digestible, but failed. Maybe the complexity of the definition proposed reflects the actual state of affairs; after all, grammatical case IS a notoriously complex concept. Nonetheless, the reader should not be frightened away by the clumsy and involved formal construction appearing below." (Mel'čuk 1986:42). Such a complex definition may be necessary; perhaps the complexity of the concept is responsible for the lack of rigorous definitions. On the other hand, perhaps the reason for the complexity of the definition is that case as currently defined includes concepts which should not be combined in the same notion. Mel'čuk's definition of case 1 is given in (10).

(10) Case 1 = a grammatical category of nominals such that:

(i) each of its grammemes ' c_i ' is a pair

$$\langle M^{i_1}, M^{i_2} \rangle$$

where:

- M^{i_1} is a non-empty proper subset $\{\rho_i\}$ of the set of all passive surface-syntactic [=SSynt-] roles filled by the nominals of the language in question, such that:

a) for any nominal lex w which expresses ' c_i ', its passive SSynt-valence is identical with or included in M^{i_1} ;

b) for any ρ_i , there is a nominal lex w expressing ' c_i ' and an utterance in which w plays the SSynt-role ρ_i ;

- M^{i_2} is a (possibly empty) proper subset $\{\sigma_i\}$ of the set of all predicate semantemes of the language in question, such that:

a) for a nominal lex w which expresses ' c_i ', if in an utterance the lex w itself or its relation to its SSynt-governor is characterized by semanteme σ , then σ belongs to M^{i_2} ;

b) for any σ_i , there is a nominal lex w expressing ' c_i ' and an utterance in which w itself or its relation to the SSynt-governor is characterized by σ_i .

(ii) It contains no fewer than two grammemes ' c_i ' and ' c_j ', such that for both sets M^{i_1} and M^{j_1} each set includes at least one major SSynt-relation which the other does not include. (Mel'čuk 1986:42-3).

As Mel'čuk notes, "Familiarity with this theory [i.e. MTT] may prove necessary for complete understanding of my proposals" (1986:38), and this may be so here. However, perhaps the following will serve as a rough and informal summary of his definition: case 1 is that grammatical category which minimally indicates the syntactic roles of the NPs of a sentence (i.e. the syntactic relations between a NP and

other constituents of the same sentence); in addition, case 1 may bear meaning relating to an NP. As Mel'čuk states, case 1 "possibly provides for characterizing N semantically (more precisely, for characterizing the semantic content of N: independently or with respect to its semantic governor)" (Mel'čuk 1986:44).⁵

1.2.2 Ks and Ps

I shall propose a conception of case which can be defined more simply, but which will greatly reduce the number of entities which can properly be called cases. As mentioned above, it is possible that case as it is currently conceived of is an unnatural class; this is perhaps a reason for the complexity (and paucity) of formal definitions. A natural class of entities should always be easier to define than an unnatural class; indeed, one of the signs of a natural class is the ease and small number of terms with which it can be defined. Mel'čuk allows for two basic possibilities for the content of the pair $\langle Mi_1, Mi_2 \rangle$, that is, Mi_2 can be an empty or a non-empty set. If it is an empty set, then the case in question expresses only one or more SSynt-roles; if it is non-empty, then semantic information is also given by this case. These two choices are also apparent in the informal summary of Mel'čuk's definition given above -- case always expresses syntactic roles, and in addition can sometimes give semantic information. Note that "marking the SSynt-dependencies of nominals is the primary and constitutive property of cases 2"

⁵ Mel'čuk (1986:43-4) also gives his definition in symbols, "since verbal formulation proves so cumbersome". For another definition of case v. Gladkij (1973).

(Mel'čuk 1986:45), while the inclusion of semantic information is not universal. Thus the essential function of case is the indication of grammatical (i.e. syntactic) information.

I shall claim that this is the only function of case, in other words, that the conveying of semantic information or lexical type meaning is not part of the function of case. Thus those cases which are called semantic cases should not in fact be considered cases in terms of syntactic category, that is, they do not belong to the category K. Semantic cases and syntactic cases behave in different ways and can not be classified under a single heading, if one is to have syntactic categories with uniform characteristics. Semantic cases will be shown to act like adpositions, and so should be placed with them in the category P.^{6 7} If this is done, then the task of

⁶ I shall use the following terminology: case and preposition will be used in their traditional sense, while P and K will indicate the realigned categories that I argue for. (Cf. Abney 1987:84, "I will denote case-markers as "K", in contrast with "true" adpositions, i.e., "P".) However, in direct quotations there may be instances of "P" and "K" being used in a different sense than mine.

⁷ The relation between cases and prepositions has long been recognized. Robins (1967:101) says, "In 1525 Pietro Bembo raised the question whether these latter [prepositions "like French *de* and Italian *di*"] were prepositions properly speaking or rather just case-signs, *segni di caso*." In the *Port-Royal Grammar* it is stated (p. 115) that "cases and prepositions have been invented for the same purpose, namely, to indicate the relationship which things have with one another". Bayly (1758:24) makes a comment in a similar vein:

There are certain Relations a NOUN standeth in to another, or to a VERB; which may be expressed first by certain Particles placed before the NOUN (therefore named, Prepositions) and by Construction (i.e. the natural Order in Speech) without varying its Termination: or, secondly, in some Measure, by Variations without Prepositions. The Variations of a NOUN are commonly called

CASES | CASUS i.e. Falls ab recto | ΠΡΩΤΟΙΣ

The first Method is followed by the English and Hebrew; the second by the Greek and Latin.

defining case will be made simpler. In a strong version of this hypothesis one could claim that there are only two true cases, nominative and accusative, following the assertion that there are only two grammatical relations, subject and (direct) object.⁸ Thus it should be easy to distinguish the syntactic from the semantic cases: subject and object markers are syntactic cases, everything else is semantic. In the following chapters we shall see whether this hypothesis can be supported by patterning of characteristics. This will turn out to be true, with some exceptions: the subjective and objective genitives⁹ (which one can see as subject and object markers in the nominal phrase) and the dative and instrumental marking causees also act like the nominative and accusative and unlike the genitive, dative, and instrumental in other functions. The accusative marker borne by NPs governed by adpositions can not undergo the tests proposed in chapters 2 and 3 of this thesis, but I hold that it also is a syntactic case. When the dative, genitive, instrumental, etc. mark objects of verbs, they behave like semantic cases, and unlike

Jackendoff (1977:80) mentions an assertion concerning the identity of adpositions and case markers: "It is often claimed that prepositions are not a lexical category, but rather that they are simply case markers on noun phrases, possibly even inserted by transformations." According to him, Case Grammar represents an example of this attitude. He claims (ibid.) that "These analyses are based on the mistaken assumption that the only possible complement to a preposition is NP: if prepositions enforce strict subcategorization requirements and occur with such bizarre complements as PP and even NP - PP, the analysis is obviously untenable."

⁸ This position differs from that of Relational Grammar, which posits three grammatical relations: subject, direct object, and indirect object, although subject and object are grouped together as nuclear terms (v. Blake 1990:1).

⁹ To be precise, I shall argue that it is only a subset of what are traditionally called subjective and objective genitives that are syntactic cases. V. 2.2.5.1.

the accusative of the direct object; the same holds true for the dative which marks experiencer subjects.

In chapter 4 this idea on the membership of the category K will be related to the question of the content of functional categories in general, where it will be suggested that all functional categories mark binary oppositions; the function of cases is to mark NPs as [\pm subject] or for some other feature(s).

One may wonder why, if these assertions are correct, unlike elements have been classified together under the category case. This may stem from a confusion of phonological and morphological criteria with syntactic ones. In many languages syntactic cases appear to occur in the same environment as semantic cases: they are both marked by suffixes, and occur in the same place with regard to other suffixes, e.g. plural markers. On the other hand, adpositions, which I claim are of the same category as semantic cases, are separate words. In terms of morphology, one may want to know which constituents are affixes and which can be independent words, but this should be irrelevant for syntactic categories, or at least, not the only factor taken into account. Consider the definite article, which is a member of the category D.¹⁰ In English, French, and many other languages, the definite article is an independent word, but in several

¹⁰ The idea that there is an X^0 category D, which is the head of a Determiner Phrase (DP) is proposed in Abney (1985). However, Fukui and Speas (1986:132) say, "To our knowledge, the first to advocate such a view of determiners [i.e. that "the determiners found in NPs are Functional heads, on a par with the Functional heads INFL and COMP"] was Brame (1981, 1982)".

languages (e.g. Swedish) definiteness is marked by a suffix. Nevertheless, in a syntactic phrase marker these affixes would presumably be placed under a D node, just like the definite articles of French and English (although in a morphological tree they might be dominated by an Af node).

1.2.3 Cases and Case-Functions

Another reason why there might be some confusion is that sometimes a case has, or seems to have, both syntactic and semantic functions, and so it might seem natural to consider both types of function to be of a kind. For example, the Latin accusative, the canonical function of which is to mark the direct object, can apparently also convey several (what I take to be) semantic meanings, e.g. extent of time and space, and the same is true of the Latin genitive, which can mark both "objects" of verbal nouns and materials. However, it does not follow that direct object and extent of time, or object of a verbal noun and material are indeed notions of the same type. Therefore, when I apply tests to NPs bearing different cases, I shall consider not the cases as units, but cases acting in different functions, for it may be that NPs bearing the "same" case behave differently, depending on their function. Thus it is not enough to test the genitive in Latin; one must test the individual functions of the genitive, and of the other cases. In one's classification as well, one should classify case functions rather than

cases as wholes, although it will turn out that most cases have functions which are all either syntactic or semantic.

There are at least four cases, the accusative, dative, instrumental, and genitive, which appear to have functions of both types; the tests in this thesis will show how different uses of the genitive, instrumental, and dative pattern differently. Thus not only is the category case an unnatural class, but several individual cases are unnatural classes, some instances of which behave as Ks, and others as Ps. If one separates cases into two syntactic categories based on type of content, then one may feel obliged to posit (at least) two accusatives, each belonging to a different category, one a K and one a P.¹¹

Another approach is to consider that the accusative which appears on extent of space NPs is actually a syntactic case assigned by an empty P. All accusatives are of the same type, that is, they are all assigned on the basis of structural position (i.e. complement of a V or of a P) and are syntactic. The difference between a direct object NP and an extent of space NP is that the latter is governed by an empty P which assigns it accusative case, and causes it to behave like other NPs inside PPs (e.g. by blocking c-command and thus predication). Under either analysis, a point to be borne in mind is

¹¹ Note the remark in Leumann, Hoffman, and Szantyr (1972:372): "Im Akkusativ sind zwei Kasus zusammengefallen: der 'grammatische' Kasus des direkten Objektes und der lokal 'Lativ'" ('In the accusative two cases have fallen together: the 'grammatical' case of the direct object and the local 'lative').

that not all NPs bearing a particular case will necessarily behave the same way, and thus in my tests and system of classification I should consider individual case functions.

1.3 Functional Categories and the KP

The syntactic/semantic case distinction assumes that there are two groups of cases which differ in whether they possess semantic content, or in what type of meaning they possess. This distinction among cases can be seen as part of a general distinction made among linguistic elements and/or among the kinds of information that they convey.

This general distinction, or something like it, was made by Aristotle,¹² and has been made by many authors since. To quote Carlson and Tanenhaus (1984):

A wide variety of grammarians, at least since the time of the Stoics, have hypothesized that natural language employs two major types of words or morphemes, which we will call lexical items and function words. The huge variation in what these classes are called reflects a wide variety of concerns and differing conceptions of what these two classes are: the Medievals called them categorēmata and syncategorēmata; Fries (1952) discusses major form classes and function words; Morris (1946) suggests designators and formators; Ullman (1962) calls them autosemantic and synsemantic words;

¹² In chapter 20 of the *Poetics*, Aristotle describes nouns, verbs, and phrases as *φωνη συνθετη σημαντικη* 'a composite sound with a meaning' and "conjunctions" and "joints", as well as syllables, as *φωνη ασημος* 'a sound without meaning' (translations by Fyfe, who says (p. 75) that "A "joint" ... appears to be a word which indicates the beginning or end of a clause").

Tesnière (1959) uses mot pleins and mot vides; Hall (1964) calls them contentives and functives.

There are two positions that one can take with respect to this distinction: either it exists or it does not exist; by "exists" one may mean 'corresponds to linguistic or psychological reality'. Those who argue against such a distinction may have one of several alternative notions:

- 1) One could claim that there is only one kind of linguistic meaning, i.e. that there is no difference in kind between grammatical and lexical meaning. If there is only one kind of meaning, then of course one can not make any distinctions among linguistic elements based on the kind of meaning they bear. This may be the position of Langacker and the Cognitive Grammar framework.
- 2) One could accept the idea that there are two kinds of linguistic meaning, grammatical and lexical, but assert that one can not place all linguistic elements into two discrete groups based on the kind of meaning they bear; rather there is a spectrum. This is the position of Fronek (1982):

One of the achievements of the more recent (semantically based) approaches to grammar is the recognition of the fact that there is no sharp distinction between the two categories ... It is recognised that every word carries some grammatical function and most words carry some lexical meaning. There is no distinct functional polarization -- rather, there is a continuum of types with different proportions of the two kinds of meaning. At the one end of the scale we get purely grammatical words such as the article in English, at the other

end we get highly specialized words referring to concrete phenomena (objects, processes, qualities), e.g. desk, walk, black, in which the contentive elements predominate. The latter are not, however, completely devoid of grammatical meaning. (...) In between these two extreme ends of the continuum there are numerous intermediate types, e.g. personal pronouns, deictic words, limiting adjectives (e.g. other, another), verbs and nouns of general semantics (e.g. do, make, man, person), and the like.

The position I shall take in this thesis is that there are two distinct classes of linguistic elements, and this receives support from the fact that there are patterns of behavior which can be attributed to each group. If we base a system of classification on one behavioral criterion, then there is no intermediate ground, i.e. element X either acts in manner Y, or it does not. If it can be shown that a set of behavioral criteria pattern together, then again, there is no intermediate ground, elements either behave in manners W, Y, and Z, or they do not behave in any of these manners (or any apparent discrepancies can be accounted for by other factors). In the following chapters I attempt to give evidence that this happens; I present a set of behavioral properties which I claim are typical of syntactic or semantic cases and which can be shown to pattern together. Thus all cases (or rather their functions, v. supra) can be shown to fall into one group or the other.

Note that when one speaks of semantic or syntactic cases, or of lexical or grammatical elements, it is not necessary to make any assertions on the nature of the difference between these groups. That is, one can classify elements as syntactic or semantic based on

behavior while leaving aside such questions as what "semantic content" is or what lexical type meaning is.¹³ However, in chapter 4 I make a suggestion on the difference in the type of information that is contained in the two types of elements, but this is tentative, and the validity of the rest of the thesis does not rest on it.

My approach then is based on the syntactic behavior of elements as a means of classifying them, and as a support and justification of the syntactic/semantic and grammatical/lexical distinction. I believe that such an approach is necessary if we want to classify cases into such groups, since we do not always have direct intuition into the classification of cases in this way. This classification is not a straightforward matter. As noted above, there has been disagreement on the classification of individual cases. Indeed, it might appear to be unclear whether syntactic case and semantic case are two well defined and discrete classes or whether one must speak of a "spectrum" of the syntactic-semantic distinction, with cases being graded on a scale from purely syntactic to purely semantic, with there being various intermediate stages. (The latter position is the version, applied specifically to case, of the second alternative to assuming a grammatical/lexical distinction among linguistic elements in general). One might assume that a strict binary distinction is impossible because, given the lack of any sole, universally accepted, criterion for determining the class to which a case belongs, it is

¹³ More specifically, one can use the behavior of fairly clear instances of elements with lexical or grammatical meaning as a guide to the classification of elements whose semantic status is less clear, without examining the nature of lexical type meaning itself.

difficult or impossible to weigh the different criteria which one could use against each other for their significance, and therefore to determine where to place cases having different combinations of properties.

It might be argued that there is, or should be, a simple, obvious, and universal criterion for classifying cases as syntactic or semantic, one involving meaning: i.e. that semantic cases have semantic or descriptive content and syntactic cases do not, or at least that semantic cases possess meaning of a different sort than syntactic cases (namely lexical type meaning). If this is correct, then why is it so difficult to determine which cases are semantic and which are syntactic? That is, if only one criterion is needed, then why should there be problems deciding which class certain cases fall into? The answer is that there is difficulty in applying this criterion; in some instances it is not easy to determine whether an element has semantic or descriptive content or lexical type meaning, if indeed we can arrive at satisfactory definitions of such notions.

To demonstrate this, let us examine what Abney (1986:5) says on descriptive content:

A phrase's descriptive content is its link to the world. If someone utters the word "ball", and there is a ball in view, the assumption would be made that the ball is being described by the utterance of the word "ball". This is the sense in which the noun ball has descriptive content. Verbs also have descriptive content in this sense. For instance, if John hits Bill, and the word "hit" is uttered, it is clear what action is being described. On the other hand, with the utterance of a functional element --

say, the modal "will", or the complementizer "if" -- it is not possible to pick out some bit of the world in the same way. Fundamentally, "will" does not describe any aspect of the world, but encodes a relation between two actions: it encodes the temporal relation between an utterance, and the action described by that utterance.

With this definition, one might think it a simple matter to discover which elements have descriptive content. However, it is not always so easy to determine when a constituent does "pick out some bit of the world", otherwise there would be no dispute as to which constituents had and which lacked descriptive content. I shall give two illustrations of this.

The first has to do with the notion of a functor or functional element. Abney (1985, 1986) divides linguistic constituents into two types, functors and thematic elements; this is a contemporary version of the distinction mentioned above between lexical and grammatical elements. There are various ways in which these classes differ, but one of the most important ones (the crucial one, one might think) is that thematic elements have descriptive content while functors do not. Abney's statement on descriptive content quoted above was made in reference to this distinction. If it were easy to determine the existence of descriptive content, then there should never be any question as to which elements are functional and which thematic. There is at least one category which is problematic with regard to functional or thematic status, namely adpositions. Abney (1985:11) treats adpositions as functors, although he immediately says that "it is possible that there are in fact two classes of

prepositions: functional prepositions and thematic prepositions" (ibid.). He is apparently aware that the classification of adpositions may not be straightforward, as he states that this category "seems to straddle the line between functional and thematic elements" (1987:63). Some may believe that at least some adpositions (e.g. under, behind, towards) do have descriptive content or lexical type meaning and so should be placed with the other thematic categories. Abney may be close to this position when he speaks of the possible existence of two types of preposition, and indeed, at the end of his dissertation (1987:353) he classifies prepositions as [-F], i.e. as "thematic elements" rather than as "functional elements". If determining descriptive content were a simple matter, the classification of Ps as functional or thematic elements would be easy and there would be no disagreement or hesitation on the question.

The second illustration of the difficulty in determining the existence of semantic content comes from the Cognitive or Space Grammar framework of Langacker, who takes what one might consider an extreme view on the question of meaning. He could be interpreted to claim that all linguistic units have descriptive content, or at least that they all have the same type of meaning. He says, "my conception of language as symbolic in nature extends beyond lexicon to grammar. I will argue that morphological and syntactic structures themselves are inherently symbolic, above and beyond the symbolic relations embodied in the lexical items they employ (...) I contend that grammar itself ... is inherently symbolic and hence meaningful" (1987:12). In his (1988a) paper on case he describes the "meaning"

of the notions subject and object (and hence, one may assume, of the nominative and accusative cases in their usual uses). These notions could be regarded by others as canonical grammatical (and non-semantic) concepts. If Langacker's claim can be considered, then it means that we are a long way from being able to directly determine whether an element has semantic content, or whether there is validity to the lexical/grammatical distinction.¹⁴ That is, if there can exist differing serious views about which elements possess lexical type meaning (or about whether there are different types of meaning), then the determination of the possession of semantic content is not as simple an affair as one might think.

If it is indeed so difficult to determine whether elements have semantic/descriptive content, then of course using the possession of semantic/descriptive content as a criterion for deciding whether a case is a syntactic case or a semantic case is problematic. Even if we avoid the notion of semantic/descriptive content, and simply say that syntactic and semantic cases possess a different kind of meaning,¹⁵ there are some cases whose content may be difficult to classify in this way, e.g. does the dative case possess the same kind of meaning as the nominative, or as the locative?

¹⁴ I shall discuss Langacker in more detail in section 1.4. Langacker is not the only one with such a view; cf. the remark of Wierzbicka (1981:58): "Cases -- including so-called syntactic ones, like the nominative and the accusative -- have meanings. They are not mere distinguishers, they carry positive semantic values."

¹⁵ Fukui and Speas (1986:133) state that "Functional heads lack the sort of semantic value associated with lexical categories".

Assuming that one regards the distinction between syntactic and semantic case as one worth making, one must proceed in a different way. Let us suppose that semantic cases have some characteristic properties, while syntactic cases have others. Then, even though one cannot judge whether a case has semantic/descriptive content, or which type of meaning it has, if one can discover what these characteristic properties are, one should be able to classify this case as syntactic or semantic.

A problem with this approach is how one discovers what the characteristic properties of semantic constituents are. It should be noted that the difficulty in determining descriptive content or the kind of meaning possessed by an element does not occur with all linguistic constituents, in fact the issue comes up only with a minority of them (if we assume that there are two different types of meaning). For example, it is fairly clear that armchair, mumble, and green have semantic content and (unless one believes Langacker's analysis) that the complementizer that and the determiner the lack it (or, again, leaving aside the notion of semantic content, it seems clear that the first three words contain meaning of a certain kind, while the last two have a different type of meaning). Likewise, in the realm of cases, the locative, the subelative of Lezgian (meaning '(moving) from under (something)') and the superprolative of Didoy (meaning something like '(traveling) through the space above (something)') are fairly apparently semantic cases,¹⁶ while most people would agree

¹⁶The latter two examples of semantic cases come from Mel'čuk (1986:64) and their paraphrases come from or are based on the same source.

with the inclusion of the nominative and accusative with the syntactic cases.¹⁷ These are not cases whose classification is so problematic, unlike the dative or instrumental.

If we can isolate some characteristics of the clearly semantic and clearly syntactic cases, then we can see how the difficult or borderline cases pattern with respect to these. We may have reasonable grounds for placing them in one or the other of these classes, assuming that enough of the characteristics pattern together (i.e. agree with each other). Ideally one would like to know which of these properties are essential and which are incidental, i.e. which properties are a result of having semantic content or a certain kind of meaning. Even if this is not possible, a clustering of properties may be indicative of the class that an element should be placed into. Of course this means that one cannot indisputably prove that a particular case has one or the other kind of meaning, only that it shares many properties of cases which are generally judged to have one kind of meaning. I believe that this may be the best that we can do, but if enough characteristics pattern together, it will suggest that we have a viable way of classifying cases with regard to their (type of) meaning. Further, if it can be shown that elements which intuitively differ in meaning do behave differently, this will lend

¹⁷ One might object that there are no clearly syntactic cases, since according to the intuitions of some (e.g. Langacker and Wierzbicka) the nominative and accusative are semantic. However, even Langacker makes a distinction between the nominative and accusative and the other cases (v. *infra*); thus his intuition in one way is like those who posit a syntactic/semantic case distinction. We can thus say that there is some sort of distinction, whether based on semantic content or not, and the nominative and accusative are clear examples of elements on one side of that distinction.

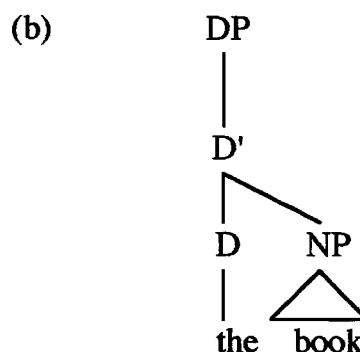
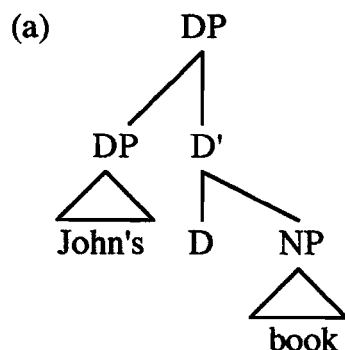
some support to the assumption of the lexical/grammatical distinction.

1.3.1 Abney on the Lexical/Functional Distinction and the DP

In the previous section I brought up Abney's version of the lexical/functional distinction, and mentioned some of his views on the category of prepositions. I shall now mention some other aspects of Abney's ideas on functional categories and related topics. Abney (1985, 1986) has argued for the addition of another member to the class of syntactic categories, namely the Determiner Phrase (DP), with Determiner (D) as its head. As Abney (1986:8) says, "Det shares many properties with Infl and Comp"; this indicates that they should all be classified as functors (or functional categories or functional elements), and not as lexical categories. They do not have descriptive content, do not bear stress, are a "closed lexical class" (to use Abney's (1985:4) term), and can only take one complement. The assumption that D is a functional category, and that it selects NP, will explain the distribution of determiners and will "regularize X-bar theory" (Abney 1986:8), as determiners will have complements, like other categories. The structure of DP is given in (11).¹⁸

¹⁸ The analysis in Abney (1987) would give a slightly different structure for (11a), as would the analysis which I shall assume; in the former account *John's* in this structure would be a Case Phrase, while I claim that it is a PP, although I would say that the same constituent in *John's destruction of the city* is a Case Phrase. (11a) shows a structure proposed by Abney before he posited the Case Phrase, which will be discussed in the next section. In Abney (1986:9) there is a different structure, in which the 's of *John's* is dominated by the D node.

(11)



(Abney 1985:9)

In Abney's theory maximal projections of functional categories have two heads, a structural head (the head in terms of X-bar theory, i.e. the X^0 level constituent of the same category as the maximal projection), and the semantic head, which is "the lexical source of the descriptive content of a phrase" (Abney 1986:6). The maximal projections of lexical (or "thematic" categories) have only one head, as the structural head is identical to the semantic head. In the DP the book, the determiner the is the structural head while book is the semantic head (as well as being both structural and semantic head of the NP).

Parallel to the two kinds of head there are two kinds of projection, as Abney (1986:6) notes: "Let us call X'-projection c-projection. Contrasting with c-projection, define an s-projection of a head α as any node of which α is the semantic head. C-projection defines the phrase of a head: the verb phrase, for instance, is the maximal c-projection of the verb." The DP the book is a c-projection

of the D the, while it is a s-projection of book. The NP contained in that DP is a c-projection and a s-projection of book.

1.3.2 The Case Phrase

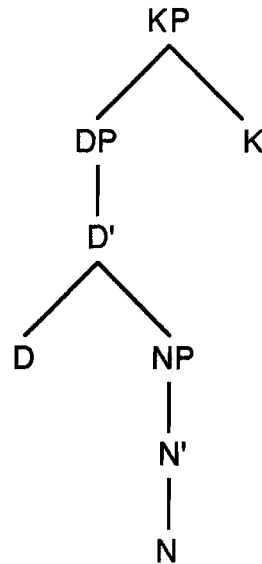
I shall now discuss another functional category, the Case Phrase, the existence of which I shall assume in this thesis, although with a different notion of case. Lamontagne and Travis (1986), based on work by Ken Hale, assert that case should also be represented as a syntactic functional category, written as K. Justification for this comes from the similarity between the phenomena of COMP-drop (as in Japanese and English) and Case-drop (as in Turkish, Japanese, and Welsh). Postulating the existence of the category K permits one to do without the Case Filter, as its effects will be derivable from the Empty Category Principle. It also will do away with the need for an explicit adjacency requirement for case assignment. Abney (1987) also posits the KP; he says, "If [DP 's] is a KP, we can generate it as complement of a noun, receiving the internal θ -role assigned by that noun, and raise it to Spec of D to receive genitive Case from AGR: in other words, the characterization of K I have just given permits us to treat 's as a postpositional K, without forcing us to abandon the idea of passive in the noun phrase" (1987:84-5).¹⁹

¹⁹ Fillmore (1968), working in the Case Grammar framework, had the names of cases as labels of nodes of syntactic trees. However, his "deep cases" represented something different than case in the sense in which Lamontagne and Travis and most other linguists currently use the term, being closer to θ -roles.

J. M. Anderson (1971:29) argues against the notion of having a "constituent relationship" for a case and a NP, i.e. against a representation in which a NP is dominated by a node labelled with a particular case. His solution

Like the other functional categories, K is the (structural) head of a maximal projection, namely the Case Phrase (KP). N will be the semantic head of both DP and KP (as well as of NP of course). K will take DP as a complement, while the head of the latter category (namely D) will take NP as a complement. An N with all its projections will then appear roughly as in (12). (The linear order may vary; the dominance relations are what is important).

(12)



is to use a dependency tree rather than a constituency tree, where the case nodes are dependent on and governed by V, and govern dependent Ns. He may be one of the first authors to use the term "case phrase" (1971:32), meaning whatever is governed by a case node. (Of course he is using "governed" in a somewhat different sense than GB Theory does.)

Staal (1967) has case (as well as number) as a category in trees and in his phrase structure rules (the names of individual cases also appear). He also has trees with nodes labelled K_2 , K_4 , K_5 dominating NPs and cases, but K here stands for Sanskrit *karaka*. CP has also been used to stand for Case Phrase (e.g. in Laughren and Hale 1987), but KP is now generally used, which avoids confusion with the CP meaning Complementizer Phrase.

Note that the K "does not assign Case but is a functional category which is Case" (Lamontagne and Travis 1986:58).²⁰

I have now discussed the general distinction between lexical and functional categories, and the addition of two categories, D and K, to the inventory of functional categories. In section 1.4 I shall discuss previous accounts of that subcase of the lexical/functional distinction which is the topic of this thesis, the distinction between syntactic case and semantic case.

1.4 Previous Accounts of Syntactic and Semantic Case

Let us now look at what has been said on the syntactic/semantic case distinction. Of course, the positing of this distinction assumes that semantic cases exist. This may be roughly equivalent to claiming that cases can have (lexical type) meaning, or that they (or some of them) can have a different type of meaning than grammatical or functional elements. The question of the meaning of cases is discussed by Brecht and Levine (1986) and Mel'čuk (1986:56-60), v. *infra* for the latter.²¹ In the former work it is said that Chomsky's view of case is that it is "essentially meaningless". This may be due in part to the fact that GB Theory has not dealt extensively with e.g. Caucasian languages, as it would be difficult to

²⁰ If the KP is indeed parallel to IP, CP, and DP, it should have a SPEC position. However, it is unclear what could be in this position.

²¹ I shall in fact be claiming that cases do not have lexical type meaning, but this is following my definition of case, which would exclude the locational cases of the Caucasian languages, as well as other semantic cases.

maintain that all the cases in those languages are meaningless. The positing and treatment of the syntactic/semantic case distinction began at least some decades ago; this section is not a complete review of the literature on case and meaning, but rather a survey of some views on this distinction.²² Some of the authors brought up here deal with the classification of cases as units, and may not even mention the problem created by cases which have both syntactic and semantic uses. In my view, most of these accounts of the syntactic/semantic case distinction have flaws or are not universally applicable; after presenting the accounts I shall discuss their flaws. In section 1.4.8 I shall review the distinction between structural and inherent case, which might appear to be similar or identical to the syntactic/semantic case distinction, and I shall point out problems for some accounts of that distinction.

1.4.1 Kuryłowicz

Mel'čuk (1986:60) states that Kuryłowicz "established" the distinction between syntactic and semantic case (which the latter

²² One matter I shall not be concerned with (although it is of interest) is the question of the local origin of grammatical cases. When e.g. Petersen (1918:1) begins to discuss "the question of whether the Indo-European dative was a grammatical or a local case", the issue seems to be not whether the dative has semantic content, but whether it originated as an element with local meaning. In this thesis, the syntactic/semantic case distinction refers to whether a case has semantic content at a particular point in time, not whether it originated as an element with semantic content. In any event, those who argue for a local origin for e.g. the dative might not draw a grammatical/local distinction, as the localist theory (or a strong version of it) might assert that all case markers were originally local elements, and thus that all cases are local cases in that sense.

calls 'grammatical' and 'concrete' respectively²³). Kuryłowicz is aware of the fact that one case may have both syntactic and semantic uses. According to him cases have primary and secondary functions. One difference between syntactic and semantic cases is that while a syntactic case may have semantic uses, its primary function is syntactic, and while a semantic case may be used as a syntactic case under certain conditions, its primary function is semantic.²⁴ The "position syntaxique par rapport au verbe" ('syntactic position in relation to the verb') is another difference between syntactic and semantic cases,²⁵ and a third criterion (mentioned in Kuryłowicz (1964)) is whether cases "are engaged in transformational processes" (Kuryłowicz 1964:188); those that are, are grammatical cases.²⁶

²³ Kuryłowicz says that it would be better to use 'syntactic' and 'semantic' instead of 'grammatical' and 'concrete', but "la théorie des cas est déjà surchargée de termes de classement comme cas de détermination interne et externe ..., cas locaux, etc. Nous retenons donc une terminologie devenue familière." ('the theory of case is already overloaded with terms of classification like cases of internal and external determination, ... local cases, etc. We therefore retain terminology which has become familiar.') (Kuryłowicz 1949/1960:138-9).

²⁴ On the distinction between primary and secondary function v. Kuryłowicz (1949/1960:136-7).

²⁵ For this criterion, v. Kuryłowicz (1949/1960:139-40). The position of NPs in syntactic cases (in their primary function) will be "plus centrale", while those in semantic cases (again in their primary function) will be "plus marginale".

²⁶ Thus the nominative, accusative, and (Sanskrit) instrumental are grammatical cases: "An active (transitive) sentence may be transformed into a corresponding passive one by replacing the acc. by the nom., and the nom. by an oblique case (instr. in Skt.)" (Kuryłowicz 1964:188); likewise, the subjective and objective genitives would be grammatical cases: "both the subjective and objective genitive change a sentence into a nominal group" (Kuryłowicz 1964:32).

Kuryłowicz makes another division among cases, distinguishing between the adverbial and the adnominal cases. Each of these classes has semantic and syntactic cases, the accusative being the only syntactic adverbial case, while the genitive is the sole syntactic adnominal case.²⁷ In Kuryłowicz (1949/1960) the other cases (instrumental, dative, ablative, locative) are semantic since their primary function is semantic or adverbial (but v. notes 26 and 28 for apparent shifts of opinion on the instrumental and dative respectively).

The primary function of the accusative case is to indicate the direct object of verbs, and in this function "sa désinence est sans aucune valeur sémantique, elle est purement le signe syntaxique de la subordination du nom au verbe." ('its desinence is without any semantic value, it is purely the syntactic sign of the subordination of the noun to the verb') (1949/1960:136). The accusative also has semantic functions, e.g. "the accusative of direction (goal) after verbs of movement", but these are secondary functions, and so the accusative is classified as a syntactic case.

As noted above, Kuryłowicz classifies the dative as a semantic case. It is considered the case of the indirect object, and Kuryłowicz acknowledges that it has been regarded as a syntactic case based on

²⁷ The first or broadest division of Kuryłowicz (apparently based on K. Bühler) is between the case with an "appellative" function (the vocative) and those with "representative" functions (all the others). I shall not deal with the vocative in this thesis, as it is of a different nature than the other cases.

this.²⁸ However, this use of the dative, and its use to mark objects of certain verbs, are secondary functions of this case. On the other hand, I assume that Kuryłowicz would claim that the primary function of the dative is semantic, and thus it is a semantic case.

As for the instrumental, Kuryłowicz apparently thinks that its use to indicate instrument is a semantic, rather than a syntactic function. Assuming that this is a semantic function, one might consider it the primary function of the instrumental. These statements are supported by Kuryłowicz's (1949/1960) classification of the instrumental as a concrete case (but v. note 26).

According to Kuryłowicz the genitive is a syntactic case. Among its various functions, some are syntactic while others are semantic. The subjective and objective genitives are syntactic and are "fondés sur le nominatif et l'accusatif" ('based on the nominative and accusative') (Kuryłowicz 1949/1960:145). These syntactic functions are primary; "le génitif subjectif et objectif sert de base à tous les autres emplois adnominaux du génitif" ('the subjective and objective

²⁸ Kuryłowicz (1964:32) says of the dative:

it could be considered as a grammatical case only if its primary function were transformational, e.g. if transformations such as German *j-n schlagen + eine Wunde schlagen* > *j-m eine Wunde schlagen* (external direct object > indirect object, before internal direct object) were obligatory in the language. Or if, as in Latin *manus coelo tendere*, an accusative of aim accompanying a direct object were necessarily replaced by the dative.

Later in the same work (1964:179) he says that "the position of the dative [with respect to the syntactic/semantic distinction] stays uncertain", noting that he had previously classified it as semantic.

genitive serve as a base for all the other adnominal uses of the genitive') (ibid.).

To summarize Kuryłowicz's views on the syntactic/semantic case distinction, he has three criteria for distinguishing the two types of case (the last one being mentioned in 1964): the nature of a case's primary function, the "position syntaxique par rapport au verbe", and whether a case is "engaged in transformational processes". The accusative and the genitive are syntactic, while the instrumental (in Kuryłowicz's 1949/1960 paper) and the dative, as well as the ablative and the locative, are semantic.

1.4.2 Mel'čuk

Mel'čuk (1986) discusses six distinctions (or "contrasts") which can be made among the different cases (which he calls cases 2). He states, "They are binary and they intersect, thus generating $2^6 = 64$ theoretically possible classes of case 2." (1986:60). However, since some of the types created by these distinctions are mutually exclusive, there are fewer than 64 classes. There are two types of distinction, those which belong to the "content plane" and those belonging to the "expression plane". The distinctions on the expression plane are synthetic vs. analytic, primary vs. secondary, simple vs. compound, and autonomous vs. non-autonomous cases. The syntactic vs. semantic distinction is on the content plane, as is the contrast between complete and partial cases.

Mel'čuk says that a syntactic case "marks the dependent SSynt-role of the noun -- or, more precisely, it specifies the set of its potential dependent SSynt-roles, but it does not express any meaning directly", while "a semantic case 2, while fulfilling the same functions, in addition conveys a meaning, i.e. expresses a part of the SemR of the sentence." (Mel'čuk 1986:60-1).²⁹ Thus the difference between the two types of case is that the semantic cases contain something which the syntactic cases do not have, namely meaning (which one could interpret as semantic content or lexical type meaning).^{30 31}

²⁹ SemR stands for Semantic Representation, the "deepest" of the levels of representation posited in MTT. SSynt-role stands for surface-syntactic role, surface syntax being another of the levels of representation posited in MTT. This notion is broader than the notions grammatical relation or grammatical function as understood in generative theories; if I understand correctly, all constituents of a sentence except its "absolute SS-head" (Mel'čuk 1988:114) must bear a passive SSynt-role (passive indicating "being the dependent" (Mel'čuk 1986:41)); thus the notion does not apply only to NPs. For example, Mel'čuk (ibid.) says that "one of the passive SSynt-roles of the English infinitive without to is "complement of a modal verb". V. Mel'čuk (1988) for an exposition of MTT.

³⁰ The situation may be more complex than the definitions indicate. One section of Mel'čuk (1986) is entitled "Do Cases 2 Have Meanings?". As the definitions of syntactic and semantic cases make clear, the answer to this question is that some cases have meanings and others don't. However, although "There are cases 2 (in some languages) which never have meaning: such is, e.g. the Russian nominative..." (Mel'čuk 1986:56) and "There are cases 2 (in some languages) which always have meaning: such, it seems, is true of the Finnish partitive" (ibid.), "there are also cases 2 which in some contexts have meaning and in other contexts do not" (ibid.). Mel'čuk gives the example of the Russian partitive "which conveys the meaning 'some' [=an indefinite amount of] with the direct object of several verbs (Prinesi saxar! 'Bring the sugar!' vs. Prinesi saxaru! 'Bring some sugar!'), but which is devoid of meaning in such idiomatic expressions as bez tolku 'to no purpose'"(ibid.).

The existence of such cases is problematic for the classification of cases with respect to the syntactic/semantic distinction: are such cases to be considered semantic or syntactic? We have already seen Kuryłowicz's solution

Mel'čuk lists the following cases as syntactic: nominative, subjective, ergative, accusative, pathetive, dative, instrumental, genitive, partitive, and oblique. These cases are syntactic because "As a rule, they do not express meanings -- or, if they do, they do not do it in a very systematic way. (Their meanings, for example, depend on the construction in which they appear, or on other factors.)" (Mel'čuk 1986:72).

Concerning the instrumental case Mel'čuk says "[it] marks the instrument or the means. Other SSynt-roles [are]: the agent with the passive; the predicative nominal, the grammatical subject in the ergative construction..." (1986:71). If the agent with the passive is one of the other SSynt-roles, then instrument/means must also be a SSynt-role. If this notion is a SSynt-role, then presumably it is not a semantic meaning (but v. note 31), and so the instrumental is indeed a syntactic case. The classification of the instrumental here depends on the status of instrument as a SSynt-role. As I shall point out below, this is a problematic feature of this account of the

of classifying cases based on their primary use. Although Mel'čuk states that there are cases which can be syntactic or semantic, he does not say how such cases are to be classified. He does say (1986:84) that "SOME 'grammatical' cases in SOME contexts do have meaning", e.g. apparently the genitive in Polish; thus some cases can be classified as syntactic even though they sometimes have meaning. For this thesis such issues are irrelevant, given that my interest is in individual case functions.

³¹ Mel'čuk (1988:351-3) speaks of and gives examples of "meaning-bearing surface syntactic relations", which appears to me to confuse matters; if surface-syntactic relations or roles can bear meaning, then it is difficult to see the difference between syntactic cases (marking SSynt-roles, which can bear meaning), and semantic cases (which can bear meaning). I shall ignore this point here and assume that SSynt-roles and relations cannot be connected with (lexical type) meaning.

syntactic/semantic case distinction, and is related to a flaw in some other accounts.

1.4.3 Babby

Babby discusses several types of case in a series of papers, including the (1986) paper "Case Theory and Russian", which is within the TGG framework, and treats case theory in relation to the Extended Standard Theory (EST). He claims that EST must be modified if it is to handle semantic case as well as syntactic case. His definition of syntactic case is "case whose assignment is uniquely determined by some other category and, therefore, does not figure in the sentence's semantic interpretation", while semantic case is "case whose assignment is not determined by any other category and, therefore, figures prominently in the sentence's semantic interpretation" (1986:170).

Babby divides syntactic case into three subtypes, lexical, configurational, and GEN(QP).³² These all "share the following crucial properties":

³² Lexical cases are those cases which are not predictable based on the constituent assigning the case. Babby (1986:180) states that "These case assignments are for the most part idiosyncratic lexical properties of the verb and must therefore be entered in the lexicon as part of the verb's subcategorization information." Lexical case is also known as inherent case. Configurational case is "determined by the syntactic environment or configuration that a noun phrase occupies in its phrase marker, not by the verb that governs it" (ibid.). GEN(QP) case is assigned "in the scope of the QP [quantifier phrase] node, scope being defined in terms of c-command" (Babby 1986:181). In a later (1987) paper, Babby suggests that GEN(QP), which is called GEN(Q^m) in that paper, is a configurational case.

- (13) a. "Syntactic Case assignment to a nominal category is determined by the category's position in syntactic structure with respect to other lexical or phrasal categories."
- b. "Assignment of Syntactic Case is obligatory, i.e. it must be assigned to a nominal category when all the conditions for its assignment have been satisfied."
- c. "Syntactic Case makes no contribution to the sentence's semantic interpretation (13c is actually a corollary of 13a and 13b)." (1986:199).

Babby gives the genitive of negation in Russian as an example of semantic case, as compared to the GEN(QP), which is syntactic. One of his examples of this use of the genitive is below:

- (14) a. Brat est mjaso
 brother:NOM eat meat:ACC
 'My brother eats meat/is eating the meat.'
- b. Brat ne est mjaso
 brother:NOM NEG eat meat:ACC
 'My brother isn't eating the meat.'
- c. Brat ne est mjaso
 brother:NOM NEG eat meat:GEN
 'My brother doesn't eat meat.' (Babby 1986:200)

The use of the genitive in (14c) is clearly not obligatory, since the accusative appears in (14b), which is identical otherwise. One will choose the accusative or the genitive depending on the idea that one wants to express, thus showing that the genitive here does play a role in the sentence's semantic interpretation, specifically, "inducing an indefinite/nonreferential reading, while the latter [the accusative]

is normally associated with a definite/referential reading" (Babby 1986:201).

Babby states (ibid.) that "Semantic Case is confined to just those noun phrases that would otherwise be marked nominative or accusative and, therefore, has the same distributional constraints on its occurrence as do prepositional quantifiers and GEN(QP), and 'uninflected' quantifiers." Babby's argument runs as follows. There is an hierarchy of case assignment which resolves potential case conflicts, i.e. in situations where more than one case is potentially assigned to the same NP, this Case Hierarchy will determine which of the cases is borne by the NP. The hierarchy for Russian is:

- (15) Lexical Case > Semantic Case > GEN(QP) > Configurational Case (Babby 1986:203).

Lexical case is the highest in the hierarchy and precedes all the other kinds of case, including semantic case. "Semantic case is thus confined to noun phrases that would otherwise be assigned NOM or ACC because these are the only noun phrases that are not governed by lexical case assigners." (Babby 1986:201). In other words, semantic cases can only be assigned to NPs which are in positions to be assigned nominative or accusative case, because NPs in all other positions will already have been assigned lexical cases, and so can not receive another case. Configurational case will only be assigned to those NPs which have not received any other kind of case: "If a caseless NP is not marked with the GEN or some other oblique Case in

the course of a syntactic derivation, it is subsequently marked with the appropriate direct Case" [i.e. nominative or accusative] (Babby 1980:3).

Babby's rules for nominative and accusative case assignment determine which of these default cases is assigned:

(16) a. Accusative Case Assignment

A noun phrase that is contained in a verb phrase is assigned the accusative case if it is not governed by a lexical-case assigner.

b. Nominative Case Assignment

A noun phrase that is not contained in a verb phrase is assigned the nominative case if it is not governed by a lexical-case assigner. (Babby 1986:180).

As he notes (ibid.), these rules "contain negative conditions; they reflect the unmarked, "elsewhere" status of the nominative and accusative cases that has been recognized by linguists for generations."

To some extent Babby deals with the classification of case functions, although he does not make any explicit remarks on the distinction between cases and case functions. For example, the Russian genitive in quantified phrases is classified as a syntactic case, while the genitive of negation is semantic, and so the Russian genitive is an instance of the same case in a particular language being considered syntactic or semantic, depending on its function.

Freidin and Babby (1984:85) give a table of the Russian cases showing whether they can be configurational, lexical (these two categories both being syntactic), and/or semantic. According to this table, the genitive, instrumental, and dative can be both syntactic and semantic (or can function as syntactic or semantic cases), but no classification of these cases as whole units is given. There seems then not to be a concern for the classification of cases as wholes; the genitive can function as a syntactic case or a semantic case; how the genitive is to be classified overall is not at issue. It is not stated in the work of Babby (or of Freidin and Babby) that instances of the genitive acting in different functions are in fact different syntactic entities, but different functions are treated separately, with no attempt made to classify the genitive as a whole. Babby's implicit viewpoint on the application of the syntactic/semantic distinction may thus be similar to mine.³³

1.4.4 Langacker

Langacker (1988a) has a perspective on case which is quite different from those previously examined; he does not write explicitly about the syntactic/semantic case distinction, but his views are relevant to the subject. His ideas on case must be viewed in the context of his framework, Cognitive (or Space) Grammar, which is

³³ Freidin and Babby (1984) may have a somewhat different point of view of the classification of cases and case functions; for me the question is "Is a certain function of a case syntactic or semantic?", while for them (at least at one point on p. 85) the question is "In what way(s) can a case function: as a configurational case, a lexical case, and/or a semantic case?". It is not clear that this reflects any significant difference between our outlooks.

itself considerably unlike GB Theory or any related theory. Langacker states that "A central claim of cognitive grammar is that only symbolic units, each having both semantic and phonological import, are required for the description of grammatical structure." (1988a:57). Among the symbolic units are the grammatical units: "A central claim of the framework is the symbolic nature -- and hence the meaningfulness -- of grammatical units. Like other symbolic elements, the grammatical notions that concern us are characterized with reference to cognitive domains." (1988a:58). Langacker seems to be claiming that all elements of language, including grammatical (= syntactic) ones, are symbolic, which he equates with being meaningful.

This would mean that all case morphemes, like all other grammatical units, are meaningful (or that there is no difference in type of meaning between lexical and grammatical constituents), and hence that all cases are semantic cases, and none are syntactic (in the sense of not having any lexical type meaning), even the nominative and accusative. This is indeed what Langacker (1991:378) says, "Contrary to received wisdom, it is claimed that case markers are invariably meaningful". I quote at length from his general remarks on case (1988a:72):

Case markings are traditionally regarded as purely "grammatical" elements devoid of semantic content. There are several apparent reasons for this view: the role of case in signaling syntactic relations (notably subject and object) that are themselves denied semantic import; the fact that cases are often governed by verbs, prepositions, or constructions, leaving

no option in their selection; the use of case for purposes of agreement, where by definition it is incapable of providing any "independent" semantic content; and the inability to isolate any single meaning appropriate for a single case in all its occurrences.

From the perspective of cognitive grammar, these reasons are simply invalid. Markers identifying subjects and objects as such can be regarded as meaningful if these grammatical relations are themselves notionally grounded.

This is the crucial point: if subject and object are semantic, rather than syntactic (or in addition to being syntactic), concepts, then of course the markers conveying these notions will have semantic content. As Langacker (1988b:40) says, "the question of whether the nominative and accusative cases are meaningful reduces to the question of whether the grammatical relations "subject" and "direct object" have a semantic basis". One would expect Langacker to claim that subject and object are semantic notions, since everything in cognitive grammar is semantic. There is no sharp distinction between syntactic and semantic elements, as "grammar and lexicon form a continuum" (Langacker 1988a:60). Further, elements often have more than a single meaning; they can have "a constellation of alternate senses that form a network" (ibid.).

Given this, what are the meanings of subject and object (and thus the meanings conveyed by the nominative and accusative cases when marking these notions)? Langacker envisions the "prototypical action" as an "action chain", where there is an "energy source", an "energy sink", and a transmission of energy between them. The

subject of a sentence is the head of the action chain, "the participant that is farthest upstream with respect to the flow of energy", while the object is the "tail" of the action chain, the "participant distinct from the subject that lies the farthest downstream in the flow of energy" (Langacker 1988a:61). Langacker claims that "Though more abstract than "agent" and "patient", these characterizations are still semantic in nature. They invoke nothing more than the conception of an action chain. (a schematic cognitive domain) and the notion of profiling, a facet of conventional imagery that is fundamental to semantic structure." (ibid.).

The question of the semantic status of the nominative and accusative cases then hinges on whether Langacker's characterizations of subject and object are valid. Do the notions subject and object refer to real world notions, as rock and to eat do? One must be aware that the definitions of subject and object given above relate only to the most prototypical meanings of the notions; they are given in terms of transitive, active, agentive verbs. However, not all verbs are of this sort; if they were, then agent would be equivalent to subject, and the latter would be a semantic category. If all subjects were agents, one could easily argue that subject is a semantic concept.

Given Langacker's idea of a constellation of meanings, one can understand his argument for the semantic status of subject and object. The prototypical meaning of the subject may be agent, but it can have other, related meanings, e.g. experiencer, instrument, all

related to the basic meaning 'head of the action chain'. When we think of a subject, we can have a mental image (or a symbolic structure) in mind.

Langacker does make a distinction between two types of case use, although it is not based on type of meaning. In fact, the distinction he makes is not so far from the distinction that I am arguing for (although his basis is different from mine), as can be seen in the following passage (1988a:73):

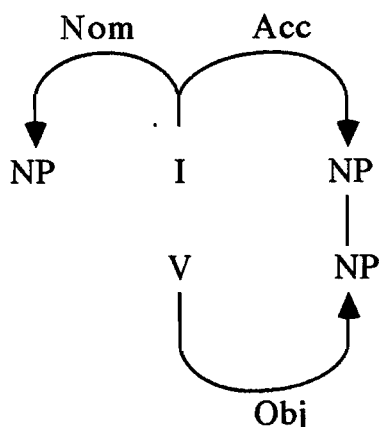
What does a case marker profile? There are two options. First, it may profile the focused participant, making it similar internally to a nominalizer like *-er* or *-ee*). Its effect on a noun phrase is then to derive a more elaborate nominal expression capable of serving as a subject or object. Alternatively, the case predication may be relational in character, profiling the interconnections between the focused participant and the base relation overall. In this event the case marker is very similar semantically to a preposition; accordingly, it converts a noun phrase into a relational expression of the sort that functions as an "oblique" complement. Note that both variants are possible for the same case, even in a single language. In Polish, for instance, some nominals marked instrumental are direct objects, while others are oblique.

I shall comment below on Langacker's view of the lexical/functional distinction, namely that there is no such distinction, and on his view on the meaning of the notion subject.

1.4.5. Larson

Larson (1988:360-1) proposes a system of case assignment in which a difference between "structural or grammatical" case and "inherent or semantic" case is that the former is "determined uniformly by INFL", while the latter (including the objective, benefactive, and dative cases) is "determined strictly by V". Both INFL and V can "determine" an objective case; in simple transitive clauses two cases are assigned to the same NP, the direct object. (This has interesting implications for Case Theory, specifically with respect to case conflict and multiple case marking). INFL plays a role in the assignment of two cases: the nominative case of the subject, and the structural objective case [the accusative case]. Larson (1988:360) says, "V assigns Objective Case in the configuration [_{Infl} Infl [_{VP} V ...]]. Thus, when governed by Infl, V assigns Objective Case. One way to think of this is that Infl has its own Objective Case that must be assigned through a "host" V." At the same time the V has an objective case to assign as well. Thus a direct object gets accusative case indirectly from INFL and objective case from the verb. Larson (1988:361) states that "the direct object would be, in effect, a position where the two Case systems [i.e. the system of structural cases and the system of inherent/semantic cases] intersect -- where two cases, Accusative and Objective, are superimposed upon a single argument." This is shown in (17).

(17)



(based on Larson 1988:361)

In double object constructions, which are Larson's main concern, the two kinds of case are not assigned to the same NP. The indirect object receives structural accusative case and the direct object receives inherent objective case, which explains why there are two NPs with "objective" case in such constructions.

The notions of syntactic and semantic case of this analysis may be different than the traditional notions, e.g. those of Kuryłowicz; the criterion of having semantic content or lexical meaning is not raised.³⁴ It is not clear whether by "inherent or semantic Cases" Larson means that all the inherent cases are semantic and/or vice versa (i.e. that these are alternate names for the same class, or that one is a subset of the other).³⁵ If all inherent cases are semantic,

³⁴ This can be seen as a positive point, given the difficulty in determining the existence of semantic content, as discussed above. An interesting feature of this system is that syntactic cases are assigned by a functional element (I), while semantic cases are assigned by a lexical element (V).

³⁵ It may be inaccurate to say that Larson deals with the syntactic/semantic case distinction, since he only refers to semantic case twice in this paper, to my knowledge. The distinction which receives more attention in the paper (and in GB Theory in general) is that between structural and inherent case.

then the objective case is a semantic case. Note that in the double object construction, the NP which receives inherent case is the theme, since it is the goal which receives the structural/grammatical accusative case. The "meaning" of the objective case could be theme. The choice of the name "objective" may be unfortunate, since the notion of object is generally taken to be a syntactic notion, and one might thus assume that an objective case is a syntactic case.

1.4.6 Other Remarks on Syntactic and Semantic Case

I now comment more briefly on several other remarks on the syntactic/semantic case distinction.

Jespersen (1924:185) says that "It is customary to speak of two classes of cases, grammatical cases (nom., acc., etc.) and concrete, chiefly local cases", but that "It is, however, impossible to keep these two things apart, at anyrate [sic] in the best-known languages." He claims that this is true for Finnish, in spite of its large array of cases; the allative and essive, typical semantic cases, have or had grammatical functions. There are no Indo-European languages which have (or have had) semantically-based case systems; "case is a purely grammatical (syntactic) category and not a notional one in the true sense of the word" (ibid.).

However, Larson does oppose the structural or grammatical cases to the inherent or semantic cases.

Laughren and Hale (1987:2) while discussing Warlpiri cases state that they "fall into a number of different classes." They continue, "The main distinction is between the grammatical cases and the semantic cases. The grammatical cases mark the syntactic categories bearing the core GFs: subject and object. The semantic cases, which only mark NPs, express a range of spatial and causal relations, rather like English prepositions." The cases which they call syntactic are those indicating the subject and object, i.e. ergative, absolutive, dative, nominative, accusative.³⁶ Simpson, in her (1983a) dissertation on Warlpiri, also mentions the classes grammatical case and semantic case, as well as a third class, derivational case, and she also lists the dative among the grammatical cases. Her list of semantic cases consists of the allative, comitative, elative, and locative cases.³⁷

1.4.7 Conclusion on Previous Accounts of the Syntactic/Semantic Case Distinction

We have now seen a variety of views on the syntactic/semantic case distinction. I shall list the points where I find these accounts to be flawed, inaccurate, or incomplete.

³⁶ The case system of NPs differs from that of pronominal clitics: the grammatical cases of the former system are the ergative, the absolutive, and the dative, while those of the latter system are the nominative, accusative, and dative cases.

³⁷ Laughren and Hale include the perlicative in their list of semantic cases, while Simpson (1983a:230) classifies it with the derivational cases. The other "major derivational cases" according to Simpson are the associative, denizen of, inhabitant of, like, possessive, privative, proprietive, and elative of source cases.

1) The accounts of Kuryłowicz and of Melčuk do not escape the problem which all accounts of lexical/functional distinctions must deal with: they appear to rely on intuition to determine the classification not just of elements whose status is clear, but also for the more difficult judgements, or, if they do not rely on intuition, they do not state how they arrive at their decisions. For Kuryłowicz, one of the criteria for determining whether a case is semantic is whether its primary use is semantic, but it is unclear how he determines the latter fact. I generally agree with Kuryłowicz's (1949/1960) classification of the dative and instrumental cases, but I may not agree with his method of arriving at that classification, if he depends only on his judgement for determining the semantic status of a case's primary use.³⁸

The same general criticism can be applied to Melčuk's account: how does one know, other than by using one's intuition, when one is dealing with elements expressing only SSynt-roles, and when one is dealing with elements that "convey a meaning"? Admittedly, one must use intuition to some extent in such classification, but I would restrict this to determining the clear-cut cases, where disagreement is unlikely. It is not obvious to me that "adverbial of duration" and instrument are SSynt-roles, as they are according to Melčuk (1986).

³⁸ As mentioned above, Kuryłowicz does use other criteria. However, the use of the criterion "position syntaxique par rapport au verbe" (the other criterion mentioned in Kuryłowicz (1949/1960)) is not entirely clear (to me, at least). As for Kuryłowicz's other criterion, being "engaged in transformational processes"; I would argue that this is not necessarily connected with the kind of meaning possessed by a case. Finally, Kuryłowicz's criterion for determining the primary and secondary uses of cases is problematic.

Melčuk (1986) does not give arguments or evidence that these functions are SSynt-roles; one of my goals in this thesis is to apply a series of tests of this sort in order to allow one to make more principled classifications of case functions.

2) I would disagree with Babby's classification of lexical case as syntactic case, as well as with those who posit a separate category of lexical case, e.g. Lefebvre and Muysken (1988). In this thesis I shall argue and present evidence that lexical case is not simply a completely idiosyncratic and random feature of certain lexical items, but has some basis in lexical meaning, and more importantly, behaves like semantic case in certain ways and so should be considered semantic and not syntactic case.

3) I find Langacker's view of the meaning of the notion subject to be problematic. Langacker is aware that there are difficulties with "attempts to define the subject role in notional terms" (Langacker 1987:233). He says that "A characterization based on such concepts [e.g. "agent", "topic", "energy source"] is problematic even for the class of verbs, since many verbs designate processes that involve no action, energy, or control at all." (ibid.). Subjects of passive constructions also appear problematic, since the action flow seems to be towards them rather than away from them, at least if the construction has an overt by-phrase. Langacker equates subject with trajector, or more precisely, he defines subject as "A nominal whose profile corresponds to the trajector of a relation" (1987:493); a trajector is one of the "profiled participants" of a "relational

predication"; it is the participant which "has a special status" (ibid.: 217).³⁹ Although such a concept of subject may cover all verbal subjects, including subjects of passive verbs, it is not clear that this is what most people would consider a lexical type meaning, or a meaning which is not different in kind from a lexical type meaning. However, this is apparently what Langacker intends; he states, "The trajector/subject notion is not at root syntactic, but rather semantic, and its attendant grammatical correlates are not criterial, but rather symptomatic of the special salience that trajectors (and in particular, clausal subjects) have by virtue of their role as relational figure." (1987:235). However, it is not obvious that this is so, and it is not obvious that subject, with the broad meaning that Langacker is forced to attribute to it, is indeed the same sort of notion as 'chair' or 'run'.

4) This leads to a broader objection against the Cognitive Grammar account of case, and of language in general. Many would say that 'chair' and subject are notions of a completely different order. Cognitive Grammar gives no special status to subject (or object, or subordination). However, the notion subject is different from 'house', 'run', 'blue', etc. It is not enough to show that subject markers can do what words such as chair and green do, i.e. refer to real world entities, actions, or states (and it is not certain that this is true); one must also demonstrate that there is nothing that subject markers can do that lexical elements can not do. There is a property that subject

³⁹ Note that trajector and subject do not correspond exactly; subject is a "special case of trajector".

markers and other functional elements have that lexical elements do not have, namely, they can give grammatical information about the structure of a sentence. There is, therefore, a difference between syntactic case markers such as the nominative, and semantic case markers with respect to the type of meaning or information they convey. One could answer that, given the Cognitive Grammar view of the meaning of grammar, this objection is not valid, since grammatical information is not different in kind from information about real world entities. It is not clear how this can be resolved one way or the other, but the Cognitive Grammar view may be counter-intuitive to some, since many scholars have posited a difference between lexical and grammatical categories.

Further, even Langacker may see some difference between syntactic and semantic cases as shown by the passage quoted on pages 51-2 and the following statement: "We may distinguish between nominative and accusative on the one hand, and "oblique cases" on the other." (1988b:40). It is not obvious whether in both instances Langacker is talking about the same distinction; if he is, then there is an inconsistency, since cases borne by oblique objects are grouped with the nominative and accusative in the passage on pages 51-2, but not in the sentence just cited. If Langacker is not talking about the same distinction in both quotations, then it is unclear what the distinction in the latter is based on. With regard to the former passage, even if the distinction made here does not depend on type of meaning, it may not be clear how to classify some cases or their functions; how does one know whether a case marker

(e.g. the instrumental marking a verbal object in Polish) is "profiling a focused participant" or is "profiling the interconnections between the focused participant and the base relation overall"? Hence even removing the notion of semantic content or lexical type meaning from the syntactic/semantic case distinction does not necessarily make classification simpler.

5) While I agree with Jespersen that case should be considered a strictly syntactic category, my reasoning is different from his. I do not agree that it is impossible to keep syntactic and semantic cases apart. One can use Kuryłowicz's procedure of finding the primary use of a case, or divide each case which has both semantic and syntactic uses into two cases (and ideally, back up this reclassification with syntactic evidence). Further, Jespersen speaks of Finnish, which although richer than Indo-European languages in semantic cases, has rather fewer than some Caucasian languages. In the latter languages one would imagine that there are some semantic cases which do not have any syntactic function.⁴⁰ Thus I do not accept Jespersen's implicit rejection of the syntactic/semantic case distinction, although I do not regard semantic cases as being true cases.

⁴⁰ Of course semantic cases can have the function of marking their NPs as adverbials or adjuncts, but one could argue that this is information about part of speech or category rather than about grammatical function. Adverbial affixes also indicate that the constituent to which they are attached is adverbial, but such affixes can still be classified as semantic. This is a syntactic function, but a function of a different kind than marking subjects and direct objects.

6) Several authors (Mel'čuk, Jespersen, Laughren and Hale, and Simpson) classify the dative as a syntactic case, and/or classify indirect object as a syntactic notion. I shall attempt to show with the tests in this thesis that indirect object is a semantic notion, and so, that the dative, when used to mark this notion, as well as when it marks "objects", is a semantic case. The dative patterns with cases such as the ablative and the locative rather than with the nominative and the accusative of the direct object.

7) The accounts of Babby and Larson are incomplete in the sense that they do not deal with the case systems of languages with the greatest number of semantic cases, i.e. some of the Caucasian and Uralic languages. They cannot be criticized for this, as their goals were different from mine, but for an account of the syntactic/semantic case distinction in general the full range of semantic cases should be considered, including cases that mark adjuncts of various kinds.

For example, some semantic cases such as the subessive would be problematic if one claims, as Larson does, that semantic cases are "determined strictly by V"; it is difficult to see how the verb could determine the assignment of e.g. a locational case to an adjunct NP. Thus Larson's system does not deal with all the semantic cases of all languages, and his criterion of determination by INFL or V can not be used for the syntactic/semantic split, since cases such as the subessive are determined neither by INFL nor by V. However, it might be possible to extend the system in the following way:

Syntactic cases are assigned by INFL (directly or indirectly), while semantic cases are not assigned by INFL; they may be assigned by the verb or they may appear independently as meaningful units at D-Structure. If there were some test for determining which cases are assigned by INFL, then we might have another way of distinguishing syntactic and semantic case, in addition to the criteria which will be presented in the following chapters of the thesis.⁴¹

From this section it can be seen, that, in my opinion and to the best of my knowledge, there is no satisfactory account of the distinction between syntactic cases and semantic cases. It is not sufficient to state that the distinction is based on semantic content without giving a method of determining whether something has semantic content, if there are instances when the issue is not clear; i.e. one can not always leave the detection of semantic content to intuition. This problem is found in the accounts of Mel'čuk and of Kuryłowicz. As noted above, Babby's account, and that of Kuryłowicz, have criteria not directly involving semantic content, but they also have dubious points, e.g. the classification of lexical cases in Babby's account. Langacker's strong stand on semantic content seems to miss the fact that there is a distinction of some sort between grammatical and semantic or lexical items. What is needed, I believe, is a set of tests or criteria for classifying case functions as syntactic or semantic.

⁴¹ One would also have to account for case assignment within DPs, perhaps by claiming that subjective and objective genitives are assigned directly or indirectly by a functional head in DP, with other cases being assigned in another manner.

1.4.8 Structural and Inherent Case

One may wonder about the relation between the syntactic/semantic case distinction and the distinction between structural and inherent case as made by Chomsky and various other authors: are they in fact the same distinction? In this section I shall briefly discuss structural and inherent case. A difficulty in making a comparison between the two distinctions is that the notions structural and inherent case are different in different works; I shall concentrate on what can perhaps be viewed as the "standard" conceptions of structural and inherent case, e.g. those of Chomsky (1981) and Chomsky (1986a). Further, it appears that the notions structural case and inherent case are adjusted, possibly without regard to their content, in order to account for various phenomena. In this way the terms structural case and inherent case lose their meaning, although they may still refer to two groups of cases. I shall now show some problems with the structural/inherent distinction, and then argue that even if structural and inherent case are two well defined classes, they may not correspond to syntactic and semantic case respectively.

There are perhaps three major characteristics which have been brought up in reference to the structural/inherent distinction:

- a) Structural case is assigned to NPs in a certain structural position; "it is a property of a formal configuration" (Chomsky 1981:171).

b) "Structural Case in general is dissociated from θ -role ... Inherent Case is presumably closely linked to θ -role" (ibid.).

c) Inherent case assignment occurs at D-structure (although the inherent case "is then realized at S-structure" (Belletti 1988:3)), while structural case assignment takes place at S-structure.

These methods of distinguishing structural and inherent case may seem fairly clear, and they may have some connection with the difference between syntactic and semantic case. If the characteristics listed above were (or could be) applied strictly and consistently as biconditional criteria for distinguishing between structural and inherent case, this distinction might end up to be the same as the syntactic/semantic distinction. But due to the adjustments made by different authors to the notions structural case and inherent case, it is difficult to know exactly what the content of these notions should be taken to be.

I shall now attempt to show that this is so for the first two properties of structural and inherent case that I have listed above, i.e. I shall show how the notions structural and inherent case, as actually applied, are not in a biconditional relation to the properties used to define or describe them, but rather in a monoconditional relation. As for the third property, I shall argue that it is difficult to apply this as a criterion for distinguishing between structural and inherent case. Of course, monoconditional relations are also useful for classification, but since two of the three properties listed above turn

out to be monoconditional, and the third one is problematic, one may be dubious about the status of the structural/inherent case distinction.

A) If a case is assigned to a NP solely by virtue of the structural position of that NP, then it would appear that such a case has no connection with lexical type meaning; thus structural case could correspond to syntactic case. Hence, if this were a biconditional criterion for distinguishing between structural and inherent case, then the structural/inherent and syntactic/semantic distinctions might be the same distinction. However, it is not clear that this characteristic is used as a biconditional criterion: while it is true that all structural cases are assigned structurally, it is not clear that in practice all cases which are assigned by virtue of structural position are classified as structural cases.

For example, Chomsky (1981:171) lists the genitive assigned to NPs which are in [NP, NP] position as a structural case. This seems reasonable, and consistent with the facts in English: any NP in SPEC of NP (or SPEC of DP) position will be marked with genitive case, and this is the only case that can be assigned to that position. However, in Chomsky (1986a) and Baker (1988a:113-4) the case assigned to NPs immediately dominated by NP is classified as inherent, not structural.

Another example involves the case assigned to objects of prepositions, i.e. to the elements in [NP, PP] position. Chomsky

(1981:294) mentions Kayne (1980), who "[retains] the assumption that P and V govern in different ways in French, but in the same way in English. Specifically, V in general and P in English govern in the structural sense of the preceding discussion, while P in French (as in general in languages that lack preposition stranding) governs and Case-marks an NP inherently, say, at D-structure, but only when the NP is subcategorized by the preposition." Such assumptions may well allow one to account for differences among languages, and for differences between PPs inside VPs and those outside VPs. However, if one makes these assumptions one may have difficulty maintaining a strict biconditional relation between assignment by virtue of structural position and being a structural case, for it seems that French and English do not differ language-internally in the surface case assigned to objects of prepositions. In English, which still shows some surface case distinctions in the pronominal system, the objects of all prepositions, no matter what θ -role the preposition assigns, or whether it assigns a θ -role at all, receive accusative case (to use the traditional term); one might thus think that this accusative is a structural case. French is also uniform in the form which is assigned to objects of prepositions. It is only in the pronominal system that there is any surface differentiation of nominals, and the same form (the "disjunctive") shows up on the objects of all prepositions, e.g. *à moi*, *pour moi*. French and English are alike in that the object of a preposition is always in the same surface form, no matter what preposition is involved, and regardless of whether a θ -role is assigned by the preposition; thus the case assigned to the objects of prepositions in both languages would be good candidates for

structural case status. The differences between French and English are perhaps to be explained in some other way which does not diminish the content of the notion structural case.

One might be suspicious when what appears to be an instance of a particular case being assigned to a particular structural position turns out not to be considered a structural case; the extent to which assignment to a particular structural position is, or can be, used as a criterion to distinguish structural case is limited, and so the conceptual foundation of the notion structural case is in doubt.

B) Inherent case is linked to θ -role assignment in that the case assigner is also a θ -role assigner to the NP to which it assigns the inherent case. Chomsky (1986a:193) states, "we assume that inherent case is assigned by α to NP if and only if α θ -marks NP"; i.e. there is a biconditional relation between θ -role assignment and assignment of inherent case. However, if this is so, it is not clear why the accusative case assigned to objects of ordinary transitive verbs is not classified as an inherent case, since the verb usually assigns its object a θ -role (generally theme/patient) as well as accusative case.⁴² That is, verbs should assign inherent cases to their direct objects in most

⁴² Mahajan (1990:17) mentions "recent suggestions made by Chomsky (1989) that all structural Case is tied to the AGR system" and says (ibid.) that "This implies that verbs do not assign structural Case". If verbs do not assign case to their objects, then that case must be assigned by some other constituent, and therefore the accusative case would not be an inherent case, since the constituent assigning the case to the object would not be the constituent which assigns it a θ -role.

instances.⁴³ ⁴⁴ Therefore being linked to θ -role assignment can not be used as a biconditional criterion for distinguishing inherent case from structural case, since a priori there is no reason why the accusative of the direct object should not be an inherent case following this criterion. As with property a), one could say that only a monoconditional relation holds between this property and the type of case assignment involved; but this is not what is indicated in the quotation from Chomsky given at the beginning of this paragraph.

C) It seems reasonable to distinguish between case that is assigned or present at D-structure and case that is assigned at S-structure, and to say that semantic case is of the first type while syntactic case is of the second type. The same distinction is claimed for structural and inherent case; one might think that a type of case which is dependent on S-structure position, as structural case is, must be assigned at S-structure. However, Yim (1984) argues that all case assignment takes place at D-structure.⁴⁵ Further, it is difficult to know how to prove in a non-circular way that certain cases are assigned at one or the other level (i.e. cases on NPs which do not undergo movement) and so it

⁴³ Note that it is not essential that the same θ -role always be assigned to the bearer of a given inherent case; what is important is that the case assigner and the θ -role assigner be the same.

⁴⁴ Baker (1988a) proposes a three-way distinction among semantic case, inherent case, and structural case. The difference between semantic case and inherent case is that with semantic case "a particular Case is associated with a particular θ -role", in Belletti's (1988:3) words; this is not true of inherent cases. Belletti says (ibid.) that this is "The most typical instance of an inherent case"; however, it is not a necessary condition for inherent case. Baker and Belletti differ in that the latter does not distinguish a separate category semantic case, while the former does.

⁴⁵ According to Yim, all case is assigned to positions at D-Structure. NPs without case can acquire case by moving into positions to which case has been assigned; Yim refers to this as "Case-searching movement".

may not be possible to use level of assignment as a criterion for distinguishing structural and inherent case.⁴⁶

I hope to have shown the problematic status of the structural/inherent distinction, at least in its "standard" conception; it may well be that other modifications of this distinction are more adequate and more consistent. If structural cases were all of those cases which were assigned on the basis of structural position (as is perhaps so in the first discussion of structural and inherent case in Chomsky (1981:170)), then the structural/inherent distinction might be the same as the syntactic/semantic distinction. Even if structural assignment were used strictly as a criterion for defining structural case, the structural/inherent distinction might not be equivalent to the syntactic/semantic distinction as I conceive of it; I shall claim that some prenominal genitives (namely the subject argument and object argument genitives) are syntactic and act differently from other prenominal genitives, which I classify as semantic.

Further, some non-structural cases do not fit into the structural/inherent distinction at all, as they appear not to be

⁴⁶ One test that might spring to mind for determining whether a case is structural or inherent, and assigned at S-structure or D-structure, concerns the ability of an NP bearing that case to become the subject of a passive clause. However, I am dubious about the validity of this test, at least as a universal criterion, given the fact that (i) is grammatical in some dialects of English, as pointed out by Hoekstra (n.d.:14):

(i) ?*The book was given John

Unless one wants to claim that the case marked on the same NP, in the same structural position, and with the same θ -role, is inherent and thus assigned at D-structure in some dialects of English, but is structural and assigned at S-structure in other dialects (or unless one posits some other difference between the dialects), one will have to reconsider the relevance of passivization here.

assigned by any constituent, although they are associated with particular θ -roles.⁴⁷ I have in mind local and temporal cases marked on adjunct NPs. For example, I assume that in (18) the locative NP is an adjunct and is not part of the θ -grid or case-grid of the lexical entry of the verb.

- (18) Derste Türkçe konuşuyoruz
 class-LOC Turkish speaking-PRES-1pl.
 'We speak (are speaking) Turkish in class' (Swift and Agrali
 1966:91)

Therefore the locative case here is not assigned by any constituent; I assume it appears at D-structure when the speaker wishes to express the idea of location. This case would not fall into the class of structural cases, but it would not fit into the class of inherent cases either, as generally conceived of; since there is no category that assigns both the locative case and the relevant θ -role, no case assignment takes place. Thus one will have to modify the definition of inherent case to cover these cases, or posit a third type of case, which is not assigned.⁴⁸ The three-way partition of Baker (1988a), mentioned in footnote 44, would also have to be modified, since even

⁴⁷ Presumably the reason the classification of such cases with respect to the structural/inherent distinction was not dealt with in Chomsky (1981, 1986a) was that these works were concerned with what one might consider the more basic and standard questions of nominative, objective, etc. case assignment rather than with the more peripheral and/or exotic cases. Chomsky (1981:172) says that "languages may have other Case-assignment rules not involving government in addition to [assignment of genitive case to [NP,NP] position]".

⁴⁸ Conceivably one could claim that adjunct locational and temporal cases are assigned by the proposition as a whole, or make some similar assertion; however, the assignment would not be of one particular case, as with INFL assigning nominative case, but of one of a choice of cases, e.g. subessive, superessive, postessive, in languages with an extensive case system.

his semantic cases are apparently assigned by some category, while I assume that some semantic cases are not assigned.

To summarize this discussion, it is not clear that the standard conceptions of structural and inherent case are meaningful classes of entities, rather than being contentless groupings of cases which vary among authors depending on what problem is to be solved. Even if the properties of structural and inherent case which I have brought up were used strictly to identify these two types of case, it would not be certain that the structural/inherent distinction is identical to the syntactic/semantic distinction.

1.5 Structure of the Thesis

The structure of the rest of the thesis is as follows: chapter 2 is concerned with two related tests for distinguishing syntactic and semantic cases: the ability to be the subject of a predicate, and the ability to be a predicative phrase. I shall argue that only NPs marked with syntactic cases can be subjects of predicates, while only NPs bearing semantic cases can be predicatives (except under agreement). In dealing with some apparent counter-examples I shall claim that there are underlying semantic cases in English and other languages, and that these underlying cases have an effect on predication. In chapter 3 I discuss another test, the objective genitive; I shall assert that in some languages the case of an argument of a verb determines whether the equivalent argument of the corresponding nominalized clause can be marked with the

genitive case or governed by a possessive-type preposition. This test will also add support to the idea of underlying cases. In Chapter 4 I shall claim that the difference between syntactic and semantic cases (i.e. between Ks and Ps) is that the meaning of the former consists merely of values for a small number of binary features (perhaps only a single feature); this may be true of functional elements in general. This accounts for why syntactic cases (and other functional elements) make up a closed class, while semantic cases are (as I argue) an open class, and for the results of another test, that of iteration: syntactic cases can not iterate, while semantic cases can. In Chapter 5, the concluding chapter, I review the arguments and results from the preceding chapters and briefly examine several other possible tests for distinguishing syntactic cases from semantic cases, or Ks from Ps.

CHAPTER 2

PREDICATION

Predication, however one defines it, is one of the crucial relationships holding between linguistic constituents. In this chapter, I shall examine two tests based on predication for distinguishing syntactic case from semantic case. Each of these tests involves one of the two elements which are linked by the predication relation, the subject and the predicate. The basic claim that I shall make is that there are case-based restrictions on which NPs can be subjects of predicates, and on which NPs can be predicative. More specifically, only NPs bearing syntactic cases can be subjects of predicates, and only NPs bearing semantic cases can be predicative phrases (with one major class of exceptions). Thus the ability to be the subject of a predicate and the ability to be predicative can be used as criteria for distinguishing syntactic cases from semantic cases.

Given the fact that there is no definitive way of determining whether an element has lexical type meaning (as opposed to grammatical meaning), one can not prove that the ability to be marked on subjects of predicates is a distinguishing property of syntactic cases, nor that the ability to be borne by predicative NPs is a distinguishing property of semantic cases. However, if we observe that the cases which are fairly uncontroversially syntactic can be

borne by subjects of predicates, and those that are fairly clearly semantic cannot be borne by such NPs, then we can examine the behavior of cases whose classification is not so clear, to see which group they pattern with. The same can be done with the test of the ability to be marked on predicative NPs. If the results of these two tests are consistent, i.e. if the same cases pattern with one group or the other across both tests, then we can at least say that certain cases behave in the same manner as the syntactic cases or the semantic cases, although we can not prove that they have or lack lexical type meaning. It will be shown that this happens, i.e. that the cases which are fairly clearly syntactic and those which are fairly clearly semantic (or the NPs bearing these types of case) can be argued to behave differently with respect to being subjects of predicates and to being predicatives, and that, other factors having been accounted for, cases whose status is less clear, e.g. the dative, or at least particular uses of such cases, consistently pattern with one or the other of the groups.

Further, it will turn out that NPs with semantic cases act like (most) adpositional phrases with respect to these two tests, which is evidence that semantic cases are (from a syntactic point of view) adpositions, and should be classified with them as members of the new category P. The syntactic cases act differently and should be put into the category K. Thus the difference between syntactic cases and semantic cases is a difference of syntactic category. In section 2.1 I shall examine the ability to be the subject of a predicate, and in section 2.2 I shall discuss the ability to be a predicative phrase.

2.1 Subjects of Predicates

2.1.0 Introduction to Subjects of Predicates

I shall now attempt to show that there are case-based restrictions on subjects of predicates which give a split between the syntactic cases and the semantic cases, and that the semantic cases pattern with (most) adpositions in this respect.¹ I begin by looking at several accounts of constraints on subjects of predicates, first the structural account of Williams (1980) (2.1.1.1) and then the functional and semantic accounts (2.1.1.2). I shall adopt the first type of account, although I shall later claim that it may be possible to reconcile the two types of account. I shall in fact argue for an account that is more structurally based than Williams' account, which still makes reference to semantic information.² I then (2.1.2) examine apparent counter-examples to the structural type accounts where the object of an apparent preposition does not act as one would expect. Next, I look at how case-marked NPs in various languages behave with respect to the ability to be subjects of predicates (2.1.3). Here the existence of a split between syntactic cases and semantic cases will be demonstrated; the patterning of the semantic cases with (most) adpositions will also be shown. The classification of semantic cases as Ps will solve another set of apparent counter-examples to

¹ There are some English resultative constructions which may not follow the account proposed here, although this account generally holds for resultatives and depictives. V. note 49 on possible resultative counter-examples (which are ill-formed as depictives), e.g. some of the examples in (80).

² However, as noted below in the Excursus on Lexical, Semantic, and Pragmatic Factors (2.1.4.1), even in a structural account, some reference to lexical, semantic, and pragmatic information is necessary.

the structural account of predication. In 2.1.4 I posit underlying Ps in English in order to deal with apparent counter-examples from that language. Then (2.1.5) I discuss quirky case, as found in Icelandic. At first glance quirky case may appear problematic for my account, but it will be argued that some quirky cases are only surface semantic cases and are underlyingly Ks. In 2.1.6, I propose a revision to the notion of c-command that may be necessary in a theory which posits both KPs (and other functional categories) and a C-Command Condition on Predication, the latter being an integral part of Williams' structural account of predication. In 2.1.7 I briefly discuss the possibility of unifying the structural and functional/semantic accounts of predication. Section 2.1.8 is the conclusion to the first part of this chapter.

2.1.1 Predication Theory

There are two general types of account of the ability to be the subject of a predicate: structural accounts and functional or semantic accounts. A discussion of both of these will now be presented.

2.1.1.1 Structural Accounts

A structural or configurational account of the ability of a NP to be the subject of a predicate posits constraints on this ability based on syntactic structure. That is, what is relevant is the structural position of a NP, not its grammatical function or θ -role. The major structural account is proposed in Williams (1980); there (pp. 203-4)

it is stated that "The relation between a NP and a modifying AP is governed by very strict structural conditions. In particular the NP must c-command and be c-subjacent to the modifying AP".³

One of these structural conditions is stated as the C-Command Condition on Predication. Williams' revised version of this is given in (1):

(1) The C-Command Condition on Predication

If NP and X are coindexed, NP must c-command X or a variable bound to X. (1980:206)⁴

³ Williams (1980:204) defines c-subjacent as follows: "B is c-subjacent to A iff A is dominated by at most one branching node which does not dominate B". Williams (ibid.) suggests in a footnote the stronger condition that the subject and predicate must c-command each other; he gives an example which the mutual c-command condition, but not the c-subjacency condition, accounts for. There is a contradiction between this footnote and the main text: in the text the NP must be c-subjacent to the predicate, while in the footnote Williams says (that he has said) the reverse: "It is stated in the text that a predicate must be c-subjacent to its subject". I assume that the text, rather than the footnote is correct, given the definition, in spite of the fact that Williams later (p. 225) says that "predicates must be c-commanded by and c-subjacent to their subjects". The confusion is perhaps caused by the fact that Williams' definition of c-subjacency may be counter-intuitive in that this relation is defined as a property of B rather than A, and the fact that the notion is denoted by an adjective rather than a verb, unlike c-command; i.e. B has the property of being c-subjacent to A if A is in a certain position relative to B. If one switches A and B in the first part of the definition (i.e. "A is c-subjacent to B iff...") then the definition may be no longer be counter-intuitive and the footnote (and later text) version of the condition is correct. However, I shall assume the definition as stated.

⁴ The revision of this condition, which involves the addition of the phrase "or a variable bound to X" was seen as necessary to allow for the well-formedness of examples such as (i)

(i) how silly_j do you consider Bill t_j (Williams 1980:205)

Here "Bill does not c-command the AP. What is important is that it c-commands the trace of AP." (ibid.:206).

The condition refers to coindexing, as Williams (ibid.:205) puts forth a view "of the rules of predication as rules which index NPs and the APs that modify them in surface structure". These rules create from S-Structure a representation which Williams calls Predicate Structure (PS), and the C-Command Condition is relevant for this level of representation.

The C-Command Condition is applicable to both primary and secondary predication, but my examples will involve the latter. However, I assume that this condition does hold for the former; for example, the sentences in (2) conform to it:

- (2) a. John left
- b. John is happy
- c. Mary saw Bill

Williams (ibid.:204) gives the following sentences to illustrate the C-Command Condition:

- (3) a. John loaded the wagon full with hay
- b. John loaded the hay into the wagon green
- c. *John loaded the wagon with hay green
- d. *John loaded the hay into the wagon full

(3c) is ungrammatical since "[the] hay does not c-command green" because it is contained inside a PP which does not contain green" (ibid.); the same is true of the wagon and full in (3d). Williams does not give evidence that predicate adjectives are outside the PP, but a

test involving clefting from Napoli (1989:95) may show that this is so. Her examples are reproduced in (4), while in (5) I illustrate an application of this test to Spanish:

- (4) a. It's Bill that you should depend on as a confidant.
 b. It's on Bill that you should depend as a confidant.
 c. *It's on Bill as a confidant that you should depend.
- (5) a. Fue a María_i a la qué encontré borracha_i
 'It was Maria_i that I found drunk_i'
 b. *Fue a María_i borracha_i a la qué encontré borracha_i
 'It was Maria_i drunk_i that I found'

If e.g. on Bill as a confidant and a María borracha were prepositional phrases and thus constituents, they should be able to be clefted; since they cannot be, the secondary predicates as a confidant and borracha are outside the prepositional phrases which contain their subjects.⁵ Therefore, Williams' structural account of restrictions on predication is plausible; if green were inside the prepositional phrase headed by with in (3c), it would be c-commanded by hay (under a maximal projection definition of c-command), and Williams' account would be invalid.

⁵ I shall show below that the direct object marker a which precedes María in (5) is not a preposition. However, the fact remains that a María borracha can not be clefted, and so borracha is outside the maximal projection headed by a, whatever category it is. This test cannot be applied to examples with true prepositions, (unless the secondary predicate is introduced by as or certain other elements as in (4)), since even the unclefted sentences are ill-formed, as in (3d).

The following data from Williams (1980:204) may indicate that the θ -role of the subject of the predicate is not a factor in determining grammaticality:

- (6) a. I presented it_i to John dead_i
 b. *I presented John with it_i dead_i

One might assume that it has the same θ -role in both sentences. As Bresnan (1982:323) says in commenting on this pair, "The verb present ... allows its THEME argument to be expressed either as OBJ or as OBL _{θ} ". However, one sentence is grammatical, and one is not.

Williams (1980:204) brings up the following sentence as possible counter-evidence to his claim:

- (7) John thinks of Bill as silly

At first glance this sentence would appear to violate the C-Command Condition, as Bill is in a prepositional phrase (headed by of) and so should not be able to c-command anything outside it. Williams (ibid.) asserts that "of Bill is not a PP" and so Bill can c-command the secondary predicate; think of has undergone reanalysis, and Bill is a simple NP object.⁶ This statement is based on the following sentences:

⁶ In any case, I shall argue that such examples represent a different sort of structure and may not fall under the C-Command Condition. V. *infra*.

- (8) a. Bill was thought of as silly
 b. Who do you think of as silly?
 c. Of whom are you thinking?
 d. *Of whom do you think as silly? (Williams 1980:204)

It should be noted that Williams' account is not completely structural, as it does make reference to a semantic entity, the θ -role theme. In order to account for the fact that in (9), dead can be predicated of the dog but not of Bill, Williams proposes the rule in (10):

(9) John gave Bill the dog dead. (ibid.:207)

(10) If X is in the VP, then X is predicated of the theme of V. (ibid.)

Williams (1980:207) states that "The use of the notion theme is not critical here. In the worst possible case, it will be necessary to specify which NP a VP-dominated predicate modifies. In this worst case, theme is being used as a purely diacritic rule feature. In a large number of cases, though, theme seems to give the correct answer, at least to the extent that the notion theme is clear in the first place." I shall claim that this semantically based rule is not necessary, and that a more structural account of restrictions on subjects of predicates is possible. The C-Command Condition alone may be sufficient to account for Williams' thematically governed predication, as we shall see in the discussion of underlying case in English.

There are others who support a structural account of predication; in fact, Napoli (1989:94), who opposes this type of account, says, "one of the most pervasive claims (or, sometimes, basic assumptions) in configurational approaches to predication is that the srp [=subject role player] must c-command its predicate". Among the adherents of this idea are Schein (1982) and Demonte (1987). Another work which takes a structural approach to predication is Rothstein (1983), in which a rule of predicate-linking is proposed. In English the two requirements for predicate linking are mutual c-command and that the "Linking [be] from right to left (i.e. a subject precedes its predicate)" (Rothstein 1983:27).

2.1.1.2 Functional and Semantic Accounts

Acceptance of a structural account of restrictions on predication is far from universal; as Demonte (1987:147) says, "The relevance of c-command for predication has been called into question." Opposed to the type of account put forth by Williams are several "functional-semantic hypotheses" (in Demonte's words), as argued for by Bresnan (1982), Zubizarreta (1985), and Napoli (1989). In this section I examine these counter-proposals. Although I shall be arguing for the structural account and against the functional-semantic accounts, proponents of the latter bring up points which must be addressed. Aside from the apparent counter-examples mentioned by these authors, later in the chapter I discuss problems for the C-Command Condition which arise in some "case languages". I shall argue that, given the realignment of categories proposed in this thesis, which can

account for other phenomena (as discussed throughout the thesis), the structural account of predication can be preserved, and what is more, it can be shown to be superior to the functional-semantic accounts, which, as I shall show presently, suffer from serious problems.

2.1.1.2.1 Bresnan (1982)

Bresnan, working in the Lexical-Functional Grammar (LFG) framework, argues against the C-Command Condition, stating (1982:352) that "the C-Command Condition is both too weak and too strong. Where objects and oblique objects happen to be syntactically encoded as NPs and PPs, respectively, the C-Command Condition will appear to hold, but the underlying restrictions on "obligatory" controllers are functional, not structural." Bresnan's account is, however, undermined by serious flaws, as I shall point out in this section; a structural account can deal with the same range of data at least as well without explicitly making reference to grammatical functions.

Bresnan's account of predication is part of her general theory of control, i.e. predication is a type of control relation.⁷ Control is "a relation of referential dependence between an unexpressed subject (the controlled element) and an expressed or unexpressed constituent (the controller)" (Bresnan 1982:317). There are two types

⁷ Williams also groups control and predication together, "reducing certain cases of control to predication" (1980:203).

of control: functional control, "where the referential dependence is accompanied by the complete identity of all functional features of the controller and controlled element" (Bresnan 1982:321), and anaphoric control, in which there is not necessarily such a relation of identity. Bresnan (ibid.) says of functional control relations that "the controlled element is the SUBJ function and the controlled clauses are designated by the open grammatical functions XCOMP and XADJ".⁸ There are two kinds of functional control, lexically induced control and constructionally induced control, "depending on whether the control equation is part of a lexical entry or a c-structure rule annotation" (Bresnan 1982:321).⁹ Informally, XCOMPs are controlled clauses which are subcategorized for, while XADJs, as adjuncts, are not subcategorized for; lexically induced functional control involves control of the subject of a subcategorized for controlled clause, while constructionally induced functional controllers control subjects of clauses which are not subcategorized for.

⁸ As Bresnan (1982:320) notes, her theory of control "can make direct reference to grammatical functions", unlike GB control theory, which is "configurational". Among the grammatical functions in LFG are SUBJ, OBJ, OBJ2 (the "semantically unrestricted functions"; OBJ2 is the second object, e.g. a story in I told John a story), OBL_θ, XCOMP (which are "semantically restricted functions"), and XADJ. (The terms semantically restricted functions and semantically unrestricted functions are used by Bresnan 1982.) OBL_θ subsumes such functions as OBLAG (oblique agent) and OBLGO (oblique goal). XCOMP and XADJ, as open functions, lack overt subjects. The difference between the semantically restricted functions and the semantically unrestricted functions is that the former "are more intimately tied to the semantics; for example, the OBLGO function can only be paired with a goal argument in the predicate argument structure." (Sells 1985:156). In contrast, NPs with semantically unrestricted functions may bear one of several different thematic roles, e.g. SUBJs may be agents, but may also be themes.

⁹ C(onstituent)-structure "corresponds roughly to the level of PF in Government-Binding Theory... C-structures have things like NPs and Vs in them, and express properties of word order and phrasal structure" (Sells 1985:136).

The rule determining controllers in lexically induced functional control is in (11):

(11) Lexical Rule of Functional Control

Let L be a lexical form and F_L be its grammatical function assignment. If $XCOMP \in F_L$, add to the lexical entry of L :

$(\uparrow OBJ2) = (\uparrow XCOMP SUBJ)$ if $OBJ2 \in F_L$;

otherwise:

$(\uparrow OBJ) = (\uparrow XCOMP SUBJ)$ if $OBJ \in F_L$;

otherwise:

$(\uparrow SUBJ) = (\uparrow XCOMP SUBJ)$.

"That is, the XCOMP of a lexical form is functionally controlled by the OBJ2 if there is one, otherwise by the OBJ if there is one, otherwise by the SUBJ." (Bresnan 1982:322)¹⁰

The set of possible controllers in lexically induced functional control is limited to the semantically unrestricted functions; this derives from the "severe restrictions on the lexical encoding of semantically restricted functions" (ibid.:321). Namely, "A semantically restricted position ... can only be paired with an argument one of whose labels matches its semantic type. In particular, the oblique functions can be paired only with an argument type whose index they carry: for example OBL_{AG} must be paired with an AG argument." (ibid.:293). Thus an OBL_{GO} can not be the lexically induced functional controller

¹⁰ It is possible for a lexical item to be marked for which of its functions controls the subject of the XCOMP; such marking overrides the Lexical Rule of Functional Control. For example, *strike* is marked as having its subject be the controller of the XCOMP subject; thus in *John strikes Mary as friendly* the controller of the subject of the XCOMP is *John*, rather than *Mary*, as the Lexical Rule of Functional Control would predict. (This example is from Bresnan 1982:322).

of the subject of a XCOMP. Bresnan's account will then explain the ill-formedness of e.g. (6b): it is an OBL_{θ} and so can not control dead.¹¹

The possibilities for which functions can be controllers in constructionally induced functional control are less restricted: "Because the control equation is syntactically, rather than lexically, specified, it is not constrained by the restrictions on lexical encoding of functions" (Bresnan 1982:323). Languages differ in which functions can be constructionally induced controllers; Malayalam allows only SUBJs to be such controllers, while Russian and English are less restricted in this respect; SUBJs, OBJs, OBJ2s, and OBL_{θ} s are possible controllers of XADJ SUBJs in these languages. In (12) is the rule determining constructionally induced functional controllers:

(12) Constructional Rule of Functional Control

If $(\uparrow ADJ) = \downarrow$ is a syntactically encoded function annotation, conjoin it to the disjunction of the schemata $\{(\uparrow G) = (\downarrow SUBJ) \mid G \in \Gamma\}$. (ibid.:324) (i.e., a controller (G) bears one of "the set of possible controller functions Γ " (ibid.:323))

Bresnan's account of possible controllers of subjects of secondary predicates, whether these are complements or adjuncts, refers not to the structural notion c-command, but to grammatical functions.

¹¹ One might question whether dead in (6b) is in fact a XCOMP rather than a XADJ; however, it is fairly clear from Bresnan's (1982:323) discussion that she considers it a XCOMP. One of the most serious problems with her account is the lack of a clear distinction between XCOMPs and XADJs; I shall return to this point.

In most cases, English data do not enable us to decide between the structural and functional accounts, as shown by the examples below:

- (13) a. John_i drove drunk_i
 b. I left him_i angry_i
 c. I like my tea_i very hot_i
 d. *I gave a book to him_i drunk/angry_i
 e. *I filled my cup with tea_i hot_i
 f. *I crawled under the horse_i alive_i
 g. *I walked away from him_i angry_i

Those sentences in which the AP is predicated of the subject or object (13a-c) are well-formed, as both Williams' and Bresnan's accounts would predict: on Williams' account the controlling NPs are not contained in any phrases which block c-command of the predicate; on Bresnan's account, the controllers bear semantically unrestricted functions, and so it does not matter whether the secondary predicates are XCOMPs or XADJs, as in either case SUBJs and OBJs can be controllers. It is only where an AP or other phrase is predicated of a non-subject or non-direct-object that one or both of the accounts will predict ill-formedness. According to Williams' account (13d-g) are ill-formed because c-command does not hold between the subject of the predicate and the predicate. If the secondary predicates are XCOMPs, then according to Bresnan's account these examples are ill-formed because the controller of a XCOMP must bear a semantically unrestricted function, and the controllers here are OBL_θs. However, it is not clear that the predicates in question are XCOMPs rather than XADJs. One might think that

these predicates are XADJs, since it is difficult to imagine that e.g. *to give* is subcategorized for an adjective predicated of its indirect object. If they are XADJs then it is not obvious why (13d-g) are ill-formed, since OBL_{θ} s can be controllers of XADJs in English.

A major problem with Bresnan's account is that the difference between XCOMPs and XADJs (or the difference between lexically induced control and constructionally induced control) is not clearly delineated. This point was noticed by Napoli (1989:149), who gives the following set of examples (the first two of which I gave above in (6); they appear in Bresnan (1982), and are originally from Williams (1980:204):

- (14) a. I presented it_i to John $dead_i$.
 b. *I presented John with it_i $dead_i$.
 c. The dean presented us with the $program_i$ [already approved] $_i$.

As was stated above, according to Bresnan's account the ill-formedness of (14b) is due to the fact that an XCOMP is controlled by an OBL_{θ} . This however would not account for the well-formedness of (14c). As Napoli says, "Bresnan could get around (14c) by claiming that the secondary predicate in (14c) is an XADJ", but then the secondary predicate in (14b) should also be an adjunct.

I have doubts about Napoli's judgment on (14c), and so should not use this set of examples as evidence against Bresnan.¹² However, there remains the general problem caused by the lack of clear criteria for distinguishing XCOMPs and XADJs. Napoli states: "A much worse problem for Bresnan's theory, though, is that by being able to analyze these secondary predicates as XADJ, she actually could get around any potential counterexample to her restrictions on the subject role player of XCOMP merely by analyzing a secondary predicate as an XADJ, instead." ^{13 14}

¹² (14c) may have the illusion of being well-formed, since with the program already approved is a well formed constituent as an absolute type clause, and one may mistakenly interpret it as one here. However, it cannot function as an absolute clause in this sentence, since there would then be no object of present (with). Cf. (i) in which there is an absolute construction and an object:
(i) With the program already approved, the dean presented us with a list of readings.

¹³ Neidle (1988) does list several criteria which distinguish complements from adjuncts: "Adjuncts have greater mobility, in that they can be found in a variety of positions, while complements occur in a single fixed position. Adjuncts also may be set off by pauses, unlike complements" (Neidle 1988:187); "Adjuncts and complements are also distinguished by extraction ... Unlike adjuncts, complements may be questioned since they represent an argument of the main predicate." (ibid.:188). However, the validity of one of these criteria can be questioned: one can extract out of the locative phrase in (ia) to create (ib), although it is presumably an XADJ:

(i) a. Boris read the book in the living room (Neidle 1988:187)
b. What room did Boris read the book in?

Travis (1980) mentions "certain diagnostics" which "serve to distinguish XCOMPs from ADJUNCTs".

Whatever the status of the criteria discussed by Neidle and Travis, the fact remains that the subjects of some XADJs seem to be subject to the same restriction as the subjects of XCOMPs, as shown in (ii):

(ii) *I stole a book from John_i, drunk_i.

By various criteria, *drunk* in this sentence would be an XADJ, and yet it still cannot be predicated of *John*, which is an OBL_θ. Bresnan (1982:325) does say that "there is one construction in English in which functional control of the XADJ is restricted", namely when APs occur in "the clause-initial position". However, this is not the construction in which the predicate *drunk* in (ii) appears, thus the ill-formedness of (ii) is not explained.

¹⁴ Bresnan (1982:325) says that the XADJ/XCOMP distinction "corresponds to Halliday's 1967 distinction between "conditional attributes" [=condition] and depictive attributes"; it may rather correspond to his condition/attribute

Even if the XCOMP/XADJ distinction were clear in Bresnan, on the basis of the English data presented up to now it is not easy to choose between her account and that of Williams; since none of the subjects and objects are contained in prepositional phrases, and all of the non-subjects/objects are, it is difficult to tell whether it is the prepositional phrase or the non-subject-/objecthood of the relevant NPs which is causing the sentence to be ill-formed. We therefore need data from languages where some subjects/objects are contained in adpositional phrases, or where non-subjects/objects are not contained in adpositional phrases. I shall discuss such data below.

Bresnan does present some relevant Spanish data, which I shall bring up below; here I shall mention only her English examples (1982:324):

- (15) a. John was passed by Mary in the hall yesterday drunk as usual.
 b. John said he was passed by Mary in the hall yesterday drunk as usual.

These are supposed to be counter-examples to the C-Command Condition because Mary, which is inside the prepositional phrase

distinction (the latter class including depictives and resultatives). However, Halliday (1967:80) states that "The distinction between attribute and condition may seem somewhat arbitrary; and certainly it may not be very clear to which type a given token should be assigned." Halliday (ibid.) claims that "it is possible to have more than one conditional element in the clause" and Bresnan mentions his claim; this could be one way of distinguishing conditionals from attributes, and XADJs from XCOMPs. However, I am dubious about the grammaticality of Halliday's example, they keep warm naked young, as well as other examples with two XADJs/conditionals. Thus the validity of this criterion is open to question.

headed by *by*, is the subject of the secondary predicate *drunk*, which it does not c-command. In contrast, Bresnan's theory accounts for the well-formedness of these examples: here constructionally induced functional control is involved, and so the OBL_{AG} *Mary* can be a controller, since OBL_{θs} can be controllers with this type of control. These then would be instances of where the C-Command Condition is too strong.¹⁵

However, it is not clear that these are well-formed sentences for all speakers, which is also true of other sentences where the NP in an agentive *by*-phrase takes a predicate adjective, although Bresnan seems to assume that there is no doubt about the matter. In fact, Napoli (1989:134) says of (15b) (or of a similar sentence¹⁶), "I personally reject it, as do many of the people I have asked". As can be seen, judgements even on simpler sentences of this sort vary (from five informants):¹⁷

- (16) a. OK/*/*/*/* John was killed by Bill_i drunk_i
 b. ?/*/*/*/? John was hit by Bill_i drunk_i
 c. */?/*/*/? John was passed by Mary_i drunk_i

Note further the judgements by Roberts (1985:201)

¹⁵ Examples of where the C-Command Condition is allegedly too weak would be sentences where a NP bearing e.g. dative case is the subject of a secondary predicate; such sentences are often ill-formed, even though the NP apparently c-commands the predicate. I shall bring up many such examples below.

¹⁶ Napoli cites (15b) without the last two words "as usual".

¹⁷ Where several informants have judged an example, and where their judgements differ, I have often displayed the judgements as in (16), where e.g. one informant found (16a) well-formed, while 4 others found it ill-formed. A hyphen (-) means that an informant was not asked about that sentence.

- (17) a. *John was seen by Mary_i drunk_i.
 b. *Fred was kissed by Sue_i happy_i.
 c. *Tom was met by Bill_i angry_i.
 d. *Sue was arrested by the police_i drunk_i.

Thus at least some instances of predication of NPs inside *by*-phrases are ill-formed for some speakers.¹⁸

Moreover, it could be claimed that *by* is not a true preposition, although extraction facts go against this, as pointed out by Demonte (1987:155-6) in regard to *por*, the Spanish equivalent of *by*. Finally, one could account for the well-formedness of such sentences (for those speakers who judge them so) by claiming that the controller of the secondary predicates is the "implicit argument" *-en* of passive constructions. If we assume, following Baker, Johnson, and Roberts (1989) that there is such an argument, and that from its S-Structure position in V (having moved from I) it can c-command the relevant adjectives, then these sentences are not counter-examples, since the adjectives are predicated of a c-commanding argument.¹⁹ It is thus

¹⁸ However, it is possible that at least some of these examples are ill-formed for lexical or pragmatic reasons; v. the Excursus on Lexical, Semantic, and Pragmatic Factors. If it is true that NPs in *by*-phrases cannot take secondary predicates, that may be evidence that θ -role is not the relevant factor in preventing predication, since these NPs have the same θ -role as active subjects which can take secondary predicates.

¹⁹ This would however require the additional claim, contra Demonte (1987:156), that it is not the case that "argumenthood is transmitted to the NP in the *by*-phrase". The facts are confusing, as some NPs in *by*-phrases apparently sometimes can take predicate adjectives, and sometimes can not; the same is true for the posited implicit arguments. Examples from Spanish showing these differences are given in (i)-(ii) (from Demonte 1987:155).

(i) a. *La carrera puede ser granada por Eddy Mercx exhausto.
 'the race can be won by Eddy Mercx exhausted.'

not evident that the data in (14) are counter-examples to the C-Command Condition.

As we have now seen, Bresnan's account of predication is flawed. Further, in terms of accounting for the data it is no better than Williams' account, at least for English. I now turn to another functional/semantic account of predication, that of Zubizarreta (1985).

2.1.1.2.2 Zubizarreta (1985)

Zubizarreta (1985), like Bresnan, rejects a structural account of predication. She claims that "it is the notion "semantically unrestricted" and not the structural notion "c-command" that is relevant in establishing predication relations. A predicate adjective may be predicated of an NP if the NP is contained in a semantically unrestricted grammatical position." (1985:251). Zubizarreta presents the following sentences as evidence:

- (18) a. *John chewed at the meat raw
 b. John ate the meat raw
 c. John visited Mary drunk

-
- b. La carrera puede ser granada por Eddy Mercx(.) completamente exhausto.
 'The race can be won by Eddy Mercx completely exhausted.'
 (ii) a. Esa carrera puede ser granada incluso borracho.
 'This race can be won even drunk'.
 b. *La carrera fue granada borracha.'
 'The race was won drunk'.
- V. Demonte (1987) for proposals for dealing with these data.

The positions of the meat and Mary in (18b) and (18c) respectively are semantically unrestricted, since "other roles than Theme can be assigned to the [direct] object position" (1985:251), while only themes can occur in the object of at position. (18c) is asserted to be counter-evidence to Williams since drunk can be predicated of either John or Mary, and it does not c-command John since it is inside the VP, as claimed by Andrews (1982).^{20 21}

There are two objections to Zubizarreta's argument. First, it is possible to reconcile Williams' conditions on predication with the structure argued for by Andrews, as pointed out in Rapoport (1987), if one modifies the structural relation that must hold between predicate and subject. That is, secondary predicates predicated of the subject of a sentence can be daughters of VP, as Andrews claims, and still be in a government-type relation to the subject. The argument is as follows: although both subject modifying and object modifying secondary predicates are inside VP, they are "at different levels"

²⁰ In Williams (1980) secondary predicates modifying the sentence subject would be outside VP, as shown by the structure he gives to (i):

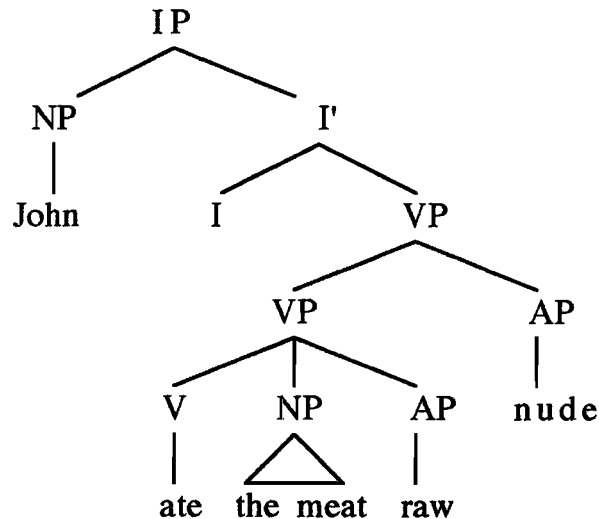
(i) John left nude/John left singing NP VP X (Williams 1980:207)

²¹ As I stated above, it is in a footnote that Williams mentions the mutual c-command requirement; the text states merely that the subject must be c-subjacent to the predicate, which is a weaker requirement than that the predicate c-command the subject.

In a Barriers model of X-bar theory, the subject in (18c) will not be c-subjacent to the predicate drunk; thus Zubizarreta's argument stands, whether c-subjacency or mutual c-command is involved. However, in the type of X-bar model assumed in Chomsky (1981) or work current at the time of Williams (1980), the subject would be c-subjacent to the predicate. Given Williams' framework, and the text version of his conditions on predication, (18c) is not a counter-example, even if the predicate adjective is inside VP. It must be noted however that Williams himself (1980) finds the mutual c-command condition preferable, under which (18c) is a counter-example.

(Rapoport 1987:208). (19) (ibid.) shows the structure of a sentence with both kinds of secondary predicates.

(19)



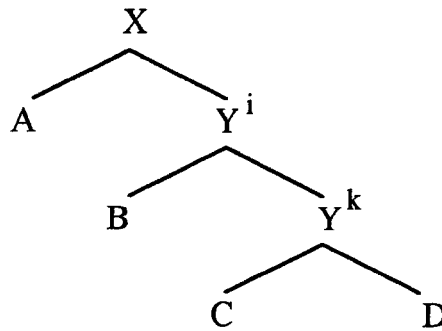
By the standard definitions of c-command, nude would not c-command John in (19), and Williams' account would be called into question, since sentence subjects can take secondary predicates. Rapoport cites May's (1985:56) notion of a projection: it is "made up of a set of occurrences of nodes that are featurally nondistinct (that is, identical with respect to syntactic features, bar level, index, etc.)",²² and Speas's (1986:116) definition of category-domination (as opposed to standard domination):

(20) A category X category-dominates Y iff all members of the projection set of X dominate Y.

²² May's conception of a projection allows for Chomsky-adjunction without violating "the notion [of X-bar theory] that in a given structure there is a one-to-one correspondence between heads and maximal projections" (May 1985:56).

Thus in the structure in (21), Y dominates B, but does not category dominate it, since not all member nodes of Y dominate B (Y^i does, but Y^k does not).

(21)



(based on May 1985:57)

In contrast, C and D are category dominated (and dominated) by Y, since they are dominated by all members of Y.

Rapoport (1987:206) gives a definition of government based on this relation, which she terms MC-government:

(22) X (MC-)governs Y iff every maximal projection category-dominating X category-dominates Y.

If we replace mutual c-command with mutual MC-government in Williams' condition on predication, then we shall have the correct results: in (19) nude (unlike raw) MC-governs John, and the predication relation is possible between the two constituents. Thus Williams' account may be essentially correct, and (18c) is not a

counter-example, even if a mutual relationship between subject and predicate is required.

A second objection to Zubizarreta's account is that she does not formally define the concept semantically unrestricted; of course the object of the particular preposition at is semantically restricted in some sense, but so are the direct objects of particular verbs, e.g. the object of to eat can only be a theme. Although functions such as SUBJ and OBJ are semantically unrestricted, subjects and objects of individual verbs may be restricted to particular θ -roles, and so it should not be surprising that objects of particular prepositions are also limited.

Given these points, the English data are inconclusive and do not argue for either Zubizarreta's or Williams' position, since both can account for the (un)grammaticality of (18a-c). Zubizarreta, like Bresnan, brings up Spanish data which appear to argue against Williams' account; such data will be discussed in 2.1.2.1.

2.1.1.2.3 Napoli (1989)

I shall now discuss Napoli (1989), who also advocates a non-structural account of predication, and who asserts "the hopelessness of configurational approaches to predication" (1989:4). Napoli argues that the notion of c-command is irrelevant to the coindexing of a predicate with its *srp*" [i.e. with its subject] (1989:94). According to her, there are some objects of adpositions which can take secondary

predicates; the difference between those adpositional objects which can be subjects of secondary predicates and those which can not has to do with whether they receive a θ -role "from the lexical item that the secondary predicate is a sister to" (ibid.); Napoli says that "only if an object of a P is the argument of a lexical item H can a secondary predicate which is outside the PP and which is a sister to H take the object of the P as its srp" (1989:101).

Napoli (1989:95) gives the following sentences as counter-evidence to Williams' C-Command Condition (and also cites (7)):

- (23) a. You should depend [on Bill] [as a confidant]
 b. We {counted/relied} [on Bill] [as a fair referee]
 c. We thought [about Mary] [for our next senator]
 d. We {hit/struck/seized} [upon Bill] [as our top candidate]
 e. We invested [in gold] [as the best commodity]
 f. We bet [on gold] [as the best commodity]
 g. I ran [after John] [as the easiest to catch]
 h. I feel close [to John] [as my special buddy]
 i. We threw a party [for Mary] [as the newcomer]

As mentioned above, Napoli uses clefting to show that the secondary predicates are not in the PP, and so these sentences should violate the C-Command Condition. Further, Napoli does not accept Williams' solution of claiming reanalysis in such cases, since he does not assume reanalysis in the following sentence:

- (24) *Bill was struck by John as stupid

If the ability of the object of a preposition to be moved is used as a criterion for reanalysis, then strike by should be able to be reanalyzed, and so John should be able to c-command the phrase as stupid, given that the object of by can be moved, as in (25):

- (25) I was struck by his ingenuity.
What were you struck by? (Napoli 1989:96)

Likewise, some of the examples in (23) are not perfect when *wh*-movement has applied to them:

- (26) a. Who did you run after (??as the easiest to catch)?
b. Who do you feel close to (?as your special buddy)?
c. Who did you throw a party for (??as the newcomer)?
(Napoli 1989:97)

Therefore, one should not be able to use reanalysis as a way of accounting for the well-formedness of the sentences in (23) while maintaining the C-Command Condition.

Napoli (1989:97-100) gives several other arguments against reanalysis and thus against the C-Command Condition. However, there are two weak points in her argument. First, some of her judgements may not be universal, e.g. those on (23g,i), which may be less than perfectly well-formed for some speakers. Second, most of her counter-examples (e.g. those in (23)) have secondary predicates introduced by *as* (her Italian examples contain *come*); these secondary predicates are of a different type than the "bare"

secondary predicates in e.g. (3) and (18) and so are not subject to the same constraints (v. *infra*). Thus although the C-Command Condition may not hold for phrases with *as*, whatever their structure may be, one may have difficulty coming up with well-formed counter-examples parallel to Williams' phrases, as shown by the paucity of secondary predicates without *as* in Napoli's counter-examples, and the ill-formedness of the sentences in (27):

- (27) a. *I ran after John easy to catch
 (cf. (23g), which is well-formed for Napoli)
 b. *We threw a party for Mary new in the neighborhood
 c. *John thinks of Bill silly (cf. John thinks of Bill as silly)

Even (27c), where one might argue for reanalysis, is ill-formed without *as*, and so one does not even need to have recourse to the argument of reanalysis to account for it.

The importance of using parallel forms in such counter-arguments is illustrated by data in Nichols (1981), where it is shown that different types of predicate nominals in Russian are subject to different constraints on controllers. She states that "The typical pattern is as follows. Except where the verb is nonfinite, the controller is restricted to the surface relations of subject ... object ... and inverse subject" (1981:68).²³ However, certain kinds of predicate nominals have more freedom as to choice of controllers; in particular, "Predicate nominals whose morphological device is a preposition or

²³ Inverse subject is the subject of a construction whose subject is in the dative.

conjunction may well be totally unrestricted as to controllers." (1981:70). This is shown by the examples in (28):

- (28) a. у меня в детстве была интересная жизнь
 pr me in childhood was interesting life
 'I had an interesting life as a child (lit. in childhood)'²⁴
- b. у меня в учителях была высокая зарплата
 pr me in teachers was high salary
 'I had a high salary as a teacher (lit. among the teachers)'
- c. зарплата у меня в учителях была высокая
 salary pr me in teachers was high
 'My salary was high as a teacher' (Nichols 1981:71)

If we assume that the C-Command Condition is to deal only with bare predicate adjectives (and nouns) not introduced by *as* or other constituents, then of course Napoli's examples are not relevant. While it may be argued that such examples should not be disregarded and that they must be accounted for, if they are indeed of a different type and structure, then their well-formedness is not so problematic for Williams' theory of predication. Williams' account may only hold for bare adjectival and nominal predicates, but the fact that it is not valid for another type of secondary predicate does not mean that it should be discarded. Even if its scope is narrower than first imagined, it may still provide the best account for predication involving a certain type of construction, which one can take to be the core case of secondary predication.

²⁴ Nichols gives the gloss *pr* (=preposition) for the Russian preposition *у*, which is used to indicate possession.

One may ask whether *as*-constructions are indeed a different type of construction than bare secondary predicates, and if they are, how it is that they can violate the C-Command Condition. It is not clear why predicates introduced by *as* should be different from most other NP, AP, and PP predicates in not being subject to the C-Command Condition, but I shall make a tentative proposal, namely that the difference is related to coindexing and the nature of *as*. If a prepositional phrase is predicated of a NP, in general the NP will be coindexed with this prepositional phrase, but not with the NP contained in it, as shown in (29):

- (29) a. I saw/found John_i [PP in [NP the chair]*_i]_i
 b. I drink my coffee_i [PP with [NP milk]*_i]_i

This is not true of *as*-predicates, for if a predicate consists of *as* and a NP, the NP can be coindexed with the subject of the predicate:

- (30) a. I think of him_i [PP as [NP my best friend]_i]
 b. We invested in gold_i [PP as [NP the best commodity]_i]

The same holds for the preposition *for* in some constructions. On the other hand, with NP and AP predicates the coindexing is between the subject and the whole predicate. The three types of coindexing are as shown in (31):

- | | | | |
|---------|---------------------------------|-----------------|--------------------------------------|
| (31) a. | bare NP/AP secondary predicate: | NP _i | NP/AP _i |
| b. | PP predicate: | NP _i | [P [NP]* _i] _i |
| c. | <i>as</i> -predicate: | NP _i | [<i>as</i> [NP/AP] _i] |

Thus the *as*-predicate differs from most other secondary predicates in that coindexation is possible with an element inside the predicative phrase. This might lead one to think that the *as* is not actually part of the predicative phrase, but a linking or copular element. It may be that *as* is a secondary predicate equivalent of the main clause copular verb *to be*. Although this does not in itself explain why *as*-predicates are not subject to the C-Command Condition, it does indicate a possible significant difference between secondary predicates introduced by *as* and other predicates, showing that they are a different type of construction.

Napoli does have several examples without *as*, and these must be dealt with:

- (32) a. fond of John naked (1989:102)
 b. similar to Bill drunk (ibid.)
 c. the arrival of John completely tuckered out (1989:104)
 d. another story about Wolfgang at 8 years old (ibid.)

These can be disposed of fairly easily. First, not all of them are well-formed for all informants; in particular, of four informants, none found (32b) completely acceptable. Second, *of John* in (32a) and the same string in (32c) are examples of the objective and subjective genitives respectively, which I shall claim do not involve a PP, thus there is no category which blocks c-command here. Third, the phrase *Wolfgang at 8 years old* in (32d) may be simply a NP, i.e. the PP *at 8 years old* is inside the NP, unlike the string *the carrots raw*. This is shown by the sentences in (33) [my judgements].

- (33) a. ?Wolfgang at 8 years old was a terror to his teachers.
 b. ?*The carrots raw were delicious

Hence the well-formedness of (32d) does not invalidate the C-Command Condition.

Aside from the exceptional secondary predicates involving *as* and *for*, which may involve a different sort of coindexing than most secondary predicates, Napoli has no true counter-examples to the C-Command Condition. As with her examples of secondary predicates of verbal complements, most of Napoli's examples of "Ns with sister PPs and secondary predicates" (1989:104) contain predicate adjectives introduced by *as*, the two exceptions being (32c-d). The general conclusion on Napoli's counter-evidence is that it involves data of a different type than most of those presented by Williams. Her discussion would have been more convincing if she had either used counter-examples which were indisputably parallel in structure to Williams' examples, or had shown that predicate adjectives introduced by *as* have the same structure as typical secondary predicates; otherwise one can only be suspicious of the fact that such a high proportion of her counter-examples contain *as*.

I have now discussed Williams' structural account of restrictions on predication, as well as some of the ideas and criticisms of three authors who make functionally or semantically based counterproposals, and I have attempted to show that for the data discussed so far, neither type of account shows major benefits, and

that the latter accounts have flaws. In the following sections I shall deal with apparent violations of the C-Command Condition, i.e. examples of sentences containing secondary predicates which either are well-formed when they should be ill-formed (because the predicate is apparently not c-commanded by the subject) or ill-formed when they should be well-formed (because the predicate is apparently c-commanded by the subject). These represent more of a challenge to the C-Command Condition, but this condition can account for them, given a realignment of the categories P and K.

The major goal remains to determine whether NPs bearing semantic cases differ from NPs with syntactic cases with respect to the ability to be the subject of a secondary predicate; this is not necessarily dependent on the structural account of predication, although I shall use that account here. That is, it is possible to use secondary predication as a way of distinguishing semantic and syntactic cases even under the Bresnan/Zubizarreta account; I shall say something on that below.

2.1.2 Adpositions which Behave like Ks

We shall now look at one set of counter-examples to the C-Command Condition; some of these examples were brought up by proponents of a semantic or functional approach to predication. They involve objects of apparent prepositions which are able to take secondary predicates. The first such preposition to be examined is the Spanish pseudo-preposition *a*, which does not block predication of its objects, apparently contrary to the prediction of the structural account of predication. Demonte (1987), however, defends the structural account, claiming that *a* is not a preposition: thus it allows predication of its object. In my terms, *a* is a K rather than a P.

We shall then examine the behavior of objects of the English preposition *of*; some of these are able to take secondary predicates, and so we have another set of apparent counter-examples. Once again, I shall argue that *of* in some function is not a true adposition (syntactically speaking), and so no violation of the C-Command Condition is involved.

These types of apparent counter-example are the reverse of apparent counter-examples to be examined later in this chapter, where we shall see apparent functional elements (specifically, case markers) which are actually Ps, and which thus block predication where one would expect it to be possible.

2.1.2.1 Spanish *a*2.1.2.1.1 Bresnan on *a*

One of the kinds of evidence that one could bring up against the C-Command Condition involves NPs inside prepositional phrases which nevertheless are able to take secondary predicates. Bresnan (1982:351-2) brings up just such evidence from Spanish, to argue in favor of her theory of predication; it involves the "dummy" preposition *a*, which marks animate direct objects (34a);²⁵ an homophonous element marks indirect objects (34b):

- (34) a. Juan la encontró a ella borracha
 Juan CL-acc met her drunk
 'Juan met her drunk'
- b. *Juan le habló a ella borracha
 Juan CL-dat spoke to her drunk
 'Juan spoke to her drunk'

(34b) is ill-formed, as one would expect, since the subject of the secondary predicate is inside the prepositional phrase headed by *a*, but one would also expect (34a) to be ill-formed, since it also apparently has a NP inside a prepositional phrase taking a predicate adjective; however, it is well-formed. This is not surprising in

²⁵ The statement that *a* marks animate direct objects is a considerable simplification of the circumstances under which it is used. Kliffer (1984) discusses several "controlling factors" on the occurrence of *a*: individuation (which in turn is determined by several features, namely proper/common, human or animate/inanimate, definite/non-definite, referential/non-referential, singular/plural, and count/mass), kinesis (which has to do with how close "the verb lies to the action extreme of a state-action continuum" (Kliffer 1984:209)), role transparency, phonology, and disambiguation.

Bresnan's theory, since what is important is not the structural relation between the predicate and its subject, but the "functional condition" of the subject. *Ella* in (34a) is an OBJ, as seen by the appearance of the object clitic *la*, and this is why it can take a predicate adjective. These data then appear to support Bresnan, and argue against the C-Command Condition.

2.1.2.1.2 Zubizarreta on a

Zubizarreta (1985:251) brings up similar examples in her argument against the structural account of predication. Dummy prepositions such as *a* function as "semantically empty Case-markers". Apparently the *a* which marks animate direct objects is a "semantically unrestricted preposition", while the *a* which indicates indirect objects is a "semantically restricted preposition", and so objects of the former, but not the latter, can take predicate adjectives. Again, it is not clear what is meant by "semantically unrestricted", since there are, I assume, some theta roles which could not be assigned to the object of *a*, e.g. agent. Thus while the animate direct object marker may be less restricted than some other prepositions, it is not completely unrestricted. Nevertheless, such data appear problematic for the C-Command Condition.

2.1.2.1.3 Demonte on a

Demonte (1987) rejects Bresnan's and Zubizarreta's assertions, and argues for Williams' structural account of predication. According

to her, "certain dummy prepositions, the *a* cases, do not count for c-command since they do not form true PPs in Spanish" (1987:149). Thus the sentences cited by Bresnan and Zubizarreta are not counter-evidence to the C-Command Condition.

(35a)-(35b) constitute valuable evidence against a semantic account of predication since "they are sentences in which the same affected theme NP can appear either as a direct object of a transitive verb or as a dative complement" (Demonte 1987:151).

(35) a. Pedro no (lo_i) azota a Juan_i sobrio_i, lo_i azota borracho_i.
'Pedro does not beat Juan_i sober_i, he beats him_i drunk_i.'

b.??Pedro no le_i da azotes a Juan_i sobrio_i, se los da borracho_i.
'Pedro does not give lashes to Juan_i sober_i, he gives (to him_i) them drunk_i. (based on Demonte 1987:151-2)

That is, one might assume that in both sentences the semantic function of the NP *Juan* is the same, but the structure is different, and the two sentences differ in grammaticality; therefore the structure is the crucial factor. We can then posit two *as*, one a P and one a pseudo-preposition, the former blocking c-command, the latter not. To prove that direct object *a* is not a true P, one should provide other tests where NPs governed by a pattern with bare NPs and not with NPs inside PPs, and Demonte does give data from constructions involving extraction where this appears to be the case.²⁶

²⁶ However, in chapter 5 I shall give evidence that extraction from what I claim to be PPs is possible, and so extraction can not be used as a test for distinguishing Ps from Ks, at least not universally. Presumably there are other tests showing that direct object *a* does not behave like a true preposition; in

A question which arises with regard to Spanish *a* (and similar elements) is: if it is not a P, what category is it? Further, even if it is not a P, it may still head a phrase containing its NP, and this phrase should then block c-command; how is it that the NP can take a predicate adjective? I shall put aside the second question until later in this chapter, and the first is difficult to answer definitively. In the work on this "accusative *a*" the question of its category is not always dealt with. It may still be regarded implicitly as a preposition, in spite of differences between it and more semantic prepositions (hence the term "prepositional accusative"), or it may be called a dummy preposition, i.e. not a real preposition, without its actual status being determined. I shall treat it as K, or rather a realization of the accusative K which surfaces under a complex set of circumstances (v. note 25). Like other Ks, it does not block predication (v. *infra*).

2.1.2.2 English of

Objects of the English preposition *of* can also take secondary predicates under some circumstances. In this section I shall discuss these circumstances, and I shall argue that such examples also do not represent violations of the C-Command Condition, since the "preposition" in question is not a P, but a K.

chapter 3 it will be seen that with respect to the objective genitive test, direct object *a* behaves like a K, not a P.

In fact, *of* may be implicitly or explicitly treated as a case marker in some traditional grammars of English, as in Curme (1931-5:II:113): "The seemingly prepositional element *of*, so often used in the attributive genitive categories, is in fact at present not a preposition, but a case sign, and this new genitive with *of* is just as much a case form as the older simple case forms."²⁷ There is a connection between *of* and the genitive case (if one considers *'s* to be a genitive case marker); however, I shall treat them separately for now, since the former is at least superficially an adposition (which sometimes acts like a case marker), and the latter a case marker (which sometimes behaves like a preposition). The construction with *of* is sometimes referred to as the '*of*-genitive' (e.g. in Curme 1931-5); I shall use this term, although without intending to imply that *of* is always a K and never a P.

Often the object of *of* cannot take a secondary predicate, as shown by the following examples (note that the coindexing in these examples is important; e.g. in (36a) the intended reading is with the adjective predicated of *hay*, not of *a bale of hay*):

- (36) a. ??I climbed [a bale of [hay_i]] fresh/green_i
 b. ??I bought [a bouquet of [roses_i]] fresh_i
 c. *I met [three of [the soldiers_i]] drunk_i
 d. *I found [one of [my friends_i]] dead_i

²⁷ Curme later (ibid.) says that "*of* and *to* are still often used as concrete prepositions". Hence he and I are in agreement that *of* in some, but not all, of its uses acts as a case marker/K, although we might disagree on the status of particular functions; this may be due to the difference between the notions case and K.

- e. ??I ate [a piece of [bread_i]] stale_i
- f. ??I drank [a cup of [coffee_i]] hot_i

The sentences in (36) represent what one could call the *of*-genitive of material or composition (from a term in Curme (1931-5:II:82)) and the partitive *of*-genitive. The object of *of*, when *of* is being used in these functions, cannot be predicated of; this is what one would expect of all objects of prepositions. These examples, then, are not problematic for the C-Command Condition.

However, there are objects of *of* which can take secondary predicates, specifically when these NPs are subject or object arguments in nominalization constructions or in similar structures. Judgements vary, as shown below. Napoli, Rothstein, and Safir give the following examples of well-formed (in their judgements) structures in which the object of *of* is the subject of a secondary predicate.

- (37) a. The arrival of John completely tuckered out
(Napoli 1989:104)
- b. The delivery of the parcel unwrapped (Rothstein
1983:168)
- c. the photograph of John sick (Safir 1987:565)
- d. Bill's photograph of John_i sick_i (ibid.)
- e. John's_i treatment of Bill_j naked_{i/j} started a riot. (ibid.)

On the other hand, Williams (1980:218) finds the following phrases ungrammatical:

- (38) a. *the arrival of John dead
- b. *the election of John president

Likewise O'Grady (1982:120) cites (39), as well as (38a):²⁸

- (39) *Harry's purchase of the meat raw was not approved.

According to C. Lyons (1986:142) (objective genitive) *of* is indicated "to behave like a full preposition" (assuming that the test of the ability to be the subject of a predicate applies to English as well as Spanish), as it does not allow its object to be predicated of; he gives the example below:

- (40) *the murder of John drunk

Carrier-Duncan and Randall (1987:56-8) discuss nominalization of resultative clauses, and give some examples of where this is grammatical, including the following:

- (41) a. The cooking of food black is frowned upon by the Surgeon General.
- b. In cold weather, contractors find the hammering of metal flat to be exceedingly difficult.
- c. The watering of tulips flat is prohibited in Holland. (ibid.:57)

²⁸ O'Grady (ibid.) gives the following sentence, which in contrast to (39), is well-formed.

(i) Harry's purchasing the meat raw was not approved.
He says that the grammaticality of (i) gives "Support for the assumption that the preposition *of* prevents *meat* from c-commanding *raw*" [in (39)]. However, since there are some instances where objects of subjective or objective *of* can be predicated of, at least according to some authors, other factors may be responsible for the ill-formedness of (39), if it is indeed ill-formed.

Finally, the objective *of*-genitive depending on an adjective can also be predicated of:

(42) *fond of John naked* (Napoli 1989:102)

The differing judgements may depend on irrelevant factors. In any case, for some authors there are some instances where objects of *of* in the subjective and objective *of*-genitive construction can take secondary predicates. These instances are problematic for the C-Command Condition, as one would expect *of* to always block c-command and hence predication. However, if it can be shown that *of* in these functions is not a true P but rather a K, then the c-command account can be maintained. Later in this thesis I shall give evidence that subjective and objective *of* are indeed Ks, as they pattern with (syntactic) case markers and not with prepositions.²⁹ As a K, *of* in these functions does not block c-command and predication between the NP it governs and a predicate adjective. Hence, once again, the fact that the object of an apparent preposition can be predicated of is not necessarily evidence against a structural account of predication.

²⁹ Cf. the remark by Jacobsen (1986:297): "In the majority of cases, the preposition 'of' is semantically totally empty. This being the case, it is reasonable to argue that it is a transformationally inserted grammatical operator (case-assigner). This analysis would of course generalize beyond noun complements, notably to adjectival complements (as in 'fond of NP')."

2.1.2.3 Conclusion on Prepositions which Behave like Ks

What has been presented in this discussion is not original. However, it is of relevance here, because it shows that apparent exceptions to the C-Command Condition of a certain type (namely objects of prepositions which can take secondary predicates, although they should not be able to c-command them) may not in fact be exceptions, as one can argue that what appear to be prepositions are not Ps, but functional elements. Having shown that such "exceptions" can be accounted for, in the following sections we shall see the opposite situation: NPs which should be able to c-command a secondary predicate, but yield ill-formed sentences if they are co-indexed with one. To account for these I shall claim that such NPs are contained in PPs, although on the surface they may only be governed by case markers. It will turn out that case markers vary in whether they allow their NPs to take secondary predicates, and this variation will have something to do with the syntactic/semantic case distinction.

2.1.3 The Application of the Predicate Subject Test

In this section we shall look at NPs in various cases to see whether they can be subjects of secondary predicates. It will be shown that NPs bearing some cases act like objects of adpositions in not being able to take predicate adjectives. Aside from giving evidence for the existence of a category containing certain cases and adpositions, we now see the first of my tests for distinguishing syntactic cases from semantic cases, the test of the ability to be the subject of a secondary predicate (which I shall refer to as "predicate subject test"). I claim that NPs in semantic cases can not be subjects of secondary predicates, while NPs in syntactic cases can. If it can be shown that this holds for those cases which are fairly clearly semantic or syntactic, then this test can be used to determine the classification of cases whose type is less easy to determine, e.g. the dative and genitive in various uses.

Below I present data from several languages involving both the easily classified cases, and those whose type is less clear. Indeed, the NPs marked with clearly semantic cases (like objects of most adpositions) will not be able to take secondary predicates, nor will NPs in the dative or the genitive in most uses, the exceptions being subjective and objective genitives, and the dative and instrumental marking causees. This will support three conclusions: 1) The ability to be the subject of a predicate can be used as a test to distinguish syntactic and semantic cases, 2) the dative and genitive in some uses are semantic, not syntactic, and 3) NPs in semantic cases act like

objects of adpositions with respect to this test, which can be taken as one piece of evidence that they are of the same syntactic category, namely P, an idea put forth by Pesesky (1982) and Schein (1982) (my claim is the same as theirs except that I refer to semantic case, while they refer to "oblique case").

The fact that NPs in semantic cases cannot be subjects of secondary predicates might appear to be evidence against the structural account of predication; this is where the C-Command Condition is allegedly too weak. However, if it can be shown that semantic cases are actually Ps, and thus project PPs, then the inability of semantically case marked NPs to take secondary predicates does fall under the C-Command Condition. Later in the thesis I shall present additional evidence that semantic cases are Ps, from a syntactic point of view.

One will perhaps notice that not all uses of all cases are tested below. As I stated in chapter 1, I am looking at case functions or uses rather than cases (although I shall sometimes use "case" to mean 'case function'). If one were to fully apply the predicate subject test to the case system of a language from this point of view, one would have to test whether NPs acting in each use of each different case in that language could be the subject of a secondary predicate. For example, it would not be enough to test just one kind of genitive NP; one should test the possessive genitive, the genitive object of verbs, the objective genitive, etc., for it may be that different uses of a case yield different results, as in fact happens with the genitive. Most of

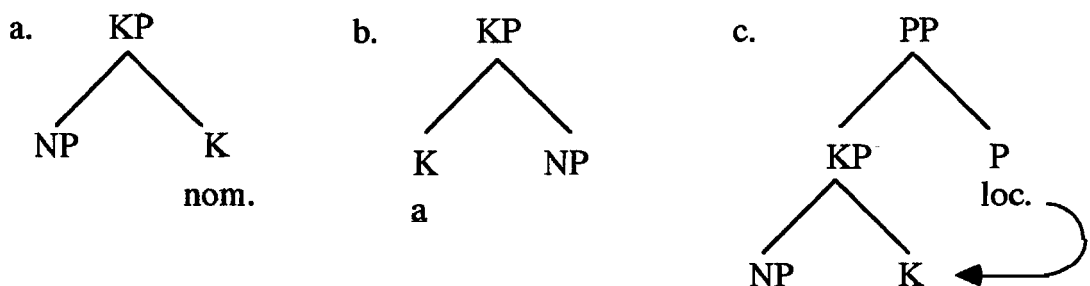
the data below involve objects of verbs in different cases; some other types of case uses, e.g. the accusative of extent of time and the genitive of quality, are not tested.

However, it should be noted that it may be impossible to apply the predicate subject test to several of these case uses. This is true for example of the accusative of extent of time. The equivalent of '*she worked for three hours_i long/short/happy/hot_i' in a language which marks extent of time with the accusative may be ill-formed, but not only because of a violation of the C-Command Condition. In addition, it is difficult or impossible to find an appropriate adjective to be a secondary predicate of nouns indicating measurement; for semantic and/or pragmatic reasons (as well as for syntactic reasons) it may not be possible for measure nouns to take secondary predicates. The same applies to the accusative of extent of space; other case uses, such as the genitive of quality and the appositional genitive (e.g. Latin *oppidum Antiochae* 'the city of Antioch' from Greenough et al. 1981:212) are not testable for similar reasons. Nevertheless, the test, to the extent that it has been applied, is able to distinguish between two types of case function, and demonstrates the kinship of one type with the category adposition.

In (43) I give structures for the categories under discussion: (a) represents a NP marked with a syntactic case; this is a KP, as we would expect; (b) is a NP governed by a dummy preposition; this also is a KP, not a PP, as e.g. Spanish *a* is not a P but a K; and (c) is a NP bearing a semantic case; I claim that such phrases are actually PPs

and that the P in this structure, like other Ps, assigns an (often abstract) syntactic case to its complement; a true adpositional phrase has the same structure. As we have seen, NPs in structures like those of (43b) are not blocked from having predication relations; assigning the structure of (43c) to semantically case-marked phrases accounts for some apparent counter-examples to the C-Command Condition.

(43)



2.1.3.1 Hungarian

Let us now look at some languages in which there are several types of non-accusative oblique NPs which do not have to be governed by adpositions. Hungarian has a rich case system compared to Indo-European languages; the number of cases differs according to the author, but the tentative figure of 21 cases in Mel'čuk (1986:70) will give a rough idea of the size of the inventory of cases. This language is therefore a good testing ground for the hypothesis that NPs bearing semantic cases cannot take predicate adjectives. First I present data showing that this language does allow nominative subjects and ordinary (= accusative) direct objects to take secondary predicates.

- (44) a. Bill részegen/mergesen_i találta Jánost_i
 Bill drunk/angry found John-ACC
 'Bill found John_i drunk/angry_i'
- b. Bill részegen/mergesen_i látta Jánost_i
 Bill drunk/angry saw John
 'Bill saw John_i drunk/angry_i'
- c. Maria részegen_i szereti/utálja Jánost_i
 Mary drunk loves/hates John-ACC
 'Mary loves/hates John_i drunk_i'
- d. János nyersen_i eszik sárgarépet_i
 John raw eats carrots
 'John eats carrots_i raw_i'
- e. János feketen_i isza kávé_i
 John black is drinking coffee
 'John is drinking coffee_i black_i'
- f. János_i vizesen_i festtete az ajtót
 John wet painted the door-ACC
 'John_i painted the door wet_i' ((f) is from Marác 1989:225)
- g. János_i részegen_i vezetett
 John drunk drove
 'John_i drove drunk_i'

As can be seen, secondary predicates are possible with at least a few verbs. The possibilities appear similar to those in English.

Not surprisingly, objects of postpositions in Hungarian cannot take secondary predicates; note that changing the word order, as in (45) and (46b-c), does not lead to well-formedness:

(45) a. *János részegen_i Bill_i alá/körül mászott
 John drunk Bill under/around crawled
 'John crawled under/around Bill_i drunk_i'

b. *János Bill_i részegen_i alá/körül mászott

c. *János Bill_i alá/körül részegen_i mászott

d. *János Bill_i alá/körül mászott részegen_i

(46) a. *János Bill_i felett részegen_i repült
 John Bill over drunk flew
 'John flew over Bill_i drunk_i'

b. *János részegen_i Bill_i mellé ült
 John drunk Bill beside sat
 'John sat beside Bill_i drunk_i'

c. *János Bill_i mellé részegen_i ült

So far, all is as one would expect: NPs governed by postpositions can not be predicated of, while NPs which are not in a postpositional phrase can take predicate adjectives. However, we shall now see that not all NPs which are outside postpositional phrases can be predicated of.

I first present examples involving predication of some NPs in local functions of the superessive, sublative, and adessive cases:

(47) a. *Ne allj az asztalon/ asztalra_i nedvesen_i
 NEG stand the table-SUPERESS/-SUBLAT wet
 'Don't stand on the table_i wet_i'

- b. *Ne egyél az asztalon/ asztalnál;
 NEG eat the table-SUPERESS/-ADESS

nedvesen/piszkosan_i

wet/dirty

'Don't eat on/at the table_i wet/dirty_i'

These cases in these functions should be uncontroversial examples of semantic cases, and secondary predication of NPs in these cases is not possible. Thus we see NPs in semantic cases behaving in one respect like NPs which are objects of adpositions.

Hungarian has a variety of verbs which take NP complements in cases other than the accusative. One may feel less clear about the status of these cases in this function. Below are sentences in which objects of some of these verbs take predicate adjectives:³⁰

- (48) a. *Bill részegen/mersegen_i káromkodott Jánosra_i
 Bill drunk/angry swore John-SUBLAT
 'Bill swore at John_i drunk/angry_i'
- b. *János részegen_i elfelejtkezett Jozsefről_i
 John drunk forgot Joseph-DELAT
 'John forgot about Joseph_i drunk_i'
- e. *János részegen_i bízott benne_i
 John drunk trusted him-INESS
 'John trusted (in) him_i drunk_i'

³⁰ One informant found (48e) and (48f) well-formed, which is troubling, from my point of view. I have found other judgements which are problematic for my claims (e.g. with a Lithuanian informant) but I trust that they are not indicative of the judgements of most speakers of the language in question or that they are due to other factors, such as misunderstanding of the notion of well-formedness.

- f. *János részegen_i fel Maritól_i
 John drunk is afraid Mary-ABL
 'John is afraid of Mary_i drunk_i'
- g. *Bill reszegen/mersegen_i hízelgett Jánosnak_i
 Bill drunk/angry flattered John-DAT
 'Bill flattered John_i drunk/angry_i'³¹
- h. *János reszegen_i megkoszonte Jozsefnek_i
 John drunk thanked Joseph-DAT
 az ajándékot
 the present-ACC
 'John thanked Joseph_i drunk_i for the present'
- i. *János részegen_i egyetértett Marival_i
 John drunk agreed Mary-INSTR
 'John agreed with Mary_i drunk_i'

One thus sees that the sublative, delative, inessive, ablative, dative, and instrumental cases, when they mark objects of verbs, appear to block secondary predication.

One may also be unsure about the semantic status of the instrumental which marks instruments; below we see data indicating that this case function patterns with the semantic cases and adpositions:

- (49) *Letöröríttem az asztalt a saivacsal_i vizes(en)_i
 I wiped the table the sponge-INSTR wet
 'I wiped the table with the sponge_i wet_i'

³¹ One may notice that the English translations of sentences such as (48g) are also ill-formed, even though there is no semantic case marker or adposition governing the object. I account for this later in this chapter, when I discuss underlying case in English.

Finally, let us look at NPs which bear what I shall call the dative or the nominative of possession. Hungarian has two ways of marking possession: in all cases the possessee must be marked, but the possessor may be marked (with the dative case) or unmarked; this is in contrast to the general pattern of familiar Indo-European languages where the possessor is marked, and the possessee is not marked.³² In (50) I give the two alternatives allowed by Hungarian.

- (50) a. A fiú könyv-e
 the boy book-3sg.
 'The book of the boy'
- b. A fiú-nak a könyv-e
 the boy-DAT the book-3sg.
 (same meaning) (Károly 1972:124)

In (51a-b), I give sentences with predication attempted of possessors marked with dative case; again, this leads to ill-formedness. Interestingly, nominative (i.e. unmarked) possessors cannot be subjects of secondary predicates either, as shown in (51c-e):

- (51) a. *Albert elvette Jánosnak_i részegen_i a puskáját
 Albert took John-DAT drunk the gun-3SG-ACC
 'Albert took John's_i gun drunk_i'
- b. *Albert elvette részegen_i Jánosnak_i a puskáját
- c. *Albert elvette János_i részegen_i puskáját
 Albert took John-NOM drunk gun-3SG-ACC
 (same meaning as (51a))

³² In Nichols' (1986) terms, Hungarian uses a head marking (50a) or a double marking (50b) construction, rather than a dependent marking construction of e.g. English.

- d. *Albert elvette részegen_i János_i puskáját
 e. *Albert elvette János_i puskáját részegen_i

This one may lead one to think that the ill-formedness of such sentences is due to the semantic role possessor, rather than the dative/nominative case marking. I shall return to this point below in the section on underlying case in English.

For now, observe that we have seen NPs in some functions of the dative and instrumental cases, as well as NPs in the sublative, inessive, adessive, etc., behaving like objects of adpositions in that they are unable to be predicated of. These data back up the remark made in Marácz (1990:224) that "only nominative or accusative arguments of the verb, or D-structure subjects ... may act as controllers with this phenomenon".

There is, then, a split between syntactic and semantic cases with respect to the ability to be the subject of a predicate, and the dative and instrumental, in the functions I have tested, behave like semantic cases. Further, the semantic cases pattern with the postpositions, as both prevent predication. This is evidence that semantic cases and adpositions behave uniformly in one respect and should be grouped together in a single syntactic category, P.³³

³³ Note the remark in Sadock (1991:131) on Hungarian cases and postpositions: "Despite the fact that some of these relational items are suffixes and some separate words, they share so many syntactic and morphological (not to mention semantic) properties with the independent postpositions as to demand treatment as the same thing at some level."

2.1.3.2 German

We now look at the possibilities for secondary predication in German, which has no clear examples of semantic case functions, but which has some case functions which conceivably could be semantic. In (52) are some sentences which show that secondary predication is possible in German with nominative subjects and accusative objects.

- (52) a. Ich fuhr betrunken Auto 'I drove drunk'
 b. Ich mag meine Suppe heiß 'I like my soup hot'
 c. Ich sah/fand ihn betrunken 'I saw/found him drunk'
 d. Er aß die Karotten roh 'He ate the carrots raw'

The sentences in (53) show that NPs governed by prepositions can not take secondary predicates.

- (53) a. *Ich kroch unter ihm_i betrunken_i
 'I crawled under him_i drunk_i'
 b. *Ich flog über ihn_i betrunken_i
 'I flew over him_i drunk_i'
 c. *Ich ging um ihn_i herum betrunken_i
 'I went around him_i drunk_i'
 d. *Ich ging von ihm_i weg betrunken_i
 'I went away from him_i drunk_i'

We shall now see NPs in the dative and genitive cases, two cases whose status is unclear. First I give examples containing dative verbal objects:

- (54) a. *Ich applaudierte ihm_i betrunken/tot_i
 'I applauded him_i drunk/dead_i'
- b. *Ich assistierte ihm_i betrunken/tot_i
 'I assisted him_i drunk/dead_i'
- c. *Ich dankte ihm_i betrunken/tot_i
 'I thanked him_i drunk/dead_i'
- d. *Ich diente ihm_i betrunken_i
 'I served him_i drunk_i'
- e. *Ich gratulierte ihm_i betrunken_i
 'I congratulated him_i drunk_i'
- f. *Ich drohte ihm_i betrunken_i
 'I threatened him_i drunk_i'
- g. *Ich folgte ihm betrunken
 'I followed him_i drunk_i'

The dative case, when marking verbal objects, does not allow those objects to take predicate adjectives. Note also the remark of Haider (1985:94) that "the predicative relation is impossible with lexical cases", and his examples:

- (55) a. Er sah sie_i nackt_i
 'He saw her-ACC_i nude_i'
- b. *Er half ihr_i nackt_i
 'He helped her-DAT_i nude_i'

It may be difficult to try to explain this in terms of function, since one can claim that dative NPs in such constructions are in fact objects; they are arguably in [NP, VP] position. As for semantic

restrictedness, it is not clear whether it applies either; in the absence of a formal definition of OBJ in LFG, one may claim that the objects of the verbs in (54) are OBJs, rather than oblique arguments, and OBJ is a semantically unrestricted position. The only obvious way in which these objects differ from the objects of accusative verbs is that they bear dative rather than accusative case, and dative objects seem to be unable to be subjects of secondary predicates. These data are also problematic for the structural account of predication, since there seems to be nothing blocking c-command of the predicate by the object, and yet the sentences are ill-formed.

In (56) I give some examples of attempted predication of a genitive object of a verb.

- (56) a. ?* Ich bediente mich des Kaffees_i heiß_i
 'I served myself with the coffee_i hot'
- b. ???...weil er sich dieses Kaffees_i heiß_i bedienen will
 '...because he wanted to serve himself with coffee_i hot'³⁴
- c. *Ich habe mich seiner_i betrunken_i angenommen
 'I took him_i under my wing drunk_i'
- d. *Ich habe mich seiner_i betrunken_i vergewissert
 'I made sure of him_i drunk_i'

³⁴ A second informant found this example to be well-formed if there was emphasis on *heiß*, but "a little odd" otherwise. An intonation or stress pattern in which the predicate adjective is given prominence could arguably have a different structure than the "standard" instances of secondary predication on which I am concentrating.

In these examples, as in the examples with dative objects given earlier, predication of non-accusative objects generally does not yield well-formed results. Other uses of the genitive case in German, such as the possessive genitive and the objective genitive, may not be testable in structures parallel to those given here, as German may not allow predicate adjectives inside NPs.³⁵

We have now seen that in German, dative and genitive objects act like objects of prepositions in not being able to take predicate adjectives. The cases of German, like those of Hungarian, can be divided into two groups, those which block predication (genitive and dative, in their function of marking verbal objects) and those which do not (nominative and accusative). The dative and genitive in this function are thus unlike the clearly syntactic cases, and like the prepositions. We therefore have evidence that there is a distinction between the syntactic nominative and accusative (when marking subjects and direct objects, respectively), and the semantic dative and genitive (in at least one function), and that the genitive and dative in this function are Ps.

2.1.3.3 Russian

I now present data from Russian (from Pesetsky 1982:169-70) which again indicate that the dative and genitive pattern together

³⁵ V. Safir (1987:573).

(when marked on verbal objects), and are distinguished from the accusative:

- (57) a. Maša peredraznivala Ivana_i p'janym_i
 Maša mimicked Ivan drunk
 (fem nom) (masc acc) (masc instr)

- b.??Maša podražala Ivanu_i p'janym_i
 Maša imitated Ivan drunk
 (fem nom) (masc dat) (masc instr)

- (58) a. Maša tronula portret_i mokrym_i
 Maša touched portrait damp
 (fem nom) (masc acc) (masc instr)

- b.??Maša kosnulas' portreta_i mokrym_i
 Maša touched portrait damp
 (fem nom) (masc gen) (masc instr)³⁶

- (59) *Maša pomog Ivanu_i p'janym_i
 Maša helped Ivan drunk
 (nom fem) (masc dat) (masc instr)

Pesetsky (1982:172) mentions the possibility that "oblique cases are actually PPs", which, together with Williams' C-Command Condition will account for the status of these examples, as well as of Hungarian and German examples presented above.

³⁶ The difference between the two verbs in these examples is that "Tronut' suggests a more deliberate action; kosnut'sja more accidental" (ibid.).

In Russian (and some other Balto-Slavic languages) there is an interesting use of the genitive case to mark (surface) subjects or objects of sentences containing a marker of negation. This is known as the genitive of negation. One might be curious about the status of this case function as syntactic or semantic, and one can apply the predicate subject test to it. Timberlake (1986:350) and Pesetsky (1982:179) present relevant data:

(60) a. Ja ne scitaju inostrannye fil'my interesnymi
I not consider foreign:ACC films:ACC interesting:INST

b. *Ja ne scitaju inostrannyx fil'mov interesnymi
I not consider foreign:GEN films:GEN interesting:INST
(Timberlake 1986:350; this sentence is judged ?? by
Pesetsky 1982:179))

(61) ?? ja ne vstrecaj ni odnoj devuski p'janoj'
I NEG met not one girl drunk
(fem gen sing) (fem instr sing)
(Pesetsky 1982:179)

(62) a. ?*ne scitaetsja ni odnogo inostrannogo fil'ma
NEG is considered not one foreign film
(masc gen sing)
interesnym
interesting
(masc instr sing)

b. ?*ne prislo ni odnoj devuski p'janoj
NEG came not one girl drunk
(neut sing) (fem gen sing) (fem instr sing)
(ibid.)

Pesetsky (ibid.) states that "the violation is weak, but noted in the literature on the subject". From this evidence one might conclude that the genitive of negation blocks predication and hence behaves like a semantic case. However, according to Neidle (1982:243) it may be possible for a NP bearing the genitive of negation to be predicated of; she says "many of my informants readily accept the genitive", and gives the following example:

- (63) On ne sčitaet Anny udivitel'noj; èto Zenju on sčitaet takoj studentkoj.
 He NEG considers Anna(GEN) astonishing; it's Zenja(ACC) he considers such(INS) (a) good(INS) student(INS).

There is thus some evidence for considering the genitive of negation to be a syntactic case. Unfortunately, since the literature contains conflicting results, the status of this case function remains unclear. However, we have seen that the dative and genitive when borne by verbal objects block predication in Russian, as do some non-accusative cases marked on objects in other languages.

2.1.3.4 Turkish

The data in (64) show that in Turkish, while nominative subjects and accusative objects can take secondary predicates, ablative objects and dative indirect objects cannot.

- (64) a. Arabami sarhoş kullandım
 'I drove my car drunk'

- b. çayı sıcak sevmem
'I don't like tea(ACC) hot'
- c. *çaydan sıcak nefret ederim
'I hate tea(ABL) hot'
- d. *adama sarhoş bir kitap verdim
'I gave a book to the man(DAT) drunk'
- e. *Can Ahmet'e sarhoş benzer
'Can resembles Ahmet drunk'

Such results are not surprising, given what we have seen so far. Let us now look at another use of the Turkish ablative, the partitive ablative. The following sentences from Kornfilt (1984:220) indicate that secondary predication is not possible of NPs bearing the ablative case in this function.

- (65) a. ben bifteg-i çig ye-di-m
 -ACC
 'I ate the steak raw'
- b. ben biftek-ten ye-di-m
 -ABL
 'I ate of the steak'
- c. *ben biftek-ten çig ye-di-m
 -ABL
 Attempted reading: 'I ate of the steak raw'

Thus the Turkish partitive ablative case appears to be a semantic case, like the ablative and dative case marking objects.

2.1.3.5 Conclusion on Subjects of Predicates in Case Languages

The data from Hungarian, Russian, German, and Turkish show that NPs governed by adpositions can not take secondary predicates, nor in general can NPs in clearly semantic cases (at least in Hungarian), unlike those in syntactic cases. There is then a split between the two kinds of case. Dative, genitive, instrumental, and ablative NPs in some uses act like NPs in semantic cases, which is evidence that these uses should be placed in the same class as the semantic cases and the prepositions, i.e. that they are Ps and not Ks. By realigning categories in the way that I suggest (following e.g. Pesetsky (1982)), we can account for the apparent counter-examples to the C-Command Condition brought up here: NPs in semantic cases are actually contained in PPs (the head of the PP being the semantic case), and so can not c-command secondary predicates. Thus NPs bearing semantic cases are structurally different from NPs in syntactic cases; this structural difference explains the split in ability to be the subject of a predicate which has just been illustrated.

I shall now give brief demonstrations of the application of the predicate subject test to two case functions which occur in several languages, and whose semantic status may be unclear, the oblique case marking experiencer subjects, and the dative (or instrumental) marking causees.

2.1.3.6 Experiencer Subjects

In a large number of languages, notably languages of South Asia, some verbs have subject or subject-like arguments which are not marked with the nominative or the ergative, the typical subject cases, but with another case, often the dative. There is some debate on whether these arguments are indeed subjects; to some extent it depends on one's criteria for subjecthood. My interest here is not in whether they are subjects (and I shall continue to refer to them as experiencer subjects, although this does not imply that I believe them to be subjects), but is in the nature of the dative (or other non-nominative) case marking these arguments -- is it syntactic or semantic? One might intuitively feel that it is semantic, i.e. dative case is assigned as a consequence of the theta role (or semantic role) of the argument. On the other hand, there might be some argument that this dative is syntactic, as a default case, or a case assigned to arguments in the specifier position of VP, if that is where one holds that experiencer subjects are (as in Travis (1990)). To attempt to settle this question, we can make use of two of the tests discussed in this thesis, starting with the predicate subject test. If the dative case borne by experiencer subjects is a syntactic case, then these "subjects" should be able to take secondary predicates. On the other hand, if this dative is semantic, then secondary predication should be impossible.

The Japanese data presented below indicate that dative experiencer subjects can not take secondary predicates, although,

interestingly, subjects of the same or related verbs which are in the nominative can take secondary predicates.³⁷

- (66) a. */?*John-ni_i sake-ni yotte_i inu-ga
 John-DAT wine-DAT drunk dog-NOM

kowa-i (koto ...)
 be afraid-PRES (fact)
 '(the fact that) John_i is afraid of the dog drunk_i with wine'

- b. OK/OK John-ga_i yotte_i inu-o
 John-NOM drunk dog-ACC

kowa-gar-u (koto ...)
 be afraid-GAR-PRES fact
 '(the fact that) John_i fears the dog drunk_i'

- (67) a. */??? John-ni_i yotte_i hon-ga hosi-i (koto ...)
 John-DAT drunk book-NOM want-PRES fact
 '(the fact that) John_i wants the book drunk_i'

- b. ??? John-ga_i yotte_i hon-o hosi-i (koto ...)
 John-NOM drunk book-ACC want-PRES fact
 '(the fact that) John wants the book drunk'

- c. OK/OK John-ga_i yotte_i hon-o hosi-gar-u (koto ...)
 John-NOM drunk book-ACC want-GAR-PRES fact
 'John wants the book drunk'

³⁷ The second informant added the word *koto* 'fact' because there is no topic marker in these sentences. The judgements are thus for the examples without *koto* for the first informant, and with it for the second. Miyagawa (1989:157) says of the element *-gar-* which appears in some of these examples, "The morpheme *gar* attaches to an adjective to form a verb ... For the construction adjective-*gar* to be well-formed, the adjective must express some "internal feeling" ...". This morpheme apparently cannot occur with dative subjects (Masanori Nakamura, p.c.), and so sentences such as (i) are ill-formed, but not (only) because of a violation of the C-Command Condition:

(i) John-ni sake-ni yotte inu-ga kowa-gar-u

This is evidence that, at least in this language, the dative case marking experiencers is a semantic case. In chapter 3 we shall see evidence of another sort that the oblique case borne by some experiencer subjects in a different language, Bhojpuri, is also a semantic case.

2.1.3.7 Predication of Causees

In many languages, the NP denoting an entity which is caused to perform an action (the "causee") is marked with the dative case, if the verb denoting that action has an object; this follows the "paradigm case" of Comrie (1976a). As with other uses of the dative case, one may be unsure whether this function is syntactic or semantic. Below are data from Japanese indicating that this use of the dative is syntactic, as the dative causee in (68a), as well as the accusative causee of an intransitive clause (68b), can take a secondary predicate:

- (68) a. Mary-ga John-ni_i hadakade/tatte_i hon-o
 Mary-NOM John-DAT naked/standing book-ACC

 yom-ase-ta
 read-CAUS-PAST
 'Mary made John_i read a book naked/standing_i'
- b. Mary-ga John-o_i hadakade_i hasir-ase-ta
 Mary-NOM John-ACC naked run-CAUS-PAST
 'Mary made John_i run naked_i'

Hungarian does not follow the "paradigm case" for case marking of causees of transitive clauses, as the causee is in the instrumental rather than the dative case. It appears that this causee, like the dative causees just discussed, can be predicated of, as shown by the following examples (based on sentences without secondary predicates from Bánhidi et al. (1965:340)):

- (69) a. A szabóval_i részegen_i új ruhát
 the tailor-INSTR drunk new suit-ACC
 csináltatom
 make-CAUS-PAST-1sg.
 'I had the tailor_i make a new suit drunk_i'
- b. Rövidre nyíratta a haját
 hair-SUBL had-cut the hair-ACC
 a borbélyllyal_i részegen_i
 the hairdresser-INSTR drunk
 'He had the hairdresser_i cut his hair short drunk_i'

Even in French, where transitive causees are marked not with a dative case suffix but with the preposition *à*, predication of the causee is possible as shown by (70):

- (70) a. On a fait chanter Marie complètement soûle.
 'We had Marie sing completely drunk'
- b. On a fait réciter ces vers à Marie complètement soûle.
 'We had Marie recite those verses completely drunk.'
 (Zubizarreta 1985:270)

It thus appears that the dative and instrumental cases marking causees, unlike the datives marking experiencers and verbal objects, are syntactic cases, at least in the languages tested.

2.1.3.8 English

English is poor in overt cases, having a maximum of three cases, and this only in pronouns. Nouns are marked for two cases, if one counts the 's Saxon Genitive as a case (v. Mel'čuk 1986:48-52 for arguments that it is not a case). Nominative subjects and accusative objects can of course be predicated of, as shown by the following sentences.

- (71) a. He_i drove drunk_i
 b. John ate them_i raw_i

Let us now see whether NPs in two different genitive functions can be subjects of secondary predicates in English.

2.1.3.8.1 The English Possessive Genitive

The possessive genitive is difficult to test since depictive secondary predicates must indicate temporary properties,³⁸ and it is rare that a temporary property of a possessor will have any relevance for or effect on the situation described in a sentence,

³⁸ This was noted by Rothstein (1983:153). For examples v. the Excursus on Lexical, Semantic, and Pragmatic Factors.

whence the pragmatic oddity of a sentence such as *I sat in John's_i chair drunk_i. The sentences below are pragmatically better than many examples in which a possessor takes a predicate adjective.

- (72) a. *John's_i shotgun drunk_i is dangerous.
 b. *We should put John's_i shotgun drunk_i in a safe place.³⁹

Napoli (1989:128) gives further ill-formed examples in which an adjective is predicated of a NP bearing the possessive genitive:

- (73) a. *Jeff's_i wallet broke_i lay open on the table.
 b. *I gave Jeff's_i wallet broke_i to Mary.

If such examples are ill-formed for grammatical rather than (or in addition to) pragmatic or lexical reasons, then they are evidence that the possessive genitive acts like a semantic case in not allowing predication.

2.1.3.8.2 The English Subjective Genitive

As with the subjective and objective *of*-genitives (v. 2.1.2.2) there is disagreement about the well-formedness of NPs in the subjective (non-prepositional) genitive. In (74) I give examples of predication of the subjective genitive which are claimed to be well-formed, and in (75) are allegedly ill-formed examples of this.

³⁹ These sentences are due to Debby Poirier.

(76) a. John's departing nude shocked us. (O'Grady 1982:120)
 b. John's destroying the paintings drunk was a crime. (ibid.)
 c. Mary's arriving sick saddened us. (ibid.)
 d. John's arriving dead (Williams 1980:218)
 e. John's performing drunk (Rothstein 1983:72)

⁴⁰ Rothstein later (p. 168) assigns a ? judgement to (75e).

41 Another language in which subjective genitive NPs can take predicate adjectives is Norwegian, as shown by the following example (from Safir 1987:579):

(i) John's ankomst syk 'John's arrival sick'

formed, but since at least one author (Safir) finds examples with the latter well-formed, this distinction may not be the relevant factor, at least not for all speakers.⁴² We now have an example of different functions of the same case acting differently with regard to the ability to be the subject of a predicate. The genitive marker 's and the surface adposition of both allow predication of their objects in some instances, and in those instances are then to be classified as Ks. On the other hand, the possessive genitive, like the partitive of-genitive and the "of-genitive of material or composition" (v. 2.1.22) is a P.

2.1.3.9 Apparent Counter-examples from Australian Languages and Finnish

Dench and Evans (1988) present some possible apparent counter-evidence to the claim that NPs governed by semantic cases can not take predicate adjectives; I shall now briefly discuss their evidence. They state that "Languages differ with respect to which NPs may control second predicates" (1988:15). In some languages (e.g. Yankunytjatjara), only subjects can have secondary predicates, in others (e.g. Kayardild), objects can also take them, in still others (e.g. Kanyara and Matharta) this property is extended to "subcategorized datives", and finally in Martuthunira, subjects, objects, "destinations", and "demoted agents in passives" are able to

⁴² Recall also the data on predication of NPs marked with the objective of-genitive (2.1.22), where such NPs, both in phrases headed by gerundive NPs and in those headed by derived nominals, could be subjects of predicates.

take secondary predicates. Dench and Evans (ibid.) give the following data from Martuthunira which supposedly show its relative freedom with respect to secondary predication:

- (77) a. ngayu puni-wayara thawun-mulyarra
 1sgNOM go-HABIT town-ALL

 kupuyu-mulyarra-l
 little-ALL-THEN

'I used to go into town when it was a small place.'

- b. ngunhu-ngara kupiyayi wirta-ngku-l
 'thatNOM-PLURAL little(pl) youth-EFF-THEN

 pawu-ngku jalya wantha-rnu
 father-EFF bereaved leave-PASSP

'Those little fellows were left bereft by their father dying when he was still a young man.'

These may be problematic for my claims, and in disagreement with the general results of the predicate subject test given above, as the NPs *thawun* 'town' and *pawu* 'father' in (77a) and (77b) are in the allative and effector cases respectively; in particular, the allative, as a local-type case, would be a poor candidate for a syntactic case.⁴³ However, it is not clear that the NPs or APs in such examples are actually secondary predicates. For example, perhaps the suffix glossed as 'THEN' in the above examples is actually some kind of complementizer, giving a different structure for these clauses. As Dench and Evans themselves say (1988:16), "The unambiguous identification of secondary predicates requires a large corpus,

⁴³ The effector case indicates the "demoted agent of passive" (Dench and Evans 1988:4).

comprehensive analysis and precise translation, and it is fair to say that in no Australian language has secondary predication been fully analyzed", although they claim that secondary predication does fulfill a wider range of functions than in English-type languages. Even if the phrases in question are secondary predicates, they may be of a fundamentally different sort than the "standard" type of secondary predicates, like the *as*-predicates discussed in reference to Napoli's account of predication (v. 2.1.1.2.3 above on *as*-predicates). Pending further work in this area, I shall not take such examples into consideration.

One might also note some potentially problematic data from Finnish. Nichols (1978:120) says, "Among the languages I have investigated ... Finnish is apparently unique in regularly permitting controllers [of secondary predicates] to be much much lower on the hierarchy [than subjects and direct objects]". She gives the following examples (*ibid.*:120-1):⁴⁴

- (78) a. *hänelle_i maksettiin hyvin opettajana_i*
 to him-ALL was paid well teacher-ESS
 'he_i was well paid as a teacher_i' ("impersonal passive,
 lit. 'him was well paid as a teacher'")
- b. *lahettimme hänelle_i rahaa lapsena_i*
 we sent to him-ALL money child-ESS
 'we sent him_i money as a child_i (when he was a child)'

⁴⁴NPs marked with the partitive case can also be subjects of secondary predicates, as shown in (i):

(i) *Matti söi kalaa raakana.*
 PART ESS
 'Matti ate fish raw' (Schein 1982:10).

- c. vanhempani asuvat hänen_i naapurinaan lapsena_i
 my parents lived him-GEN neighborhood child-ESS
 'my parents lived in his_i neighborhood as a child_i (when he
 was a child)'
- d. tämä puu oli suurempi kuin minä_i lapsena_i
 this tree was bigger than I child-ESS
 'this tree was bigger than me_i as a child_i'

Here we see NPs in the allative and possessive genitive, as well as an "object of a comparative conjunction" taking secondary predicates. To deal with such examples, one should first note that there may be differing judgements about at least the ability of allative NPs to take secondary predicates, as shown by the following example from Schein (1982:3), which he gives to illustrate the fact that "adjunct small clauses" cannot be controlled by "oblique objects":

- (79) Lainasin auton Juhalle huonokuntoisena
 ACC ALL ESS
 '(I) loaned [sic] the-car_i to-John_j in poor condition_{i/*j}' ⁴⁵

It can also be seen that all of the secondary predicates in the examples given above bear essive case, which has been translated in (78) as 'as'. The rough generalization on case use with secondary predicates in Finnish seems to be that depictives nouns (and adjectives) take the essive case, while resultatives bear translative case. If the essive case marker is in some way equivalent to English

⁴⁵ Schein leaves out judgements on the coindexings of this example, although he marks one gloss of the sentence as well-formed and another (identical one) as ill-formed. I have added what I assume to be his intended judgements on these coindexings.

as, then it could be argued that essive secondary predicates, again like predicative phrases introduced by *as*, are of a different nature than "canonical" secondary predicates, and may not be subject to the same constraints.⁴⁶ Thus with regard to neither the potential counter-examples from Australian languages, nor those from Finnish, is it obvious that we are dealing with the same type of structures as exemplified by the data from German, Hungarian, English, etc., and so I shall not consider the examples in this section as counter-evidence to my claims, although further work is required.

2.1.3.10 Summary of Data about Subjects of Predicates

The data which have been presented provide evidence that NPs bearing semantic cases act differently than those with syntactic cases. The former can not be subjects of secondary predicates, while the latter can. Under current assumptions about the structure of NP, there is no apparent structural reason why this should be so, and the structural account of predication may be called into question. However, semantically case-marked NPs do act like PPs in that neither allows secondary predication. This suggests that semantic cases are underlyingly Ps, i.e. categories which block predication.

⁴⁶ However, the essive case marker is not entirely equivalent to *as*, since it is used more widely than 'as' (i.e. it is apparently the standard means of marking depictive secondary predicates, whether they are predicated of subjects, objects, or other NPs), and it is used in primary predication as well, as shown in (i).

(i) hän on Suomenkielen opettajana
 he is Finnish lang. teacher-ESS
 'he is a teacher of Finnish' (Nichols 1978:126)

This may mean that predication in general works differently in Finnish than in English, German, etc.

This proposal was made by Schein (1982:3), who observed the fact that "oblique objects" can not take "adjunct small clauses" as predicates, based on data from Russian, Finnish, and Icelandic. He states that "at all levels relevant to principles (2) and (3), oblique Case and prepositions are represented as P".⁴⁷ This move is implicitly criticized by Napoli (1989:94), who states that her account will make it unnecessary "to resort to the claim that oblique case NPs are somehow the equivalent of PPs in languages such as Russian, Finnish, and Icelandic".

Nevertheless, I believe Schein's view to be the correct one, particularly if this combining of the classes of adposition and semantic case can be backed up by data of other sorts; I shall present evidence for this below. The data from secondary predication give a split between the nominative, accusative, subjective and objective genitives, and cases marking causees on the one hand, and all other cases on the other hand, the latter acting like adpositions. We may thus have a test for determining the status of borderline cases such as the dative and genitive in certain functions. For example, in the data examined so far, the dative when marking verbal objects patterns with the more clearly semantic cases such as the superessive, and we therefore have grounds for placing the dative in this function with the semantic cases. Below we shall see some more

⁴⁷ The principles in question are given below.

(2) A θ -role assigner α assigns a unique θ -role

(3) i. for every X^0 , where $X \in \{[+N, +V], \text{INFL}\}$, there is an X^{\max} which is the projection of X^0 , and
 ii. a node X^{n+1} is the projection of a unique category (Schein 1982:1)

data which appear to be problematic for the claims made here, and I shall show how they can be accounted for.

2.1.4 Problematic English Data and Their Theoretical Consequences

In the preceding sections of this chapter I have attempted to show 1) that the ability to be the subject of a predicate can be used as a test to distinguish syntactic and semantic cases and 2) that semantic cases are actually Ps. The latter proposal is not new; as noted, it has been brought up by Schein (1982) and Pesetsky (1982).⁴⁸ However, the idea has not, to my knowledge, been applied to secondary predication in English, as I shall now do.

In this section I shall argue that English also has semantic cases, which are Ps, like semantic cases in other languages. In this way one can account for another set of data which are problematic for the structural account of predication, and one can make such an account more structural, i.e. one can eliminate direct references to entities such as theta roles. I shall also claim that the fact that some verbs take dative or genitive objects in some languages is not completely random, but has a connection with the semantics of the verb.

⁴⁸ Note also the view of Binkert (1970:133) that "verb phrases containing accusative objects immediately dominate an NP ... on the other hand, verb phrases containing prepositional phrase objects and objects marked for cases other than the accusative immediately dominate a PP", and the remark of Baker (1985:486) that "oblique Case markers in some languages may be essentially Ps that affix to Ns".

2.1.4.1 Problematic English Data and Cross-Linguistic Similarities in Case-Marking

Although the data given in earlier sections of this chapter are intriguing, and appear to be evidence for the classification of cases such as the dative among the Ps, they raise a problem for the analysis of English and other languages. It was shown above that English direct (accusative) objects could take secondary predicates. However, there are many verbs whose objects can not take predicate adjectives even though they are in the accusative, i.e. where one could apparently not account for this by claiming that semantic cases are Ps. This is illustrated by (80):⁴⁹

- (80) a. *I helped him_i dead/angry/bored/happy/sick/tired/
homeless/proud/sleepy/drunk_i
b. *They applauded the conductor_i dead/drunk_i⁵⁰
c. *The boy obeys his father_i dead/drunk_i
d. *I flattered him_i drunk/dead/proud_i

⁴⁹ If these sentences are interpreted as depictives, they are ill-formed. They may be grammatical as resultatives, if one can factor out the pragmatic oddness of such readings. I am unable to explain this, but it suggests that resultatives may have a different structure than depictives (v. the different representations for depictives and resultatives in Rothstein (1983:35)) and may be subject to somewhat different restrictions. (However, objects of overt prepositions cannot be subjects of resultative adjectives). On the other hand, there is one way in which resultatives are more restricted than depictives: In English at least, "resultative attributes are predicated of OBJECTs or underlying OBJECTs" (Simpson 1983b:144), as shown in (i)

(i) *I danced/laughed/jogged/walked/worked tired. (Simpson 1983b:145)

⁵⁰ Some speakers may find (i) acceptable.

(i) They didn't applaud him_i alive_i, but they applauded him_i dead_i.

The intonation pattern of the direct objects and predicative adjectives may be different in (i) and in (80b), possibly indicating a different structure. This would account for the well-formedness of (i).

Note that the semantic force of such sentences is perfectly understandable, even if sometimes somewhat odd.⁵¹ There is no reason why one could not say that one person helped another when the latter was drunk; it is difficult to see how this sentence, or the situation it depicts, is so different from the one depicted in "He eats the carrots (when they are) raw". As it turns out, some of the English verbs which do not allow their objects to take secondary predicates have the same meaning as German verbs (or verbs in other languages) which take dative objects, and so do not allow secondary predication of those objects; indeed, some of them are cognates.

Speaking more generally, verbs with certain meanings in various languages take non-accusative objects, and even objects in the same case; this applies outside of, as well as within, the Indo-European family. For example, in various languages verbs with the general meaning 'to fear' take non-accusative objects; in some languages the object bears genitive case, e.g. Lithuanian (*bijoti*; Dambrinas et al. 1966:414), Serbo-Croat (*bojati se*, *plaštiti se*; Javarek and Sudjic 1972:201), in other languages the object is ablative, e.g. Turkish (*korkmak*; Redhouse Dictionary:675), while in Chechen-Ingush *qieran* takes the locative (Nichols 1984:198) and in

⁵¹ Such examples as those in (80) may not be totally ill-formed for all speakers, e.g. one informant found (80c) questionable, and better than sentences in which an adjective is predicated of the object of a preposition. However, the fact remains that the sentences in (80) are generally less acceptable than sentences such as those in (i):

(i)a. John ate the carrots raw
b. John drove drunk

The difference may not be explainable under functional or semantic accounts, since there is not a clear difference in function or affectedness, e.g. finding is not obviously a more affective action than helping or obeying.

Warungu wanba and wanbali "[occur] generally with locatives, but in a few instances with datives" (Tsunoda 1976:459); here there is not a great deal of agreement on the case of the object, but there is agreement in that the object is not accusative or absolutive. To take another example, verbs with the general meaning 'to help' take dative objects in the following languages, among others: Icelandic (hjálpa; Einarsson 1945:107), Greek (βοηθεω; Smyth 1956:336), Latin (auxilior; Kennedy 1962:123), Ukrainian (допомогати; Zhluktenko et al. 1978:189), Turkish (yardim etmek; Hony 1957:395).

I assume that it is more than coincidence that there is this degree of agreement in the cases taken by these verbs, although it is not as much as it could be, as there are a great number of counter-examples. For example, there are at least verbs in Latin which mean 'to help' and take the accusative rather than the dative, namely iuvo and adiuvo (Greenough et al. 1981:228). Mitchell (1985:449) observes, "Even in a well-conducted language like classical Latin, the rules governing verbal rection are not completely consistent ... They are much less so in OE [= Old English]". On the other hand, the degree of agreement is higher than it would be if the cases of verbal objects were completely random; for example no verbs take vocative objects and nominative objects are rare or non-existent in many languages. If quirky case marking were indeed quirky, one might expect some verbs in some languages to take objects in the vocative or in some semantic case which had no conceivable semantic connection with them (although it could be argued that one can always come up with a semantic explanation for why such a case was used). Further, one

might expect less correlation across languages with regard to what case non-accusative objects of verbs with (approximately) the same meaning are in, as well as which verbs take non-accusative direct objects.

It could be asserted that lexical case marking is not idiosyncratic but is based on general semantic properties of the governing verb. Thus some descriptive or pedagogical grammars of different languages try to semantically characterize the set of verbs taking a particular case. For example, with respect to Old English Mitchell (1985:449) speaks of "Certain broad tendencies", some of which also exist in Latin:

Verbs expressing emotion or mental state, desiring or needing, giving or refusing, touching and testing, possessing and ruling, enjoying and using, caring or neglecting, remembering or forgetting, often take the genitive. The dative frequently appears -- with reference to the person affected or interested -- as the sole object of verbs of helping or harming, serving or resisting, pleasing or displeasing, liking or disliking, and believing or disbelieving.

In like manner, Shipley (1903) gives a "classification of verbs with the genitive" in Anglo-Saxon poetry; the verbs are grouped by meaning into 11 classes, e.g. "Verbs of Believing and Disbelieving", "Verbs of Helping, etc.". Similar groupings can be found in some grammars of other languages. We have already seen objects in what might be considered lexical cases behaving just like semantic cases and adpositions (and unlike syntactic cases) in preventing secondary predication; we now see the possibility that lexical cases (or at least

some of them) may not be lexical in the sense of requiring marking on individual lexical items; such an idea was brought up by Yip et al. (1987:228-9), who however, retain the idea that lexical cases are lexical. I would argue that there is no separate category of lexical case: lexical cases are Ps, not syntactic cases, and to at least some extent need not be lexically marked.

2.1.4.2 Theoretical Consequences: Underlying Ps

Let us try to make sense of the two groups of data mentioned above: 1) many accusative objects in English and other languages can not take secondary predicates, although there is no apparent structural or pragmatic reason why they should not, and further, some of the verbs whose objects cannot take secondary predicates have the same meaning as dative or other non-accusative verbs in other languages; 2) the set of verbs which take non-accusative objects is somewhat similar cross-linguistically, as are the cases which they take. Based on such facts I suggest that there is evidence for what seems to be a very strong claim, that some verbs universally take objects in certain cases (many of these cases being Ps in the framework argued for here). Thus to help takes the dative in all languages; in some languages (e.g. German) this is clear, while in other languages (e.g. English) there is no overt dative marker on the object. Nevertheless, even in English, the presence of this dative marker makes itself felt, as it is what prevents the object from taking a secondary predicate; being a P, it blocks c-command of the predicate by its subject.

Certain verbs then by their meaning require a PP object (which includes objects marked with semantic cases). The P is often overt, showing up as a semantic case marker or an adposition. Sometimes it is not overt, but even then its presence can be detected by its prevention of secondary predication of its object, and in other ways as well, e.g. by the objective genitive test discussed in chapter 3.

One way of testing this hypothesis is to look at what happens with synonyms of verbs which take objects in the dative or other non-accusative cases, that is, synonyms which appear to be ordinary transitive verbs with accusative direct objects. At first the very existence of such verbs would appear to be problematic for the claim that case marking behavior is universal and reflects some underlying (probably semantic) facts, since two verbs with the same meaning even in the same language would apparently not be taking the same case. However, I assert that these differences in case marking of objects are often only surface phenomena.

In German, some verbs with the prefix *be-* are synonyms of verbs taking the dative case, but take accusative objects. However, based on the data below, it appears that the objects of such verbs generally may not take depictive predicate adjectives:⁵²

⁵² At least some *be-* verbs do allow resultative secondary predication of their objects; this is another example where resultative secondary predication is less constrained than depictive secondary predication, although even resultatives cannot be predicated of objects with overt dative marking:

(i) *Ich applaudierte ihm_i tot_i 'I helped/applauded him_i dead_i
(i.e. to death)'

Note the interesting contrast with (ii), where the same verb takes an accusative object; it is only the resultative reading which is well-formed.

- (81) a. *Ich bedrohte ihn_i tot_i 'I threatened him_i dead_i'
(drohen 'to threaten usually takes the dative)
- b. *Ich bediente ihn_i tot_i 'I served him_i dead_i'
(dienen 'to serve' takes the dative)
- c. *Ich beglückwunschte ihn_i betrunken_i
'I congratulated him_i drunk_i'
(gratulieren 'to congratulate' takes the dative)
- d. *Ich beklatschte ihn_i betrunken_i 'I applauded him_i drunk_i'
(applaudieren 'to applaud' can take the dative', klatschen 'to clap' takes the dative)

The ill-formedness of such examples can be attributed to an underlying dative case (=P) which the objects bear, just as their counterparts in sentences with overtly dative assigning verbs have. Likewise, one would expect that in Latin objects of verbs meaning 'to help', 'to applaud', etc. could not be predicated of, irrespective of their surface case; i.e. neither the accusative object of Latin iuvo, nor the dative object of its synonym auxilior (both meaning 'to help') should be able to take a predicate adjective.

What we can infer from this discussion is that some verbs which are superficially transitive in fact take objects underlyingly

(ii) Ich applaudierte ihn_i tot_i

From the data given here and above, it appears that I must limit my claims about restrictions on secondary predication to depictive predicates, although the restrictions on resultatives are somewhat similar. At first glance, it appears that resultative predication is blocked by surface adpositions and semantic cases, but allowed by underlying Ps with surface syntactic case reflexes, while depictive predication is blocked by all Ps. One informant did find even the depictive interpretation of (81b) well-formed; the same speaker found a depictive reading of an adjective predicated of the dative object of helfen to be okay, but stated that the example was (probably) not something that a native speaker would say. I assume that most speakers would have a more negative judgement on these interpretations.

marked with semantic cases, which are Ps, and so do not permit predication. I thus am arguing for two planes of case marking (or rather two planes of categories since semantic cases are not Ks), an underlying plane and a surface plane.⁵³ I can now dispose of a class of possible counter-examples and in fact turn it to my advantage. Some of those verbs which appear to take accusative objects, but whose objects can not take secondary predicates, underlyingly do take objects governed by Ps, explaining why secondary predication is impossible (but v. the Excursus on Lexical, Semantic, and Pragmatic Factors below on other verbs whose objects cannot take secondary predicates). If evidence of other sorts can be found for the existence of these underlying datives (and other semantic cases) then there will be some justification for this proposal. In chapter 3 we shall in fact see some more evidence for the existence of underlying Ps in English.

2.1.4.4 Theoretical Consequences: Three Planes of Cases/Roles

It might appear that I am simply using an account based on theta roles, but referring to theta roles as cases. If this were true, then my account of predication would not differ from a semantic account. However, I maintain that there is a difference between (underlying) case and theta role, and that predication depends on the former. That is, not every instance of a given theta role will correspond to the same case/adposition, and the difference may

⁵³ Cf. the large body of work done in the Case Grammar framework, e.g. Fillmore (1968).

determine whether predication is possible. To show this, one needs to find pairs of sentences in which an NP has the same theta role, but is governed by a different surface case marker or adposition. I have already given one possible example of this above in (6), repeated below as (82):

- (82) a. I presented it_i to John dead_i
 b. *I presented John with it_i dead_i

The pronoun *it* arguably does have the same theta role in both sentences, and so this may be an example of two instances of a NP with the same theta role, but with two different (underlying) cases, one of these NPs being able to be the subject of a secondary predicate, the other not. Based on such facts, I would assert that it is necessary to posit both theta roles and underlying cases, and so we see a three plane system of properties of NPs: theta roles, underlying cases, and surface cases.⁵⁴ There is often a close mapping between two of these planes, but sometimes there are divergences, either between theta role and underlying case, or between underlying case and surface case; I shall therefore continue to argue for a set of underlying cases, related to, but distinct from, theta roles.

The relationship I imagine among these three types of entities is roughly as follows. On the deepest plane there are theta roles.

⁵⁴ An alternative view is that the level at which what I call theta roles appear is actually equivalent to the level of Lexical Conceptual Structure, as in Laughren and Hale (1987). Cf. Esau (1973) who also apparently has a system of three planes of cases/roles, as he speaks of "semantic case functions" and "syntactic deep case phrases".

Every verb (or verb meaning) is universally marked for which theta roles it assigns; this depends on the verb and does not vary across languages. For example, in all languages verbs meaning 'to give' must assign a recipient theta role (although in some languages the NP receiving this theta role may not be phonetically realized). As noted, this is universal and invariable; it is a consequence of the general meaning of the verb. These theta roles do not necessarily have a connection to or implication for structure, i.e. for occurrence with certain categories, the prevention of predication, etc. Some theta roles will require one particular structure, but others will be freer.

Now, one step closer to the surface, there are the underlying cases; these do have structural implications, i.e. certain underlying cases will always prevent predication. These entities are connected to semantics in some way, as certain verbs will tend to take certain underlying cases. However, there can be choices here, both cross-linguistically and within a language. Cross-linguistically, this can be seen with the verb 'to hate'. The theta role of the object of this verb, i.e. the being or thing hated, must have the same theta role in all languages, whatever theta role it is taken to be. However, the underlying case differs: in English the underlying case is accusative (as is reflected in the surface case), while in Turkish it is some other case which I shall call ablative (as again is reflected by the surface ablative case on objects of nefret etmek 'to hate'). The difference in underlying cases is seen in the difference in surface cases, but even if it were not, the difference would be manifested in possibilities for predication. For at least some speakers of English the object of to

hate can be predicated of, while in Turkish, based on my limited data, the object of nefret etmek can not be predicated of. This is because the underlying ablative case is a P which blocks c-command, while the underlying accusative does not. Turkish and English have different ways of expressing the same theta role in this instance (in Turkish the object of the hatred may be expressed as the source of this emotion, while in English it may be more that the emotion is directed towards the object), and these different means of expression have different syntactic consequences, as seen from the predication facts.

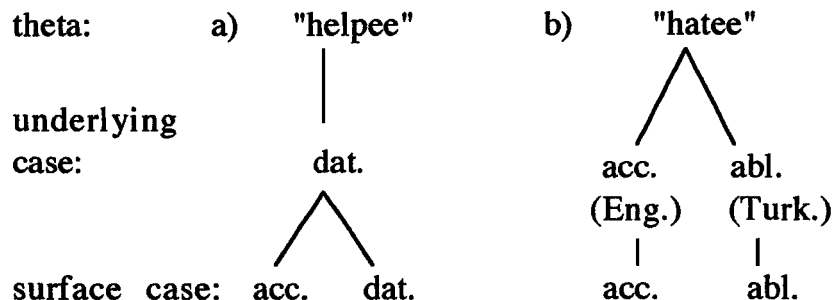
The pair of sentences in (82) illustrate an intra-linguistic choice of underlying case given a certain theta role: the object presented can be realized either as an underlying accusative NP or as an underlying with-phrase, although its theta role (i.e. its relation to the action) is necessarily always the same. Again, this choice has syntactic consequences: if the with-phrase is chosen, the object will be governed by a P, and predication will not be possible.

Although some theta roles thus allow a choice of underlying case realizations, this is not true of all theta roles. Thus the object of verbs meaning 'to help' allows only one underlying case, as shown by the fact that the object of this verb apparently never can be predicated of in any language (this is an empirical matter -- if there were found to be some language where predication of such objects was possible, one would be forced to admit the existence of a choice of underlying cases). This may indicate that in all languages objects

of 'to help' are expressed as, and act underlyingly as, recipients; there is not, and perhaps cannot be, any variation in this, as there can be with some verbs. The same is apparently true of other (more obvious) recipients: unlike the direct object in (82), the indirect objects can not be predicated of in either sentence, even though their surface form differs. Here is an instance where the theta role allows only one underlying case, but the underlying case allows a choice of surface case realizations; the fact that the choice is at the surface case plane rather than the underlying case plane is shown by the fact that predication is not possible with either surface case realization (cf. the situation with the direct object in these examples, where the variation is on the deep case plane, and so there are different possibilities for predication.) This then shows the need for three separate planes of properties of NPs.

In (83) are represented two instances of divergences between two levels, the first within a language, the second cross-linguistic.

(83)



(83a) shows the situation in a language such as Latin where some verbs with the meaning 'to help' take the surface accusative, while others take the dative. Although there is a divergence on the surface, on the underlying case plane there is no choice in underlying case, given the "helpee" theta role, and so predication is presumably not possible, no matter what the surface realization is. (83b) depicts the situation discussed with objects of the verbs meaning 'to hate' in Turkish and English. Here the divergence is on the underlying case plane, and so secondary predication of "hatees" is possible when the underlying category is a K.

It is only because there are divergences both between the theta plane and the underlying case plane, and between the underlying case plane and the surface plane, that it is necessary to posit three planes of entities. If all theta roles were like the "helpee" or possessor roles in permitting only one underlying case to be mapped to them, then one could argue that the relevant factor for predication is theta role, not case, since it is true that no "helpees" or possessors can take secondary predicates. However, since there are theta roles which allow a choice of underlying cases, which lead to different possibilities for predication, the relevant factor is underlying case and not theta role, although the two entities are often not distinguishable.

2.1.4.4. Theoretical Consequences: Causes and Results of Changes in Surface Case Marking

I shall now discuss the causes of divergences between the underlying case plane and the surface plane, and I shall introduce an analysis of such divergences based on incorporation.

2.1.4.4.1 Causes

One matter which remains to be explained is how the surface cases may come to differ from the underlying cases. That is, given my claim about underlying cases, I do not need to explain why verbs such as German *helfen* and Latin *auxilior* take dative objects: it is because verbs with this and some other meanings universally require dative complements. What I must account for is why e.g. not all verbs meaning 'to help' take surface datives. There are two issues here: what causes the loss of surface case marking which reflects underlying case marking, and what happens to that surface case marking?

Let us first note that there may be no language where surface case marking perfectly represents underlying case marking (or theta marking). Some languages have less deviation than others, and some languages may change from a state where there are few discrepancies to a state where there are more, but this does not mean that at some point there was a one-to-one mapping between the levels. The general trend among Indo-European languages in

recent centuries has been for the number of surface cases to decrease, although in many instances a surface case is replaced in some function by an adposition, and so the correspondence may be preserved. In other instances, e.g. with the dative marking the object of 'to help', the correspondence is not preserved; surface semantic case marking disappears and is not replaced by an adposition. The disappearance may be caused by factors having nothing to do with the semantics and syntax involved; e.g. concerning Indo-European languages Fairbanks (1977:106) states, "Checking the developments in the attested IE languages, it seems that the most frequent cause of loss of case inflection is phonetic change. In almost every example where loss of case inflection has occurred, phonetic change has been the most significant factor in the loss". Thus the disappearance itself of surface case marking does necessarily not have a dependence on syntax or semantics.⁵⁵

2.1.4.4.2 Effects: Incorporation

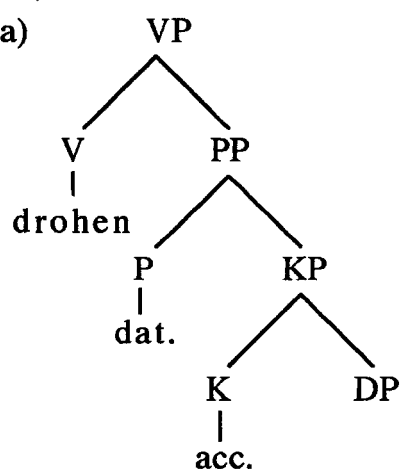
However, these disappearances do have effects on syntax, for one might assume that when a surface P disappears, e.g. the dative marking the object of to help, it has to go somewhere; more formally, the presence of underlying cases must still be manifested in some way, even if their surface realization is lost. One possibility is for the

⁵⁵ This of course does not explain why in a given language some verbs with a particular meaning take a semantically case marked object while others do not. This may be the point at which one must admit the existence of some lexical case, but the lexical marking may indicate which verbs deviate from the pattern which is expected from their meaning and take accusative objects, rather than marking verbs as taking e.g. dative objects.

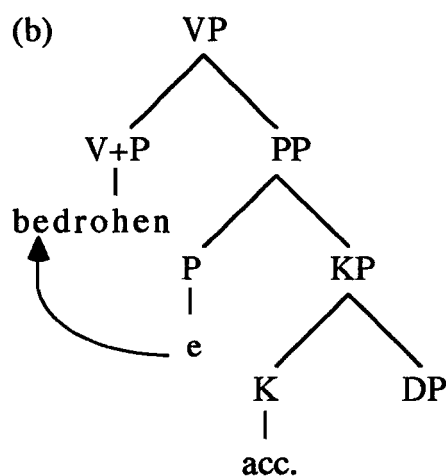
surface P (i.e. the reflex of an underlying P) to be incorporated into the verb; this is an alternative to the replacement of a case affix by an adposition. The occurrence of such incorporation is evident in the German *be*-verbs mentioned above: the *be*- prefix on the verbs is an incorporated P, causing predication to be blocked by the projection of its trace. The underlying P is not a morphologically separate word on the surface, but has been incorporated into the verb, being realized as a prefix. This is shown below, where (78a) represents a VP headed by a verb (*drohen* 'to threaten') which takes a dative PP complement, while in (78b) the head of this complement has been incorporated into the verb, creating the V+P complex *bedrohen*, which appears to take an accusative KP complement; this KP is actually the complement of the empty P position whence the dative P has moved to the V node, and cannot be the subject of a secondary predicate because c-command is blocked by the containing PP.

(78)

(a)



(b)



Incorporation of a P into the English verb to help is not as obvious as it is with the German be-verbs, but is still plausible. Thus the dative assigned by to help does not disappear, but obligatorily moves to the V node, while again the maximal projection of its trace suffices to block c-command and prevent the formerly dative NP from taking secondary predicates.⁵⁶

Thus some underlying Ps are Ps which have been incorporated, leaving a trace behind. In fact, what I have been calling the underlying case plane is the situation at the syntactic level of D-Structure: at this level/plane all Ps are present. Incorporation can apply to structures at this level, so that at S-Structure the position formerly occupied by some Ps is occupied only by a trace, thus on the surface some constituents which appear as PPs at D-Structure appear only to be KPs.

2.1.4.3.2.1 Effects: Incorporation: HMC

If incorporation is indeed involved, the same restrictions should hold on German be-verbs and English verbs such as to help as on other incorporation structures, specifically, the Head Movement Constraint (HMC), given in (84), should be obeyed.

(84) Head Movement Constraint

An X^0 may only move into the Y^0 which properly governs it.
(Travis 1984:131)

⁵⁶ Cf. Baker's (1988a) discussion of P incorporation and dative shift. My discussion here owes a great amount to Baker's work on P incorporation.

Baker (1988a) devotes some space to arguing that the HMC holds for applicative constructions, which he asserts involve Preposition Incorporation (PI): specifically, PI does not occur out of subjects, "embedded structures", or adjuncts. Whether PI does take place out of adjuncts is not entirely clear, since, as Baker (1988a:236) says, "there is little agreement as to which PPs are adjuncts and which are arguments of the verb". Baker (ibid.) states that "Empirically, the facts seem to be that applicative constructions are possible when the NP thematically related to the applied affix bears one of the following semantic roles: dative/goal, benefactive/malefactive, instrumental, or locative (of various types)." He later gives evidence that these PPs are not adjuncts, and so the HMC is obeyed. One would then expect that the Ps which the *be-* of *be*-verbs can represent will fall within this range, and not include Ps which head adjuncts. Likewise, one would expect the same of P incorporation into English verbs such as *to help*.

This may well be so. I know of no examples of the incorporation of Ps heading adjunct temporal phrases into either German or English verbs, or of examples where *be-* verbs or English *to help* type verbs involve "P incorporation ... out of embedded structures" (Baker 1988a:235), as in (85b).

- (85) a. The goats [VP ate [NP the letter [PP to Britta]]].
 b. The goats [VP ate-to_i [NP the letter [PP t_i Britta]]]. (ibid.)

Therefore, the incorporation analysis of semantic case marking and predication appears to be in accord with the restrictions on other types of head movement.

To summarize the discussion of incorporation, the difference between the underlying case plane and the surface case plane is that the former represents the categories present at D-structure, while the latter represents the overt categories present after incorporation has taken place. I assume that the proposed movement of semantic case markers into verbs, whether it is phonetically realized (as in the be-verbs) or not (as with to help) is a type of P incorporation; this accounts for the presence of semantic case marking lost e.g. by phonetic changes. Surface reflexes of underlying semantic cases may superficially be lost, but such Ps can be incorporated into verbs leaving behind traces which project phrases blocking c-command and predication. I shall return to the matter of P incorporation in chapter 3.⁵⁷

⁵⁷ Following this account, we can say that a difference between Old English and Modern English case marking has to do with the extent to which P to V incorporation occurs, with it being more frequent in the modern language. One may compare Lumsden's (1987) account of the changes in the case marking of verbal objects between Old and Middle English. He says (p. 339), "Old English had many inherent Case assigners and relatively few structural case assigners", while the reverse is true for "the later stages of English". This difference is due to "the reversal of the markedness of the feature [+/- Inherent] in the lexical entries of verbs" (p. 340).

2.1.4.4.2.2 Null Ps: When Incorporation is Impossible

In some instances, e.g. with the two possibilities for possessor marking in Hungarian (v. *supra*), viz. dative or nominative, it is not possible to claim that a P has been incorporated, as there is no X^0 category to which the P in question can be moved without there being an ECP violation. In such instances, one is forced to say that the underlying P allows a choice of surface realizations, one an overt P (i.e. the dative marker), and one a null P (which is not the same as the trace of an incorporated P). Such variation also occurs with temporal phrases, for example, to indicate that something took place on a particular day of the week, in English one has the choice shown below:

- (86) a. I saw them on Tuesday
 b. I saw them Tuesday

As noted above concerning extent of time/space phrases, temporal phrases can not be tested by the predicate subject test for semantic/pragmatic reasons, but I assume that they are headed by Ps, even when the P is not overt. As with Ps marking possessors, there is no category into which the P *on* indicating time when can be incorporated, and so one might assume that Tuesday in (86b) is governed by a null P.

Given that it is necessary to posit null Ps, following the restrictions on incorporation, one may wonder why one should

assume an incorporation analysis when head movement is permissible, rather than simply positing null Ps in all instances where semantic case marking has disappeared. To answer, one may first say that in some instances, e.g. with German *be*-verbs, the incorporation analysis is preferable since it accounts for the presence of the prefix. Second, in chapter 3 I shall show that the traces of incorporated Ps differ from null Ps: the latter, but not the former, can be realized as null Ps in nominalized clauses. There is thus at least one behavioral difference between the two types of non-overt Ps, and hence evidence for distinguishing between them, and for the incorporation analysis.

2.1.4.4 Making Williams' Account More Structural

It may now be seen why I do not need to invoke the notion of thematically governed predication, as Williams does to explain the ill-formedness of (8) with *dead* predicated of *Bill*. This example is repeated below as (87):

(87) John gave Bill the dog dead.

The indirect object, which here is the first object, is marked with an underlying dative case, which will prevent secondary predication, as it is a P.⁵⁸ In the next chapter I shall present more evidence for the

⁵⁸ Czepluch (1982:11) posits an underlying P in double object constructions: "We propose therefore that the UIO ["prepositionless IO"] be analyzed as a 'covert PP', i.e. an NP headed by an empty P." Baker (1988a:286) also asserts the existence of a null P (or rather the trace of an incorporated P) governing the first object of double object constructions.

I have been arguing for a structural account of predication which is more structural than that of Williams (1980) in that it makes no direct reference to theta roles. However, an account of predication must make some reference to the role of lexical, semantic, and pragmatic factors. There are several relevant restrictions, including the following:

- (88) a. I met Mary drunk/in high spirits/*tall/*stupid.
b. We eat carrots raw/*orange. (Rothstein 1983:153)

(89) a. The rabbit met Alice tall.
b. We don't eat tomatoes green, but we'll eat them red.
(Rothstein 1983:154)

However, this restriction does not apply when the main predicate itself is individual-level rather than stage-level:⁵⁹

- (90) a. I like my furniture heavy (cf. *I sold my furniture heavy)
 b. I have my beer bitter (cf. *I drank the beer bitter)
 c. I prefer my glasses dark (cf. *I broke my glasses dark)
 (Rapoport n.d.:4)

2) A depictive secondary predicate must indicate "an intrinsic property of the subject" (Rothstein 1983:153), not a subjective property:

- (91) a. John ate the peanuts salted/*salty
 b. John ate the meat raw/burnt/*tasty (Rothstein 1983:153)

In addition to these constraints there is an additional restriction which is more difficult to state formally. Observe the difference in grammaticality between the pairs of sentences below:

- (92) a. The police arrested John drunk
 b. *The police arrested John happy
- (93) a. John drove drunk
 b. *John drove happy

Note that the ill-formedness of (92b) and (93b) does not derive from either of the two constraints mentioned, nor could it be explained by either the structural or the functional/semantic accounts of

⁵⁹ V. the distinction between stage depictives and stative depictives made by Rapoport (n.d.).

predication. The same is true of the following sentences, which are asserted to be well-formed, but which some speakers find ill-formed:⁶⁰

- (94) a. Joshua broke [the glass]_i new_i
 b. Shai cleaned [the old fridge]_i unplugged_i
 c. Feya opened [the door]_i wet_i (Rapoport n.d.:5)

The ill-formedness of such sentences for some speakers is due not to structural factors, but to the individual properties of the lexical items involved, specifically to lexically or semantically based co-occurrence restrictions between the verb and the adjective. If such co-occurrence restrictions are marked in the lexicon, lexical entries will contain more information than is generally assumed, but I see no alternative, unless semantic or pragmatic factors can be invoked. Certain combinations of verb and predicate adjective occur so commonly that they have almost idiomatic status, and so are felt by all speakers to be well-formed. This may explain the acceptability of (93a) as opposed to (93b).

The result of all these constraints is that the set of acceptable verb-NP-predicate combinations is relatively small, much smaller than the set allowed by the structural account of predication (or by other formal accounts). One could argue that given the existence of these constraints, there is no need to posit structural (or functional/semantic) restrictions, as the set of possible well-formed

⁶⁰ One speaker (out of three) found (94b) questionable; otherwise these were judged to be ill-formed.

predication structures would be specified in the lexical entries. However, one would then miss some generalizations: although to arrest or to drive can only co-occur with a small set of predicate adjectives, and there are other verbs that can co-occur with no predicate adjectives, there are whole classes of verbs which do not allow predication of (one of) their objects, e.g. the set of verbs which take dative objects in German, and it is constructions with these classes of verbs that will be ruled out by the structural account of the ability to be the subject of a predicate. This account specifies that only a certain class of verbs have objects which can take secondary predicates; many or all of these verbs will be limited in which predicates they can co-occur with (or it may be that it is the adjectives which are restricted as to which verbs they can co-occur with) or whether they could occur with predicate adjectives at all, and this is a lexical matter.

Further, lexical restrictions alone would not be able to explain why NPs in oblique cases which are not complements of verbs, e.g. partitive genitive NPs contained in other NPs, cannot take secondary predicates, unless every adjective is marked as unable to be predicated of such NPs, which is clearly not an economical solution. Without the structural account of predication, one would not be able to make the generalization that NPs contained in PPs, wherever those PPs occur (i.e. as complements of verbs, as adjuncts, or in specifier position) are not able to be predicated of.

Thus, although one must recognize the existence of lexical restrictions on predication, one can still argue for a structural account of predication. To repeat the fact stated above, the set of sentences allowed by the structural account of predication is much larger than the set of acceptable sentences containing secondary predicates; thus the structural account of predication fully explains the judgements on only some sentences, while other factors intervene to rule out a large number of other sentences. In the appendix I give a list of some of the verb-adjective combinations which are well-formed and ill-formed in secondary predication constructions, according to various authors; this will give an idea of the range of possibilities.

2.1.5 Underlying Ks and Apparent Semantic Cases

We have now looked at some NPs marked with a syntactic case (namely accusative) which acted as though they bore semantic case, i.e. were inside PPs, because they could not take secondary predicates. This was a problem for the structural account of predication, which I tentatively resolved by suggesting that such NPs bore underlying semantic cases. That is, there are PPs containing these NPs, which is why secondary predication is not possible. We now look at NPs with semantic cases which act as though they were marked with syntactic cases, and so are not in PPs, for they do take predicate adjectives. Again these represent a problem, and I shall attempt to account for them in a similar way. I shall argue that these NPs bear underlying syntactic cases and so are bare NPs (or rather KPs) at all levels and are not inside PPs. In making such arguments I

am in danger of circularity, unless I can find some sort of independent evidence for the presence or lack of PPs. Without such evidence, claims about underlying syntactic or semantic cases which differ from the cases realized on the surface are to be regarded with suspicion; for the moment then, the arguments in this and the previous section should not be seen as more than suggestions: they resolve some problems for the C-Command Condition (which I have shown to be able to account for some other apparent counter-examples), but there may be some other way of resolving them. However, in chapter 3 I shall furnish additional evidence for the existence of underlying cases.

2.1.5.1 Quirky Case in Icelandic

Icelandic is known for the fact that many of its verbs have subjects or objects in other than the expected (i.e. nominative or accusative) cases. This so-called quirky case is problematic for my analysis, since some NPs marked with quirky case are able to be predicated of; this is unexpected, given my claim that semantic cases are actually Ps and block c-command. I claim that such quirky cases are only surface semantic cases; underlyingly they are syntactic cases, i.e. Ks, and so do not project categories that block predication.

Below are examples from Levin and Simpson (1981:185) with what are claimed to be quirky case marked objects:

- (95) a. Ég hjálpa honum
I:NOM help him:DAT
- b. Ég sakna hans
I:NOM miss him:GEN

One would assume that these quirky genitive and dative cases are semantic cases, like other genitives and datives. However, they do not uniformly act like typical semantic cases in that they do not all prevent secondary predication:

- (96) a. Ég lofaði Jóni(D) matnum(D) heitnum(D)
I promised John the food hot
- b. Ég unni Jóni(D) matarins(G) heits(G)
I allowed John the-food hot
- c. Hann raendi matnum(D) hráum(D) frá mér(D)
He robbed the meat raw from me
(Levin and Simpson 1981:195)

These examples are clearly problematic for my hypothesis that semantic cases are underlyingly Ps and so head projections which block predication. In attempting to deal with such data, let us first note that not all dative and genitive NPs in Icelandic can be predicated of, as shown below:

- (97) a. *Hann raendi mig matnum hráum
he robbed me:ACC of the meat:DAT raw:DAT
- b. *Hann bað mig matarins heits
he asked me the-food:GEN hot:GEN

What is the difference between the two sets of examples, that is, why is secondary predication possible in the former (52) but not the latter (97)? Levin and Simpson (1981:195) say that "The DAT objects control predicates when they are thematic objects, but cannot when they have semantic case". Thus Levin and Simpson draw a distinction between NPs which are thematic objects and those with semantic case. Unfortunately they do not explicitly define thematic object, although they do give a diagnostic for distinguishing thematic objects from semantically case marked NPs, namely passivization, as shown below:

- (98) a. *peir* *luku* *kirkjunni*
 they:NOM finished the-church:DAT
- b. *Kirkjunni* *er* *lokið*
 the-church:DAT is finished
- c. *Hann* *lauk* *við* *kirkjuna*
 he finished at the-church:ACC

Levin and Simpson say that the locative prepositional phrase in (98c) can not become the subject of a passive construction since it is semantically case marked (although it can be topicalized). Thus, unlike the dative NP 'the church' in (98a)-(98b), 'at the church' is not a thematic object.

The results of passive movement on the object NPs of the verbs appearing in (97) and (98) are given in (99)-(101):

- (99) a. Ég lofaði Jóni matnum(D)
I promised John the-food
- b. Matnum(D) var lofað Jóni
The food was promised to John
- (100)a. Ég unni Jóni matarins(G)
I allowed John the-food
- b. Matar(G) var unnt Jóni
The food was allowed to John
- (101)a. Ég(N) raedni hana(A) öllu(D)
I robbed her everything
- b. *Öllu var raent
Everything was robbed (Levin and Simpson 1981:191)

There appears then to be a link between ability to passivize and ability to take a predicate adjective. One might, however, hesitate to make a cross-linguistic statement that those cases which allow their NPs to be passivized are syntactic rather than semantic cases (or say that any semantic cases that appear on such NPs are only surface cases overlaid on a deeper syntactic case), if one wishes to keep the ability to take predicate adjectives as a criterion. This is because in Ancient Greek some semantically case marked objects can be passivized, but, one might assume, can not be predicated of.⁶¹ Note also that, according to Levin and Simpson, thematic objects may or

⁶¹ This of course is not testable with native speakers. If it turned out that such objects could be predicated of, then one would have evidence for the cross-linguistic validity of passivization as a test for distinguishing syntactic and semantic case, and that genitive objects in Ancient Greek are only surface semantic cases, but are underlyingly KPs.

may not have quirky case, so that there is no necessary connection between bearing quirky case and not being a thematic object.

Let us outline the problem posed by Icelandic quirky case. Clearly those instances of dative and genitive in Icelandic which do not allow predication or passivization are semantic cases, both underlyingly and on the surface. The problem is the classification of those surface datives and genitives which do allow predication (and passivization). If we say that they are semantic, i.e. that the underlying case matches the surface case, then we are unable to explain the fact that they allow predication. If we say that they are syntactic, then we are in danger of circularity, if the only reason we claim them to be syntactic is because they allow secondary predication. If we ignore the passivization facts as irrelevant to syntactic or semantic case status, and if we find other ways in which Icelandic "syntactic" quirky case acts like other syntactic cases, and unlike the German dative and Icelandic semantic quirky cases, then we can escape this circularity.

There may be at least some evidence that the dative theme objects of *lofa* and *unna* are underlyingly accusative cases. The equivalent arguments of verbs with the same or similar meanings in some other languages are in the accusative. The accusative marking the objects of these verbs in other languages can be shown to be an underlying K (i.e. the surface marking reflects the underlying

marking) by the fact that secondary predication is possible with them in German, as shown in (102):⁶²

- (102)a. Ich habe ihm das Bier kalt
I have him.DAT the beer-ACC cold

versprochen/zugesagt/zugesichert
promised
'I promised him the beer cold'

- b. Ich habe ihm die Karotte roh
I have him.DAT the carrots-ACC raw

erlaubt/gestattet
allowed
'I allowed him the carrots raw'

Note also a difference between some dative objects: *lofa* takes two dative objects (as well as a nominative subject), i.e. both the theme and the goal are marked dative (as shown in Table 4, Yip et al. 1987:229). Yip et al. (1987:228-9) propose that the dative marking the goal:

is not truly irregular in the sense of being completely unpredictable. Holmberg has suggested that there is a subregularity whereby goal arguments are typically Dative; and

⁶² There are interesting restrictions on these structures. First, the theme NP must be definite; if *das Bier* in (102a) is replaced by *ein Bier* the sentence is questionable at best. Second, such sentences seem to be well-formed only in tenses where the main verb is clause-final, i.e. in the perfect and the future, but not in the present or simple past, unless the main verb has a separable prefix, which would be clause-final, as seen in (i):

(i)a. *Ich versprach/verspreche ihm das Bier kalt
b. Ich sagte ihm das Bier kalt zu
c. Ich sicherte ihm das Bier kalt

(The well-formedness of the examples with separable prefixes was pointed out to be by my German informant).

these verbs fit that pattern. ... In fact goals seem to be quite typically Dative both in simple transitive verbs (like *hjálpa* 'help', *þakka* 'thank', *heilsa* 'greet', and *ógna* 'threaten') and in other ditransitives (e.g. the prototypical ditransitive with NDA case-marking). Hence the Dative on Goal arguments could be considered neither syntactic nor lexical case, but rather thematic case-marking.

In my terms what this means is that the dative on goal objects is a semantic case; the goal arguments of equivalent verbs in other languages are also in the dative and can not be predicated of, even if they bear a surface accusative. Although I do not have the Icelandic data, I assume that secondary predication of the goal argument is not possible, although it is possible with the dative theme, as we have seen (but v. *infra*). Thus, based on comparison with the case taken by synonymous verbs in other languages, and by the fact that the objects of those verbs (at least in German) can be predicated of, just as in Icelandic, one can assert that the quirky case-marked objects of *lofa* and *unna* are actually marked with syntactic case (namely accusative), i.e. are not contained in PPs, in spite of their surface marking.

(96c) may be more difficult to deal with, given the contrast with (97a). Consider first the case taken by verbs of similar meaning in other languages. In constructions where the theme is the first NP, with the source occurring after it (i.e. where the structure is that of (96c) without the secondary predicate), or where the source is not mentioned, the theme is often marked with a surface accusative, and

is not governed by a semantic case or preposition. This is shown in the following examples:

(103)a. English: he stole them/the meat (from me)⁶³

b. German: i. es ihm stehlen
it.ACC him.DAT to steal
'to steal it from him' (Cass. Ger.:580)

ii. ihm die Sprache rauben
him.DAT the speech-ACC to rob
'rob him of (his) speech' (Cass. Ger.:1363)

c. NT Greek: κλέπτω τι 'I steal something.ACC' (Bauer:434)

Aside from this circumstantial evidence for the accusative case underlying the surface dative in (96c) we can add the fact that this object can be predicated of in the equivalent construction in English by some speakers, and in German, even when the theme follows the source:⁶⁴

(104) OK/* I stole the meat (from him) raw

⁶³ I use steal rather than rob here, since rob is not fully acceptable in this construction:

(i)a. ??He robbed five dollars

b. ?He robbed five dollars from me (both* according to two informants)

Cf. the construction where the source precedes the theme:

(ii) He robbed me of five dollars

⁶⁴ Here, as in some previous examples, secondary predication appears to be possible where the secondary predicate is not clause final:

(i) *Ich stahl das Fleisch roh 'I stole the meat raw'

However, putting examples with true (i.e. underlying, non-quirky) semantically case-marked objects into the perfect does not save them:

(ii) *Ich habe John_i betrunken_i geholfen 'I have helped John_i drunk_i'

Note further that the source can not be predicated of:

(iii) *Ich habe ihm/John betrunken das Fleisch gestohlen
'I have stolen the meat from him/John_i drunk_i'

- (105) Ich habe (ihm) das Fleisch_i roh_i
 I have (him.DAT) the meat raw
 gestohlen/geklaut
 stolen/swiped
 'I have stolen/swiped the meat_i raw_i (from him)'⁶⁵

I see (96c) as more problematic than (96a,b) partly because I am less sure of the judgements on secondary predication, as well as for the reasons given above. However, I shall provisionally assume that the theme object of (96c), like those of (96a,b), is underlyingly accusative, which explains the fact that it can be predicated of. Note finally that Levin and Simpson (1981:194) admit that the judgements on depictive predicates (which they call state predicates) are not clear: "It was difficult to test Williams' theory in Icelandic, because there was speaker variation and interference from appositional readings. We therefore restrict ourselves to the speech of one informant whose judgements seemed the most consistent."

What is quirky then about some quirky cases is that the surface case marking does not reflect the underlying case, as surface cases are placed where they do not express any lexical meaning (unlike the object of e.g. *hjálpa* 'to help', which takes a dative for semantic reasons). These cases are lexical cases in the sense that they are assigned (as surface markers) as idiosyncratic properties of certain verbs. What is left to explain is why some verbs came to have

⁶⁵ This construction may actually be parallel to (97a) rather than to (96c), indicating that in German, the theme argument of *stehlen*, whether it is before or after the source, is underlyingly (and on the surface) in the accusative, unlike the theme of 'to rob' in Icelandic.

this property; I shall not deal with this problem. Surface Ps then do not necessarily indicate the presence of underlying Ps, although in fact there is usually such a correspondence, true quirky cases being rare.

Unfortunately, Andrews (1990b:207) gives further examples in which dative NPs take secondary predicates, and at least one of these is even more difficult to dispose of:

- (106)a. Ég mætti Sveini drukkum.
 I met Svein (DAT) drunk (DAT)
 'I encountered Svein_i drunk_i'
- b. þu sast hjá mér sjúkum
 you sat by me (DAT) sick (DAT)
 'You sat by me_i (when I was) sick_i'
- c. Hann heldur tönnunum hvítum
 he keeps the-teeth(DAT-pl) white
 og hreinum
 and clean (DAT-pl)
 'He keeps his teeth_i white and clean_i'

(106b) is especially troubling: not only is it marked dative, but it is governed by a preposition. Further, it does not seem plausible to claim (as I have claimed for the previously discussed problematic Icelandic examples, and as one could perhaps claim for (106a) and (106c)) that this dative case marker, and the preposition, are only quirky surface cases which are not related to an underlying syntactic case. I am unable to account for this example, which, even without

my hypothesis that semantic cases are Ps, is problematic for the C-Command Condition on Predication, since the preposition *hjá* should block predication. However, while the structural account of predication is unable to deal with this example, it is not clear that the functional/semantic accounts are able to do much better. For example, it seems to me that the object of *hjá* may be in a semantically restricted position; if so, then by Zubizarreta's account (106b) should be ill-formed. This example may be a problem for both structural and functional/semantic accounts of predication, and if so does not show an advantage for either side.

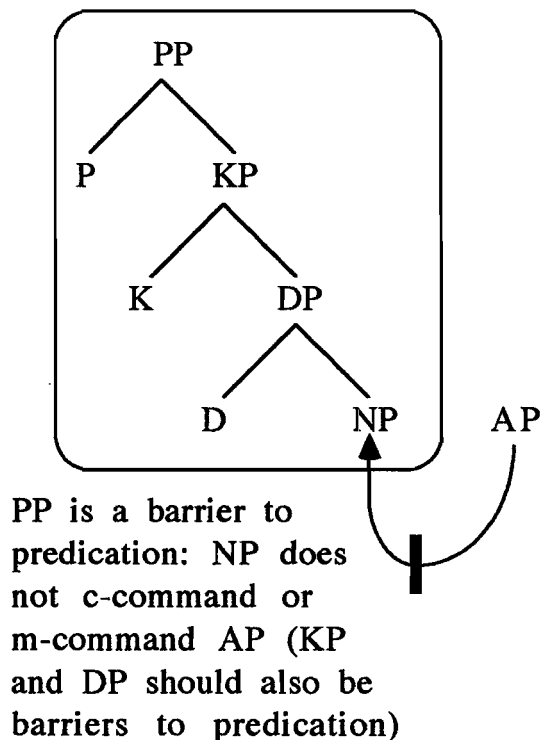
2.1.6 PPs, KPs, and C-Command

One of the claims of this section is that the structural account of predication is correct, in spite of various apparent counter-evidence. The way in which I dealt with the counter-examples was to say that some apparent prepositions are not Ps but rather Ks and so do not block c-command or predication, and that some case markers are Ps and so do block predication. However, one problem with this arises, given the representation of case which I am using, namely that K is the head of a phrase KP, just as V, P, I, etc. are heads of phrases. The problem is, why doesn't KP block c-command, given standard definitions of this relation, just as PP does? The same problem arises with DP. Using a maximal category definition of c-command, or m-command, in the C-Command Condition will apparently not solve the problem, since DP and KP are maximal projections, just as NP is. What would happen is shown in (107): predication of NPs inside both PPs

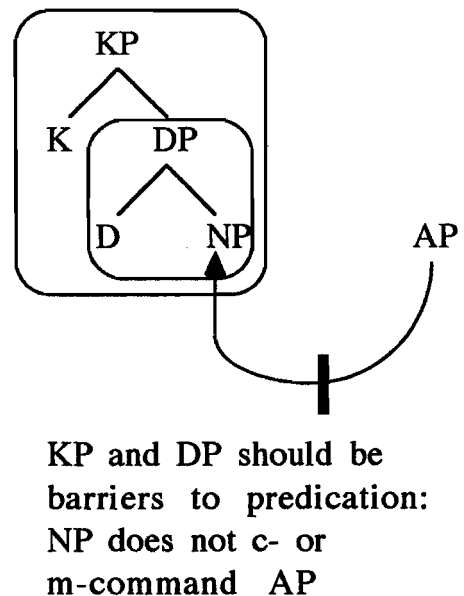
and KPs should be blocked (of course there should also be a KP and DP in (107a)), given that these NPs cannot c-command or m-command the predicative APs (which are daughters of a higher node in the tree):

(107)

a.



b.



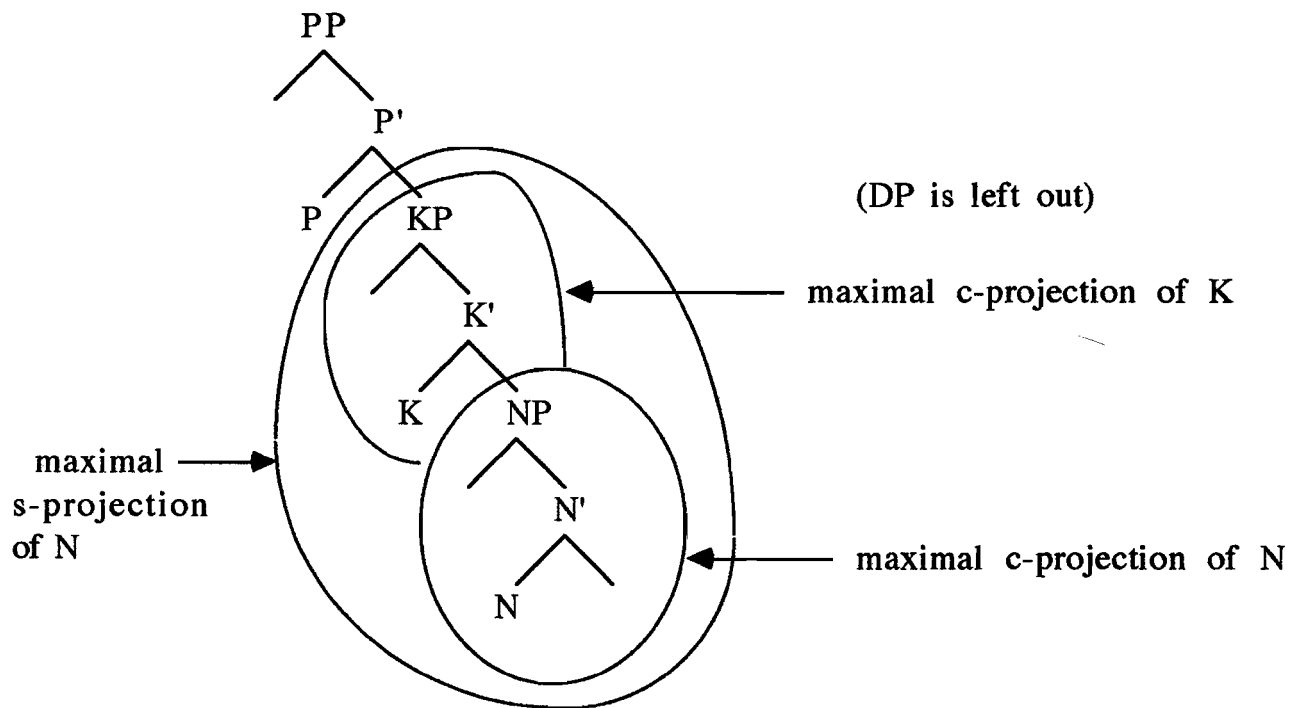
How then can one account for the fact that NPs inside KPs and DPs (which includes most NPs) can be predicated of?

One answer would be to say that KPs, and perhaps functional categories in general, are limited in their ability to block c-command or are transparent in some sense. To assert this, however, would be

to weaken the content of the claim that case has a maximal projection just like other categories.

The solution may come from an examination of the relation between NP and DP/KP. Abney (1986) distinguishes between c-projection and s-projection (the former being the standard notion of X-bar projection), and between structural heads and semantic heads. The semantic head of a phrase is "the lexical source of the descriptive content of a phrase" (ibid.:6), while the structural head is the head in the categorial or X-bar sense. For lexical categories, the semantic and structural heads will be the same, e.g. N is both the structural and semantic head of NP. Functional constituents cannot be semantic heads, since they have no descriptive content, and so the semantic head of their maximal projection will be the head of the lexical category that they govern. Thus the semantic head of a KP (and of the DP contained in it) is the N of the NP it governs, while K will be only its structural head. Looking at this in terms of projections, the maximal c-projection of N is NP, and that of K, KP, but the maximal s-projection of N is KP. If this NP/KP is contained in a PP, the head N will be neither the semantic nor the structural head of that PP. It will not be the structural head, since the PP is of a different category, and it will not be the semantic head, since the head P adds its own semantic content to the phrase. Thus the PP is neither the c- nor the s-projection of N. The situation is illustrated below:

(108)



Given these notions, one could say that subjects of predicates are KPs, rather than NPs, i.e. what predicates are predicated of is the s-projection of a category, not just the c-projection (as one would say that NPs, rather than bare Ns, were the subjects of clauses). An alternative view is that c-command by a category is not blocked by s-projections of which that category is an intermediate or lower level (not in the X-bar sense) projection (counting NP and DP as lower level categories of KP). Thus KP does not block c-command of NP in (108) above, because both KP and NP are part of the same s-projection, namely that of N. Perhaps the simplest way of stating this is to define m-command in terms of s-projections, as in (109), calling it sp-command.

- (109) x sp-commands y iff y is contained in the minimal maximal c-projection which is not an s-projection of x .

This new definition will allow one to account for most of the predication data discussed in this chapter under the C-Command Condition on Predication, given my realignment of the categories P and K.⁶⁶ I can now reformulate Williams' C-Command Condition as the SP-Command Condition:

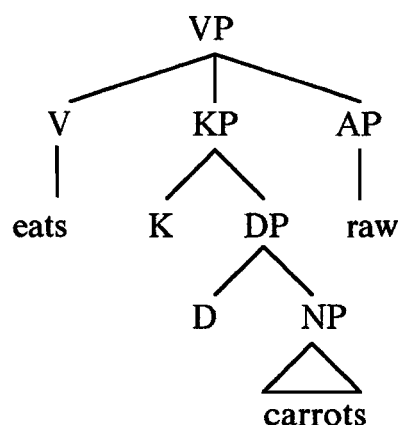
- (110) The SP-Command Condition on Predication
If NP and X are co-indexed, NP must sp-command X or a variable bound to X.

The difference between NPs governed by Ps and those not governed by Ps with respect to predication is shown in (111)

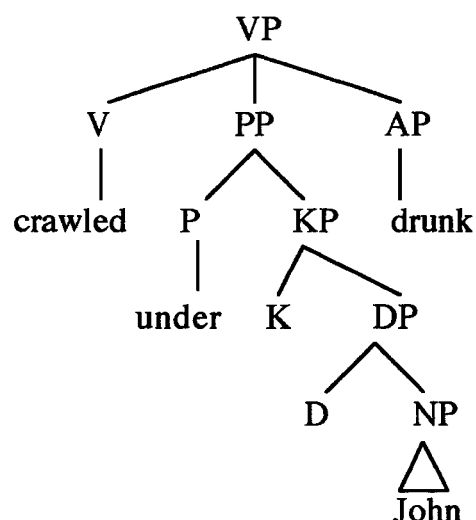
⁶⁶ However, this solution also seems to weaken the content of the claim that functional categories have maximal projections just like other categories. It appears that the projections of functional categories are "weaker" in some sense than the projections of lexical categories. The relation sp-command may only be useful if there are some phenomena which are blocked by projections of functional categories, and some which are not. At worst, sp-command may serve as a formalization of the notion that functional categories are transparent to c-command.

(111)

a.



b.



In (111a), carrots sp-commands raw: the minimal maximal c-projection which is not an s-projection of the NP carrots is VP, and raw is inside this VP; therefore predication is possible. On the other hand, in (111b), John does not sp-command drunk, since the minimal maximal c-projection which is not an s-projection of John is PP; drunk is not inside this PP and so it cannot be predicated of John.

Given the existence of DP and KP, such a revision of c-command may be necessary in any case. With the structural account of predication based on the relation of sp-command, and with the assumptions that semantic cases are Ps, and that in some languages there are underlying Ps (the existence of the latter being supported by evidence from objective genitive facts, v. chapter 3), I have accounted for a range of data on predication without making direct reference to grammatical functions or semantic notions.

2.1.7 On Unifying the Structural and Functional/Semantic Accounts

Although I have been arguing for a structural account of predication, based on Williams' C-Command Condition, and against a functional/semantic account, it may be that both accounts are in agreement, if one accepts the realignment of categories proposed in this thesis. If the object of e.g. *to help* is contained in a PP, then it will not be an object in the GB sense, since it will not be in [NP, VP] position (or rather [KP,VP] position). Thus to say that SUBJs and OBJs, but not obliques, can be predicated of may be the same thing as saying that only NPs bearing syntactic case can be subjects of predicates. Of course this would involve structural conceptions of the notions subject and object, which goes against the spirit of LFG, but this may show that the positions of Williams and Bresnan are not as far apart as one might think at first glance.

2.1.8 Conclusion on Subjects of Predicates

In this section we have seen how syntactic and semantic cases differ with respect to allowing NPs to be subjects of secondary predicates, and we have seen that semantic cases pattern with adpositions in this respect. The ability to be the subject of a secondary predicate can thus be used as a criterion for distinguishing syntactic and semantic cases, and as evidence for the grouping of semantic cases with adpositions. Further, I have argued that the structural account of restrictions on predication, based on Williams' C-Command Condition on Predication, can be maintained in the face

of apparent counter-evidence, although Icelandic has some examples which are more difficult to deal with. I have also argued for the existence of underlying cases, which are sometimes different from the cases which appear at the surface (some underlying "cases" being Ps in terms of category).

2.2 Ability to Be Predicative

Having discussed restrictions on subjects of predicates, we shall now examine restrictions on the other side of the predication relationship, namely which cases can be marked on predicate NPs.⁶⁷

2.2.0 Introduction to Ability to Be Predicative

In this section I shall show that the cases that can be borne by predicate NPs make up a set complementary to those that can be borne by subjects of predicates, i.e., generally only NPs in semantic cases can be predicated of other NPs, except under agreement. Adpositional phrases can also be predicated of NPs, and we can make the generalization that PPs can be predicative (given my realignment of the class P to include semantic cases), while KPs cannot be.⁶⁸ We thus have another criterion for distinguishing syntactic and semantic cases, and more evidence for classifying the latter as Ps. I shall refer to this test as the predicative test.

⁶⁷ Predicate APs can also be marked for case; however in many languages they only receive case under agreement. In such languages true case is a property restricted to NPs. Agreement case marking is a process of a different nature than true case marking, and may take place at a different level (v. note 69). Therefore the cases borne by predicate APs often are not so relevant to the discussion here. However, we shall see that in Hungarian predicate APs can bear several cases, but not the accusative.

⁶⁸ Note the distinction between predicate and predicative, as in Jespersen (1924): in a sentence such as John is a doctor, is a doctor is the predicate, while a doctor is the predicative, or predicate nominal. The predicate and predicative can be (superficially) identical in secondary predication, or in languages which lack overt copulas. I take the terms predicate NP and predicative NP to be synonymous.

The exception concerning agreement is a major one, as in fact it will remove many counter-examples, which may outnumber the instances falling under the generalization, but I believe that the generalization will still be of value. Perhaps a better way of phrasing the generalization and the exception is that only under agreement can syntactic cases appear on predicative phrases (agreement not always being obligatory, depending on the language), while semantic cases can be borne by these phrases more freely. Case agreement is a different type of phenomenon than the assignment of case; assigned (syntactic) cases are not permissible on predicative phrases.⁶⁹

One may wonder why it is that only certain cases can appear on predicative NPs. The answer to this can be seen in the light of the realignment of categories which I am arguing for; it is better to think in terms of PPs versus KPs than semantic cases versus syntactic cases. As noted above, PPs have the ability to be predicative, while KPs do not. I shall argue that in some languages, predicate NPs must be caseless; putting this in structural terms, it means that NPs can be predicative, while KPs cannot be. Thus there is a link between category and ability to be a predicative phrase. One could claim that this is due to the fact that PPs and NPs can have an open position in

⁶⁹ One difference between the two kinds of case has to do with the level at which the marking takes place: one may assume that the marking of agreement case takes place after the assignment of syntactic and semantic case, since it is these cases that agreement case agrees with. Since syntactic case is assigned at S-Structure, agreement case "assignment" may be a post-S-Structure phenomenon. The generalization made in this section may then be said to hold at S-Structure: at this level no predicative may bear syntactic case, i.e. predicative NPs are necessarily NPs (or PPs) and not KPs at S-Structure.

their argument structure (to be filled by the subject that they are predicated of), while KPs have no empty argument positions; the K closes off the argument structure of a NP by binding its R-argument position. Thus NPs cannot be predicative phrases,⁷⁰ while KPs can be subjects, but they cannot be predicative. If my generalization is correct, then there is a split among these categories with regard to the ability to be predicative, and we have another test for distinguishing syntactic cases from semantic cases.

Let us now look at predicative phrases in various languages to determine the accuracy of this generalization. I shall present data from Turkish, Hungarian, Ancient Greek, Latin, English, German, and some other languages. We shall see that some NPs bearing a case in a fairly clear semantic function can be used predicatively, as can many adpositional phrases; this is more evidence for the existence of a category P including semantic cases and adpositions. The results for some functions of the dative are less clear: in German NPs bearing this case in some functions which the predicate subject test would indicate are semantic (e.g. the dative marking indirect objects) apparently cannot be used predicatively. On the other hand, the subjective and objective genitives, which I claim to be syntactic cases (backed up by data from 2.1), apparently can be used predicatively; this inconsistency will be discussed in 2.2.5.1, where I shall argue for

⁷⁰ NPs (as opposed to KPs) could not be subjects because they would violate the Case Filter, as they would not bear case. Predicative NPs, as non-arguments, would not be subject to any visibility condition with respect to theta role assignment, and hence would not be subject to the Case Filter.

a more precise notion of the subjective and objective genitives, related to argumenthood.

I deal with the inconsistency involving dative indirect objects in section 2.2.5.2, where I shall argue that this function and others which behave similarly are PPs and not KPs, in spite of the results of the predicative test. First, according to one account, that of Rothstein (1983) some such phrases can in fact be predicative. Second, even if one does not agree with this account and holds that these phrases cannot act as predicates, one can argue that this inability is due, not to category, but to the fact that the dative indirect object marker does not assign a θ -role (or does not assign a θ -role by itself) to its complement, unlike many other members of its category. Further, there are several fairly clear examples of Ps which are adpositions and cannot appear predicatively either; thus although PPs can be predicative, and KPs cannot, being able to be predicative may not be a necessary condition for P-hood, although it is sufficient to indicate such status.

The evidence is arranged by language/language family, and then by traditional case name; later I recap the facts by case function.

2.2.1 Turkish

Turkish provides a good instance of the generalization that I am arguing for. It has a fairly developed case-system (at least

compared to many Indo-European languages), including some semantic (functions of) cases. Turkish does not have to have a copula in the present tense third person singular (the ending *-dir* being optional). When the copula does appear, it is a suffix on the predicate noun/adjective.

2.2.1.1 Semantic Case Functions

First I show that predicative nouns can be in cases (acting in functions) which are either clearly or arguably semantic:

- (112) locative
literal location:
- a. vesika kasa-da(-dir)
 document safe-LOC-3sg.
 'The document is in the safe' (Lewis 1967:97)
 - b. ev-de-sin
 home-LOC-2sg.
 'You are at home' (ibid.:98)
- "abstract" location (ibid.:37)
- c. bu fikir-de degilim
 this opinion-LOC not-1sg.
 'I am not of this opinion' (ibid.)
- (113) ablative
ablative of material:
- a. söz gümüş-ten, sükût altın-dan
 speech silver-ABL silence gold-ABL
 'speech is silver, silence is gold' (ibid.:38)

partitive ablative:

- b. ben Ince Memed'in çete-sin-den-im
 I thin Memet-GEN band-3sgposs-ABL-1sg
 'I am of the band of Memet the Thin' (cited in Bastuji 1976:99, from Yasar Kemal (1955) Ince Mehmed)

ablative of separation ("Place from which" in Lewis 1967)

- c. bu gidiş onu yer-in-den edecek
 this behavior him position-his-ABL make-FUT(3sg.)
 'this behavior will cost him his job' ('will make him <away> from his position') (Lewis 1967:37)

(114) genitivepossession:

- a. hâkimiyet millet-in-dir
 sovereignty nation-GEN-3sg.
 'sovereignty belongs to ("is of") the nation' (ibid.:36)
- b. bütün suç siz-in
 whole fault you:PL-GEN
 'all the guilt is yours ("is of you")' (ibid.)
- c. Bu şapka kimin?
 this hat who-GEN
 'Whose is this hat?' (Lewis 1953:77)

(115) dative

- a. bu kaçadır ?
 this how much-DAT
 'how much is this? (i.e. 'how much does this cost?')
- b. bu hediye Orhan'a'dir
 this present Orhan-DAT
 'the present is Orhan's'
- c. OK/? Yardım edis Orhan'a'ydi
 help-VN Orhan-DAT-PAST3sg.
 'the helping was to Orhan'

- d. OK/? Kitpların verilişi
 books-GEN give-PASS-VN-3sgposs
 Orhan'a'ydi
 Orhan-DAT-PAST3sg
 'the being given of books was to Orhan'⁷¹

2.2.1.2 Postpositions

The examples in (116) show that prepositional phrases can be predicatives, illustrating the similarity between NPs marked with semantic cases and adpositional phrases:

- (116)a. gibi: bu su buz gibi-dir
 this water ice like-3sg.
 'this water is like ice' (Lewis 1953:164)
- b. için: bu hediye Orhan içindir
 this present Orhan for-3sg.
 'the present is for Orhan'

⁷¹ (115c, d) require several comments. To the extent that they are well-formed, they may show that the dative marking direct objects and the dative marking indirect objects can be marked on predicatives. The first informant seemed to find them well-formed. The second informant was less positive, and made a statement to the effect that although they (or some such constructions) were grammatical, he would use them (or some of them) "one in a thousand times". I am unsure how to interpret this, but one might assume that such constructions are not part of this informant's normal grammar, and that he would never use them spontaneously. I have marked his judgements with a 2; possibly the judgements (or one of them) should be worse. This informant seems to prefer such sentences (or some of them) in the past tense, and they are given in this form. I intended to present these examples to the first informant in the present tense, but I suspect that due to my non-native pronunciation he may have understood me as saying them in the past tense. The verbal noun in (115) has been put in the passive voice, because the first informant only accepted or preferred the construction with a passive verbal noun, if I recall correctly.

- c. *ile*: Orhan Ahmet'le
 Orhan Ahmet-with
 'Orhan is with Ahmet'⁷²
- d. *yana*: aydin-in iyi-si her zaman
 intellectual-GEN good-3sg.poss always
- halk-tan yana-dir
 people-ABL on the side of-3sg.
 'the best type of intellectual is always on the side of
 the people' (Lewis 1967:89)

I give here only examples with primary postpositions, as predicate PPs with a secondary postposition might be taken as evidence not that such a postposition can occur predicatively, but that the case marker affixed to it can do so.⁷³

2.2.1.3 Syntactic Case Functions

Finally we look at NPs with syntactic cases. In (117) we see that nominative NPs can be predicative, while in (118) it is shown

⁷² In (116c) the postposition *ile* 'with' has been affixed to *Ahmet*. This illustrates the close relation between adpositions and semantic cases, and the irrelevance of morphological criteria.

⁷³ Primary postpositions are postpositions as one might generally understand the term. Secondary postpositions "are nouns in the dative, locative, or ablative case, linked by *izafet* to the word they govern. An English analogy would be to call 'in' and 'before' primary and 'on the inside of' and 'in front of' secondary postpositions." (Lewis 1967:84) (The *izafet* suffix which is attached to the secondary postposition indicates that one noun is modified by another. Among the types of modification is the possession relationship.) In (i) are some examples from Ottoman Turkish of predicative phrases headed by secondary postpositional phrases (from Hagopian 1907:107; I copy his transliteration):

(i) a. *ic* 'interior': *Baliq geolûñ ichindé dir* 'The fish is in the lake.'
 b. *üzer* 'top': *Kitab sofranîñ üzérindé dir* 'The book is on the table.'

that the accusative of the direct object cannot appear on predicative NPs.

(117) nominative

- a. Orhan çocuk
Orhan(NOM) child-NOM
'Orhan (is) a child'
- b. asker-siniz
soldier(NOM)-2pl.
'You are (a) soldier (Lewis 1953:33)

(118) accusative

- a. *Almak/Alma kitaplari
take-*INFIN/VN* book-PL-ACC⁷⁴
'The taking is (of) the books'
- b. *Yapmak/Yapma bunu
do-*INFIN/VN* this-ACC
'The doing is of this'
- c. *Yapis bunudur
do-VN this-ACC-3sg.
'The doing/making is (of) this'⁷⁵

⁷⁴ These examples, and similar ones in other languages given below, may seem bizarre and obviously ill-formed; however, as far as I can tell, they represent most plausible type of examples which have the accusative of the direct object in predicative position.

⁷⁵ (117c) may be more illustrative than (115a, b) of the point here, since the infinitive and the verbal noun in *-ma* may not be able to be used in this general construction, the verbal noun in *-is* being the only one possible. The verbal noun in *-is* seems to include manner in its meaning (v. Lewis 1967:172), thus the verbal noun in (117c) would perhaps be better translated as 'the way of doing/making', following Lewis' (ibid.) translations of such nominals. It is not clear to me that informants entirely reject examples such as (117c), but I shall assume that such sentences are rare or non-existent in the actual use of the language, and that the accusative of the direct object cannot occur predicatively, given the considerable ill-formedness of the equivalent constructions in English.

One construction type where one might expect to see accusative predicatives would be secondary predication of an object. However, even here predicatives are not able to bear accusative case; predicative nouns and adjectives predicated of accusative objects appear in the nominative, as in (119).

- (119)a. seni arkadaş sanıyordum
 you-ACC friend(NOM) I used to think
 'I used to think you a friend' (Lewis 1967:274)
- b. kahvemi sıcak severim
 coffee-my-ACC hot(NOM) I like
 'I like my coffee hot'
- c. Orhan'ı doktor yaptılar
 Orhan-ACC doctor(NOM) they made
 'they made Orhan a doctor'

Compare the ill-formed (120), where a noun predicated of an accusative noun is also accusative:

- (120)a. *onu ihtiyar-ı gör-dü-m
 he-ACC old man-ACC see-PAST-1sg.
 'I saw him as an old man' (Muysken 1989:631)
- b. *On-u basbakan-ı seç-tik
 he-ACC president-ACC elect-1PL
 'we elected him president.' (ibid.:632)

As Muysken (ibid.) says, "Apparently, predicates of an accusative noun phrase in Turkish cannot be marked accusative themselves."

The facts about syntactic case and predicatives in Turkish seem to be that predicative NPs can be in the nominative but not in the accusative. However, the forms which I label nominative could be considered caseless, since the nominative is marked by a null suffix in Turkish.⁷⁶ There is then no predicative-subject case agreement, as there is in some languages. Since no such agreement exists in the language, one would not expect to find that predicative phrases in Turkish can bear accusative case, since as a syntactic case the accusative can appear on predicatives only under agreement (unless the accusative also has semantic functions, which appears not to be the case in Turkish; Lewis (1967) lists only one use of the accusative case, marking definite direct objects), and indeed we do not. This strengthens the case for the generalization about predicative phrases and the syntactic/semantic case distinction.

Based on these data one can claim that, in Turkish, predicative NPs must be caseless.⁷⁷ Alternatively one could assert that Turkish has a separate predicative case which is homophonous with the nominative. The former approach seems preferable, since there is no independent evidence of a predicative case in this language.

⁷⁶ "Nominative" and "accusative" are not entirely appropriate terms in Turkish, since the "nominative" marks indefinite objects as well as subjects; Lewis (1967) calls this the absolute form.

⁷⁷ Were it not for the examples of secondary predication given above, it would be difficult to determine whether predicatives had to be caseless or had to agree with their subjects. This is a problem when dealing with Turkish and some other languages in which nominative forms are identical to the stems, making it impossible to determine whether an NP has no case or is marked nominative. However in other languages (e.g. Akkadian) where the nominative is marked by an overt affix one can state clearly that there may be a requirement that predicatives not bear case (or that there is a null predicative case), rather than an agreement requirement.

However, since Turkish predicatives can bear some cases, e.g. locative, one must restate this in terms of Ks and Ps: PPs can be predicatives, as can NPs, but KPs (i.e. NPs marked with syntactic case) cannot.

Note that for some speakers some dative functions, namely the datives marking direct and indirect objects, may not be perfectly acceptable on predicative phrases. However, I would argue that the dative, unlike the genitive, is semantic in all its uses, even for those speakers who would have trouble accepting dative objects as predicates. I shall return to this question in section 2.2.5.

The data gathered in this section support the restriction concerning syntactic case and predicatives. At least some functions of the Turkish dative and genitive pattern with the more clearly semantic case functions and postpositions; this is evidence for their placement in the category P. Further, the ability to be borne by a predicative phrase seems to be a way of distinguishing syntactic and semantic cases. In the analysis of Turkish we do not need to appeal to the agreement exception mentioned above, although in the discussion below of Indo-European languages this will be necessary.

2.2.2 Hungarian

I shall now apply the predicative test to Hungarian, which has several clearly semantic cases. In (121) are examples of predicatives in some semantic cases (the case function is indicated in parentheses;

in the examples from Karoly, the case functions names are those used by him):

- (121)a. Péter a házban van
 Peter the house-INNESS is (location)
 'Peter is in the house' (Kiefer 1968:57)
- b. Péter a háztetön van
 Peter the roof-SUPERESS is (location)
 'Peter is on the roof' (Kiefer 1968:57)
- c. A lány a vőlegényével van.
 the girl the fiance-her-INSTR is (associate)
 'The girl is with her fiance.' (Károly 1972:94)
- d. A gomba tojással van.
 the mushroom egg-INSTR is (associate)
 'The mushroom is with eggs.' (Károly 1972:94)
- e. A harc a békéért van
 the struggle the peace-CAUS is (purpose)
 'The struggle is for peace' (Károly 1972:94)
- f. Selyemből van az inged
 silk-ELAT is the shirt-2sgposs (material)
 'Your shirt is made of silk' (Kiefer 1968:62)
- g. Ez az emlék a barátomtól van.
 this the souvenir the friend-my-ABL is (origin)
 'This souvenir is from my friend.' (Károly 1972:94)

One can see that the superessive and essive, the instrumental of accompaniment, the causalis of purpose, the elative of material, and the ablative of origin, most or all of which one might intuitively feel have lexical type meaning, can be borne by predicative phrases.

Hungarian also allows postpositional phrases to be predicatives, as shown in (122):

- (122)a. elott: Péter a ház elott van
 Peter the house before is (Kiefer 1968:57)
- b. között: Péter emberek között van
 Peter people among is (ibid.)
- c. alatt: János a ház alatt van
 John the house under is
 'John is under the house'
- d. mellett: János a ház mellett van
 John the house beside is
 'John is beside the house'

Apparently nominative NPs can be predicative, as in (123), but again one could attribute this to agreement or to the lack of case marking on predicatives (as in Turkish there is no overt marker of the nominative case); the latter assumption turns out to be correct:

- (123)a. Péter katona
 Peter soldier
 'Peter is a soldier' (Kiefer 1968:56)
- b. Anna fekete
 Anna black
 'Anna is black' (ibid.:55)

The accusative of the direct object apparently cannot appear on predicatives, as shown in (124).

- (124)a. *A lelövés az állatokat volt
 the shooting the animals-ACC was
 'The shooting was (of) the animals'

As with Turkish, secondary predication in Hungarian may not allow us to see accusative marking on predicatives. In (125) we see that the word predicated of the object is not in the accusative we would expect if agreement held:

- (125)a. Jánost/öt hülyének tartom
 John-ACC/him fool-DAT consider-AGR1sg
 'I consider John/him to be a fool' (Marác 1989:215)
- b. János részegnek találta Jozefet
 John drunk-DAT found Joseph-ACC
 'John found Joseph drunk'
- c. Jánost szomorúnak láttam
 John-ACC sad-DAT saw-AGR1sg
 'I saw John sad.' (Marác 1989:224)
- d. Mari pirosra festette a falat
 Mary red-SUBL painted-AGR3sg the wall-ACC
 'Mary painted the wall red.' (Marác 1989:223)
- e. Mari péppé főzte a krumplit
 Mary pulp-TRANS cooked-AGR3sg the potato-ACC
 'Mary cooked the potato to a pulp.' (Marác 1989:223)
- f. János jutamul kapott egy oklevelet
 John reward-ESS received a diploma-ACC
 'As a reward John was given a diploma.' (Marác 1989:223)

- g. János darabokban hozta be
 John pieces-INESS brought-AGR3sg in
 a vázát
 the vase-ACC
 'John brought in the vase into pieces.' (Marác 1989:226)⁷⁸
- h. Bizonyítékképp csatoltuk a vádlott levélet
 evidence-FORM is attached the accused letter-ACC
 'Zum Beweis wurde der Brief des Angeklagten beigelegt'
 ('As evidence the letter of the accused is attached')
 (Tompá 1968:280)

Although we do not find a predicate accusative here, we do have examples of the dative, essive, sublative, inessive, translative, and formalis cases acting predicatively, showing that in this use, they pattern with semantic cases such as the inessive and the superessive.⁷⁹ The accusative marks neither primary nor secondary predicative phrases. This is to be expected if direct object is a syntactic case function, if predicatives do not agree with their subjects in Hungarian, and if my generalization about case and predicatives is correct.

In Hungarian we see some semantic cases acting like postpositions (and unlike the syntactic accusative) in being able to govern predicative phrases, thus lending support to my classification

⁷⁸ One might assume that "in" is to be read for "into" in the translation, meaning that *darabokban* is a descriptive secondary predicate.

⁷⁹ I shall not investigate the reasons for the different cases marked on the predicates in these examples. Marác (1989:223) states that "Resultative nouns are assigned translative case, and resultative adjectives are usually marked [sublatively]" (Marác has "ablatively", but I assume that this is an error, since on that page and the next page there are two resultative predicates marked with the sublative and none marked with the ablative).

of the two as one category. On the other hand, as in Turkish, the accusative of the direct object acts unlike the Ps, since it cannot be marked on predicatives.

2.2.3 Indo-European Languages

In this section we shall look at how the cases of some Indo-European languages behave with respect to the ability to be predicative. Many Indo-European languages, such as German and Ancient Greek do not have an extensive case system, and have no clearly semantic cases. However, we can test whether what might be semantic cases occur as predicatives, and we shall find that there are many case functions, particularly of the genitive, but also of the dative, ablative, and locative, which can occur predicatively. Let us first look at prepositional phrases as predicatives in some Indo-European languages.

2.2.3.1 Indo-European Prepositions

I present examples of prepositional phrases acting predicatively in several Indo-European languages. It will be seen that a variety of prepositional phrases can be predicative. However, not all prepositional phrases can be predicative. The same will be true of NPs in semantic cases. Thus, as noted above, the ability to be predicative is a sufficient, but not a necessary condition for P-hood; in section 2.2.5 I shall attempt to account for why not all Ps can be predicative.

2.2.3.1.1 Greek Prepositions

As in Turkish and Hungarian, adpositional phrases can act as predicatives, as shown in (126) (examples from Hellenistic Greek):

- (126)a. απο, εκ: ην [δε] ο Φίλιππος απο
 was [PARTICLE] the.NOM.SG Philip-NOM from

 Βησαιδα εκ της πολεως
 Bethsaida, from the.GEN.SG.FEM city.GEN

 Ανδρου και Πέτρου
 Andrew-GEN and Peter-GEN
 'Philip was from Bethsaida, from the city of
 Andrew and Peter' (John 1:44, quoted in Funk
 1973:107)

- b. κατα: ειναι κατα τινος
 to be against someone.GEN
 'to be against someone' (Mark 9:40, quoted in Bauer
 1979:406)

- c. υπερ: το νομιμον υπερ ημων εστιν
 the.NOM.SG.NEUT law for us.GEN is
 'the law is for us' (Papyri Iandanae 16, 8, quoted in
 Bauer 1979:838)

2.2.3.1.2 Latin Prepositions

The same holds true for Latin, as can be seen from the following examples.

- (127)a. ad: esse ad portas
 'to be at the gates' (Cicero, cited in Cass. Lat.:10)

- b. apud: dico eum esse apud me
'I say that he is at my house'
(Plautus, Captivi 3,2,15, cited in L&S:145)
- c. contra: insula quae contra Brundisium portum est
'the island which is opposite to the Brundisian
harbour' (Caesar, cited in Cass. Lat.:148)
- d. in: erat in aedilibus
'he was in the house' (Greenough et al. 1981:131)

2.2.3.1.3 German Prepositions

In German a variety of prepositions can head predicative phrases, as shown in (128):

- (128)a. Der Ball ist unter dem Auto
'the ball is under the car' (Neumann 1987:51)
- b. Der Zug ist in dem Tunnel
'the train is in the tunnel' (ibid.:53)
- c. Der Fisch ist an der Angel
'the fish is on the hook' (ibid.:56)
- d. Das Mädchen ist bei den Pferden
'the girl is with the horses' (ibid.:72)

However, apparently not all prepositional phrases can be used predicatively, at least not in all contexts:

- (129)a. *Der Bahnhof ist durch den Tunnel
'the station is through the tunnel' (ibid.:65)

2.2.3.1.4 English Prepositions

PPs are fairly free to act as predicatives in English, as shown by the phrases below:⁸⁰

- (130) a. The letter was **from** John
 b. The book is **on/under** the table
 c. Bill was **behind/beside** the house

Quirk et al. (1985:731) gives examples of predicative PPs of several "semantic types" (they are speaking of obligatory adverbials; these PPs are classified as such according to them); some of their examples are given below:

- | | | |
|----------|---|-----------------|
| (131) a. | The two eggs are <u>for you</u> . | [recipient] |
| b. | The drinks are <u>for the journey</u> . | [purpose] |
| c. | If fruit prices are higher this year,
it's <u>because of the bad harvest</u> . | [reason] |
| d. | Transport to the mainland is <u>by ferry</u> . | [means] |
| e. | Melvin's main interest is <u>in sport</u> . | [stimulus] |
| f. | Jack and Nora are <u>with me</u> . | [accompaniment] |
| g. | The painting was <u>by an unknown artist</u> . | [agent] |

As can be seen, a range of prepositions can be predicated of NPs. This is not true of all English prepositions in all situations for all speakers, for example the to which marks destinations and indirect objects, as shown in (132):⁸¹

⁸⁰ Déchaine (1989:1) gives two examples of PPs acting as secondary predicates in English:

- (i) a. Anne sold Bart the chair in good condition.
 b. Roadrunner tricked Coyote out of his last dime.

⁸¹ Note also the interesting contrast pointed out by Binkert (1970:197):

- (132) a. *John is to bed/to England (Carter 1978:47)
 b. OK/*/? My gift was to Mary
 c. The letter was to John (Williams 1989:453)
 d. *The giving (of his book) was to Mary

Déchaine (1989:42) has the following judgements, apparently indicating that for some English speakers, in some circumstances, destinations and sources of motion can be predicative:

- (133) This train is to/from *(Philadelphia)

However, I do not find the variant with *to* to be perfect, thus such examples may not be unanimously accepted as well-formed. In (134) are two more predicative PPs headed by *to* (from Wendt (1891:90)); again one may find them to be ill-formed:

- (134) a. The victory was to the Western Powers.
 b. The Balkans should remain to Turkey.

(134b) seems to show *to* being used to mark possession.

The preposition *of* can be used predicately in some functions, but not others, as shown in (135) and (136).

-
- (i) a. *Paul is with ambition.
 b. Paul is without ambition.

- (135) a. The house is of stone (Curme 1931:35)
 b. this ring is of iron (Blake 1930:46)
 c. they are of the party (Blake 1930:46)
 d. the messenger was of handsome appearance (Blake 1930:46)
- (136) a. *The destruction was of the city.
 b. *The/John's murder was of Bill.

These data show that *of*, when indicating material (135a,b), the partitive (135c), or quality (135d), can head a predicative phrase, but it cannot do so when used in an objective sense. Recall from section 2.1.2.2 that the *of*-genitive of material and the partitive *of*-genitive did not allow their objects to be predicated of, while the objective *of*-genitive did permit this. Thus these two tests give the same split among uses of *of*. The ill-formedness of predicative objective genitives in English is confirmed by the following examples with gerundive nominals:

- (137) a. * The eating was of potatoes
 b. *John's eating was of potatoes
 c. *The constructing was of a house
 d. *Bill's constructing was of a house

Thus many, but not all, English prepositions (at least not in all their functions) can be heads of predicative phrases. Likewise, I shall claim that just because a case in a certain function cannot be used predicatively, this does not mean that it is not a P. Later in this chapter I shall propose an account for why certain prepositions and semantic cases, in spite of their status as Ps, cannot be used as

predicatives. The relation between ability to be predicative and P-hood is a only a monoconditional relation, but can still be of use in determining the status of syntactic and semantic cases; the inability of some Ps to act predicatively is independent of the account for why no Ks can be marked on predicative phrases.

2.2.3.2 Indo-European Cases

We shall now apply the predicative test to the cases of Indo-European. As stated above, many case functions can appear predicatively. However, the nominative (of the subject) and accusative (of the direct object) can only appear under agreement. The generalization that I make concerning the ability of cases to appear predicatively will thus again be supported by the data I shall present. Note that Haudry (1977:32) draws the same conclusion about an Indo-European language with a relatively extensive case system, Vedic:

La fonction prédicat ou attribut, lorsqu'elle est remplie par un substantif, concerne tous le cas, sauf l'accusatif.

Le nominatif exprime la prédication sous sa forme la plus neutre. On considéra que le nominatif ne fonctionne comme cas du prédicat que par accord; de même, l'attribut de l'objet accusatif est à l'accusatif.

('The predicate or attribute function, when it is filled by a substantive, involves all the cases, except the accusative.

The nominative expresses predication in its most neutral form. One will consider that the nominative functions as a case of the predicate only by agreement; likewise, the attribute of the accusative object is in the accusative.'))

2.2.3.2.1 The Indo-European Locative

The locative (marking location) is one of the most clearly semantic cases occurring in Indo-European languages. However, this case is not common among these languages. It does occur in Latvian and Lithuanian, and in those languages it can be used predicatively, as shown in (138a) and (138b) respectively:

- (138) a. Puke ir plava.
 flower-NOM is meadow-LOC
 'The flower is in the meadow' (Lazdina 1966:9)
- b. Liutuvà yrà Euròpoje
 'Lithuania is in Europe' (Dambriunas et al. 1966:191)

2.2.3.2.2 The Indo-European Genitive

I now examine the genitive case. Several adnominal or attributive uses of this case can be predicative: I first give some quotes on this for various Indo-European languages; then we shall go through examples from some of these languages. On the genitive in general, Petersen (1925:128) says that: "...the genitive with the verb *es- 'to be' may suggest all of the relations of the adnominal genitive, of which it is no doubt an off-shoot. For, like every attributive expression, it could get into the predicate." However, he gives no examples. He later (p.156) says that the "predicate position" is "allowable for any adnominal genitive". On Greek, Goodwin (1902:232) says: "Verbs signifying to be or to become and other

copulative verbs may have a predicate genitive expressing any of the relations of the attributive genitive." He then gives examples of predicative uses of the possessive, subjective, objective, material, measure, origin, and partitive genitives. German may be somewhat less free in its possibilities for predicative genitives; some relevant statements are given below:

After the verb sein to be, more rarely after werden to become, scheinen to seem, a predicate genitive is used to express several ideas also found in the attributive gen., namely quality, origin, and in choice language possession, or the first two of these ideas, and also that of material, and sometimes the partitive idea may be expressed by a prep. phrase. (Curme 1905:499).

Since the genitive may have the syntactical value of an adjective, it can be found in the predicative position in several languages. This was also the case in older German. The predicative genitive may either denote quality... or else it may denote possession... The classical writers could still freely use this construction..., but it is no longer productive today except, in literary style, after verbs of motion or rest, where it is still regular... The old construction is still recognizable in quite a number of fossilized survivals... (Lockwood 1968:13-14)

Das Auftreten des Genitivs ... ist ... als Prädikativ ... auf wenige Wendungen beschränkt.
('The appearance of the genitive ... is ... as predicative ... limited to a few expressions.') (Helbig and Buscha 1972:261)

English also allows some genitives to be used predicatively, as stated in the passage below from Curme (1931-5:II:35):

"After the verbs *be*, *become*, *seem*, *feel*, a predicate genitive is used to express several ideas also found in the attributive genitive, namely, *characteristic*, *origin*, *possession*, *material*, and sometimes the *partitive* idea, now usually with the prepositional form of the genitive except in the case of the possessive genitive, although the old simple genitive was once common in most of these relations"

And, on Anglo-Saxon poetry Shipley (1903:88) says, "After the verb 'to be' (Predicate Genitive), is found gen. expressing quality, characteristic, origin, or (rarely) possession".

Let us now examine the individual uses:

2.2.3.2.2.1 The Indo-European Possessive Genitive

On Greek, Smyth (1920:315) states in his section on the possessive genitive, "The genitive may be connected with the noun it limits by means of a verb". Some of his examples are:

(139) a. Ἱπποκράτης ἐστὶ οἰκίας μεγάλης
Hippocrates-NOM is house-GEN large-GEN
'Hippocrates is of an influential house' (Plato *Protagoras* 316b)

b. Βοιωτῶν ἡ πόλις ἔσται
Boeotian-GEN.PL the-NOM.FEM.SG city-NOM will be
'the city will belong to the Boeotians' (Lysias 12.58)

As noted above, Goodwin (1902) also gives examples of this use of the predicative genitive. In (140) are examples of the predicative use of the possessive genitive in other Indo-European languages:

- (140) a. Lithuanian: tas butas jo yra
 'la maison lui appartient'
 ('the house belongs to him')
 (Benveniste 1949:45)
- b. English: The book is my brother's, not mine
 (Curme 1931:35)
- c. German: Das ist Johns 'That is John's'
- d. Gothic: ik im Pawlus ... ip ik Xristaus
 'εγω μεν ειμι Παυλου ... εγω δε Χριστου'
 ('I am of Paul and I of Christ') (I Cor. I 12, cited in
 Benveniste 1949:45; English gloss from the
 Authorized King James Version)
- e. Latin: haec domus est patris mei
 'this house is my father's (Greenough et al. 1981:212)

Recall further that Curme (1905:499) says that the possessive genitive can be used predicatively in German "in choice language". Thus in a variety of Indo-European languages the possessive genitive can occur on NPs in predicate position.

2.2.3.2.2.2 The Indo-European Genitive of Material

With regard to Greek, this is one of the predicative uses listed by Goodwin, and Smyth (1956:318) gives the following example:

- (141) στεφανους ροδων οντας, αλλ' ου χρυσιου
 'crowns that were of roses, not of gold' (Demosthenes 22.70)

2.2.3.2.2.3 The Indo-European Genitive of Measure

Again, this is listed as among the predicative genitives by Goodwin; the following example is given in both Smyth and Goodwin:

- (142) τα τειχη ην σταδιων οκτω
 'the walls were eight stades (in length)'
 (literally 'of eight stades') (Thucydides 4.66)

2.2.3.2.2.4 The Indo-European Genitive of Origin

Below is Goodwin's example of the predicative use of the genitive of origin:

- (143) Τοιούτων εστε προγονων
 'from such ancestors are you sprung' (more literally, 'you are of such ancestors'; Xenophon, *Anabasis* 3.2)

((139a) may more properly belong here; (Smyth 1956:314) groups the genitive of origin with the possessive genitive).

2.2.3.2.2.5 The Indo-European Partitive Genitive

One of Goodwin's examples of this predicative use of the genitive is given below:

- (144) Τουτων γενου μοι
 'become one of these for my sake' (more literally, 'become of these for me' Aristophanes *Nubes* 107)

2.2.3.2.2.6 The Indo-European Genitive of Quality

In Greek this genitive function "occurs chiefly as a predicate" (Smyth 1956:317). Examples of the predicative genitive of quality in various Indo-European languages are given below:

- (145) a. **Lithuanian:** Jis yra geros širdies
 'He is good-hearted (lit. of a good heart)'
 (Dambriunas et al. 1966:139)
- b. **Old Irish:**
 i. ni torbi
 'es ist nicht von Nutzen' ('it is not of use')
- ii. is méite
 'es ist wichtig' ('von Größe') ('it is important (of size)') (both
 examples from Thurneysen 1909:156)⁸²
- c. **Greek:** εων τροπου ησυχητου
 'being of a peaceful disposition'
 (Herodotus 1.107, quoted by Smyth ibid.)
- d. **Latin:** magnae est deliberationis
 'it is an affair of great deliberation'
 (more literally, it is of great deliberation)
 (Greenough et al. 1981:213)

This genitive function may also occur predicatively in German, according to Curme (1905:499).

⁸² This is the usual use of the predicative genitive, according to Thurneysen, the only other use he gives is the Genitiv der Zugehörigkeit; the three examples of the predicative genitive given by Pokorny (1969:105) all fall into one of these classes.

2.2.3.2.2.7 The Indo-European Subjective Genitive

We have now seen genitive NPs in a variety of functions in predicative position. Thus the genitive in these functions acts like more clearly semantic cases like the locative in Indo-European and other languages, and like many adpositions, in being able to head predicative NPs. The subjective and objective genitives also appear to be able to act predicatively, but I shall argue in 2.2.5.1 that strictly speaking, genitive NPs indicating subject and object arguments are unlike the other genitive functions and cannot be borne by predicative NPs. However, I first present the data.

Below are some apparent examples of subjective genitives in Ancient Greek and English. Goodwin (1902) gives one example of the predicative use of the subjective genitive in Greek; this is reproduced in (146).

- (146) Οἶμαι αὐτο (το ρημα) Περιανδρου εἶναι
 'I think it (the saying) is Periander's' (Plato, Republic 336a)

Anderson (1984:14) gives some well-formed English examples containing apparent predicative subjective genitives:

- (147) a. That idea for changing the rules was John's
 b. That recommendation was Mary's
 c. That selection was Bill's

2.2.3.2.3 The Indo-European Dative

We shall now see whether some functions of the dative can be used predicatively. I would claim that the dative in all its uses is semantic. However, apparently not all dative functions can appear predicatively. Later in this chapter (2.2.5) I shall attempt to account for this.

The dative of purpose can appear predicatively. Petersen (1918:141) gives examples of predicative datives of purpose from several Indo-European languages, two of which I give below.

- (150) a. Avestan:
 nitəmačit haomahūitiš hazarəraŋnyai asti daēvanam
 'even the slightest haoma-pressing is for (i.e. serves the purpose of) thousandfold killing of Daevas'
- b. Latin:
 magno usui nostris fuit
 'it was for (i.e. of) great service to our men'
 (Caesar B.G. 4.25)

For more examples from Latin v. Greenough et al. (1981:237), where it is said that the verb with this dative "is usually *sum*".

The dative marking direct objects (or benefactives) cannot appear predicatively, as shown by the following examples:

- | | |
|------------------------------|---------------------------|
| (151) a. ??Die Hilfe war ihm | 'The help was to him' |
| b. *Das Helfen war ihm | 'The helping was to him' |
| c. ??Der Rat war ihm | 'The advice was to him' |
| d. *Das Raten war ihm | 'The advising was to him' |

- e. ??Der Applaus war ihm 'The applause was to him'
- f. *Das Applaudieren war ihm 'The applauding was to him'

This applies as well when the dative NP is intended to represent an indirect object:

- (152)a. *Das Geben der Bücher war ihm
 'The giving of the books was to him'
- b. ??Die Gabe (*der Bücher) war ihm
 'The gift (of the books) was to him'
- c. *Das Zeigen der Bücher war ihm
 'The showing of the books was to him'

Note also the following examples:

- (153)a. *Die Ähnlichkeit ist seinem Vater
 'The similarity is to his father'
- b. *Das Ähneln ist seinem Vater
 'The resembling is to his father'

In some of the preceding examples, it may not be clear whether the dative indicates an objective or a benefactive reading. In (154) it is shown that benefactive datives apparently cannot be predicative.

- (154) a. ??? Das Kochen/Singen war dem Vater
 'The cooking/singing was for the father'
- b. ?? Der Gesang war dem Vater
 'The singing was for the father'

The German dative, then, is limited in its ability to be marked on predicatives, as several of its common functions seem unable to be used in this way.

2.2.3.2.4 The Indo-European Ablative

I have not found many examples of predicative ablatives in Indo-European languages. However, the Latin ablative of quality can mark predicative phrases, as shown by the examples below, from Greenough et al. (1981:260):

(155) ablative of quality

- a. animo meliore sunt gladiatores
'the gladiators are of a better mind.'
(Cicero, in Catilinam ii. 26)
- b. capillo sunt promisso
'they have long hair' (Caesar, Bellum Gallicum v. 14)

I would account for the lack of some ablative predicatives in the same way as I shall explain the inability of the dative in most functions to act predicatively, v. infra.

2.2.3.2.5 The Indo-European Accusative

The following English and German examples demonstrate that the accusative of the direct object cannot appear in predicative position:

- (156) a. *The eating was them
 b. *The seeing was him/them
 c. *Mary's taking was them
 d. *The murder/examination was them
- (157) a. *Das Sehen war ihn 'The seeing was him
 b. *Das Essen war es 'The eating was it'
 c. *Das Töten war ihn 'The killing was him'

In Greek the accusative can be used predicatively to agree with a direct object, as shown in (158):

- (158) εαυτον δεσποτην πεποιηκεν
 self-ACC master-ACC he has made
 'he has made himself master'
 (Xenophon, quoted in Smyth 1956:362)

Such uses of the predicate accusative are indeed only due to agreement, as one can see from the fact that when sentences containing predicate accusatives are passivized "both the object and the predicate accusative become nominative" (Smyth 1920:362):

- (159) αυτος στρατηγος ηρεθη
 self-NOM general-NOM was chosen
 'he himself was chosen general'
 (Lysias, quoted in Smyth 1956:362-3)

This is further illustrated by the fact that primary predicate adjectives are nominative, to agree with the subjects of their clause:

- (160) ο ανηρ δίκαιος ἐστὶ
 the.MASC.NOM man-NOM just-NOM is
 'the man is just' (Smyth 1920:256)

Thus Greek, unlike Turkish and Hungarian, has an agreement requirement on predicative NPs/APs; these elements cannot be caseless, but must bear the case of their subjects. Here we must invoke the agreement exception to the generalization on predicatives; it is clear that predicatives may and must have syntactic case, but only to agree with their subjects. Therefore the accusative occurring on predicatives in Greek is present only to meet the agreement requirement, and is not a semantic case.

One might raise the point that when personal pronouns occur after the copula, they appear to be in the accusative/objective case, and here agreement is not involved:

- (161) a. It's me/him/her/it (cf. the prescriptively correct It is I⁸³)
 b. I'm her (cf. *I'm she)

Examples such as (161b) are not problematic for my claim that predicatives cannot appear in syntactic cases, for these are not predicative but equative sentences, i.e. I'm her indicates identity, while John is a lawyer predicates a quality of the subject. The two types of construction have different characteristics in some languages, and it is reasonable to expect that case assignment will

⁸³ Cf. the situation in French, where one does not have the option of using the nominative rather than the accusative, e.g. c'est moi, but never *c'est je.

operate differently in them. Rapaport (1987:162-5) proposes that either the verb *be* or AGR assigns case to the postcopular NP in equative sentences. This NP requires case for visibility. Such sentences then are not counter-examples to my generalization. It may be less clear that (161a) is equative, since there is no overt NP for it to be identified with. However, one can assume a discourse antecedent and so such examples are also equative and not subject to restrictions on predicates.

Thus the accusative can appear in predicative position, but only under agreement with an accusative NP. The accusative of the direct object cannot act predicatively, which is in accord with the results of the predicate subject test: this case function, as a K, can mark subjects of predicates, but not predicatives.

2.2.3.2.6 The Indo-European Nominative

The nominative of the subject cannot be marked on predicatives, as illustrated by the following English examples.

- (162) a. *The seeing/helping (them) was she
 b. *The eating ((of) the carrots) was he

As with the accusative, the nominative can appear on predicatives under agreement, as in (159) and (160) above. Both the nominative and the accusative, with respect to the predicative test, as with the predicate subject test, act unlike many adpositions and unlike some

uses of the genitive, locative, and dative (and I would argue that most of those uses of the dative that do pattern with the nominative and accusative do so not for reasons of category, but for another reason, as I shall discuss below).

2.2.4 Catalogue of Predicative Case Functions

The data given above were arranged by language and by traditional case. Given that some functions can be marked by different cases in different languages, and since I am interested in the semantic status of case functions, I now list which functions can be predicative. This list is not exhaustive; if a case function of a language is not listed here, it does not mean that it cannot occur predicatively in that language.

1) location:

- a. simple location in space: locative case: Turkish, Lithuanian, Latvian
- b. more specific locations: inessive, superessive of Hungarian
- c. "abstract" location: Turkish

2) possession: genitive: Turkish, English, Greek, Lithuanian, Latin

3) material:

- a. ablative: Turkish
- b. genitive: Greek, English
- c. elative: Hungarian

4) quality:

- a. genitive: Greek
- b. ablative: Latin

5) accompaniment

- a. instrumental: Hungarian

- 6) partitive:
 - a. ablative: Turkish
 - b. genitive: Greek
- 7) separation:
 - a. ablative: Turkish
- 8) purpose:
 - a. dative: Avestan, Latin
 - b. causalis: Hungarian
- 9) origin:
 - a. ablative: Hungarian
 - b. genitive: Greek
- 10) subject
 - a. genitive: Greek, English
- 11) direct object
 - a. genitive: Greek
- 12) dative direct object
 - a. dative: Turkish
- 13) indirect object
 - a. dative: Turkish

I now list some of the case/preposition functions for which I have not found well-formed examples occurring predicatively, or where predative use is less than perfectly acceptable to all speakers.

- 1) nominative subject
- 2) (accusative) direct object
- 3) dative direct object
- 3) indirect object
- 4) duration/extent of time
- 5) extent of space
- 6) instrument (v. infra for ill-formed English examples)

Thus, according to the predicative test, cases functions such as the possessive genitive and various locative functions are semantic, as also indicated by the predicate subject test, while the results with respect to the accusative of the direct object and the nominative of the subject are consistent with the syntactic status shown for these functions by the earlier test. However, there are some inconsistencies between the tests, and it is to these that I now turn.

2.2.5 The Problems/Inconsistencies

2.2.5.1 The Subjective and Objective Genitives

From the examples given in 2.2.3.2.2.7, it would appear that the subjective genitive is like several other functions of the genitive, including the possessive genitive, in being able to act predicatively. However, this would give a classification different from the predicate subject test, where the subjective genitive was distinguished from the possessive genitive, the former being able to mark subjects of predicates, the latter not. I would argue that in fact the predicative test makes the same distinction among genitive functions as the predicate subject test, since what appear to be subjective genitives in the examples above are not such, strictly speaking. Let us posit a narrower definition of the notion subjective genitive, or rather, let us posit a new, more precise category, which I shall call the subject-argument (SA) genitive, leaving the term subjective genitive for the traditional, broader and vaguer, concept. The SA genitive must be an argument of a nominal. Given this, then only nominals which take arguments can take NPs in the SA function. Many of the old

subjective genitives may in fact be close in meaning to possessive genitives, and pattern with them, both groups being Ps.

A distinction has in fact been made between nominals which take arguments and those that do not, i.e. between complex event nominals and result nominals, in Grimshaw's (1989) terms. The latter do not have arguments, although they may be related to NPs in what seems to be an argument-like way. Further, the same nominal may act as both a complex event nominal and a result nominal, making classification more difficult. Grimshaw gives several ways of distinguishing the two kinds of nominals, some which I now list:

1) "The indefinite determiner, and the numeral one, occur only with result nominals: the same holds for demonstratives like that, which are compatible only with result nominals. Only the definite determiner the occurs with both kinds of Noun." (Grimshaw 1990:3.14). This is illustrated below:

- (163) a. They studied the/an/one/that assignment
 b. They observed the/*an/*one/*that assignment of the problem. (ibid.)

2) "complex event nominals do not pluralize while result nominals do". (ibid.). This is shown in (164).

- (164) a. The assignments were long
 b. *The assignments of the problems took a long time (ibid.)

3) "action or event nominals always take obligatory arguments" (ibid.:2.10):

- (165) a. The development was applauded
 b. *The city's development was applauded.
 (the city interpreted as subject)
 c. The city's development of inexpensive housing was
 applauded. (ibid.:2.11)

4) There are some adjectives, e.g. frequent and constant, which can only co-occur with complex event nominals, as can be seen in (166) and (167). Once the nominals in question have been forced to have the complex event interpretation by the addition of one of these adjectives, then, as complex event nominals, they are ill-formed without their object arguments.

- (166) a. The expression is desirable
 b. *The frequent expression is desirable
 c. *The frequent expression of one's feelings is desirable
 (ibid.:2.8)

- (167) a. The assignment is to be avoided
 b. *The constant assignment is to be avoided
 c. The constant assignment of unsolvable problems is to be
 avoided. (ibid.:2.9)

If we apply these criteria to the examples above which supposedly involve subjective genitives, repeated below as (168)-(170), it will be seen that the nominals in these examples are not complex event nominals, and given the definition of SA genitive, that the predicative phrases do not represent this kind of genitive.

- (168) Οἶμαι αὐτο (το ρημα) Περιανδρου εἶναι
 'I think it (the saying) is Periander's'
 (Plato, Republic 336a, cited by Goodwin 1902))

- (169) a. That idea for changing the rules was John's
 b. That recommendation was Mary's
 c. That selection was Bill's (Anderson 1984:14)

- (170) That writing must be Tom's (Quirk et al. 1985:743)

We cannot of course get native speaker intuitions for the Ancient Greek example (168). However I assume that το ρημα 'the saying' is not a complex event nominal; for example, it could presumably be pluralized in this sentence. Thus Περιανδρου 'Periander's' is not a SA genitive, but something like a possessive genitive. It should also be noted that even apparent examples of predicative subjective genitives are not common in grammars of Greek.⁸⁴

As for the examples of predicative subjective genitives in English, again the nouns involved are not argument taking nominals, and so the predicative genitives are not SA genitives. Here we can get native speaker intuitions, and these intuitions back up this argument. If one adds object arguments to nominals like those in

⁸⁴ I shall not treat the 9 examples of Early Latin predicative subjective genitives given by Bennett (1914:56-7). As with the Greek and English examples discussed in this section, I claim they do not involve true subjective genitives.

(169b,c), forcing a complex event interpretation of the nominals, then a subjective genitive NP cannot appear in predicative position:⁸⁵

- (171) a. *The recommendation of John was Mary's
 b. *The selection of Mary (as leader) was Bill's

The nominals in (169) have no arguments, and so they permit a subject-like NP to appear in predicative position; however, this NP is not a SA genitive in the narrow sense I am using here, and so is possible in this position, unlike the true subjective genitives in (171), which cannot be predicatives. Note also that the nominal in (170) as well as those in all the examples in (169) are preceded by *that*, which can only precede result nominals. It is also fairly clear from context that in (170) *writing* refers to a physical sample of writing, rather than to an act of writing.

In English, as in Ancient Greek, the apparent examples of predicative subjective genitives can be shown to be instances of not NPs indicating a subject argument, but some other type of genitive. Hence true genitive subject NPs cannot appear in predicative position; the genitive in question is thus syntactic, in agreement with the results of the predicate subject test.

⁸⁵ M. Anderson (1984:4) has the following examples:

- (i)a. *That reliance on friends was Mary's
 b. *That destruction of Rome was the barbarians'

The sentences in (171) may be based on these examples; however, these examples are ill-formed for an additional reason, namely that an argument-taking nominal is preceded by *that* (v. Grimshaw 1989.3:14).

The apparent example of a predicative objective genitive, repeated below as (172), can be dealt with in a similar fashion.

- (172) ου των κακουργων οικτος, αλλα της δικης
 'compassion is not for wrong-doers, but for justice'
 (Euripedes fragment 270)

I again introduce a more precise notion, this time with respect to the objective genitive, restricted to NPs indicating arguments; I shall call this the object argument (OA) genitive. The predicative NP in the example below is not an OA genitive because it is not the "object" of an argument taking nominals: one cannot use native speaker intuitions, but οικτος 'compassion' appears not to be an argument taking nominal, and so των κακουργων 'of (the) wrong-doers' is not an objective argument.

Note further that, concerning English, Blake (1930:46) says, "Apparently the contentive, mensural, exceptive, objective and resultant cases are not employed as predicatives." Blake's cases are in part semantically based; I interpret his remark to mean that a NP with an objective meaning, including OA genitive NPs, cannot occur in predicative position. The objective case in his sense can occur adnominally (Blake's (1930:37) example is love of (towards) a father).⁸⁶ Recall also that the objective of-genitive cannot appear

⁸⁶ Blake does not mention the predicative subjective or agential cases; he neither lists them among the predicative cases that are parallel to the adnominal cases, nor does he list them among the apparently non-occurring predicative cases. This is more evidence that the subjective genitive does not occur predicatively.

predicatively in English, and that there is only one example of the predicative use of the objective genitive given by Goodwin: objective genitives, even in the broad sense, are rare as predicatives.

By making more precise the notions of subjective and objective genitives, denoted by the terms SA genitive and OA genitive, we can eliminate one set of inconsistencies between the predicate subject test and the predicative test: the genitive case, when it marks arguments, either subjects or objects, cannot be borne by predicative NPs, unlike many other functions of the genitive. Apparent instances of predicative subjective and objective genitives mark not the syntactic function of argument, but some semantic notion, sometimes connected with possession. Thus most functions of the genitive are shown to be semantic by the predicative test, but the behavior of the SA and OA genitives (and that of the OA *of*-genitive) with respect to this test is consistent with their status as Ks. This correlates with the fact that the SA and OA genitives can be predicated of, at least in some languages. Thus the predicate subject test and the predicative test generally correspond with respect to the genitive.⁸⁷ The functions of the genitive case then are not uniform with respect to status as a P or K; in most uses the genitive is a P, but in two

⁸⁷ Presumably, if one uses the more precise notion of SA and OA genitives in the predicate subject test, one will find a split along the same lines as shown by the predicative test: SA and OA genitives should permit predication, while other subjective and objective genitives should not. The results may not be so straightforward, particularly with "picture"-type nouns: Mary's photo of Sue drunk should be ill-formed, since it is clearly a result nominal, but it is well-formed (cf. the well-formed The photo was of Sue). The "picture"-type nouns may be neither complex event nominals nor ordinary result nominals, and so another kind of genitive (neither OA nor possessive) may be involved, and it is unclear whether it is a P or a K..

functions, when marking subject and object arguments of nominals it is a K; these two uses of the genitive pattern with the two case uses which mark (most) subjects and objects of clauses, the nominative of the subject and the accusative of the direct object. We now turn to another set of inconsistencies between the two tests which have been presented so far.

2.2.5.2 Dative Objects and Other PPs which Cannot Head Predicatives

If we base our classification of cases on the tests in this chapter, the status of some case functions, e.g. the dative which marks (direct and indirect) objects, is problematic: based on the ability to be the subject of a predicate, they act like semantic cases (APs cannot be predicated of dative direct or indirect objects), and yet they apparently cannot act predicatively in all languages (dative objects can not be predicative, at least in German). As we shall see in the next chapter, with regard to the objective genitive test these case functions again pattern with the semantic cases. Further, I have not found any examples of the instrumental marking instruments or the accusatives of extent of space and of time occurring predicatively; recall that in Hungarian, NPs bearing the instrumental marking instruments could not be predicated of, while the accusative of extent cannot be subjected to the predicate subject test, but seems to me to be semantic. There is thus a contradiction among the results of the tests presented here, which might be taken to mean that syntactic case and semantic case are not two discrete categories. However, I assert that the dative which marks objects, the

instrumental of instruments, etc. are semantic cases, and that if they cannot act predicatively, this is not a consequence of their categorial status, but rather derives from their inability to assign a theta role. Thus I distinguish between the nominative of the subject, accusative of the direct object, and the subjective and objective genitives, which cannot be predicative on account of their category, and the dative which marks objects and some other case functions, which cannot be predicative not because of category, but because of inability to assign a θ -role independently.

First, let us note that according to at least one author, Rothstein (1983), extent of time and instrument phrases are predicative. Based on Davidson (1967), she says that in sentences such as those in (173), the PP is "predicated of INFL".

- (173) a. It snowed for three hours.
 b. He screamed in a wild fury.
 c. She ate with a fork and knife.
 d. I flew my spaceship to the Evening Star.

In this way these PPs are able to be predicates, which is necessary according to Rothstein, who says, "as these PPs are not θ -marked, they must be predicated of something" (1983:197). PPs are apparently different from NPs, as latter cannot be predicated of INFL. The difference has to do with the ability to assign a θ -role. Rothstein states (1983:197-8):

We may ask why PPs and no other lexical categories can be predicated of INFL. The answer lies in the fact that the

secondary predicates, AP and NP, assign theta-roles to their subjects and the NPs they are predicated of have to be lexical and thus capable of being assigned theta-roles. PP ... does not assign a theta-role to its subject but designates its external argument as a particular argument of the relation denoted by the head of the PP.

I would not agree that PPs never assign θ -roles to their subjects: as we have seen, many PPs (including NPs marked with semantic cases) can be predicated of lexical items, specifically of NPs). However, it is plausible that some PPs can assign θ -roles to their subjects and that others can not, at least not independently. If one accepts Rothstein's proposal, then the set of inconsistencies between the predicate subject test and the predicative test is reduced, as extent of time, extent of space, source of motion, goal of motion, and instrument are among the functions that can be predicative.

Further, Tremblay (1991) puts forth an analysis in which indirect objects are predicative, the direct and indirect objects forming a small clause. Thus she claims that in (174) there is the coindexing indicated.

- (174) Marie a donné un livre_i à Jean_i
 'Marie gave a book to Jean' (Tremblay 1991:239)

She says (ibid.) that "This proposal is justified by the observation that, as a result of the action of giving, Jean becomes the possessor of the book."

If one accepts the claims of Rothstein and of Tremblay, then there is not such a degree of inconsistency between the predicate subject test and the predicative test, as the extent of time, indirect object, etc. can act predicatively, like other case functions. However, there may still remain other functions which cannot be predicative, even of INFL, but which could not be subjects of predicates either, namely the dative, ablative, etc. marking direct objects, or one may not accept the assertions made about the predicative status of extent of time and indirect object phrases. To deal with these problems, I shall now discuss a way of accounting for the inability of certain semantic case functions to be predicative.

Let us continue to discuss the θ -role assigning abilities of Ps, but now not with regard to their subjects, but with regard to their complements. Let us assume that although all Ps are uniform in their possession of lexical-type content, they can differ in their ability to assign θ -roles to complements.⁸⁸ In this way they are not unlike the class of nouns (most or all of which possess lexical type content): some nouns, e.g. destruction, can assign a θ -role to their complements (although they may need the help of a preposition to do so, v. Grimshaw 1989:3.5), while others, e.g. artichoke cannot. Let us assume that the preposition to (when it marks indirect objects), for some speakers, although it does have lexical meaning, cannot assign a theta role to its NP complement, or at least cannot do so independently. Thus in a sentence such as Mary gave a book to John,

⁸⁸ For discussion of why some prepositions can be predicative while others cannot v. Williams (1989).

the recipient θ -role borne by John comes from gave, or from gave and to together, or one could say that gave assigns the θ -role, and to merely realizes it or transmits it.⁸⁹ Likewise, the German indirect object dative, although it is a semantic case and thus a P, cannot assign a θ -role by itself, and so the θ -role of indirect objects in German comes at least in part from the verb. The same holds for the dative, genitive, and other cases which mark direct objects in various languages. For those languages which allow e.g. dative objects as predicatives (or for those speakers who do so), one would say that there the dative case marker does assign a θ -role to its complement; the same would hold for the instrumental marking instruments, if this case function is found marking predicative NPs in some language(s).

If it is true that to and the dative case marker (in some languages), when marking the indirect object, cannot assign θ -roles to their NP complements, then if NPs governed by to or the dative marker do not occur with verbs which assign recipient θ -roles, these NPs will not receive a θ -role and the θ -criterion will be violated. Since other English Ps such as under can head predicatives, I conclude that these Ps are capable of assigning θ -roles. In some languages allative Ps may not be able to assign θ -roles either, accounting for the ill-formedness for some speakers of sentences

⁸⁹ An alternative account would be that "the P theta-marks the NP and the V theta marks the resulting PP" Baker (1988a:242). Baker, however, is speaking of benefactives and other constructions rather than of indirect objects. The question of the ability of Ps to assign θ -roles will come up again in the next chapter.

such as *This bus is to Ottawa. Informally, this means that recipient/indirect object NPs must co-occur with verbs which indicate some idea of giving, for only such verbs can assign a theta role to them, preventing a violation of the θ -criterion. Note that, at least for some speakers of English, instrumental NPs cannot be predicative, as shown in (175):

- (175) a. *The work was with shovels.
 b. *The writing was with a computer.

Again, this does not mean that instrumental adpositions and case markers are Ks rather than Ps, rather they are Ps but are unable to assign theta roles; they are transmitters or realizers of θ -roles.⁹⁰

If this argument is valid, then we can maintain the semantic case status of the dative case marking indirect objects, the dative, genitive, etc. marking direct objects, and the accusative of extent of time, and thus the criterion of the ability to be a predicate does not conflict with the results of the other tests of this thesis.⁹¹ Thus this

⁹⁰ V. Baker's (1988b:359) claim that "benefactive NPs depend on a preposition for their θ -roles, while instrumental NPs depend only on the verb. Instrumental prepositions, if present at all, appear for other reasons, such as Case theory." In spite of this dichotomy between benefactives and instrumentals, I claim that they are both Ps rather than Ks, as they pattern together in other ways, e.g. with respect to the predicate subject test.

⁹¹ Simpson (1983) classifies the dative as a grammatical case, and claims that two of the three grammatical cases, namely ergative and dative, can be used as "argument-taking predicates". However, it should be noted that the ergative is used to mark instruments, which I would claim is a lexical type meaning (backed up by the fact that one can not predicate of instrumental NPs), while the absolutive case can not be an argument taking predicate. Simpson states (1983:299) that "Intuitively, the inability of ABSOLUTIVE case to act as an ATP [argument-taking predicate], that is, as though it had a meaning, is quite understandable. ABSOLUTIVE case is not a lexical item in the sense that DATIVE and ERGATIVE are; it is just the name given to the absence of a case-suffix on

case does not act like other Ps in two respects, ability to be marked on a predicate, and extraction, but this is for an independent reason; the fact that the indirect object marker is a P is indicated by the fact that it patterns with other Ps in other tests, namely ability to be marked on the subject of predicate and the objective genitive test (v. chapter 3).

2.2.6 Conclusion on Predicatives and Case

The assertion that I made at the beginning of this section seems to be borne out by the data which have been presented. While perhaps not all semantic cases can appear on predicative NPs (e.g. those indicating recipients may be constrained in this respect, at least in some languages), there is a variety of semantic cases which can be borne by predicatives, just as many adpositions can head predicative phrases. On the other hand, syntactic cases can only appear on predicatives when they are marking agreement with the subject of the predicate. Again semantic cases and adpositions pattern together. While this test may not help us in classifying some functions, e.g. the dative of the indirect object in some languages, it does confirm the distinction between syntactic and semantic cases, and the grouping of the latter with the adpositions and it does give some indication that e.g. the genitive of material is semantic. Note that the results of this test are consistent with the results of the

nominals bearing certain grammatical functions." I would agree with her about the absolutive, but would also claim that when the ergative is used to indicate subjects it does not have a meaning in the sense that the allative and the comitative have meanings. This would be shown if all the ATP uses of the ergative involve its instrumental rather than its subjective use.

predication test discussed in section 2.1: the accusative of the direct object does not block predication, and cannot be marked on predicatives (except under agreement), while some semantic cases and prepositions can govern or head predicative phrases, but do not allow NPs which they govern to be subjects of predicates.

Depending on the language, there are two possibilities for case marking on predicative NPs: they are either caseless or agree in case with their subjects. PPs, including NPs in semantic cases, may be predicatives if their head Ps can independently assign a θ -role.

2.3 Conclusion

In this chapter, I have examined two ways of determining whether a case is syntactic or semantic: the ability to be the subject of a predicate, and the ability to be a predicative. It has been shown that subjects of predicates may only bear syntactic cases, while predicatives may only bear semantic cases (except under agreement). Further, in both these tests, NPs bearing semantic cases pattern with NPs inside adpositional phrases, indicating that semantic cases should in fact be grouped with adpositions in the category P, while syntactic cases should be placed into a separate category, which I label K. In this chapter I have also defended the structural account of predication; with my classifications of Ps and Ks, and with the notion of sp-command, many apparent counter-examples to this account can be dealt with. We now have two ways of distinguishing syntactic and semantic case which give the same

results, once other factors (such as the ability to assign θ -roles) have been accounted for. There is thus some backing for making a distinction between syntactic and semantic case, and for claiming that semantic cases are not really cases from a syntactic point of view. In the next chapter I give more evidence for these positions.

CHAPTER 3

THE OBJECTIVE GENITIVE

In this chapter I examine the objective genitive, another phenomenon that is, I claim, subject to a case-based restriction. We shall see that there are languages where the only non-subject arguments of nominalized verbs which can be assigned genitive case are those which have accusative marked NP equivalents in verbal clauses. That is, there is a split between the accusative, a syntactic case, and the dative, genitive, instrumental, and other cases when they function to mark objects. The latter cases pattern with adpositions, for NPs governed by adpositions also cannot be translated into genitive arguments of nominalized verbs in some languages.¹ Thus the objective genitive can be used as another test to distinguish Ks from Ps, and it often gives the same results as the tests based on predication, giving more support to my proposed realignment of categories. This may not be surprising, and such data have been noticed before;² however, what is unexpected is the fact that the objects of some English verbs (e.g. to help) also cannot be translated into genitive complements of the nominalized equivalents of those verbs. This may be explained by the proposal that these

¹ I use the term translate in this chapter without meaning to imply that there is a syntactic operation converting verbal clauses into nominalizations.

² V. e.g. the remark of Pitha (1980:92): "Members of the verbal frame having other forms than accusative or nominative usually retain their form also with the noun (they do not change in nominalization)."

objects are actually governed by an underlying P: just as prepositional objects do not have objective genitive counterparts, neither do objects governed by underlying Ps. These facts therefore support the positing of underlying cases in English, as some of the same objects which cannot be predicated of (e.g. the object of to assist) also do not have genitive NP equivalents in nominalized clauses. We shall thus see more evidence that semantic cases are Ps, and that there are underlying Ps in English. Note that this test can only be applied to certain types of cases, namely cases marking objects or adverbial NPs, e.g. it cannot be applied to adnominal genitive cases. However, it still shows a split among cases, and an instance of some case markers behaving like adpositions.

The introduction to this chapter is section 3.0, where I discuss the objective genitive (which we have already seen some examples of in chapter 2) and give examples from English of evidence for the proposed constraint. In 3.1 I examine the relevant data from case languages such as Russian and German. The object of study in 3.2 is the objective genitive in English. Not all languages have the case restriction on objective genitives; in section 3.3 I bring up apparent counter-examples from Latin, Greek, and Icelandic where dative and other non-accusative objects are translated into objective genitives. In 3.4 I briefly mention a related phenomenon, the subjective genitive, which may be subject to similar constraints. Section 3.5 is devoted to an attempt to account for the case restriction on the objective genitive, while in 3.6 I discuss the puzzling appearances in some languages of prepositional phrases in nominalization

constructions which correspond to genitive or dative NPs in the equivalent verbal clauses. I conclude this chapter in 3.7.

3.0 Introduction: The Objective Genitive

In a variety of languages of different families, a noun in the genitive case, or with some possessive-type marking (e.g. *of* in English) can be interpreted as an object with nouns which have some verbal sense; thus it can correspond to the object of the verb from which a nominalized form is derived. In traditional grammars this is called the objective genitive. Examples of objective genitives from several languages of different families are given in (1):

- (1)
- a. English: Mike's murder/the murder of Mike
 - b. Latin: cognitionis amor 'love of knowledge'
(Cicero, quoted in Kennedy 1962:138)
 - c. Lithuanian: krauia ischlegimu
blood-GEN.SG shedding.INSTR.SG
'with the shedding of blood'
(Schmalstieg 1987:198)
 - d. Greek: φόβος τῶν Ειλωτῶν
'the fear of the Helots' (Smyth 1956:319)
 - e. Chagatay: tüšnüŋ ta'biri
'the interpretation of (this) dream'
(Eckmann 1966:85)
 - f. Swahili: kusafisha kwetu kwa nyumba
cleaning our of house
'our cleaning of the house' (Vitale 1981:101)
 - g. Arabic: hawa zayd-in
'love of Zayd' (Comrie 1976b:194)
 - h. Georgian: Ceril-is dacera moulodnelia
'The writing of the letter is unexpected'
(Aronson 1982:69)

It is interesting in itself that the genitive, the case of possession, is used so often even in unrelated languages as the case of objects of nominal forms of verbs, or of nouns which have some verbal sense, as this is not a necessary consequence of the canonical meaning of this case. As Lyons (1968:296) says "Not only in Indo-European, but in many genetically unrelated languages, there is a striking parallelism between the genitive and the subject and/or object of a verb".

One explanation of this is that there is some sort of deep semantic relation between subject-/objecthood and possession. For example, Seiler (1983:92) asks "What is the rationale behind the affinities between possessive and objective ...?" and answers (ibid.:114) that such affinities "have inherent POSSESSION as their common denominator". One should approach this sort of account with caution, as it seems to be based on semantic intuitions; it may well contain truth, but is difficult to confirm.

An alternative view is based on the category in which the genitive occurs: the subjective and objective genitives, as well as the possessive genitive, are assigned NP (or DP) internally: the genitive is then the case which is assigned inside NP, and has several interpretations. The account of Comrie (1976b:179-180) is along these lines:

"The close parallelism between the internal structure of the action nominal and the internal structure of noun phrases with non-derived noun-heads offers an explanation as to why,

in so many languages ... both subject and direct object of the related verb turn up as genitives with the action nominal. In the sentence, subject and direct object may be treated as the unmarked arguments of the verb... In the noun phrase, the unmarked nominal adjunct of a head noun is the genitive, which, just like the subject and direct object of a verb, may fulfill a variety of semantic functions."

In some languages there is a restriction on which verbal objects can have genitive equivalents in nominal clauses. In particular, prepositional objects or objects in cases other than the accusative cannot be translated into genitive objects of the corresponding nominalized verb. I illustrate this first with English nouns related to prepositional verbs; in the following phrases the complements of *of* can be interpreted only as subjects, not as objects:

- (2) a. the speech of the lawyers (≠ speech to the lawyers)
- b. the escape of the prisoners (≠ the escape from the
 prisoners)
- c. the laughter of the audience (≠ the laughter at the audience)

On the other hand, the nouns related to many transitive verbs can take genitive NPs which have an objective sense, as shown in (3):

- (3) a. the destruction of the city
- b. the discovery of Greenland
- c. the shooting of the hunters
- d. the education of John
- e. the release of the prisoner

In some examples of this sort (e.g. the well-known 3c) either a subjective or an objective reading is possible, but many permit only

the latter.³ Thus the rough generalization for English will be that nouns related to prepositional verbs can only have a subjective and not an objective genitive, while nouns related to transitive verbs at least permit an objective genitive, and often do not allow the subjective interpretation of the *of*-phrase. I shall return to the English objective genitive below and deal with exceptions to this generalization.

As noted above, the claim that I shall explore here is that in some languages the case of a NP in a clause will play a role in determining whether the corresponding NP in a nominalization construction can be realized as an objective genitive, more specifically, that generally objects in semantic cases in clauses will not be translatable into objective genitives, unlike object NPs bearing a syntactic case (i.e. the accusative). Opposed to this case-based account of restrictions on objective genitives there might be θ -based accounts, which would claim that the θ -role borne by a clausal object determines whether its equivalent in a nominalization construction can be realized as a NP governed by *of*. Another possible account could be based on semantic properties of the NPs in question, involving e.g. affectedness.

³ The reason why some of these examples, e.g. (3e) can only have an objective reading may be connected with argument structure: if an object is obligatory, then, given that there is only one NP in the phrase, this NP must be interpreted as an object, and so can not have a subjective interpretation. This will not be true of nominals lacking an argument structure. V. Grimshaw (1989) chapter 3.

I shall examine the objective genitive in several languages. If I can maintain a case-based account, and if the cases are differentiated in the same way as they are for predication, then I shall have another criterion for distinguishing syntactic from semantic cases, and more grounds for classing the former with adpositions. As we shall see, in some languages there does appear to be a case restriction on objective genitives; there are, however, some languages in which there is no such restriction. I would argue for the following generalization: for those languages where there is a restriction on the objective genitive, this restriction is based on case: cases which are clearly semantic, or which have been established as being semantic by the predicate subject test, including underlying semantic cases with surface accusative realizations, cannot be translated into objective genitive NPs. In languages with this restriction, it applies to NPs bearing semantic cases and NPs contained in adpositional phrases; thus semantic cases pattern with adpositions in this respect, as they have been shown to pattern together with respect to the tests involving predication. In those languages where there is not a restriction on translating semantically case marked NPs into objective genitive NPs, one might expect NPs contained in PPs which are verbal complements to be translatable into objective genitives also. This turns out to be true.

3.0.1 Types of Nominalization

3.0.1.1 "Nouniness"

Nominalizations differ both across and within languages in how much their syntax follows the syntax of the verbs that they are related to. Thus nominalizations can have the same syntax as the related verb, or they can have the same syntax as nouns. These are the two extremes of the spectrum; a nominalization may stand somewhere in between them. This will be significant for my discussion, for the extent to which the objective genitive occurs, and the extent to which it is affected by the restriction I propose, is connected with the extent to which a nominalization has verb- or noun-like syntax. Thus when constructions from different languages are discussed, it is of interest to note where such constructions are on the verb-noun syntax scale. This may be a complex matter, for languages can have more than one type of nominalization construction, and constructions of one type may not be at the same place on the scale as constructions of apparently the same type in another language. Thus it may be difficult to make cross-linguistic comparisons with respect to the "nouniness" (to use the term in Ross (1973)) of deverbal constructions. Further, the discussion even with respect to English alone is complicated by the fact that different terms are used by different authors. Below I give a scale of nouniness, based on the Nouniness Squish of Ross (1973:141):⁴

⁴ The main modifications to Ross's scale are 1) the omission of two types, 2) the addition of the type verbal clause (which has no degree of nouniness), and 3) the replacement of the term action nominal by Ing-of.

(4)	<u>name</u>	<u>example</u>
1.	verbal clause	Max gave the letters to Frieda
2.	that	that Max gave the letters to Frieda
3.	Acc-ing	Max giving the letters to Frieda
4.	Poss-ing	Max's giving the letters to Frieda
5.	Ing-of	Max's/the giving of the letters to Frieda
6.	derived nominal	Max's/the gift of the letters to Frieda
7.	noun	spatula

Types 3-5 fall under the general heading gerundive construction.

Constructions at the two ends of the scale will not be of interest to us: if a nominalization construction has the same syntax as the corresponding verbal clause (as happens e.g. in Tamil, v. Comrie 1976), then there will be no objective genitive. (For that matter, English types 2-4 will not be relevant either, since, although they are more noun-like than verbal clauses, they do not take objective genitives either.) At the other end of the spectrum, nouns which have no verbal characteristics, e.g. motorcycle, will not take object-like complements, and again there will be no objective genitive. The Ing-of gerundive construction in English does have an objective genitive, and as we shall see is less restricted with respect to the objective genitive than English derived nominals; this will be claimed to follow from the fact that the Ing-of construction is more verb-like than the derived nominal, and will be related to incorporation. One might say that the Acc-ing and Poss-ing gerundive constructions are not subject to my proposed constraint either, since they do not take objective genitive complements at all; indeed, this could be said to be a defining property of the Poss-ing construction, distinguishing it

from the Ing-of construction. Thus English gerundives in general are not subject to the case-based restriction on the objective genitive, or are subject to a weaker version of it. In Early Latin even derived nominals at least occasionally take accusative complements, indicating that in this language some derived nominals may be more verb-like than the same type of nominal in English.⁵ It may also be possible that some languages with two types of nominalization construction, corresponding to types 5 and 6, do not distinguish between these two types with respect to the objective genitive; this may be the case in German. In such languages two types of nominalizations would be distinguished by their morphology, but would have identical syntax.⁶

I shall give an indication of what type of nominalization is involved in the various examples below, or of how the constructions have been labelled in the source material, if the data do not come from my informant work. One may be thus able to get some idea of how languages differ with regard to the behavior of the "same" form.

3.0.1.2 Prenominal and Postnominal Genitives

Some languages, specifically some Germanic languages, have two possible positions for objective genitive NPs, before the head

⁵ V. Rosén (1981:78, 81-3).

⁶ A point to be noted about the scale of nouniness above is that it uses both syntactic and morphological features: thus the Ing-of nominal is distinguished from the derived nominal by morphology, although they have (to some extent) the same syntax, while the Ing-of and Poss-ing types have the same morphology (-ing), but different syntax.

noun (i.e. in SPEC position) or after it (i.e. in complement position). The two possibilities in English are shown below:

- (5) a. the city's destruction was a disgrace
 b. the destruction of the city was a disgrace

In English, aside from the difference in position, there is a difference in the marking of the genitive: prenominally 's is required, while postnominally of is required. The situation is different in German, where the synthetic genitive is possible both before and after the head noun. When discussing Germanic languages, I shall treat only the postnominal genitive (leaving aside the prenominal genitive). I limit myself to it because the set of restrictions on the objective interpretation of the 's-genitive is at least slightly different than that on the same interpretation of the of-genitive, and one of these restrictions is not directly related to case. For example, although (6a) can have an objective interpretation, (6b) cannot; this is more clearly shown by (6c), where the subjective interpretation is pragmatically implausible, although it is the only grammatical interpretation:

- (6) a. the love of God/money
 b. God's love
 c. money's love

Further examples of the restrictions on the 's-genitive come from Rappoport (1983:133):

- (7) a. *history's knowledge (cf. knowledge of history)
 b. *John's sight by Mary (cf. Mary's sight of John)
 c. *the event's recollection (cf. recollection of the event)
 d. *the problem's perception (cf. perception of the problem)
 e. *the picture's observation (cf. observation of the picture)
 f. *the novel's understanding (cf. understanding of the novel)

She says (*ibid.*) that "whether or not an argument of a derived nominal may bear the POSS function depends on as yet poorly understood thematic restrictions. [M.] Anderson (1979), Rappoport (1980), and Fiengo (1980) have noticed that whether or not an NP may be "preposed" by NP movement in an NP depends on whether the argument in question is "affected" by the action of the predicate." This explains the judgements in (7). Such a restriction is an additional constraint on the objective interpretation of genitive NPs appearing in prenominal position, aside from the case restriction which applies to all NPs interpreted as objective, regardless of position. I shall therefore restrict my attention to the NPs subject to only the putative case restriction, i.e. the postnominal genitives, in order to factor out the affectedness constraint on prenominal position (and I claim that affectedness is not relevant for the class of objective genitives as a whole).

3.1 The Objective Genitive in Some Case Languages

We shall now look at the objective genitive in four "case languages". On the basis of the data presented, it appears that non-accusative objects cannot be translated into objective genitive NPs in

Russian and Serbo-Croatian. The situation in German is different: prescriptively the same restriction holds, but descriptively there are exceptions. Hungarian has two constructions corresponding to the objective genitive, and in neither of them can non-accusative objects be translated into the equivalent of the objective genitive. The facts for Russian, Serbo-Croatian, and Hungarian are as my claim predicts; below I shall attempt to account for the descriptive facts of German, after giving more examples of languages where the restriction on objective genitives does not hold.

3.1.1 The Objective Genitive in Russian

In several papers Babby (1986, 1987) notes that in Russian, nominalized forms related to verbs taking accusative objects assign genitive case to their object complements, while derived nominals associated with verbs assigning lexical case will assign to their objects the same lexical case as the equivalent verbs. Some examples are given in (8)-(10). The forms are called "derived nominals" in Friedin and Babby (1984) and Babby (1987) and "verbal nouns" in Babby (1986).

- (8) a. čitat' knigi
 read books:ACC
- b. čtenie knig
 reading:NOM books:GEN
 '(the) reading of books' (Babby 1987:97)

- (9) a. *torgovat'* *vinom*
 sell wine:INST⁷
- b. *torgovlja* *vinom*
 sale wine:INST
 'the sale of wine' (ibid.)
- (10) a. *Oni* *podražajut* *našim* *metodam*
 they-NOM copy our-DAT methods-DAT
 'they copy our methods'
- b. *Podražanie* *grečeskim* *poètam*
 imitation-NOM Greek-DAT poets-DAT
 'imitating Greek poets' (Friedin and Babby 1984:76)

In the (a) examples we see verbal forms, while associated nominalizations are given in the (b) examples. (8a) contains a transitive verb taking an accusative object, and its nominal equivalent takes an objective genitive, but (9a) and (10a) feature verbs which take an instrumental or dative object. When these latter verbs are translated into nominals, their objects are mapped not onto genitive NPs, but onto NPs bearing the same case as they do.

Zwart (1988:112) gives similar data, as well as an example of nominalization of a verb taking a prepositional object, which is given below:

- (11) *vxodit* *v* *park* -> *vxod* *v* *park*
 to-enter into park(ACC) the-entering into park (ACC)

⁷ This may be more literally translated as 'trade in wine'.

Thus the dative and instrumental cases marking verbal objects behave like prepositions in not being translated into objective genitives; Zwart (ibid.) says, "the NP in oblique Case, supposedly a PP in disguise, behaves exactly like a genuine PP in Nominal Infinitives in Russian".

The situation is more complex than Babby and Zwart indicate. For example, note the following data (from Borrás and Christian 1971:34):

- | | | |
|---------|------------------|------------------------------|
| (12) a. | Все завидуют ему | 'Everyone envies him (dat.)' |
| b. | Зависть к... | 'Envy of...' |
| (13) a. | Не льстите мне | 'Don't flatter me (dat.)' |
| b. | лесть к... | 'Flattery of...' |

In the (a) examples are sentences containing verbs taking dative objects; in the (b) examples, nominals associated with these verbs take not dative objects, but objects governed by the preposition к. Thus sometimes nominals related to verbs which take the dative do not themselves take the dative, but require a preposition. This must be accounted for (v. 3.6), but the examples in (12)-(13) are like those presented earlier in that nominals related to verbs taking non-accusative objects cannot take objective genitives.

3.1.2 The Objective Genitive in Serbo-Croatian

In Serbo-Croatian dative and instrumental objects do not have objective genitive counterparts, as shown in (14)-(15), while accusative objects can be translated into objective genitives, as shown in (16):

- (14) prisustvovanje predavanju/*predavanja
 being present meeting-DAT/-GEN
 'the being present at the meeting'
 (priustvovati 'to be present at' takes dative objects)
- (15) a. obilovanje jabukama/*jabuka
 abounding apples-INSTR/-GEN
 'the abounding in apples'
 (obilovati 'to abound in' takes instrumental objects)
- b. trgovanje jabukama/*jabuka
 trading apples-INSTR/-GEN
 'the trading in apples'
 (trgovati 'to trade in' takes instrumental objects)
- (16) a. kupovanje knjiga
 buying books-GEN
 'the buying of books'
- b. pranje nablja
 washing clothes-GEN
 'the washing of clothes'

Dative and instrumental objects act differently from accusative objects, but pattern with objects of prepositions, which also do not have objective genitive counterparts, as shown in (17):

- (17) a. govorenje *lingvistike/o lingvistici
 talking linguistics-GEN/ concerning linguistics-LOC
 'talking about linguistics'
- b. trčanje *škole/prema školi
 running school-GEN/towards school-LOC
 'running towards the school'

The facts thus appear to be similar to those in Russian. Bibović (1973:6) gives similar data and makes the same generalization, referring to the forms in question as "the verbal noun (ending) in -nje."

3.1.3 The Objective Genitive in German

German allows for a wider range of tests than English with respect to the objective genitive, since there are three genitive type constructions: the "possessor" can be in the genitive case and precede or follow the head noun, or it can be governed by the preposition von and follow the head noun. Further, both the substantivized infinitive and derived nominals can take objective genitives. With respect to the substantivized infinitive, Lees (1966:187) says, "Probably the best correspondence for the Action Nominal is the nominalized infinitive in German". Derived nominals are formed by several suffixes, the most common being -ung.

As noted above, I shall not deal with the prenominal genitive. This leaves us with the postnominal genitive and the von-genitive. These two forms are roughly equivalent; the von-genitive is

preferred when the genitive form of a noun has the same form as other cases. Both forms can be used to mark the objective genitive with nouns related to ordinary accusative-taking transitive verbs, as shown below: (18) has the substantivized infinitive with the postnominal genitive, while in (19) the *von*-genitive is used; the same options with derived nominals are shown in (20) and (21) respectively.

- (18) a. Ihr Kaufen des Stoffes 'her buying of cloth' (Burt 1979:23)
 b. Sein Zerstören der Stadt 'his destroying of the city' (Esau 1973:123)
 c. das Färben des Stoffs 'the dying of the cloth' (Schäublin 1972:42)
- (19) a. das Hinterziehen von Steuern ist strafbar
 'the evading of taxes is punishable' (Schäublin 1972:55)
 b. das Essen von Kartoffeln 'the eating of potatoes'
 c. das Lesen von Büchern 'the reading of books'
- (20) a. Ihr Kauf des Stoffes 'her purchase of cloth' (Burt 1979:23)
 b. die Errichtung des Hauses 'the erection of the house' (Teubert 1979:86)
- (21) a. der Bau von Atomkraftwerken
 'the construction of atomic power stations' (ibid.:99)
 b. Die Verhaftung von Jürgen durch die Polizei
 'the arrest of Jürgen by the police' (Burt 1979:25)

In all instances the intended reading is with the NP bearing genitive case marking or governed by *von* as objective, i.e. as equivalent to the object of the cognate transitive verb. The generalization made by Bhatt (1989:19) is that "the argument which occurs as ACC with

transitive verbs is usually realized as GEN with the transitive noun based on this transitive verb."

At least prescriptively, German has the same restriction on the objective genitive as Russian and Serbo-Croatian. Curme (1905:513) says that "A verbal noun formed from a verb governing a gen. or dat. cannot take an objective gen." Likewise, Verbal nouns made from verbs requiring a prep. object usually retain the same prep. construction". My own informant work indicates that objective genitive translations of non-accusative or prepositional objects in German are often ill-formed, whether they occur with the substantivized infinitive or with a deverbal noun. This is in accord with Bhatt's (1989:22) statement: "As already mentioned for English and Italian, also in German not all arguments of verbs can be represented by GEN-DPs. Some nominalizations need extra prepositions ..., others keep the preposition that has already been selected by the verb. Indirect objects of verbs bearing the Case DAT within VP must be realized by a PP within NPs."

To see this, let us now look at examples containing infinitives of dative verbs, with the genitive realized as a *von*-NP phrase. The judgements shown are for the objective reading of the *von*-phrase; with the subjective reading these phrases are generally well-formed.

- (22) a. *das Applaudieren von John/den Kindern
'the applause of John/the children'

- b. ?/* das Assistieren von John/den Kindern
'the assistance of John/the children'
- c. *das Helfen von (den) Kindern
'the help of (the) children'
- d. *das Telegraphieren von John/den Kindern
'the telegraphing of John/the children'

There is some variation depending on the verb, but it is often true that the subjective reading is possible with genitive complements of infinitives related to dative verbs, while the objective reading is not possible.

In (23) we see derived nominals rather than infinitives, with genitive complements rather than *von*-complements; these phrases are also ill-formed; a prepositional phrase is required to realize the dative verbal object:

- (23) a. *die Hilfe Bertas 'the help of Berta'
(correctly: die Hilfe für Berta) (Teubert 1979:100)
- b. *die Huldigung Bertas 'the homage of Berta'
(correctly: die Huldigung an Berta) (ibid.:101)

Thus nominalization of a dative verb, with both substantivized infinitives and derived nominals, and with both genitive complements and *von*-complements, often leads to ill-formedness.

Note that in such constructions a preposition is required to govern the object of the nominal, i.e. the nominal cannot take a bare dative object. Some relevant data are in (24):

- (24) a. Der Außenminister begegnet dem Staatspräsidenten.
'The foreign minister meets the State President'
- b. die Begegnung des Außenminister mit dem
Staatspräsidenten
'the meeting of the foreign minister with the State
President'
- c. *die Begegnung des Außenministers dem Staatspräsidenten
(Latour 1974:102)
- d. die Begegnung des Außenministers
'the meeting of the foreign minister'
(this can only mean that the foreign minister was the one
who met, not the one who was met) (ibid.:108)

As for genitive objects of verbs, they are also realized as prepositional objects of nominals, rather than as genitive NPs, as Helbig and Buscha (1972:486) say: "Das Genitivobjekt wird durch eine Nominalisierungstransformation zum präpositionalen Attribut" ('The genitive object becomes a prepositional attribute through a nominalization transformation'); they give the following example:

- (25) Sie erinnern sich des Befreiungstages
--> ihre Erinnerung an den Befreiungstag
(They remember the independence day)
--> 'their memory of the independence day')

Interestingly, bare genitive complements are not possible with nominals related to verbs taking genitive objects; as with nominals associated with dative verbs, the object of the nominal must be governed by a preposition, even though of course objects of accusative verbs generally correspond to genitive NPs of the associated nominals. This point is illustrated by the fact that *des Kranken* 'the sick man' in (26) below can only be interpreted as the one who needs, not the one who is needed, according to Latour (1972):⁸

- (26) *das Bedürfnis des Kranken*
 'the need of the sick man'
 (bedürfen 'to need' takes the genitive) (Latour 1972:108)

The requirement for nominalizations of dative and genitive verbs to take prepositional objects (which we have seen to some degree in Russian as well) will be discussed in 3.6.

Let us now compare the behavior of prepositional complements of verbs. In (27)-(29) are some examples of objective genitives replacing prepositional objects of verbs. Again, the judgements are for the objective interpretation of the genitive/*von* complement. First we see the substantivized infinitive related to three prepositional verbs.

⁸ Cf. however Diekhoff (1914:416) who says, "*das Bedürfnis eines Freundes* may mean the need of a friend, or the need of my friend: I feel the need of a friend; the greatest need of my friend is rest." As will be seen below, descriptively German does allow the restriction on objective genitives to be broken; Diekhoff's statement is surprising, considering that it occurs in a grammar "for teachers and students" (ibid.:vi).

- (27) scherzen über 'to make light of'
 a. *das Scherzen Johns
 b. *das Scherzen von John (correctly: das Scherzen über John)
- (28) schimpfen über/auf 'to curse at'
 a. *das Schimpfen Johns
 b. *das Schimpfen von John
 (correctly: das Schimpfen auf/über John)
- (29) denken an 'to think of'
 a. *das Denken Johns
 b. *das Denken von John (correctly: das Denken an John)

In (18) I give parallel constructions with the lexical noun related to denken an; the judgements are the same as for the substantivized infinitive.

- (30) a. *der Gedanke Johns
 b. *der Gedanke von John (correctly: der Gedanke an John)

Thus objects of some dative and genitive verbs act in the same way as objects of prepositional verbs: neither can be translated into objective genitives. On the other hand, normal (i.e. accusative) direct objects generally can have genitive counterparts in the nominalized equivalent of the clause in which they occur. The German facts show that some dative and genitive objects pattern with prepositional objects, supporting the placement of the German dative and genitive cases marking verbal objects with the Ps. Thus both prescriptively, and to some extent descriptively, German, like Russian and Serbo-Croatian, does seem to have a case based restriction on the formation of the objective genitive, and the genitive and dative cases in one

function pattern with prepositions. This restriction applies to two different types of German nominalization, the substantivized infinitive and the derived nominal.

However, there are exceptions to the restriction, as noted by Curme (1905:513): "Throughout the period attempts have been repeatedly made to extend this usage to verbal nouns made from verbs which govern the dative, which practice is quite generally condemned by grammarians". Likewise, Berger and Drosdowski (1985:292) say, "Gelegentlich findet man daß ein Genitivus obiectus gebildet der nicht einem Akkusativobjekt, sondern einem Genitiv-, einem Dativ- oder einem Präpositionalobjekt entspricht. Diese Konstruktion ist nicht korrekt." ('occasionally one finds that an objective genitive is constructed, which corresponds not to an accusative object, but to a genitive, dative, or prepositional object. this construction is not correct'). Some of Curme's examples are given in (31).

- (31) a. Von jener erstaunenswürdigen Entsagung der Krone
 'Of that astounding renunciation of the crown'
 (Schiller 4, 93)
- b. der Dienst Gottes
 'the service of God' (Goethe)
- c. die Beiwohnung des Manövers
 'the attendance of the manoeuvre'

German then does not completely follow the generalization about case and the objective genitive; however, note that Berger and

Drosdowski mention both dative and genitive objects and prepositional objects as violating the restriction; thus, the dative and the genitive are not distinguished from prepositions. We shall find this to be so with other languages in which the restriction on objective genitives does not hold. I shall discuss such languages below.

3.1.4 The Objective Genitive in Hungarian

Hungarian will be interesting with respect to the objective genitive test, because of its two ways of marking possession. Although, as noted in chapter 2, one of these ways is unlike the way possession is indicated in familiar Indo-European languages, both ways are used to mark objects of verbal nouns, i.e. such objects can be in the nominative or in the dative. This is shown in (32):

- (32) a. Janos lelövese helytelen volt
 John(NOM) shooting-3sg bad was
 'The shooting of J. was bad' (J. is being shot, not shooter)
- b. Janos-nak a lelövese helytelen volt
 John-DAT the shooting-3sg bad was
 (same meaning)

Even though Hungarian has different ways of marking the arguments of nominalizations, the same sort of case restrictions are in force as in languages with the more familiar objective genitive, i.e.

semantically case-marked objects of verbs cannot be translated into objective genitive type equivalents, as we see in (33)-(34):⁹

- (33) a. János félelme Péter-től/*-nek/*-Ø
John(NOM) fear-3sg. Peter-ABL/-DAT/-NOM

meglepő volt
surprising was
'John's fear of Peter was surprising'
(fel 'to be afraid of' takes the ablative)

- b. János-nak a félelme Péter-től/*-nek/*-Ø
John-DAT the fear-3sg. Peter-ABL/-DAT/-NOM

meglepő volt
surprising was
(same meaning)

- (34) a. János veszekedése Péter-rel/*-nek/*-Ø
John(NOM) quarrel-3sg. Peter-INSTR/-DAT/-NOM

meglepő volt
surprising was
'John's quarrel with Peter was surprising'
(veszekedik 'to quarrel with' takes the instrumental)

- b. János-nak a veszekedése Péter-rel/*-nek/*-Ø
John-DAT the railing-3sg. Peter-INSTR/-DAT/-NOM

meglepő volt
surprising was
(same meaning)

⁹ Dative objects apparently can remain in the dative in nominalization constructions; it might thus appear that they are being translated into objective genitive type NPs, but this is presumably not the case; they are simply keeping the semantic dative case which they have in the verbal construction.

Unlike in (32), where the objective interpretation is not only permitted, but the only one possible, in these examples the objective reading is impossible for a dative NP; for the NPs in question to have the objective interpretation, they would have to have the same case marking that they would have in a verbal clause. Thus in Hungarian, as in Russian and Serbo-Croatian, the ablative and instrumental cases in their function as markers of verbal objects (functions which have been shown to be Ps by the predicate subject test), are distinguished from the syntactic accusative case. Having examined the objective genitive in several case languages, we shall now look at whether one can posit case based constraints on the objective genitive in English.

3.2 The Objective Genitive in English

The examination of restrictions on the objective genitive in English will be interesting for us in a perhaps unexpected way. Recall that one of my claims is that objects of nouns derived from prepositional verbs cannot be in the genitive case; the same holds true for nouns related to verbs taking objects in semantic cases. English apparently has no adverbial semantic cases, and so would not seem to be relevant for us. However, not all nominalizations can take objective genitives, even leaving aside those derived from verbs with prepositional objects. In other words, there are some restrictions on the objective genitive, and it would not seem that they are related to case, since English is so poor in morphological case, and thus does not appear to have verbs which take dative or genitive objects. However, I shall argue that the restrictions on the objective genitive in English

are also related to case, even though it may not be immediately obvious. This is additional evidence for the idea of underlying cases argued for in section 2.1.

In (35) are examples of derived nominals related to English transitive (accusative) verbs which cannot be construed with objective genitives:¹⁰

- (35) a. His obedience to/*of his parents (T. Hoekstra 1986:553)
 b. John's resemblance to/*of Bill
 c. Iraq's attack on/*of Iran (McCawley 1988:406)
 d. *the assistance of John
 e. *the thanks of John
 f. *the threats of John

According to my generalization about the objective genitive, there is no reason why an objective interpretation should not be possible here, since the related verbs take accusative objects. Note however that some of these nominals are derived from the same verbs whose objects cannot be predicated of, in English, as in German, which led me to posit an underlying dative case borne by these objects. Since these objects are underlyingly in the dative, a semantic case according to my evidence, they are not translatable into objective genitives when verbs taking them are nominalized. Thus the English facts may provide additional evidence for the idea of underlying cases as proposed in section 2.1; I can maintain the generalization on

¹⁰ This happens in German as well, as shown in (i); *lieben* 'to love' and *hassen* 'to hate' take accusative objects:

(i) a. *Hass auf den Tyrannen* 'hatred on (=of) the tyrants'
 b. *Liebe zu einer Frau* 'love toward a woman' (Hoeksema 1992:104)

the objective genitive, and still account for a large number of nominals which do not allow objective interpretations of their complements.¹¹

Note that an account of these restrictions based on affectedness will not work for either the case languages or for English. Consider the following definitions of affectedness:

- (36) 'Affected' is used in an extended sense to mean changed, moved, altered in status, or created. (S. Anderson 1977:15, quoted by Rappoport-Horav and Doron 1990)
- (37) A verb is an affectedness verb iff it describes an event that is measured out by the direct argument of the verb. (Tenny 1987:79)
- (38) y is an affected argument of $v(x,y)$ iff the event-structure of V contains a subevent e such that y , but not x , is an argument in e . (Rappoport-Horav and Doron 1990)

¹¹ There are instances where the predicate subject and objective genitive tests give conflicting results, i.e. where predication is not possible, but an objective genitive reading is. An example is given in (i)

(i) a. *I flattered John drunk (with depictive reading)
 b. Your flattery of John went on to a ridiculous extent.

I shall leave such examples aside, after briefly sketching a possible solution.

At least some of Grimshaw's (1989) tests for distinguishing complex event nominals from result nominals (v. 2.2) indicate that *flattery*, at least in this context, belongs to the former class. For example, it cannot be preceded by the indefinite article (iia), and cannot be put in the plural (iib):

(ii) a. *I heard a flattery of John
 b. *I heard Mary's flatteries of Bill.

It will be shown below that gerundive nominals are freer with respect to the objective genitive than derived nominals. As will be seen, Latin and Greek derived nominals are freer in this way than most English derived nominals. Perhaps even in English there are some derived nominals, specifically, at least some complex event nominals, that are more like gerundive nominals (and thus more verb-like) than other derived nominals, and which allow incorporation (v. *infra*).

Given Anderson's definition of affectedness, there will be many exceptions, e.g. the love of money; one may be loved without being aware of the fact, and so without being affected. Even the definition of Rappoport-Horav and Doron (1990), which covers a wider range of verbs, will not give the correct results, although it may be able to account for restrictions on what can appear in the prenominal genitive position, as shown in (39):

- (39) a. *the cliff's avoidance (Rappoport-Horav and Doron 1990)
 b. the avoidance of the cliff

Avoid is not an affectedness verb, given Rappoport-Horav and Doron's definition, and yet its object can be translated into an objective genitive NP, as in (39b) and (40)

- (40) your avoidance of John is most conspicuous

I therefore reject any analysis of the objective genitive based on affectedness, and maintain that the underlying case of an NP is the relevant factor in determining whether it can have an objective genitive counterpart.¹²

¹² At this point I shall mention an interesting application of the objective genitive test to another "non-case language", Spanish. In chapter 2 I argued that the preposition *a*, when indicating direct objects, was not a P, but a K. Additional evidence for the non-P status of this *a* is the fact that with Spanish nominalizations, NPs headed by direct object *a* are translated into the prepositional objective genitive, i.e. *a*, like the syntactic accusative of some other languages, is not retained. This is shown in (i).

- (i) a. Y destruye al hombre 'Y destroys the man' (Falk 1968:20)
 b. la destrucción del hombre ... 'the destruction of the man' (ibid.:19)

As discussed above, English has two nominalization constructions in which objective of-genitive NPs can appear, the Ing-of construction and the derived noun; we have only examined the latter so far. The Ing-of construction may allow some objective genitives which derived nominals based on the same verb do not allow, as shown in (41)-(43):¹³

- (41) a. OK/?/?? John's obeying of Bill
 b. */*/- John's obeying to Bill
 c. */??/* John's obedience of Bill
 d. OK/*/*OK John's obedience to Bill
- (42) a. OK/?/? John's helping of Bill
 b. */*/- John's helping for Bill¹⁴
- (43) a. OK/?/* John's attacking of Bill

Note that while *of* is allowed to head the complements of these gerundives, the preposition which must appear with the derived nominal may not occur here, as shown by (41b) and (42b). Thus Ing-

In general, Spanish obeys the restriction on the translation of prepositional phrases in objective genitive attributives to "Abstract Noun nominalizations", as indicated by Falk (1968:137): "When the Verb in question requires a specific Preposition, it is that Preposition which occurs in the derived string." She gives the following example:

- (ii) a. Ellos confían en el director
 b. Su confianza en el director causó sorpresa. (ibid.:137-8)

Thus the predicate subject test and the objective genitive test give consistent results with regard to the status of a.

¹³ At least some of these phrases were presented to the informants in a full sentence context, and that context was different with different informants and examples; it is unclear whether this affected the judgements. Leslie deFreitas pointed out to me that (42a) can have a manner reading as well as the intended "action" interpretation, which may affect the judgements. I am unable to explain the fact that one informant found (41d) well-formed, and better than (41c).

¹⁴ Note also the example in (i)

- (i) ... that euery man shuld trauaille for helpyng of his brotheryn
 (c. 1500; Visser 1972:1202)

of nominals may have more freedom with respect to the objective genitive than do derived nouns. However, the judgements are not clear, and there are the following complicating factors:

1) Not all gerundive nominalizations of verbs which (I claim) take underlying Ps allow objective genitives. As has just been seen, judgments vary with *helping*, *attacking*, and *obeying*. Other gerundives may be more widely found to be ill-formed with genitive objects, e.g. those derived from "non-action" verbs (the term used by Lees 1966:66) , as shown below:¹⁵

- (44) a. *His resembling of his mother
 b. *His having of a hat
 c. *His believing of it (Lees 1966:66)

2) The first objects of double object constructions cannot be translated into objective genitives:¹⁶

- (45) a. *Jim's giving of Mary the book interrupted Harry.
 b. *The renting of the men the house interrupted Harry
 (Fraser 1970:92)

¹⁵ Even with these gerundive nominals, the judgements are not universal. For example, one informant found (i) to be between questionable and good.

(i) John's resembling of Bill

Note also the following:

(ii) And for his sake I wish the having of it
 (Shakespeare *Pericles*, quoted in Visser 1972:1213)

¹⁶ Again, this is not an exceptionless generalization:

(i) The giving of words figurate meanings is founded on the concomitancy of properties.

(Powell, *American Anthropologist* 1900, cited in Jespersen 1940:100)

Such examples are "very rare" according to Jespersen (*ibid.*).

- (46) a. His teaching of mathematics to John (angered us).
 b. His teaching of John (angered us).
 c. *His teaching of John mathematics (angered us).
 (Fraser 1970:98)

3) Ing-of nominals cannot have objective genitive NPs as equivalents of verb clause prepositional phrases; Hoeksema (1992:90) states, "In English nominalizations, accusative case is never inherited, but prepositional marking is". In (47) are some of his examples; I give additional illustrative data in (48):¹⁷

- (47) a. talk about us her talking about us
 b. looking for Pete our looking for Pete

- (48) a. *Mary's going of London
 b. *Mary's investing of silver
 c. *Mary's laughing of Sue

Nevertheless, the gerundive nominal seems less restricted than the derived nominal. I discuss this fact below in 3.5.

3.3 The Latin, Greek, and Icelandic Objective Genitives

So far we have seen that in some case languages, non-accusative objects of verbs cannot be translated into objective

¹⁷ I have found one instance from Middle English where an objective of-genitive has apparently replaced a prepositional phrase, assuming that 'to long' took a complement headed by the preposition *for*, as it does in Modern English:

(i) Charite is, þe longyng of loue (1303: Visser 1972:1212)

This may reflect the possibility that at some point, English was like Latin and Greek in not having a restriction on the objective genitive; v. *infra* and example (57).

genitive complements of nominals. I have presented some counter-examples from German to this generalization and we shall now see more counter-examples, which indicate that my restriction on the objective genitive, and the objective genitive test, cannot be applied to all languages. However, the restriction does hold for some languages, and where it does not hold, it may not be that there is a different split among cases and adpositions with respect to the objective genitive; rather there may be no split, with NPs bearing semantic cases and prepositional phrases both being translatable into objective genitives.

Latin seems to be full of counter-examples to the restriction. In fact, objective genitives of "dative" and "prepositional" nouns occur often enough that they cannot be regarded as exceptional constructions, as indicated by Mountford (1938:169): "The objective genitive is very common in Latin and often depends upon a noun whose verbal cognate takes not the accusative, but the dative or ablative, or some prepositional construction. It therefore represents many English phrases besides those containing the preposition 'of'."¹⁸ Below are some of Mountford's examples:

- (49) a. *doloris remedium* 'a remedy against pain'
(cf. *dolori mederi*)

¹⁸ Cf. however Pinkster (1990:92) who, after showing that dative, genitive, and ablative verbal objects can be translated into objective genitives, states, "the general statement made above, viz. that on the noun phrase level the genitive is the regular case form for those constituents which would be arguments in a similar construction on the sentence level, does not fully apply to constituents which on the sentence level would be arguments marked by a preposition".

- b. Pyrrhi regis bellum 'the war with/against King Pyrrhus
(cf. cum Pyrrho bellum gerere)
- c. legum oboedientia 'submission to law' (cf. legibus oboedire)
- d. deorum opinio 'an impression about the gods'
(cf. de dis aliquid opinari)

Along the same lines, Binkert (1970:217) states that "any Latin noun can take a genitive object".

In Greek as well, the objective genitive can be used for complements of nominal cognates of dative verbs, as shown in the following examples from Smyth (1956:319):

- (50) a. η των Ελλήνων ευνοια
the the(GEN.PL) Greek-GEN.PL good-will
'good-will toward the Greeks' (cf. ευνοει τοις Ελλησι 'he/she is well-disposed towards the Greeks(DAT))
- b. η των καλων συνουσια
the the(GEN.PL) good-GEN.PL intercourse
'intercourse with the good' (cf. συνεισι τοις καλοις 'they have dealings with the good(DAT)')

Smyth says further that "various prepositions are used in translating the objective genitive", which one can take to mean that this construction is used to indicate notions that are not typically expressed by the accusative direct object in English (or in other languages). Among his examples are the following:

- (51) a. ο θεων πολεμος
the.NOM gods.GEN PL war.NOM
'war with the gods'

- b. θεων ευξαι
 gods.GEN PL prayers.NOM
 'prayers to the gods'
- c. αδικηματον οργη
 injustice.GEN PL anger.NOM
 'anger at injustice'

Such problematic objective genitives can also be found in Sanskrit and Avestan according to Petersen (1925:132-3).

There is at least one living language which seems to have a similar freedom in interpretation of adnominal genitives, Icelandic. This is shown by the following example from Yip et al. (1987:235):

- (52) a. Pétur kennir þroskaheftum börnum
 'P. teaches handicapped children(DAT)'
- b. kennsla þroskaheftra barna
 'teaching handicapped children(GEN)'

Further examples come from Gustavs (1979:66); these examples, given below, have the object of the nominal preceded by the preposition *á*, which "hat ... die Function einer analytischen Genitivform" ('has the function of an analytic genitive form') (ibid.), like the German preposition *von*.

- (53) a. Maðurinn spillur umhverfi sínu (Dat.)
 'Der Mensch schädigt seine Umwelt.'
 'Man harms his environment'

- b. spilling mannsins á umhverfi sínu
'die Schädigung der (seiner) Umwelt durch den Menschen'
'the harm to his environment by man'
- (54) a. Ungir neyta eiturfjafa (Gen.)
'Jugendliche genießen Rauschgifte.'
'Young people take drugs'
- b. neyfa ungra á eiturfjum
'der Genuß von Rauschgiften durch Jugendliche'
'the taking of drugs by young people'

It might appear that such examples seriously damage any universal claims about the objective genitive, and thus eliminate the possibility of this construction being used as a criterion for distinguishing syntactic and semantic cases. Let us see whether there is any way to save it. Notice that in Latin, deverbal nouns based not only on verbs taking a semantic case, but also on prepositional verbs, can take an objective genitive. Thus there appear to be no restrictions on objective genitives in Latin. On the other hand, in (prescriptive) German there are restrictions, namely that neither nouns derived from prepositional verbs, nor those derived from verbs taking a dative object, can have an objective genitive. Therefore, if there are restrictions, NP objects bearing semantic cases and prepositional objects are both barred from being mapped to genitive NPs in corresponding nominal constructions. There need not be any restrictions on objective genitives in a language, but if one type of object is involved, so is the other. We would then not expect to find a language where prepositional objects cannot correspond to objective genitives, but dative (ablative, etc.) objects can, or vice

versa.¹⁹ That is, we would expect that nominalizations of Icelandic prepositional verbs could have genitive complements corresponding to the prepositional objects of those verbs. Of course we would then still want to know why some languages have no or fewer restrictions on the objective genitive. I return to this problem below.

3.4 The subjective genitive

So far in my discussion of which cases are translatable into objective genitives, I have only mentioned one syntactic case, the accusative, claiming that while it is regularly convertible into a genitive object of nominalizations, the semantic cases, including the dative, are not. I have not spoken of another syntactic case, the nominative, for it is rarely used to mark objects. Thus my claim about the ability of NPs bearing syntactic cases being able to be translated into objective genitives applies to only one case, the accusative. Note however that one could make a similar claim about the nominative case and another kind of adnominal genitive, namely

¹⁹ As shown above, English gerundive nominals appear to violate this statement; this will be dealt with in 3.5. Polynesian languages provide another set of exceptions. In Samoan, direct objects of verbs receive "Possessor Marking" (Chung's (1978) term) when they are translated into arguments of nominalized verbs. The unexpected fact is that this non-obligatorily occurs if the verb is a "middle verb", which takes a prepositional object; I take these middle verbs to be equivalent to verbs in other languages which take dative, genitive, etc. objects. However, non-subject/non-object NPs cannot receive Possessor Marking. These facts are illustrated in (i).

- (i) a. l-o-na va'ai o/i le teine
 the-of-him see of/to the girl
 'his seeing of the girl' (Chung 1978:307)
 b. *l-o latou omai o Samoa
 the-of them come=pl of Samoa
 'their coming to Samoa' (ibid.:308)

I shall leave these problematic data aside for further research.

that only nominative clausal subjects can be equivalent to subjective genitives of nominalizations. This claim may be more difficult to test, for verbs taking non-nominative subjects may be rarer than those taking non-accusative objects. One language with non-nominative subjects is Icelandic, but examination of this language might not be very informative; it has considerable freedom with respect to the objective genitive, and the same might hold for the subjective genitive; as Yip et al. (1987:234) say, "lexical case is indeed lost (or never assigned) during nominalization in Icelandic." In other words, if Icelandic is one of those languages which does not distinguish between syntactic and semantic case with respect to the objective genitive, it might also not make such a distinction between them with respect to the subjective genitive. Thus for testing a similar generalization about the subjective genitive, we would want a language which has non-nominative subjects, and which does make a distinction between Ks and Ps with respect to the objective genitive.

Some evidence for such a generalization may come from experiencer subject constructions. In Bhojpuri, in which some experiencer subjects bear oblique marking, these subjects "cannot undergo nominalization which the regular subject does with a genitive case marker" (Verma 1990:97). Verma (ibid.:98) gives the following evidence for this; note that a nominative subject (55a) can be translated into a subjective genitive, while an oblique subject (55b) cannot:

(55) a. **ham** iyaad kainii --> [**hamaar** iyaad kail] jaruuruu baa
 'I (NOM) remember' 'My remembering it is crucial'

b. **hamraa** iyaad baa --> *[**hamaar** iyaad ??] jaruuruu baa
 'I (OBL) remember' ??

It may be, then, that the subjective genitive is subject to restrictions similar to those on the objective genitive. If this is so, then we have evidence for the semantic case status of the dative and other cases marking experiencer subjects; this is consistent with the results of the predicate subject test as applied to the Japanese experiencer subject in the previous chapter.

3.5 Accounts for Restrictions on the Objective Genitive

3.5.1 Previous Accounts

If it is indeed true that in some languages only syntactically case marked complements of verbs can be translated into objective genitives with nominalizations, one may wonder why this is so. One answer suggests itself from a functional point of view: if the objective genitive is used to correspond to objects of Ps (which include semantically case marked objects according to my hypothesis), then there may be some loss of information, i.e. if various Ps can be replaced by the same marker, that of the genitive, then the differences among them will be lost, and may not be recoverable from context. Thus if both allative and ablative phrases have objective genitive counterparts, then the two phrases he walked to the house and he walked from the house could have the

same nominalized equivalent, the walk of the house. Such ambiguity is apparently sanctioned in Latin and Greek, but not in English and German.

Babby (1986:214-5) proposes a more formal account. The adnominal genitive (which includes the objective genitive) is a configurational case, while cases such as the dative assigned to the object of to help in German would be lexical cases. In Babby's hierarchy of case assignment, lexical case precedes configurational case. Therefore such lexical cases are assigned to the objects of certain verbs and the nominals derived from them; since these NPs already have a case, they could not then get the configurational genitive case, which is assigned only to NPs not already bearing a case.

Translating Babby's account into a more standard framework, we may say that Ps (including semantic case markers), as they have lexical meaning, are present at D-Structure, while Ks are assigned at S-Structure, the particular K depending on the structural position of NPs: nominative case is assigned to [NP, S] position, accusative to [NP, VP], and genitive to [NP, NP]. Objects of prepositional, dative, and ablative nominalizations do not bear genitive case as they are contained inside PPs, the heads of which assign an (abstract) case to them. It still would not be clear, however, why Greek, Latin, etc. allow objective genitives with such nominalizations.

Another account comes from Grimshaw (1989), who discusses the possibility that "Nouns are defective theta markers, and not just defective case markers" (ibid.:3:43); "only Prepositions which are theta transmitters will combine with Nouns to take arguments" (ibid.) and hence "the Prepositions that appear in these NPs are always semantically based" and "arguments are realized in a semantically transparent fashion inside NP":

- (56) a. They ordered the troops to leave
 b. Their orders to/*of the troops to fire. (ibid.)

The (surface) accusative object of a verb may bear one of several θ -roles, e.g. theme, or goal, as in (56a). In contrast, it cannot happen in nominal clauses that themes and goals (or arguments bearing other theta roles) have the same realization: goals must be governed by *to*, rather than *of*, thus being distinguished from themes. Rappaport (1983:127) makes the same observation: "Postnominal NP [in a nominal clause] always appear as the object of a preposition which expresses its thematic role."

3.5.2 The Incorporation Account

I have just sketched a θ -role based account of the restrictions on objective genitives. However, I shall propose a case-based account which can explain the differences between Greek/Latin and English/Russian. Recall the claim made in chapter 2 that verbs such as *to help* in English involve P incorporation: at one time *to help*

occurred with or assigned an overt dative case to its object, as it does in German and other languages. At some point in the history of English, it became possible for the dative marker, which is a P, to be incorporated into *to help* and other verbs. On the surface, it appeared that the object of *to help* was now accusative. However, this NP was still inside a PP (the head of which was the trace of the incorporated P), and c-command of secondary predicates was impossible. A difference between German and English might be that P-to-V incorporation occurs in a greater extent in the latter than in the former, since e.g. *helfen* must occur with a surface dative in German, while in English *to help* takes a surface accusative object.

However, although Ps may be incorporated into verbs in English, they may not be incorporated into nouns (with the exception of gerundive nominals and at least some complex event nominals).²⁰ Thus arguments of derived nominals must appear with their original (underlying) case marking. Since Ps (including semantic cases) are lexical heads, they carry a certain lexical meaning. Included in the class of such meanings are the semantic concepts which we call θ -roles; in fact, the meanings of certain Ps correspond to certain θ -roles, although there is not a one-to-one correspondence. The dative

²⁰ Abney (1987:142) states, "In general, it is not possible to incorporate into nouns, but only into verbs". According to Abney, this prohibition includes gerundive nominals, even though claiming that "-ing nominals exceptionally permit incorporation" (ibid.:162) would account for "why particles are good with -ing nominals, but not with other derived nominals" (ibid.:161).

Possible evidence for the ill-formedness of P to N incorporation is the absence of dative shift with nouns, as shown in (i)

(i) a. John gave Bill a book
b. *The gift of Bill of a book

V. Baker (1988a) for dative shift and incorporation.

indicates recipients and goals. When one says that inside NPs arguments are realized in a "semantically transparent fashion", this is because the elements bearing the lexical meanings in question cannot be incorporated into the head N.²¹

The accusative case is not a P, and so incorporation does not come into play. When a verb which takes an accusative object is nominalized, the object of the nominalized form receives genitive case marking (under which heading I now include the preposition *of*), which is the structural case assigned to NPs in [NP,NP] position. Latin, Greek, and Icelandic differ from English in that they allow P incorporation into nominals (including non-argument-taking nominals), thus whatever case is lexically assigned by the verbal equivalent of some nominal is still assigned by that nominal, but it is incorporated into the nominal, and so does not appear overtly. What appears overtly is again the genitive case marking which is the case assigned to NPs which are complements of Ns.

Note that if some Ps can incorporate into nominals, we might expect all non-adjunct Ps to be able to do so, thus explaining why languages which allow dative objects to be translated into objective genitives allow the same for prepositional objects. On the other hand, we would expect incorporation into nominalized verbs, like

²¹ German and English may differ in the following way: English restricts P incorporation into derived nominals, while German freely allows such incorporation, but not if it is "independent"; i.e. German only allows Ps to incorporate into derived nominals if there is P incorporation into the corresponding verb, e.g. *beraten* 'to advise', *Beratung* 'advice'.

incorporation into verbs, to obey the Head Movement Constraint. Therefore, Ps heading adjunct phrases should never be able to be translated into objective genitives, even in those languages such as Latin which allow this for Ps in general. Again, it may be somewhat unclear whether this is so, given the uncertainty about the distinction between adjuncts and arguments, but the examples given in 3.3 of translation of non-accusative elements into objective genitive NPs all plausibly involve NPs in complement positions (although they may not be arguments when non-argument-taking nominals are involved); thus the HMC appears to be obeyed by these "unusual" instances of the objective genitive. This is consistent with the analysis of these constructions as involving incorporation.

One can thus account for the restriction of objective genitives to NPs equivalent to accusative objects in some languages, and for those languages which do not have this restriction. It is intriguing that those languages such as English, which I argue have extensive incorporation of Ps into Vs, do not permit P-incorporation into Ns, while languages such as Latin, which have a lesser degree of P-incorporation into Vs, permit such incorporation into Ns. Note also that at one time English apparently did sanction the incorporation of Ps into Ns, as shown by the following:

- (57) Evander sendis his son . . in help of Eneas (cited in the Oxford English Dictionary from 1513: Douglas, Æneas VIII. ix heading)

(57) contains a derived nominal; I have shown above that in contemporary English gerundive nominals seem less restricted with respect to the objective genitive than derived nominals, in that they permit underlying Ps to be realized as objective genitive phrases, unlike derived nominals. However, overt prepositional phrases cannot be realized as objective genitives. This can be accounted for in the following way: gerundive nominals are like verbs in allowing incorporation; thus the P which is realized overtly as for with the derived nominal help can be incorporated into both the verb to help and the gerundive nominal helping. Thus, if a P is incorporated into a verb, it can be incorporated into the corresponding gerundive nominal (indeed it must be, as shown by the ill-formedness of *John's obeying to Bill, *John's helping for Bill, just as it must be incorporated into the verbs: *John helped for Bill). However, although incorporation into verbs is possible, it does not always occur, and when a P is not incorporated into a verb (this being a lexical matter), it cannot be incorporated into the gerundive nominal either. The gerundive nominal has the same "valence" as the corresponding verb, while derived nominals have a different valence, because they cannot be incorporated into in English.

3.5.3 Incorporated vs. Null Ps

In the discussion of incorporation in chapter 2 I distinguished between two types of non-overt Ps: those which have been incorporated (e.g. the dative P governing the object of to help) and those which are realized as null Ps (e.g. the temporal P governing

Tuesday in I bought a vase (on) Tuesday or the NOM possessor in Hungarian which alternates with the dative which marks possessors. Given that null Ps must be posited (an incorporation analysis cannot be applied to them, since there is no category that they can be incorporated into without the ECP being violated), one may ask whether we need to posit incorporation: why can't all non-overt Ps be null Ps? One point in favor of the incorporation analysis is that incorporated Ps are overt in some instances, e.g. the be- of German be-verbs; the simplest analysis seems to be that these prefixes are indeed incorporated elements.

Another piece of evidence for incorporation is the fact that what I am claiming to be null Ps and what I am claiming to be incorporated Ps act differently in nominalization constructions, namely, null Ps can remain null, while incorporated Ps have to be overtly realized; this is true at least in English:

- (58) a. Incorporated P:
Mary helped John --> Mary's help for/*of John

Null P:
Harold arrived (on) Tuesday morning -->
I'm looking forward to Harold's arrival (on) Tuesday morning

Thus nominalization data provide more support for positing the incorporation of some Ps and for the distinction between the two types of non-overt Ps.

3.6 Accounting for Inconsistencies in Inheritance

I have not yet dealt with the question of how to account for the fact that German dative and genitive objects not only are not translatable into objective genitive NPs, but cannot even keep their own semantic cases when they are complements in nominalization constructions; they must be preceded by a preposition. As noted, this also happens in Russian to some extent. Some of the relevant German data are repeated below:

- (59) a. Der Außenminister begegnet dem Staatspräsidenten.
'The foreign minister meets the State President (DAT)'
- b. die Begegnung des Außenministers mit dem
Staatspräsidenten
'the meeting of the foreign minister with the State
President'
- c. *die Begegnung des Außenministers dem Staatspräsidenten
'the meeting of the foreign minister the State
President(DAT)' (Latour 1974:102)

In other languages, semantically case marked objects of deverbal nouns are possible. We have seen that this happens in Hungarian (although there may be exceptions); it also happens to a limited extent in Latin and Greek.²² Note that Latin and Greek are thus more

²² Greenough et al. (1981:229) say, "A few verbal nouns ... rarely take the dative like the corresponding verbs"; below are two of their examples:

(i) a. insidiae consuli (Sall. Cat. 32) 'the plot against the consul' (cf. insidior).
b. obtemperatio legibus (Legg. i. 42) 'obedience to the laws' (cf. obtempero).

The rarity of this phenomenon is indicated by the following quote from Pinkster (1990:92): "Generally speaking, we find that with nouns of this type, which require one or more Attributes, the case form of the governed word is

free than prescriptive German in two respects: they can take the objective genitive with nominalizations of verbs which take P complements, and some such nominalizations can take dative objects.

With regard to the preposition involved in this type of construction, Comrie and Thomson (1985:389) say: "there seems to be no general rule for predicting which prepositional phrase [occurs with a given nominal], though the preposition is usually one that makes the relation of object to action nominal more explicit semantically". Informally, what seems to be happening is that in German, as in some other languages, greater precision in the nominalization construction than in the verbal clause is required in indicating the semantic role of complements. In German, such a degree of precision is required that a semantic case marker does not suffice, but a preposition must appear.

The point that is disturbing is this: one of the central claims of this thesis is that there is no syntactic difference between semantic cases and (most) adpositions: the former happen to be affixes and the latter separate words, but this is a morphological difference.

always, or can always be, the genitive, irrespective of the case form(s) which mark the arguments of the Predicate on the sentence level".

As for Greek, Smyth (1956:346) states, "The dative after substantives is chiefly used when the substantive expresses the act denoted by the kindred verb requiring the dative". Among his examples is (ii):

(ii) επιβουλη εμοι 'a plot against me' (Xenophon, *Anabasis*)

(επιβουλευω 'to plot against' takes the dative)

In (iii) is an example, also from Smyth (*ibid.*), of a noun related to a dative verb; in this example there is a subjective genitive and a dative object.

(iii) η του θεου δοσις υμιν 'the god's gift to you' (Plato, *Apology*)

(διδωμι 'to give' takes a dative goal argument).

Syntactically speaking, they are both part of the same category, P. If this is so, then there should be no syntactic processes that distinguish between them: there may be processes that make distinctions within the class of Ps, but these should presumably not be along the semantic case/adposition line. Yet, German seems to show a split along this line: in phrases headed by deverbal (or other) nouns, semantic cases marking objects are not possible, while many, if not all, prepositions can occur; indeed prepositions replace semantic cases (i.e. the dative and genitive), as we have seen.

Note, however, that some semantic cases can occur in NPs even if the dative and genitive marking objects cannot; the possessive genitive is certainly possible in NPs; another genitive function which can occur in NPs is the partive genitive (e.g. die Hälfte des Buches 'the half of the book' Helbig and Buscha 1981:523). This may give a first indication that the split is not semantic case/preposition, but something else. Case markers in some, but not all, functions can occur in NPs, like most or all prepositions. The distinction is not between cases and prepositions, but between the dative and genitive which mark objects and other semantic cases and prepositions. The question then is what is the distinction, i.e. what distinguishes the genitive and dative of the object from other Ps?

Recall the distinction made by the predicative test in section 2.2: although no syntactic cases could mark predicatives (except under agreement), there were some semantic cases which could not mark predicatives either. The extent of this class (of semantic cases

which could not mark predicatives) varies, depending on whether one accepts the hypotheses of Rothstein and of Tremblay, but among the cases least tractable to their claims are the dative and genitive marking objects. I claimed that the reason why these (and perhaps other case functions) could not mark predicatives was because they could not (independently) assign a θ -role to a complement: thus the distinction was between those Ps which could not assign a θ -role (which are nevertheless Ps/semantic cases) and those which could.

Let us imagine that the same factor, the inability to assign a θ -role, is responsible here as well. This is plausible since the same Ps which could not mark predicatives also cannot be marked on NPs within NPs, while at least some genitives which can be borne by predicatives (at least in older German) can also be borne by NPs inside NPs.²³

To explain why dative and genitive objects can occur in VPs but not in NPs, we must discuss the ability of various categories to assign θ -roles. There is not a clear consensus on whether nouns can

²³ Of course the subject argument and object argument genitives can occur in NPs, but not as predicative phrases; They are Ks, not Ps, and they do not assign a θ -role, but they do not need to assign a θ -role in those NPs in which they occur. I assume that the *of* which marks object arguments of nominals in English does not assign a θ -role and does not have any semantic significance, contra Rappoport (1983) and Grimshaw (1989); it may appear to mark themes/patients, but this is only because theme/patient NPs are the only NPs which are not governed by a P (underlyingly or on the surface), thus these are the only NPs which can be translated into objective genitive *of*-phrases.

assign θ -roles, the same holds for adpositions;²⁴ of course, verbs can assign θ -roles. I would argue that in general, derived nominals can indeed assign θ -roles to their complements, just like Vs. Thus in a nominalization such as Jim's examination of Bill, examination assigns a θ -role to Bill. Nouns in general then are not defective θ -markers.²⁵ As for Ps, as argued in the previous chapter, some of them can assign θ -roles while others cannot. Now, while most derived nominals can independently assign θ -roles to their complements, there are some derived nominals which cannot (along with many underived nouns such as car, which cannot assign θ -roles to complements, with or without the help of a preposition). The set of derived nominals which cannot assign theta roles to their objects in German consists of those nominals related to dative, genitive, or prepositional verbs. In fact, it may be argued that in the verbal domain, these roots can only assign θ -roles by virtue of being incorporated into a light verb, e.g. to help is created by the incorporation of the noun help into a light verb meaning 'give' (this idea derives from Anderson 1971:142-3). Thus these roots are defective in some way; they need help in assigning θ -roles in both the verbal and the nominal domain: in the verbal

²⁴ For example, with regard to nouns, Chomsky (1986a:93) and Culicover (1988:47) hold that they do assign theta roles while, as mentioned above, Grimshaw (1989) suggests that nouns "are defective theta markers" and Clark (1990:50) states that "nominal complements are not assigned a θ -role directly by the head N", and "Alternatively, one might suppose that assignment of a thematic role by a noun ... does not occur in the syntax, but, rather, takes place at LF". As for prepositions, again according to Culicover (1988:47), they assign θ -roles and according to Clark (1990) they are "not capable of independent θ -role assignment". Napoli (1989:57) says, "the object of P may or may not receive a theta role and, if it it does, that theta role may or may not be assigned by the P alone".

²⁵ Nouns may be different from verbs with respect to θ -marking, in that they only optionally assign θ -roles, but they are not as a class defective θ -markers.

domain they must be incorporated into a verb such as 'give' (which accounts for why they, like 'to give' take a dative object); in the nominal domain they need help from a P in θ -role assignment. However, that P must itself be able to assign a θ -role or take part in such assignment: the dative P will suffice in the verbal domain, because *geben* 'to give' is able to assign a theta role, but when they are not incorporated, i.e. in the nominal domain, the dative P will not do, a θ -assigning P such as *für*, *an* etc., is required.

Other dative and genitive Ps, such as the genitive of quality, can appear in any NP, since they assign a θ -role independently; they do not require a θ -assigning noun to appear in a NP. Compare this to the dative object P: it can't independently assign a θ -role, nor can the nominalization it occurs with, thus no θ -role is assigned and the θ -criterion is violated. (If a dative P occurs with a nominalization of an accusative verb, then the θ -criterion may not be violated, but there will be semantic incongruity, c.f. the English **the examination to Bill*.)

This then accounts for why nominalizations of dative and genitive verbs, such as *Hilfe*, require a preposition, not the dative/genitive P, and why the objective genitive can occur in nominalization constructions (it doesn't assign a θ -role, but nominals it occurs with can assign a θ -role).

Given this account, how does one then explain those languages such as Hungarian and Latin, where nominals can take objects in the dative and other semantic cases? There are two possibilities: 1)

nominals derived from dative, genitive etc. verbs in these languages can independently assign θ -roles; 2) the dative, etc. object Ps can assign θ -roles. The first possibility would have to be true, at least in Greek and Latin (the second possibility, or both possibilities, may be true in other languages such as the idiolects of Turkish where the dative marking objects can occur on predicative phrases.): since in these languages, the non- θ -assigning objective genitive can occur with nominalizations of dative and genitive verbs, these nominals must be able to assign θ -roles independently, unlike the equivalent nominals in German. Thus from the point of θ -role assignment, it doesn't matter whether a Latin nominal takes an objective genitive complement, or a dative complement (or even an accusative complement, as occasionally happens: such constructions may be ruled out in general for case or other reasons). Thus the difference between Latin/Greek and German is that nominals related to dative and genitive verbs can assign θ -roles in the former, but not the latter languages; if dative and genitive objects cannot appear predicatively in Latin and Greek, then in none of these languages can the dative and genitive object Ps assign a θ -role.

It is not clear to me whether the Russian facts can be accounted for in exactly the same way as the German facts, given that the requirement that dative case markers in the verb phrase be replaced by prepositions in the noun phrase is not as general as it is in German. If we maintain that the difference between those nominals which can take dative objects and those which cannot is due to the ability to assign θ -roles, then I see two possibilities: 1) those

nominals which can take dative objects are more verb-like than those which cannot, and so, like their verbal equivalents (and unlike more nouny nominalizations), and like the dative verbs, can assign θ -roles. (In contrast, in German neither derived nominals nor substantivized infinitives can take dative objects, so both the German nominalization types are more nouny than some Russian nominals)

2) those nominals which cannot take dative objects are lexically marked as not being able to assign θ -roles; the difference between German and Russian would be that in the former language no nominals related to dative verbs can assign θ -roles and hence take dative objects while in Russian it is only a marked set of nominals which cannot do this. I leave for further research the analysis of the Russian inconsistencies in inheritance.

The account of the thorny problem of "the lack of correspondence between the verbal and action nominal object" (Comrie and Thomson 1985:389) which has been presented is consistent with the data from the previous chapter on predicatives, and it accounts for intra- and inter-linguistic differences in the form of objects in nominalization constructions. However one accounts for this problem, the point to be borne in mind is that whether dative and genitive objects retain their case, or must be replaced by an adposition, these objects act like adpositional objects and unlike (many) accusative objects in that they cannot be translated into objective genitive NPs in nominalization constructions.

3.7 Conclusion on the Objective Genitive

The objective genitive has provided us with one more way of determining the classification of cases such as the dative (in its function of marking objects) which are not obviously semantic or syntactic cases. The dative, genitive, and instrumental often behave like adpositions and not like the syntactic accusative, in preventing translation of NPs into the objective genitive. Thus we have more evidence for setting up a category P which includes semantic cases and adpositions. We have also seen evidence from English supporting the existence of underlying cases, which correlates with evidence from predication.

CHAPTER 4

Ks AS BINARY FEATURE VALUES

In this chapter I shall make a speculative proposal about the nature of syntactic cases (Ks) and discuss two properties of syntactic cases and semantic cases which are accounted for by this proposal. In the first part of this chapter, I shall suggest that the information content of Ks, and conceivably other functional categories, consists of nothing more than a set of values for a small number of binary features, possibly only one binary feature. Although the validity of this proposal is not crucial to the arguments of the rest of the thesis, it may shed some light on the nature of functional elements, and on the differences between lexical type meaning and grammatical type meaning. The properties of syntactic and semantic cases that I shall examine in later parts of this chapter are compatible with the Binary Feature Hypothesis.

The tests involving predication and the objective genitive yield a small set of syntactic cases. In 4.2 I shall argue that semantic cases are an open class, while syntactic cases make up an closed class. Therefore, the class of cases as a whole is an open class, which means that this category differs from other functional categories, which are closed. It will be argued that the class of adpositions is also a open class, and so this category is also not like functional categories. These

problems can be resolved by realigning the categories case and adposition, as has been suggested in this thesis: the category P, containing semantic cases and (most) adpositions is an open class which contains lexical elements, while the category K, containing only the syntactic cases, is closed: indeed if the tests in chapters 2 and 3 are to be taken as evidence, then K is not only a closed class, but a small class, consisting of at most five members (but v. note 8 on a possible sixth syntactic case).

The second property that I shall discuss in this chapter is the ability to iterate. It will be shown that typical semantic cases can iterate, while typical syntactic cases cannot. Thus iteration can be used as a test for distinguishing syntactic and semantic cases, like the tests in chapters 2 and 3. Adpositions also can iterate; once again then, adpositions pattern with semantic cases, adding more weight to the argument for the realignment of categories.

4.1 Cases (and Other Functional Categories) as Binary Feature Matrices

I would like to put forth the idea that syntactic cases (the only true Ks in my view) are simply values for one or perhaps several binary features. That is, syntactic cases carry no more information or meaning than can be conveyed by values for one or more binary features. I shall call this the Binary Feature Hypothesis (BFH). One might extend the BFH to all functional categories; in fact, it may be a defining characteristic of them. The strong version of this proposal is

that the heads of functional categories contain a single binary feature value; let us name this the Strong Binary Feature Hypothesis (SBFH). A weaker version of the binary feature hypothesis would claim that Ks (and other functional heads) contain only binary features, but can contain more than one of them; we can call it the Weak Binary Feature Hypothesis (WBFH). In (1) and (2) are formal statements of these hypotheses.

- (1) Strong Binary Feature Hypothesis (SBFH)
If XP is a functional category, then X must exhaustively dominate a matrix containing a value for exactly one binary feature.
- (2) Weak Binary Feature Hypothesis (WBFH)
If XP is a functional category, then X must exhaustively dominate a matrix of values for n (or fewer) binary features (the value of n is to be determined).

Thus the difference between syntactic cases and semantic cases (and between lexical and functional categories) would be that the "meanings" of the former can be fully described in a matrix of a limited number of binary feature values. This is a tentative proposal, and as noted above, it is not crucial to the other major claims of this thesis; however, it can account for two of the distinguishing properties of syntactic cases (making up a closed class and inability to iterate, v. sections 4.1 and 4.2), and is compatible with the expansion of the list of functional categories which has been a part of recent syntactic theory (v. *infra*). In this section I shall briefly

examine the viability of the BFH, particularly the SBFH, and particularly with regard to Ks.

The BFH has considerable implications for the grammar, in particular for phrase structure. If the SBFH is to be upheld, the list of functional categories will have to be expanded from those in Abney (1985, 1986) and Fukui and Speas (1986), along the lines of Pollock (1989), otherwise I assume that the content of INFL (e.g. information on tense and aspect) would not be statable in terms of a single binary feature.¹ I shall first discuss the BFH with respect to Ks (4.1.1), and then with respect to other functional categories (4.1.2).

4.1.1 Ks as Binary Feature Matrices

The idea of using binary features to describe cases is not new. Jakobson (1958) used three features, marginality, directionality, and quantification, in his discussion of the Russian case system. However, the system of features which I shall argue for is different from that of Jakobson. Of course, distinctive features have been applied for some time in phonological representations. Binary feature values are very small units of information, and should thus be appealing in a theory in which one strives for the greatest possible degree of simplicity.

¹ Although Pollock and others use an expanded set of categories, this does not at all imply that they would endorse the BFH. Further, their reasons for positing an expanded set of functional categories are different from mine.

The BFH applied to cases states that the content of a K node can be completely expressed by a binary feature matrix, containing a single feature according to the SBFH. The SBFH is preferable to the WBFH for the following reason: it could be asserted that, given enough features, the content of any lexical item could be described; thus the WBFH does not indicate a substantial difference between lexical and functional elements. If it is assumed that the grammar cannot count, then it would not be valid to draw a distinction between lexical and functional elements claiming that the content of members of the latter class can be fully described by no more than three features, while the content of lexical elements is analyzable into any number of features. The WBFH does not indicate that functional elements are fundamentally different from lexical elements. On the other hand, the SBFH does indicate such a difference: the difference between the two types of categories is a difference of one vs. any number of binary features (if indeed the content of lexical items can be fully conveyed by binary features). Therefore, I shall attempt to maintain the SBFH.

However, the predication and objective genitive tests have indicated that there may be as many as four or five syntactic cases (depending on the language). In nominative-accusative languages these would be: nominative (of the subject), accusative (of the direct object), subjective and objective genitives, and the dative (or instrumental) case marking causees.² There is immediately a

² I leave aside the question of how to deal with the accusative case which marks causees in some languages, e.g. German.

problem for the SBFH, since one binary feature will not be sufficient to distinguish more than two elements. The nominative and accusative can be distinguished by using the feature [\pm subject].³ ⁴ The question then is how to deal with the genitives and the dative (or instrumental) marking causees.

For dealing with the syntactic genitive functions one could propose that there is more than one domain or tier for case assignment, as in Yip et al. (1987). On the S tier, [+subject] results in nominative case marking, while [-subject] yields the accusative. On the NP tier, both feature values end up as a surface genitive in a language such as Latin. On the NP tier in English, [+subject] is realized by the prenominal genitive, 's, and [-subject] by the postnominal genitive, marked by *of*.⁵ ⁶

³ I use the feature [\pm subject] here, since it seems to apply to the difference between the nominative and accusative cases, but no importance should be attached to the choice of name of the feature, although if we take subject in a wide sense, as applying to anything in SPEC position of a projection, it may be the appropriate feature for the NP domain as well (v. infra). Alternatively one could use the feature [\pm SPEC]. By using the feature [\pm subject] I do not mean to make any claims about which value is marked; one could also use [\pm object].

⁴ I am here not assuming an analysis such as that of Johnson (1991) in which objects, like subjects, are in a specifier position. Under this analysis, subjects would not be distinguished from objects by being in SPEC position. To apply a BFH-type proposal in such a framework, I would say that K simply marks subjecthood (in the sense of being in a SPEC position); the different surface variants of K are a consequence of the category of the XP immediately dominating the SPEC position, e.g. IP (= nominative), VP (= accusative). K no longer dominates a feature matrix; its presence itself indicates subjecthood. I leave the further working out of this proposal for further research.

⁵ This would create a somewhat different concept of the notions subjective and objective genitive. According to the traditional terminology, whether a genitive NP is classified as subjective or objective depends on whether it represents the agent or the patient (the thematic roles in question will vary with different verbs, e.g. perception verbs) of a verbal noun (or a noun with verbal force), while in the discussion here, the notions subjective and objective genitive depend on the structural position of the NP, just as the notions subject and object of a sentence depend not on semantic factors but on

According to this view, the underlying feature value for [\pm subject] is realized as a surface nominative or accusative, or 's-genitive or of-genitive, depending on the surface environment in which it appears. To make an analogy with phonology and morphology, one could say that the nominative and the 's-genitive are "allocases" of the underlying [+subject] case, and are in complementary distribution. Thus on the underlying case plane, which is the plane I am interested in, since as we have seen it is this plane which is relevant for predication, there are only two cases: K [+subject] and K [-subject]. In this way we can preserve the SBFH even for languages which have the four surface syntactic cases nominative, accusative, subjective genitive, and objective genitive.

Thus there is only one binary feature in K nodes, but its concrete realization is determined by the tier or domain in which it occurs. The information in K indicates just one thing, the structural position of an NP with respect to the head of the phrase in which it appears. The value [+subject] indicates that an NP appears in specifier position, while [-subject] indicates that it is in complement position. In some languages the difference between [+subject] and

structural position. A patient NP in the SPEC position of a verbal noun would be seen not as an objective genitive, but perhaps as the subjective genitive of a passive deverbal noun.

⁶ I am here only referring to elements in the SPEC and complement position of nominalizations; elements in SPEC of concrete nouns, acting in e.g. a possessor function would be in the subject position with respect to the head N, but the 's marking that they bore would be not a K but a P. Likewise, non-objective genitives of various sorts in complement position would not be objects, but PP complements, and the of marking that they bore again would be a P, not a K. Strictly speaking the elements in question would not be in SPEC or complement position, but would be dominated by PPs which were in these positions.

[-subject] may be neutralized in the NP domain: there will not be a parallel to the 's-genitive/of-genitive distinction in English. In some languages, e.g. Tamil (as described in Comrie (1976b:180-1), the NP domain and the S domain will not differ in the surface realization of the feature [+subject]; thus nominative will be the case marked on NPs in SPEC of IP position and on NPs which occur in "subject" position of deverbal nouns.

The dative of transitive causees is more difficult to deal with; I shall outline two proposals concerning it. The "paradigm case" with respect to case marking in causative structures is as follows, according to Comrie (1976a): if the embedded verb is intransitive, its subject is accusative, but if this verb is transitive, then it is the object which bears accusative case, while its subject is marked dative. Thus the case marking of arguments of embedded verbs in causative constructions follows an ergative type pattern in many languages, with intransitive subjects bearing the same case marking as objects, but these constructions with an ergative case marking pattern are contained in matrix clauses which follow a nominative-accusative pattern. The dative marking of transitive causees is the ergative case of some nominative-accusative languages. The nominative/accusative distinction can be described by a single binary feature in nominative-accusative languages, i.e. [+subject]; likewise I assume that a single binary feature will suffice in ergative languages to distinguish between the ergative and absolutive cases, let us call it [+erg], but when both types of case marking exist in the same sentence, one binary distinction may not suffice. The dative may be

seen as the realization of the value [+erg] in a larger nominative-accusative context. A similar analysis can be applied to the instrumental causees of Hungarian.

Alternatively, one may note that, in some languages, in a certain domain (yet to be defined), only one nominative and accusative case can be assigned, i.e., as discussed by Comrie (1976a), "doubling" is not permitted. Thus, even though a transitive causee is in SPEC position, it cannot receive the nominative surface marking given to NPs having the [+subject] feature in the S tier (nor can it receive accusative case, as this case is also assigned elsewhere in this domain) and so must receive some other marking, namely dative case (or instrumental case in Hungarian).

It may not be surprising that the dative or instrumental of causees is difficult to fit into the SBFH, as these cases may be problematic for other approaches to case theory; I quote from Baker (1988a:192):

... let us consider in more detail the special rule for Case-marking the causee in these languages. The invocation of such a rule is perhaps the least appealing and least principled aspect of the VI [=Verb Incorporation] account of morphological causatives. Nevertheless, the evidence confirms that the process involved has exactly this nature. The rule is odd in that it introduces Case which is neither structural nor purely inherent ... In fact the causee acts like [sic] it is neither structurally nor inherently Case-marked.

The difficulty of integrating the case marking of causees into the SBFH may then not in itself be grounds for rejecting this account of case. Ideally, of course, the dative/instrumental of causees can be accounted for under the SBFH, perhaps along the lines suggested above.^{7 8}

4.1.2 Other Functional Categories as Binary Feature Matrices

Let us see how the SBFH applies to other functional categories. The definite and indefinite articles are typical determiners, and they would consist of the features [+definite] and [-definite] respectively. However, they are not the only elements which can be dominated by the node D. Other determiners are more problematic for the SBFH. *This* and *that* can be distinguished from each other by one binary feature ([+proximate]), but they must also be distinguished from the articles. Further, some languages have more than 2 demonstratives,

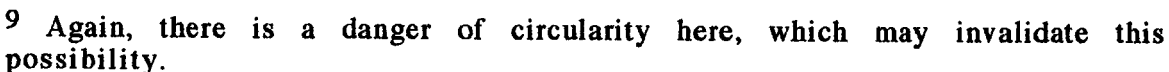
⁷ If the proposals made above for treating the syntactic genitive functions and the dative/instrumental of causees are not accepted, and if the SBFH is therefore rejected, the WBFH can be maintained: Ks dominate a matrix of no more than *n* binary feature values, while Ps, like other lexical categories are not restricted in the number of binary features necessary to sum up their content. As noted above, the SBFH is to be preferred and maintained if possible.

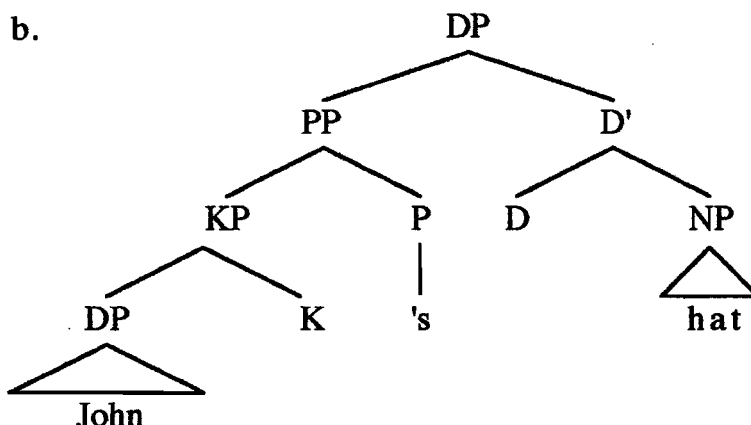
⁸ One case I have not discussed is the accusative case assigned to objects of adpositions in e.g. English. This case cannot be tested by the tests brought up in this thesis (for example, the predicate subject test can not be applied to it, because predication would be blocked by the governing P, even if the accusative case itself permitted predication). However, I assume that it is a syntactic case, bringing the total number of possible syntactic cases to six; in terms of the SBFH it would be the marker indicating the [-subject] value in the PP tier. However, we can unify this accusative with the accusative assigned to objects of verbs: the syntactic accusative is the marker of [-subject] in the [-N] domain. I claim that all Ps, including semantic case markers, assign a syntactic accusative case if they take an NP complement, as shown in (34) in chapter 2. Often this case when assigned by semantic cases does not show up overtly, but the secondary simple cases to be described later in this chapter may be examples of its surface realization.

e.g. Turkish, which has three of them, indicating different degrees of proximity. In such cases more than one feature would be required just to distinguish the demonstratives. Several approaches can be taken here; I shall only briefly mention them. First, it may be that the SFBH holds for case, but not for other functional categories, although their content is still describable in a certain number of binary features. This is not a desirable option; ideally functional categories should be uniform in containing the same number of features and the SBFH should apply uniformly across functional categories. Second, perhaps determiners are PF realizations of several underlying functional categories, i.e. underlyingly there are several functors, e.g. Definite Phrase, Proximity Phrase, with one raising to another to produce a single surface word. The problem with this is that it could lead to circularity; the SBFH would be difficult to disprove if surface functors can always be reduced to separate underlying categories. Therefore, this alternative is to be avoided, unless evidence can be found for such categories as the Proximity Phrase. Finally, one may claim that demonstratives are not functors (and therefore are not Ds), but rather that the information they convey is of a different kind, i.e. it is lexical, and so they do not fall under the SBFH.

What is needed is a series of tests for demonstratives and determiners with the same goal as the tests I have proposed to classify cases. It may turn out that demonstratives contain both the binary feature of determiners and some lexical type information, in which case one may assert that they represent a surface combination

(3)





When 's is a K, as in (3a), it will be the head of the KP whose semantic head is *John*. The KP *John's* is in the specifier position of the DP of which *destruction* is the semantic head; since the KP *John's* is in this position, the case marker heading this KP must be dominated by the SPEC of DP position, and so cannot be dominated by D. When 's is a P, as in (3b), it will occupy the same position, but will head a PP and govern a KP.¹⁰

INFL presents similar problems for the SBFH. It is commonly held that INFL contains the feature [\pm tense] and sometimes AGR(eement), but I assume that this is not all it contains; it should also bear information about mood, aspect, and not only whether a clause is [$+$ tense], but which tense it is in if it is [$+$ tense]. There has been a trend in recent years toward the positing of separate

¹⁰ Abney (1987) has a similar structure for NPs containing prenominal genitive phrases; however, he does not distinguish between subjective/objective genitives and possessive genitives in terms of category: 's is always a K. (Abney (1987:84) proposes that such phrases originate in complement position and move to SPEC position.) In both Abney's and my structures the D position is apparently not filled; Abney (1987:82-3) brings up two possible accounts for this.

constituents for several of these parts of INFL, e.g. in Pollock (1989); v. also Rivero's (1990) evidence for a Voice Phrase and Tenney (1987), who discusses the idea of AsP [Aspect Phrase], although without passing judgement on it. Thus an increase in the number of category types, which as noted above would be necessary to preserve the SBFH, has already been proposed. If such categories do exist, then their contents may also be fully describable by single binary feature values, e.g. Tense being equivalent to [\pm past], Aspect to [\pm completed], and Mood perhaps to [\pm realis]. In many languages there would be movement of some categories to the positions of others. Again, we would want more evidence of the existence of such categories, and implications for the grammar (e.g. for government) could be widespread.

Finally, COMP may be reducible to [\pm wh], although perhaps subordination must be indicated by a feature as well. A further problem is that some elements in COMP may have some lexical type meaning; perhaps COMP must also be broken down into several categories.¹¹ I leave such questions for future research; for now, I shall deal with issues related to the conception of cases as matrices of values for one (or more) binary feature(s).

¹¹ Note that differences such as that between what and who will not be problematic for the SFBH since these elements are dominated not by C, but are in the SPEC of CP node.

4.1.3 Conclusion on Binary Features

In this section I have presented the hypothesis that the content of Ks, and perhaps of all functional categories, consists of values for a small number of binary feature values, and under the strong version of the hypothesis, a value for only a single feature. I have suggested a way of maintaining the SBFH even if there are as many as five Ks in some languages, as the evidence of previous chapters indicates, and I have discussed the application of the SBFH to other functional categories such as D and INFL. The validity of the BFH is not crucial for the other claims made in this thesis; however, the data in the next two sections are compatible with, and explainable by, the BFH, and thus lend support to it.

4.2 Open and Closed Classes

4.2.0 Introduction to Open and Closed Classes

Based on the tests in chapters 2 and 3 one can argue that the only syntactic cases (in nominative-accusative languages) are the nominative of the subject, the accusative of the direct object, the dative or instrumental marking causees, and the subjective and objective genitives. The set of syntactic cases then has a small number of members, especially when compared with the categories N, V, and A. In this section I shall give evidence that the set of semantic cases is an open class, as is the set of adpositions. This leads to a contradiction in functor theory: Abney (1986:4) and Fukui and Speas (1986:133) state that functors make up closed classes.

Therefore we would expect both adpositions and cases to be closed classes if they are functional categories, as is claimed to a limited extent by Abney (1985:4) for adpositions,¹² and by Lamontagne and Travis (1986) for cases. I shall examine the question of whether prepositions and cases really are closed classes; if they are not, as I argue, then either being a closed class is not a proper criterion for distinguishing functional and lexical categories, or cases and adpositions should not be classed as functors. However, to group cases as a class with the lexical categories would be wrong, since some cases, namely the nominative and accusative, seem to be canonical functors, given the fact that their content is grammatical in nature. This indicates that some realignment of categories is called for, specifically one classifying semantic cases with adpositions, creating the open lexical class P, while the syntactic cases make up the functional class K, which is closed, like other functional categories. This discussion of closed and open classes does not represent a test or criterion as do the issues dealt with in other parts of this thesis, but it does show a way in which syntactic case differs from semantic case and brings up a problem which can be solved by the reclassification which I am arguing for.

¹² Abney, as noted previously, does not seem committed to the position that all adpositions are functors, as shown by his (1985:11) and (1987:63) remarks; in fact, he (1987:63) and (1987:353) gives P the feature [-F] (=functional) in a table of categories.

4.2.1 The Notions Open Class and Closed Class

The notion of closed and open classes of linguistic items exists outside of and before GB Theory. In fact, Dionysius Thrax was apparently aware of this distinction; as Robins (1970:151) writes, "Though he did not make it explicit, Thrax distinguished open word classes, whose membership he could only instance, and closed word classes, of which he listed the members exhaustively. The two closed classes in Thrax's classification are the article ($\alpha\theta\rho\omicron\nu$) and the preposition."

I shall give two descriptions of the notions closed class and open class. Robins (1980:174) states,

Word classes may be **open** or **closed** in membership; all languages have open classes, and some of them have closed classes as well. An open class is one whose membership is in principle unlimited, varying from time to time and between one speaker and another. Most loan words and newly created words go into open classes. Closed classes contain a fixed and usually small number of member words, which are the same for all the speakers of the language, or the dialect, and which do not add or lose members without a structural alteration in the grammar of the language as a whole."

Emonds' (1985:159-60) description is:

The only possible open categories are major lexical categories N, A, and V. An open category has the following two properties:

Only open categories have indefinitely many members in the dictionary of a language -- several hundred at least. Closed categories have twenty to thirty members at most.

Conscious coining of new lexical entries is allowed only in the open categories.

All the categories of syntax which are not open are called closed categories. They include the grammatical head-of-phrase category P, the SP(X), etc."

Unfortunately, few, if any, of the linguists who use the terms closed class and open class give formal definitions for them, so it is difficult to determine whether some classes are open or closed. Is a closed class a class that cannot be added to at all, or a class with a fixed number of possible members? A given language having fewer than the maximum could add some elements to that class, but once all the potential members of the set actually existed in the language, no more could be added. Some authors point out that there may be some middle ground between the closed and open classes. Crystal (1985:214) states that "The distinction is not as clear-cut as it seems, as the class of prepositions in English, for example, is relatively open (e.g. in accordance with, on account of, and many more), and within the so-called open classes of words there are several closed sub-systems, e.g. auxiliary verbs."

One might adopt the following informal definitions: an open class is a set which can always accept new members, while a closed class is a set which has a maximum potential number of members; it can be added to, but only up to a certain point, until it reaches its maximum possible number of members. It would be incorrect to equate an open set with an infinite set, since no lexical class in any language is infinite, e.g. there is always a finite set of nouns in

English at a given time; it can always be enlarged, but it will never be infinite. There will still be problems in determining whether a class is open or closed, since one cannot always know, just because one can keep adding members to it, whether a set is open, or whether it is merely very large, its limit not having been reached. However, although I cannot formally prove that the categories case and adposition are open classes, I shall attempt to at least cast doubt on the assumption that they are closed classes.

4.2.2 Is the Category Case Open or Closed?

One can make a good case for the open-endedness of the category case, even though it is not one of the "major lexical categories". This may go against the intuitions of some, for if one is familiar only with Indo-European or Semitic languages, one is used to seeing languages with only a few cases, e.g. the four cases of German, while Sanskrit's eight cases would be seen as a large number. There are some languages, notably in the Uralic and Caucasian families, with considerably higher numbers of cases. Mel'čuk (1986:70) mentions several languages with more than 20 cases including Hungarian (21 cases), Bats (22), Dargwa (27), Lak (42), and Tabassaran (46). According to him there is an "astonishing variety of cases 2" (ibid.). Hjelmslev (1935) cites even higher numbers of cases for Lak and Tabassaran, 48 and 52 cases respectively, the latter representing the empirical maximum number of cases in a language "à l'état actuel de nos connaissances" ('in the current state of our knowledge') (1935:138). This does not represent proof of openness,

as I have merely shown that the set of cases can contain more than the "20 to 30 members" which Emonds says is the maximum for closed classes. More interesting than the empirical maximum is the potential or theoretical maximum.

In Hjelmslev's system, the theoretical maximum number of cases is far higher than the empirical maximum represented by Tabassaran. He says (1935:137), "Puisque le système comporte 3 dimensions possibles, et que chacune de ces dimensions peut comporter 6 termes, le maximum théorique du système casuel est $6^3 = 216$." ("Since the system includes three dimensions, and since each of these dimensions can include six terms, the theoretical maximum of the case system is $6^3 = 216$.) What is more, Bíly and Pettersson (1982:570) claim that the theoretical maximum number of cases of Hjelmslev's system is far more than he had said, as it allows for at least 729 cases. They say, "Not even Hjelmslev was courageous enough to be consistent in his description." ¹³

However, even if such figures are accurate, they still do not constitute proof of the openness of the category case. In fact they are counter-evidence, for an open class cannot have any theoretical maximum number of members, even a very high one. Although it is difficult or impossible to furnish absolute proof of the openness of the set of cases (just as it is difficult to produce proof that nouns are an open class), if one shows that the class of cases can contain a great

¹³ Mel'čuk (1986:70-1) states that "it is obviously impossible to establish a theoretical maximum [number of cases]".

variety of members (as opposed to merely a large number of members), one may be able to give an indication of openness.

Mel'čuk demonstrates this great variety by giving an "illustrative inventory of cases". He lists 10 syntactic cases (nominative, subjective, accusative, pathetive, dative, instrumental, genitive, partitive, oblique; there may be no single language which has all of these), but the large number of possible cases comes out in his scheme of local cases (which are a subclass of semantic cases). He lists eight "localizations", naming them as below:

- (4) 1) within the object: In-
 2) on/over its upper surface (outside): Super-
 3) on/under its lower surface (outside): Sub-
 4) on its lateral surface (outside): Ad-
 5) behind it: Post-
 6) in front of it: Ante-
 7) near it: Apud-
 8) between two (or among many) objects: Inter-
 (Mel'čuk 1986:72-3)

He also lists five kinds of motion, given below:

- (5) 1) rest ('being there'): -essive
 2) traveling to: -lative
 3) traveling out of/from: -elative
 4) traveling through: -prolative
 5) traveling towards: -directive (Mel'čuk 1986:73)

The localization markers are combined with the markers indicating kind of motion, yielding 40 possible local cases. I list a few of them below, as described by Mel'čuk (1986:74-5)

- (6) Inessive: 'being within...'
 Improlative: 'traveling through...'
 Superlative: 'traveling onto...'
 Interdirective: 'traveling towards a point between/among...'

Mel'čuk's further remarks strengthen the argument for the openness of the category case; I quote at length (1986:74):

this is by no means a maximal scheme of all possible local cases
 2. More distinctions can be made and **are actually made in various languages**. Thus there can be cases distinguishing 'being on a vertical surface' vs. 'being on an inclined surface', 'being [somewhere] in contact' vs. 'being [somewhere] with no contact', 'being on an inner surface' vs. 'being on an outer surface', etc.; there can be more localizations (e.g. 'being around' = Circum-), and more types of movement (e.g. 'traveling up to' = terminative). ... **wild as some of the quoted cases 2 may seem, they do actually occur**". [emphasis mine, ARL]

This of course does not mean that new cases can be created, but given the large number of distinctions which are marked by cases in some languages, one may infer that the number of notions which could be conveyed by case markers is very large (infinite, I would claim), and thus that there is always room for the creation of new case markers, should the need be felt. (Apparently the need is rarely felt, but that does not weaken the force of the argument).

If those were not enough local cases, Hjelmslev's description of the Tabassaran case system shows still more possibilities. For example, this language has a postcomitative case, which means "étant derrière, et ensemble avec" ('being behind, and together with') (Hjelmslev 1935:153). Although it would not appear that this case would see much use, it can occur in sentences such as *či_čiči-q^cri qušur* 'the sister went with the brother' (ibid.), "les femmes allant d'ordinaire derrière les hommes" ('the women ordinarily going behind the men'), Hjelmslev (ibid.) says. Tabassaran also has an intercomitative, supracomitative, and two adcomitatives.

Finally, Mel'čuk (1986:75) mentions some non-local semantic cases, given below with his translations:

- (7) Comitative: '(together) with', 'accompanied by'
 Privative: 'without'
 Causal 'because of'
 Motivative: 'for the sake of'
 Distributive: 'n [= a number] X ... each'
 Comparative: 'compared to' [= 'than']
 Discussive: '[speaking] about', 'as for'
 Modal/Equative: 'as ...', 'in its capacity of'
 Temporal: 'in the time of'
 Pretemporal: 'before'
 Posttemporal: 'after'
 Protemporal: 'during'
 Vocative: marks the direct address (normally, to a person).

Although, as has been noted, it may not be possible to definitively prove that the set of cases is an open class, in this section we have seen some evidence for regarding it as such, namely the

variety of cases that do occur and could occur in human language. In the next section we shall inquire into the openness of another category, the adposition.¹⁴

4.2.3 Is the Category Adposition Open or Closed?

There may be a general tendency to regard adpositions as a closed class. This would follow from the functional status which Abney at one point (1985:4) gives them. Southworth and Daswani (1974) take prepositions to be a closed class, as does Ulrich (1975:100). However, it is not so clear that they do make up a closed class.¹⁵ Note the statement of Curme (1931-35:II:562), "we are constantly forming new prepositions for fuller and more convenient expression of our thought". Further evidence is provided by the paper "On the Open-Endedness of the Form-Class 'Preposition'" by Vestergaard (1973). Most, if not all, of the new prepositions discussed by these authors are compound prepositions, and Robins (1980) acknowledges that this set, which he calls prepositional phrases, is open, but he does not consider them to be prepositions (he defines them as "word groups substitutable for prepositions").

¹⁴ One might mention Johannes Aavik, who is said to have made up two additional cases for Estonian. These new cases, unlike some of Aavik's other language reforms, have not received popular or official sanction. Unfortunately it may well be that Aavik's relative case can not really be considered a case, and that his agentive case should not be seen as a new case. Thus Aavik's creations can not be used as evidence of the openness of the class of cases; nevertheless I maintain the possibility of the creation of new cases. This should be impossible if case is a closed class. V. Saagpakk 1982 for more on Aavik's "cases".

¹⁵ Robins (1980:175) includes prepositions about the closed class categories but says that what he calls prepositional phrases (his example is "in the neighborhood of") make up an open class.

The question is then whether compound prepositions, which do seem to be an open class, should be classified as prepositions.

To evaluate the matter, let us first look at some of the prepositions mentioned by Curme. His list of English prepositions (including both simple and compound prepositions) covers several pages; I shall reproduce only a part of it, to give an idea of its extent:¹⁶

(8)	abaft	antecedent to
	aboard, on board of, or simply	anterior to
	on board	apart from
	about	apropos of
	above	around
	abreast of, abreast with	as against (=against)
	according to	as between (=between)
	across	as compared with
	adown (poetic for down)	as distinct (or
	afore (now replaced by before)	distinguished) from
	after	as far as
	against (in older English also again)	as far back as
	agreeably to	as for
		(Curme:ibid.)

If compound prepositions can be shown to act syntactically like simple constituents, then we may have grounds for regarding them as true prepositions, and we shall then have indeed a large class of adpositions, which would appear to be open.

¹⁶ Note that Curme lists "the most common" prepositions.

Many compound prepositions are made up of the sequence simple preposition + noun + simple preposition. This pattern is followed by such common items as on account of, on behalf of, in regard to. Note that these phrases are frozen in the sense that no material can be inserted into them, e.g. *on sincere behalf of. This would seem to argue for their status as atomic syntactic units. Note also that behalf has quite limited possibilities for occurrence elsewhere; one can say on my/your/her behalf, etc., but the word occurs in no other environments: *the behalf, *a behalf.

Further, some of these compound prepositions cannot be broken up. Phrases such as thanks to and north of can perhaps be extracted from (?What is this thanks to?, What country is Canada north of?), but pied-piping is of dubious grammaticality (?To what is this thanks?, *?Of what country is Canada north?). This may vary depending on the extent to which the compound prepositions have been lexicalized, but one may see all of them as being somewhere on the way to the status of atomic words, a process which has been completed in words such as aboard and atop.¹⁷ These latter differ from the other phrases in being single words superficially, but since the others act to varying extents syntactically as atomic constituents, one should perhaps accord them the same status as simple prepositions.¹⁸ The claim is then that the superficial status of items

¹⁷ For the etymology of these two words v. the Oxford English Dictionary, and note the existence of the obsolete preposition a. The etymology of aboard is not as straightforward as that of atop, but both may be the result of the process in question.

¹⁸ One may question the atomic status of on behalf of, given the well-formedness of phrases such as on my behalf, as pointed out by Lisa Travis. This

as separate words is irrelevant for some syntactic phenomena, which is one of the central claims of the thesis in general, since I am asserting that some case markers and adpositions should be treated as members of the same category without regard to their status as independent words. Even if most of the compound prepositions in Curme's list are to be considered syntactically simple prepositions, the fact that any of them do act as atomic units is evidence for the openness of the class of adpositions.

Curme's (1905) discussion of the creation of prepositions in German adds further weight to the argument that adpositions are an open class, and the adpositions he cites may be less controversial, as they are not compound. Sometimes "it is difficult to tell whether the word in question is a real prep. [sic], for it is also used at the same time in another function" (1905:467), but other times it is clearer, since the preposition, although previously having had another function, loses that earlier function and bears only a prepositional function. Curme's remarks here are similar to those quoted above on English prepositions: "new prepositions are constantly being formed" (*ibid.*). Thus even if one does not accept English compound prepositions as true adpositions, there is evidence for the openness of this class. Funk (1973:103), speaking of improper prepositions (those which do not form compounds with verbs) in Hellenistic Greek says that they "form an ever expanding and thus unstable class"

preposition may not have completed the process of becoming atomic, and so allows such constructions. It may be that there are few compound prepositions that are fully atomic.

(although this is not true of the proper prepositions). Note finally the remark of Godel (1955:34), who, although he would not agree with my classification, states that in a language with cases, these cases "forment une série limitée" ('form a limited series'), while the set of prepositions "n'est pas fermée et peut s'accroître à tout moment" ('is not closed and can grow at any time') [emphasis mine - ARL].

4.2.4 Implications of the Openness of the Classes Adposition and Case

If we want to maintain the claim that functors are closed class items, and if we recognize that adpositions and cases are open classes, there is a contradiction, if we assert that these categories are functional. This dilemma can be resolved by the realignment proposed in this thesis. Ps are not functors and they are an open class: most of the prepositions of English and most of the cases of Dargwa, Lezgian, etc. are Ps. As can be seen from Mel'čuk's discussion, it is not difficult to conceive of new members of this category. On the other hand, the set of syntactic cases (= Ks) is not only closed but small.

If Ks and other functors are indeed closed classes, one may ask why this is so. With regard to this question, recall the claim of the BFH that the content of functors may be reduced to one or perhaps several binary features. If this is so, then it is clear why each functional category is a closed class, for there cannot be more than a few different members for each class. If the total content of a K node

is a value for the feature [\pm subject], then the only possible members of the set of Ks are K [+subject] and K [-subject] (with various "allocases" perhaps being possible, v. supra). If it takes two or three features to describe the content of a functor, then there will still be only four or eight possible different members of each category. I claim that the closedness of the functional classes is due then to the sort of information that their members convey; by their nature they can only carry limited amounts and types of information, and thus there is only a small set of possible members of each such class.

In this section we have seen evidence that the classes case and preposition are not closed, as has been supposed by some, but are open and therefore atypical of functional classes, which they have been claimed to be. This anomaly can be resolved by realigning these classes into a lexical (and open) class P, and a functional (and closed) class K. The set of syntactic cases, as defined by the predication and objective genitive tests, is a closed and small class, and its closedness is accounted for by the BFH view of Ks; if true cases can consist only of values for a small number of binary features, then there must be a small and closed set of possible different cases. We now turn to another property of Ks which can be accounted for by the BFH, the inability to iterate.

4.3 Iteration

The possibility of iteration has been raised by Fukui and Speas (1986) as another feature distinguishing lexical and functional

categories.¹⁹ In this section we shall see the problem arising from the application of this criterion to the categories case and adposition, as they are currently conceived of, and we shall see how syntactic and semantic cases differ with regard to iteration. It will be shown that semantic cases, like adpositions, are iterable, unlike syntactic cases. The inability to iterate will be linked with the claim that Ks contain nothing more than binary feature values.

4.3.0 Introduction to Iteration

Consider the following data (from Fukui and Speas 1986:131):

- (9) a. the very very old man
- b. Mary's big red book
- c. Susan never could have been eating cabbage

- (10) a. *the the old man
- b. *Yesterday's Chomsky's book
- c. *It Mary ate a bagel
- d. *the John's cat
- e. *What who did buy?

Fukui and Speas state that "These data show that there are some types of "specifiers" which may iterate and others which may not." That is, there is only one specifier position permitted to functional categories, while there is no restriction to the number of specifiers which a lexical category can have. Thus the reason why the examples

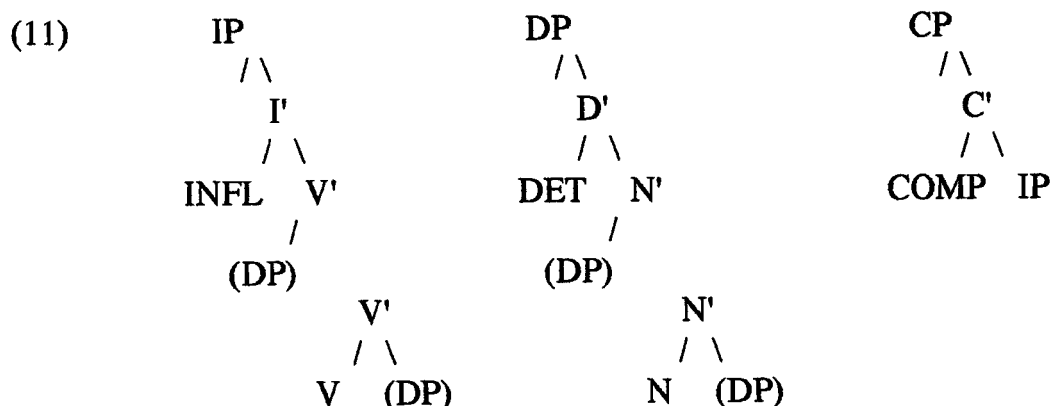
¹⁹ As will be seen presently, their sense of iteration is different from that which I shall follow; nevertheless, the insight that iterability is connected with lexical or functional status is due to them.

in (10) are ill-formed is that they have functional categories with more than one specifier. Presumably then the two articles of (10a) represent iterating specifiers of DP, making the phrase ill-formed, while the iterating degree word *very* is a specifier of AP, which is a lexical category, and therefore does not cause that phrase to be ill-formed.

According to Fukui and Speas (ibid.) nothing in "X-bar theory as it is formulated in the most recent treatments" accounts for the ill-formedness of the examples in (10), even though "it is routinely assumed in current theory that cases like (10) are ruled out by the supposed fact that there is only one available specifier position", since "Chomsky's formulation of X-bar theory allows any number of specifiers for each category". This is a motivation behind the distinction between functional and lexical categories. It should be noted that Fukui and Speas give a different definition of *specifier* ("an element that closes off a category projection", (1986:132)) than Chomsky (who "emphasizes that the notion "specifier" is strictly a relational one, used as a label for whichever maximal projections happen to appear in a given category as immediate daughters of X" (ibid.:131)).

Fukui and Speas may be inaccurate on one point, although it is certainly true that the phrases in (9) are well-formed, that those in (10) are ill-formed, and that this difference must be accounted for. I believe that the difference does have to do with the possibility of iteration, not the iteration of specifiers, but rather the iteration of the

functors themselves. Let us examine Fukui and Speas's claim more closely. They posit (1986:133) the structures below for the three functional categories they discuss, IP, CP, and DP:



Presumably the article would appear in the DET or D node of the DP, and this in fact is what is shown in Fukui and Speas (1986:152). However, if this is so, then Fukui and Speas's explanation of the ill-formedness of (10a) is untenable. If the article *the* is not in the specifier position of DP, then *the* cannot be the specifier which is closing off the projection. Indeed, in a phrase such as *the table* there is nothing filling the spec of DP position. Certainly (10a) is ill-formed, but it would not seem to have anything to do with the specifier position.²⁰ Fukui and Speas's account fares better for (10b)-(10e),

²⁰ One could argue that functional categories, unlike lexical categories, obligatorily have a SPEC position which closes off the category. However this would go against Fukui and Speas (1986:138): "The spec position of a Functional category can appear only when Kase is assigned to that position." The articles *a* and *the*, unlike *'s*, are not Kase assigners. (By *Kase* they "mean both Case in the standard sense ... and F-Features assigned by Functional Categories" (ibid.).)

where there is something in the specifier position. Nevertheless (10a) is not accounted for.²¹

Let us imagine then that what makes (10a) ill-formed is the fact that there is iteration of functors, or of functional categories. By iteration I mean a structure in which an X^0 level constituent takes an XP complement of the same category; the constituents need not be the same lexical item. Thus structures such as those in (2) are predicted to be ungrammatical.

- (12) a. [DP [D [DP [D ... b. [KP [K [KP [K... c. [IP [I [IP [I ...
 d. [CP [C [CP [C ...

If it is true that functors do not iterate, then there is a problem for those who classify cases and adpositions as functors, because these categories can iterate in some languages. In this section I shall examine apparent instances of iteration of cases and adpositions which may lead one to conclude that the generalization about the non-iteration of cases and prepositions is false, or that these categories are not functional categories. I shall argue for a different conclusion, that since it is only certain cases that can iterate, these cases should be placed in a class different from those cases that cannot iterate; the classes created by this classification should be taken as the subclasses semantic and syntactic case, respectively.

²¹ Speas (p.c.) states that there may have been confusion between "the descriptive statement that specs of functional heads normally don't iterate and the account to be given of this".

Further, since in general adpositions can iterate and so act in the same way as semantic cases, these two sets should be grouped together as the class P, opposed to the set K (syntactic cases), the members of which cannot iterate.

As long as we speak only of Ks and Ps, the generalization holds, but the situation is made more complicated by the fact that, although functional categories may not be able to iterate, the extent to which lexical categories other than Ps can iterate is not clear. I know of no clear instances of the iteration of Ns, i.e. structures of the type [NP [N [NP [N With respect to verbs, when or whether they can iterate in my sense may depend on one's analysis of various constructions. For example, Larson's (1988) analysis of double object constructions provides an example of iterating Vs; however, for those who reject his analysis, these constructions might not contain iterating Vs. There is controversy about the structure of sentences such as (13):

(13) John tried to steam off the wallpaper (Andrews 1990a:165)

For some, [to steam off the wallpaper] is a VP, and so (13) could provide an example of iterating Vs. However, others, e.g. Andrews (1990a), reject this analysis; this would eliminate the possibility of such sentences being examples of VP iteration. Although several adjectives can occur consecutively, in standard analyses they do not

iterate, as adjectives do not take AP complements.²² However, in the analysis of Abney (1987) this category can iterate; as he says A "selects NP, AP" (1987:341).

Iteration then may not be a clear test for distinguishing functional categories from lexical categories in general, although there does appear to be a difference between syntactic cases and semantic cases in this respect, as we shall see. However, it could be claimed that the reasons some lexical categories are not iterable are independent of properties involved in the lexical/functional distinction. Perhaps the reason why nouns may not be able to iterate is that this could prevent all the NPs except the outer one in such a string from being able to get case.²³ I shall first attempt to show that prepositions can iterate in English and other languages, and then I shall discuss apparent examples of iterating cases in a variety of languages.

4.3.1 Iteration of Adpositions and Case Markers

4.3.1.1 Iteration of Adpositions

There are some apparent counter-examples to the non-iterating generalization which involve prepositions and case markers; these would be problematic if these categories were considered functional. One might assert that English prepositions can be iterated,

²² Many constructions which would be taken as evidence for the iterability of lexical categories by Fukui and Speas are not instances of iteration, given the way in which I am using iteration here.

²³ V. Libert (1989a) for apparent instances of iterating Ds in Ancient Greek.

as in at least some of the phrases in (14) (v. Jackendoff (1977:79) for several other examples):

- (14) a. up to the top
 b. down to the river
 c. out from under the blanket
 d. from before the dawn of history

It might be argued that some of these examples, e.g. (14a), contain an adverb or particle of some sort and a preposition, rather than two prepositions, but this assertion would be less plausible for the sequence from under in (14c): under in this usage seems to act as a preposition, and from is only a preposition, and cannot act as an adverb. Not all combinations of prepositions can be involved in iteration constructions, in fact only a minority of possible combinations may be well-formed. For example, of and to cannot occur together, as shown in (15):

- (15) a. *of to the city
 b. *to of the city

There are other sequences of prepositions that are ill-formed, often due to the meanings of the prepositions (e.g. up down the ladder), but the fact remains that there are some examples of iterating prepositions which are perfectly acceptable. I shall discuss the treatment of these sequences after we have looked at some instances

of iterating cases, for the solutions to the problems of iteration of the two categories are connected.²⁴

English is not unique in allowing such structures. Some examples of preposition iteration may come from ancient Greek, as in the "compound prepositions" (this is Smyth's term) such as *διεκ* (*δια* + *εκ*) 'through and out of', and *απεκ* (*απο* + *εκ*) 'away out of' (examples from Smyth (1956), definitions from midGEL). If one can use data from a artificial language, preposition iteration can occur in Esperanto, as shown in (16) (from Butler 1965:268).

- (16) a. Li regardis al si de post la jurnalo
'He looked at her from behind the newspaper'
- b. Ne forprenu la kusesnon de sub mi
'Do not take the cushion from underneath me'

Thus it appears possible for adpositions to iterate (although perhaps only in the sense at the end of note (24), and in this way they differ from syntactic cases, as we shall see.

²⁴ It may be that apparent examples of iterating adpositions and semantic cases actually contain an abstract NP containing the inner PP, e.g. from under the blanket has the underlying structure in (i):

(i) [from [the place [under [the blanket]]]].

If this is so, then adpositions and semantic cases may not be able to iterate. However, they are still distinguished from syntactic cases as the latter cannot occur in both positions occupied by the prepositions in (i). Thus whether actual iteration is involved or not, there is a difference between Ps and Ks with respect to this type of structure, and I shall still use the term iteration of prepositions, cases, etc. to refer to such structures.

4.3.1.2 Multiple Case Marking

The possible instances of iterating case which we shall see involve multiple case marking. Multiply case marked phrases might represent not only counter-examples to our generalization, but also violations of any broad restriction against case conflict (the two may amount to the same thing). In this section we shall examine possible instances of multiple case marking to see whether they do contain iterating cases.

It is generally assumed that NPs must bear exactly one case. They may not bear fewer than one case, as stated in the Case Filter, given in (17).

- (17) *NP, if NP has phonetic content and no Case
(Chomsky 1981:49)

This would account for the ill-formedness of (18a); the NP the artichoke can receive no case, passive verbs not being able to assign case.

- (18) a. *there was eaten the artichoke
b. the artichoke was eaten

(18b) is a similar but well-formed sentence in which NP-movement has applied. Here the NP is in a position in which it can be assigned case, namely by INFL. Depending on the language, NPs will be

abstractly and perhaps also overtly (morphologically) marked for case, but they must have some sort of case.

On the other hand, NPs are not supposed to be able to be marked for more than one case. Sells (1985:53) states that "having two cases is as bad as having none at all". That is, there is a prohibition against the occurrence of what are called case conflicts. The cases need not conflict in the sense of being incompatible with each other, for an NP which has been assigned the same case twice would be ill-formed in the same way as one which has been assigned two different cases.

This prohibition can account for the ill-formedness of sentences such as (19).

(19) *the lion_i seems [e_i is hungry]

The raising of the NP the lion results in a case conflict, for the chain (the lion, e_i) is assigned case twice, once by the INFL of the matrix S and once by the INFL of the embedded S; thus the sentence is ill-formed. Nevertheless, one might claim that multiple case marking (at least that involving abstract case) is not that unusual, even among some familiar European languages. For example, in English free relative clauses, the relative pronoun, having no (overt) antecedent, may arguably be considered to be assigned two cases (v. McCreight

1986).²⁵ I shall be concerned with possible instances of multiple case marking in which the indications of the case assignment are phonetically realized, i.e. where an NP bears two or more case affixes simultaneously. They are more striking than instances of multiple abstract case assignment.

4.3.1.2.1 Secondary Compound Cases

We shall first examine instances of what Mel'čuk (1986) calls secondary compound cases; these may be among the best instances of iterating cases. Below are descriptions of the distinctions primary vs. secondary case and simple vs. compound case (from Mel'čuk 1986:63).

A primary case is built on the basic stem of the noun, whereas a secondary case is built on the form of a primary case.

A simple case is a (part of a) "simple" signatum expressed by an unanalyzable marker; a compound case is a "compound" signatum $s = \sigma_1 \oplus \sigma_2 \oplus \dots \oplus \sigma_n$ expressed by a compound ending $M = m_1 \oplus m_2 \oplus \dots \oplus m_n$ such that $m_1 = m_1(\sigma_1)$, $m_2 = m_2(\sigma_2)$, \dots , $m_n = m_n(\sigma_n)$, i.e., each member of the compound case marker expresses a component of the compound case signatum.

²⁵ However, I would say that only one case is assigned to the relative pronoun, the relative clause as a whole being marked with the case assigned by the matrix verb. Under this analysis one would have to explain the questionable status of the sentences in (i) without appealing to the prohibition against case conflict.

(i) a. ? I destroy who I hate
 b. ?? I destroy whom I hate (McCreight 1986:8)

- (20) a. vaxa-q^h ' [being] behind the sister'
sister-POSTESS
- b. vaxa-q^h-di ' [moving] to behind the sister'
sister-POSTESS-LATIVE (=postlative case)
- c. vaxa-q^h-aj ' [moving] from behind the sister'
sister-POSTESS-ELATIVE (=postelative case)
- (21) a. vaxa-k ' [being] under the sister'
sister-SUBESS
- b. vaxa-k-di ' [moving] to under the sister'
sister-SUBESS-LATIVE (=sublative case)
- c. vaxa-k-aj ' [moving] from under the sister'
sister-SUBESS-ELATIVE (=subelative case)

The first of the two case affixes indicates location, while the second marks the "orientation" of motion. Mel'čuk cites a still more complex form, the postdirective case of Lak (also from the Northeast Caucasian group), given below, with his analysis of it.

- (22) *qqat-lu-x-un-m-aj* 'in the direction to behind the house', i.e. 'toward the rear wall/side of the house', where:
- qqat* is the root of *qqatta* 'house';
 - lu* is an empty suffix (of a series of empty suffixes that are added regularly to a nominal root before a case ending;
 - x* is the marker of 'behind' [=Post-]
 - un* is the marker of 'traveling to' [=lative; the form *qqatluxun* exists and means 'to go behind the house'; the final point of this movement must be behind the house];
 - m* is the assimilated variant of the class marker *-v* (roughly classes I and III), which refers to the class of the object traveling towards the space behind the house
 - aj* is the marker of ~ 'not necessarily arriving at the destination' [so that *-un* and *-aj* taken together, mean 'traveling towards' = *-directive*]. (Mel'čuk 1986:74)

Lest one think that this phenomenon is limited to Caucasian languages, in (23) I give evidence that the same sort of thing happens in some Papuan languages.

(23)	<i>Kâte</i>	<i>Selepet</i>	
abl.	-o-nek	-ɔn-gebo	
loc.	-o	-ɔn	
all.	-o-pek	-ɔn-gen	(Foley 1986:101)

Foley (ibid.) states, "The Kâte and Selepet ablative and allative case suffixes are quite clearly derived by using the locative as the base; specific ablative and allative suffixes are added to the base."

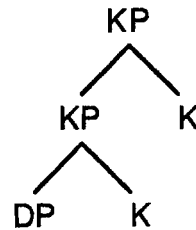
An interesting (and perhaps problematic) variation of this comes from the Kubachi dialect of Dargwa; the locational markers of this language are given in (24) (chart from Comrie (1981:210).

		<u>Allative</u>	<u>Essive</u>	<u>Ablative</u>
(24)	I 'on'	-že	-ži-w/j/b	-ži-l
	II 'under'	-gu	-gu-w/j/b	-gu-l
	III 'in front of'	-ta	-ta-w/j/b	-ta-l
	IV 'in'	-ce	-ci-w/j/b	-ci-l
	V 'by, alongside'	-šu	-šu-w/j/b	-šu-l
	VI 'inside, completely enveloped by'	-(n)a	-na-w/j/b	-na-l

To see how to interpret Comrie's chart one may look at row II: the suffix in the space where row II crosses the Allative column is what Mel'čuk would call the sublative case, the suffix of that row in the next column would be the subessive and in the last column is the subelative. As Comrie puts it: "There is one basic exponent associated with each series (i.e. 'in', 'under', etc) and this acts as the allative component. From the allative the essive is produced by adding the class-marker appropriate to the concord-determining absolutive noun, while the ablative is derived from the allative by the addition of -l." So, unlike the other examples we have seen, where the allative and ablative were derived from an essive form, here, the essive and the ablative are derived from the allative. I shall not include these forms in my analysis.

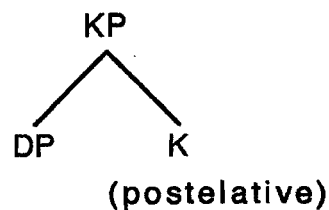
The structure I would posit for the examples given above, assuming an analysis under which all cases (both syntactic and semantic) are Ks,²⁶ is in (25).

(25)



I would argue for this structure, as opposed to something like that of (26), based on Baker's (1985:377) assumption that morphology is "by nature ordered and cyclic ... morphological processes are taken as applying one at a time in a well-defined order, working from the inside outward."

(26)



The structure in (26) might not be consistent with this assumption. The postelative is not an affix with no internal structure, its two parts can occur in other environments, and, as we have seen, the

²⁶ As should be clear by now, I reject this analysis, but (25) is one possible representation of the structure of multiply case marked structures without the realignment of categories I propose.

postessive part can occur by itself. Intuitively, the elative part of the postelative applies to the NP plus the postessive marker, not simply to the NP. One can conceivably go away from behind a house without going away from the house itself (e.g. if one went around to the front, or inside the house, through the back door). This is why the secondary compound cases are perhaps the clearest instances of iterating cases, clearer than secondary simple cases, i.e. cases which involve 2 markers, but whose meaning cannot be broken into parts each of which is associated with a particular phonetic sequence. The first case marker of a secondary simple case structure seems to make no semantic or obvious syntactic contribution to the structure, and thus one might claim that it is not a case marker.

4.3.1.2.2 Secondary Simple Cases

However, it may be interesting to look at some instances of secondary simple cases, as they too may sometimes follow a certain restriction on iteration. One could informally describe the second or outer markers of secondary simple cases as markers which must be attached to a noun already bearing another case marker, i.e. one case marker requires (or selects for) an NP in another case, or, one could say, requires another case. In (27) is the paradigm for the Estonian word for "book" (leaving out Aavik's invented cases):

(27)	<u>sing</u>	<u>plural</u>	
nom.	raamat	raamatu+d	
gen.	raamat+u	raamatu+te	
part.	raamatu+t	raamatu+id	
ill.	raamatu+sse	raamatute+sse	
iness.	raamatu+s	raamatute+s	
elat.	raamatu+st	raamatute+st	
all.	raamatu+le	raamatute+le	
adess.	raamatu+l	raamatute+l	
abl.	raamatu+lt	raamatute+lt	
transl.	raamatu+ks	raamatute+ks	
ess.	raamatu+na	raamatute+na	
term.	raamat+ni	raamatute+ni	
abess.	raamatu+ta	raamatute+ta	
comit.	raamatu+ga	raamatute+ga	(Tauli 1973:40)

One can see that in the singular, the genitive is attached to the bare stem (the nominative suffix being null), but all the other cases must be attached to the genitive stem. In the plural the nominative and partitive suffixes are added to a form that is homophonous with the genitive singular, while all other case endings are affixed to the genitive plural form. One might claim that the -u- in the singular forms is simply an epenthetic vowel rather than the genitive marker, but this position is untenable. Although it might be plausible to say that the function of -u- is to break up consonant clusters (e.g. -tks, which would occur in the translative singular were the vowel not present), this cannot hold in the plural, where the stem ends in a vowel, just as the genitive suffix does; it would be difficult to come up with a phonological reason why the sequence /-te-/ must be inserted. Further, Estonian is like Greek and Latin in having several different declensions, i.e. -u- is not the only genitive marker. The genitive suffix can be -a, -e, -i, -o, -u, and so the other cases are built

on stems ending in any of these vowels, e.g. *kultuur* 'culture' (nom. sg.), gen. sg. *kultuuri*, ill. sg. *kultuurisse*; *lill* 'flower' (nom sg.), gen. sg. *lille*, ill. sg. *lillesse*. One would have to say that there are five epenthetic vowels, each of which happens to coincide with the genitive form of the declension in which that vowel is inserted. Obviously this analysis cannot be upheld, and one can feel confident in saying that the various case affixes are indeed attached to the genitive stem. Harms (1962:57) provides an interesting description of this declension process: "In these constructions of case-number plus a secondary case suffix, the category of number is determined by the former and the category of case by the latter, and the genitive or partitive meaning is cancelled out."

This is not a rare phenomenon. In (28) are some forms from Tokharian A, from Mel'čuk (1986:63). As he says, "the oblique is formed directly from the stem [which is identical in form to the nominative]; all other cases are derived from the oblique".

(28)	nom:	kaṣṣi	'teacher, master, guru'
	oblique:	kaṣṣim	
	instr:	kaṣṣinyo	
	dat:	kaṣṣinač	
	loc:	kaṣṣinam	

Dargwa is interesting since the one of requiring case markers is itself required/selected by other case markers, as shown in (29):

(29) stem:	žuz	'book'
erg.	žuz-li	
dat.	žuz-li-s	
all.	žuz-li-či	
comit.	žuz-li-či-l	'together with book'
discuss.	žuz-li-či-la	'about a book'
(data and glosses from Mel'čuk 1986:63)		

What one finds with these secondary simple case constructions is that while the "required case" seems generally to be syntactic, the requiring cases, i.e. the cases which cannot be attached to a bare NP stem but must be outside another case marker, are usually, if not always semantic.²⁷ To judge whether this is true, let us first consider Tokharian A. I assume the locative is fairly clearly semantic. Thus when it attaches to an oblique stem, as it must, there is a sequence of a syntactic case followed by a semantic case, assuming that the oblique case in this function is syntactic. My intuition, contra Mel'čuk (1986), is that the instrumental (at least in its use to mark instruments) is semantic (and this is backed up by the results of the predicate subject test), and so will give rise to the same sequence in its formation. The allative, comitative, and discussive of Dargwa are, like the locative of Tokharian (or other languages) fairly clear examples of semantic cases, while the predicate subject test and objective genitive test of previous chapters have shown that the dative (marking objects) in some languages patterns with the

²⁷ Possible exceptions occur in Southern Sierra Miwok and Northern Sierra Miwok. For an analysis of these constructions v. Libert (1988b), where it is argued that they are not actually counter-examples to the generalization in question.

semantic cases in some respects. To be certain of the status of the dative in Dargwa, we would have to catalog its uses and then test their behavior in this language, but I shall assume that the Dargwa dative behaves like the datives of the languages tested. Thus in both languages, the sequences which result from secondary simple case formation have only one syntactic case.

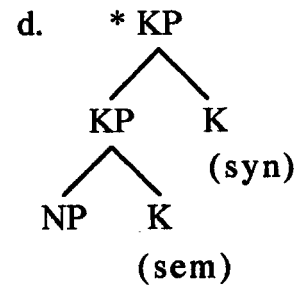
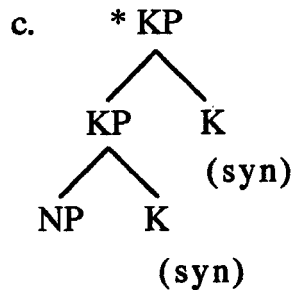
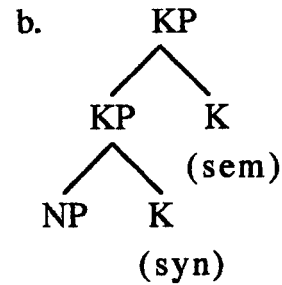
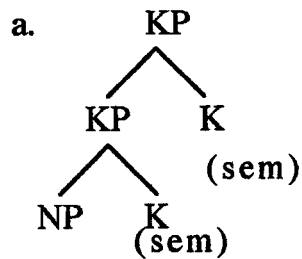
The hypothesis just outlined has a possibly problematic implication. If a semantic case maker occurs outside a syntactic case marker, i.e. if it requires a syntactic case marker, then that semantic case should have not have any syntactic uses, because then we would in fact have a sequence of two syntactic cases, given my view of case uses as separate entities. For example, in Avar (North-East Caucasian) the genitive marker must be attached to an ergative stem, e.g. wac 'brother' (absolutive), wac-as (ergative), wac-as-ul (genitive) (data from Comrie (1981:210)). If the ergative is a syntactic case, then in this language there should be no syntactic uses of the genitive case, for there would then be a sequence of two syntactic case markers when the genitive was acting as a syntactic case. Hence one would predict that there is no objective or subjective genitive in Avar. This appears to be the case, according to Comrie (1976b:181). However, I do not know whether it is so for other languages.²⁸

²⁸ One prominent counter-example comes from English and some other languages. I have claimed that when the preposition *of* marks objects in nominalization constructions it is a K. However, NP complements of *of* in this function, like its complements in other functions, bear surface accusative case, e.g. John's killing of them/*they was disgraceful. This appears to be a sequence of two Ks, namely *of* and the accusative case marker. I would assert that this is only a consequence of some constraint on surface representations:

The facts outlined above will be significant for my treatment of multiple case marking. If the structure in (25) is the right one for the examples of multiple case marking given above, then cases are unlike most other functors because they can iterate. However, one should bear in mind what kind of cases can iterate: those which can be classified as semantic cases. Both cases making up the secondary compound cases are semantic cases. As for constructions with secondary simple cases, the secondary (outer) case is generally semantic, so that even if the inner, required case is syntactic (as may often or always happen, depending on one's classification) there is usually only one syntactic case per noun. The crucial position seems to be the outer one: while any case marker may be able to occur inside another case marker, in general only markers of semantic cases can occur outside other case markers, regardless of the type of case marked by the inner affix. The result of this is that while one may find many apparent instances of iterating cases, one has trouble finding instances of sequences of two or more syntactic cases with the exception of agreement cases, to be discussed below). The possible and impossible (or rare) configurations are shown in (30):

since of, although a K, is a surface preposition, a pronoun that it governs must have some superficial case marking.

(30)



Both prepositions and semantic cases are problematic for the claim about the non-iterability of functional categories, as they both seem to be able to iterate. The only case markers which seem not to have this ability are the syntactic cases: a syntactic case marker usually cannot take a KP as a complement, whether the head of that KP is syntactic (30c) or semantic (30d). The way to preserve the claim seems obvious: prepositions and semantic cases should not be considered functors, but rather lexical elements, both being part of the lexical category P. The category K is a functional category, but includes only the syntactic cases. These statements can be made based on data from cases which are either clearly syntactic or clearly semantic.

As for cases whose category is less clear, such as the dative, their classification can be based on which category they act like, and we thus have a criterion for placing them with either the syntactic or the semantic cases, and thus with either the Ks or the Ps. The classification of the dative as a semantic case receives backing from the fact that it patterns, with respect to iteration, with cases which are more clearly semantic, i.e. it can occur outside other case markers, as in Tokharian A and Dargwa. The data from iteration thus indicate the same classification of the dative as do the data from predication and the objective genitive.

4.3.1.2.3 Agreement Case

Another possible source of iterated cases is the result of case marking to show agreement of some sort. We shall examine this rather unusual phenomenon, and then consider whether it really does represent the iteration of cases. If it does, it will bring up a problem for the theory sketched out here, as we shall see.

In some languages certain case-marked NPs must bear additional case markers to show agreement with other constituents in their sentence. Thus one case marker will indicate the grammatical or semantic role of the NP, while the other(s) will not indicate the role or function of the NP itself, but will show that that NP is linked to some other constituent. There are several different constituents which can be "agreed with", leading to sequences of three and even four case markers on the same noun. The most common kind of case

agreement is with an NP, but there is also agreement with INFL (modal and associating case) and with COMP (complementizing case); only the first of these will be discussed below. My data will come from Australian languages.

4.3.1.2.3.1 Case Agreement with NPs

A distinction that can be drawn among cases is that between adnominal and relational cases, the former "relating one NP to another" and the latter relating "the NP they mark to the action described by the verb" (Evans 1985:345). In Kayardild, nouns marked for an adnominal case take another case suffix to agree with the NP containing them, as shown in (31a).²⁹ This sort of thing also happens in some other Australian languages, Yidiny (in (31b)), and Yindjibarndi (in (31c)).

- (31) a. ...dangka-naba-nguni wungal-nguni
 man-ABL-INSTR boomerang-INSTR
 '...with the man's boomerang' (Evans 1985:65)

²⁹ There is a potentially confusing feature of the terminology which I am using here, which is taken from Evans (1985). The case borne by the containing NP is a relational case (although in theory it could also be another adnominal case), "relating an NP to the verb or clause" (Evans 1985:v), while the inner case of the contained NP is an adnominal case, relating the contained to the containing NP. The contained NP will also bear a case marker to agree with the relational case of the containing NP, but strictly speaking this case marker will not be a relational case itself, but a case which marks agreement with the (relational case of) the containing NP. This type of case should then have a distinct name, and not be labelled relational case; I shall call it NP agreement case.

- b. wagal+ni+ŋgu gudaga+ŋgu mujam baja+l
 wife+GEN+ERG dog+ERG mother+ABS bite+PRES
 '[My] wife's dog is biting mother.' (Dixon 1980:300)
- c. tyiwarnu 'bus'u Wikamuwartu
 drive-IMPRF -OBJ Wickham-DIR ALL-OBJ
 'driving the bus to Wickam' (Wordick 1982)

4.3.1.2.3.2 Implications of Agreement Case

The question to be addressed here is whether agreement cases are problematic for the theory of Ks and Ps put forward in this thesis. To review the argument: cases, as functors, should not iterate. In other types of (apparent) iterating cases, namely the secondary compound and secondary simple cases, we have noticed that there is arguably only one syntactic case per NP, although there can be more than one semantic case. We have also seen that prepositions can iterate. Therefore prepositions should not be classified as functors, and further, semantic cases should be grouped with the prepositions, creating the new category P, a lexical, not a functional category. The cases which are left in the category case, now K, are functors, and should not be able to iterate. If Ks (i.e. syntactic cases) are able to iterate in agreement case structures, then the validity of this hypothesis may be in doubt.

In none of the examples of agreement case given so far are there any sequences of two or more syntactic cases, and so they are not problematic for my generalization. However, Mel'čuk (1986:69) gives one such example, reproduced in (32). The example as he gives

it is from a "simulated" Ngarluma sentence in Russian, i.e. apparently with Ngarluma syntax, but Russian morphemes.

- (32) Ja vižu mal'čik-a, kotor-ogo-ogo ukusila sobak-a-u
 I see boy-ACC which-ACC-ACC bit dog-NOM-ACC
 'I see the boy whom the dog bit'

My generalization can be maintained in the face of such examples if one pays heed to the type of case marking involved in such examples. Agreement case does not come about by assignment of a case by one constituent to another, nor is it present at D-structure, like semantic cases. However agreement cases appear, i.e. whether by an agreement transformation or by percolation, they are not independent case markers, but are copies or reflexes of case (or other) markers attached to some other constituent. The second accusative marker on 'dog' in (32) is not a marker of a case that has been assigned to that constituent, and so does not "belong" to it; it is not marking a feature of that particular NP, except to associate it with another NP. Thus one may say that while a sequence of two syntactic case markers is possible, what is not permitted is a sequence of two or more markers of syntactic cases which have been assigned to one NP. If the realization of agreement case markers takes place after S-structure (and after structural case assignment), and if restrictions on iteration hold at S-structure, then sequences of syntactic cases caused by agreement do not represent counter-evidence. Alternatively, if agreement case markers are not (syntactic) Ks, but only surface morphological markers, and not heads

of KPs, then given our definition of iteration, these sequences of syntactic cases do not have the (syntactic) structure [KP [K [KP [K ... However one chooses to represent agreement case, it is a different sort of case than assigned case, and markers of agreement case are not case markers of the same sort as "normal" case markers, not being the direct bearers of lexical meaning or grammatical function. Mel'čuk (1986) recognizes the difference between agreement case (CASE II) and "governed" case (CASE I) and notes that governed and agreement case "are two different morphological categories and should be discussed separately" (1986:36).³⁰ Thus these examples of multiple case marking are not problematic for a claim about the non-iterability of Ks.^{31 32}

4.3.2 Binary Features and Iteration

The conception of functors as binary features can explain why it is that functors cannot iterate, i.e. why there may be only one of each of them per lexical category. If a lexical category already bears one marking for a functional category x, then any additional marking

³⁰ He is speaking here of adjectival agreement case, but the same should be true of the kind of agreement case we have been examining; in fact Mel'čuk (1986:84) posits two more kinds of case: Case III (=modal case) and Case IV, "Discourse bound case".

³¹ One could apply the same analysis to the free relatives mentioned above, and discussed by McCreight (1986).

³² It must still be explained why some languages allow agreement case to such a degree, while other languages do not permit any marking of agreement case on NPs. Among the latter group are some languages which do allow sequences of several case markers, but not multiple case marking arising under agreement. The problem of how to account for language specific differences in possibilities for multiple case marking is briefly dealt with in Libert (1988).

will be either directly contradictory (if it has the opposite value of the first marking) or redundant (if it has the same marking, which of course it must have, if it does not have the opposite value). As noted above, a sequence of a definite article and an indefinite article, both modifying the same NP (and assuming both are actually functioning as articles and carry a value for (in)definiteness) may be uninterpretable. The same will hold for other functional categories: if the content of a M (mood) node is simple a value for [\pm realis], then such nodes could not iterate, as an event can either be realis or irrealis, but not both. This holds in like manner for Ks: if a NP bears nominative case, and so is marked as [+subject], then it cannot also be assigned accusative case, which carries [-subject] marking. If it bore another nominative case marking, it would again be marked [+subject], and this may be a type of redundancy which is not permitted in the grammar.

It is not true that lexical categories (including semantic cases and adpositions) will necessarily contradict other members of the same category or be redundant, unlike Ks and other functors; rather, it is often a question of adding new information. The addition of a -lative marker to a subessive marker involves the combination of two different kinds of information, one concerned with the location which is used as a reference point for the motion (if there is any), the other dealing with the motion itself. If no motion is indicated (i.e. if no lative, elative, prolative, etc. marker is added), then there is no motion and remaining in the designated location is indicated. The same is true of adpositions: nothing in from directly contradicts

anything in under (unless one sees under as inherently containing a notion of rest; evidence against this would be the fact that under can be compatible with indications of motion, as in he went under the bridge); thus one can say he crawled out from under the blankets.

Empirically, the number of consecutive Ps one finds is not large, e.g. I know of no language in which there are strings of five Ps. There are two reasons for this. First, descriptions requiring that many Ps rarely come up, either because the situations themselves are rare, or because one seldom needs to be so specific about the details of a situation. Indeed one expects cases like the subprolative and interdirective to be rare in languages that have them, simply because it is uncommon for there to be the occasion or the need to talk about going through the space under something or towards the space between two things. Second, although different lexical elements of the same category, unlike different members of the same functional category, do not necessarily contradict each other, it is possible that they will be contradictory (or not compatible). There are many Ps that do contradict other Ps: once one affixes a subessive marker to a noun, one probably cannot affix any other locative marker (e.g. superessive, postessive), although one is free to add motion or directional indicators. This would limit the iteration of Ps. Thus iteration of Ps is possible, but limited; iteration of Ks always leads to ill-formedness.

4.3.2 Conclusion on Iteration

Iteration seems to be another way in which semantic cases and syntactic cases differ. It is possible to have sequences of semantic cases, while one does not find more than one syntactic case per NP (except for agreement cases). Further, in NPs with several case markers, the outer case is a generally a semantic case. With respect to iteration, semantic cases act like adpositions, which also can iterate. Given this, we have grounds for grouping the semantic cases with the adpositions, and a way for determining the category of difficult cases such as the dative: if it occurs in a sequence with syntactic cases, then it cannot be a syntactic case itself. These results on the classification of the dative and other cases appear to agree with the results of other tests, validating both the classification, and the way of arriving at it. Further, the (in)ability to iterate can be accounted for by the Binary Feature Hypothesis, as can the other distinction between Ps and Ks discussed in this chapter, being an open or closed class.

CHAPTER 5

CONCLUSION

In the first part of this chapter I shall review the discussion of the tests and characteristics which I have shown distinguish syntactic cases and semantic cases. In the second part I shall bring up some tests and properties which may appear to be problematic for my theory of Ks and Ps.

5.1 Summary of Tests and Properties of Syntactic and Semantic Case

One of the goals of this thesis has to been to find ways of distinguishing syntactic cases from semantic cases (or more precisely, syntactic case functions from semantic case functions). The properties which have been shown to do this are listed below:

- 1) ability to be the subject of a predicate
- 2) ability to head a predicative phrase
- 3) ability to be "translated" into an objective genitive
- 4) being an open or a closed class
- 5) ability to iterate

I showed in chapter 2 that only a few cases can be marked on noun phrases which are subjects of secondary predicates: specifically, the nominative of the subject, the accusative of the direct object, the

subjective and objective genitives, and the dative and instrumental cases which mark causees in some languages. On the other hand, a large number of cases cannot be borne by subjects of secondary predicates, including various cases marking verbal objects (e.g. the dative, ablative, and sublative), various cases indicating locations (the Hungarian superessive, adessive, and sublative), the Hungarian instrumental marking instruments, and the English possessive genitive. NPs bearing these cases behave like objects of adpositions in that neither group can be subjects of secondary predicates. This could be seen as evidence against a structural account of restrictions on predication, such as the account of Williams (1980). However, if semantic cases are syntactically of the same category as most adpositions, then the structural account can be maintained, as syntactic case markers project to a PP, just like adpositions, and this projection blocks c-command of the predicate by the subject, and hence blocks predication. I have posited underlying Ps in English and other languages; these Ps govern objects of some verbs but have been incorporated into the verb by S-Structure; this accounts for why the surface accusative objects of these Vs cannot take secondary predicates.

In addition to the restriction on case marking on subjects of predicates, there is also a case based restriction on predicative phrases: only semantic cases can be marked on these phrases (except when the predicative phrase bears a syntactic case to agree with its subject). One thus does not find nominative or accusative predicative phrases, although various semantic cases can head predicative

phrases, e.g. the genitive of quality and the locative. Many adpositions also have this ability; in English this is true of *on*, *in*, *about*, and *for*, among others. Not all functions of semantic cases and not all functions of adpositions can be marked on predicative phrases; I have attributed this to the inability of the constituents in question to assign a θ -role to a complement. Thus the ability to be marked on a predicative phrase is not a necessary condition for P-hood, although it is a sufficient condition.

In the third chapter I gave evidence that in some languages only verbal complements bearing syntactic case can have equivalents marked with the objective genitive in nominalization constructions; complements bearing a semantic case or governed by an adposition could not correspond to an objective genitive. Thus once again we see semantic cases and adpositions behaving in the same way. The restriction does not hold in all languages, but in at least some of those languages where there is no such restriction, both prepositional objects and semantically case marked objects can be translated into objective genitives. Just as some accusative objects in English unexpectedly can not be subjects of secondary predicates, some accusative objects (to some extent, the same set of accusative objects) cannot have objective genitive counterparts in phrases headed by derived nouns (e.g. the object of *to help*). These two inabilityes can be accounted for in the same way, by positing underlying Ps. In some languages Ps can be incorporated into the verb but not into the corresponding derived nominal; this accounts for why the noun *help* cannot take an objective genitive: its object must be governed by an

overt P, since that P cannot be incorporated. The inability to be incorporated also explains why in some languages dative, genitive, instrumental, and prepositional objects cannot be translated into objective genitives: here, unlike with the object of English *to help*, there has been no incorporation into the verb, and there cannot be (independent) P incorporation into nouns: thus a P governing an object is phonetically realized in both the verbal and the nominal constructions. In those languages such as Greek, where semantically case marked objects and prepositional objects can be translated into objective genitives, independent P incorporation into nominals is possible.

In chapter 4 I examined two more properties related to the syntactic/semantic case distinction, and connected them with an hypothesis on the nature of the information carried by syntactic cases (and perhaps all functional categories). Specifically, I suggested that the content of syntactic cases consists of a small set of binary feature values, perhaps a single feature such as [\pm subject]. If this is so, then it explains why syntactic cases are a small and closed set, unlike the set of semantic cases and (true) adpositions, which I have argued is an open set. The nature of the content of syntactic cases also explains another property of this category, the fact that they cannot be iterated, while semantic cases do have this ability. That is, one does not find instances where a K (a syntactic case marker) takes a Case Phrase as a complement, while there are examples in various languages of Ps (either semantic case markers or adpositions) taking PP complements.

If we look at some of these properties with respect to specific cases whose status we are unsure of, we find that we can get an idea of where such cases fit in the syntactic/semantic case distinction. Let us look for example at the dative marking objects in German. NPs bearing this case cannot be subjects of predicates, as shown in (1):

- (1) a. *Ich applaudierte ihm_i betrunken/tot_i
 'I applauded him_i drunk/dead_i'
 b. *Ich assistierte ihm_i betrunken/tot_i
 'I assisted him_i drunk/dead_i'
 c. *Ich dankte ihm_i betrunken/tot_i
 'I thanked him_i drunk/dead_i'

This is a first indication that this dative function is semantic. The dative marking objects apparently cannot be marked on predicative phrases, as shown in (2), but this is due to the inability to theta-mark complements, and is not necessarily evidence against semantic case status.

- (2) a. ??Die Hilfe war ihm 'The help was to him'
 b. *Das Helfen war ihm 'The helping was to him'
 c. ??Der Rat war ihm 'The advice was to him'
 d. *Das Raten war ihm 'The advising was to him'

In prescriptive German, and to some extent in descriptive German, dative objects cannot have objective genitive counterparts in nominalization constructions, which gives some more evidence of semantic case status:

- (3) a. *die Hilfe Bertas 'the help of Berta'
 (correctly: die Hilfe für Berta) (Teubert 1979:100)
- b. *das Helfen von (den) Kindern
 'the help of (the) children'

Thus of the three tests which can be applied to this case function in this language (the iteration test apparently cannot be applied to German, two (ability to be the subject of a predicate and ability to be translated into an objective genitive) show it to behave like a semantic case and unlike a syntactic case, and the apparent discrepancy in the results from the other test (the ability to be predicative) can be accounted for by another factor, the inability to assign a θ -role to a complement; this factor also comes into play in the objective genitive test, explaining why dative objects not only cannot be translated into objective genitives, but cannot even keep their dative case marking in nominalization constructions. Although one's intuitions may not be clear regarding the type of content possessed by the dative which marks objects in German, it behaves like semantic cases, and so should be classified as part of this group; it is a P and not a K. The properties discussed in this thesis can thus help us to decide on the classification of cases with regard to the syntactic/semantic case distinction, and show that there is some validity to this distinction.

5.2 Other Tests and Properties

In this section I shall briefly examine some other ways in which syntactic cases might be thought to differ from semantic cases, or cases from adpositions. The phenomena in question are extraction (5.2.1), split topicalization (5.2.2), repetition/agreement (5.2.3), and binding (5.2.4). Extraction, as well as other phenomena not mentioned in this thesis, may appear to give evidence for a different classification of Ks and Ps than tests that we have already seen. Ideally, all such inconsistencies will be explained, and so tests which appear to give a different split than the tests discussed earlier in the thesis will be shown to give the same results once outside factors are accounted for. In some languages split topicalization may distinguish between syntactic case and semantic case. However this appears not to be true for all languages with split topicalization, and so this phenomenon would be of limited application in the classification of syntactic cases and semantic cases. However, it may still be of value; the objective genitive test may make a distinction between syntactic cases and semantic cases in only some some of the languages in which it occurs, but it can still be used as a test in those languages.

In 5.2.3 I look at what one might believe to be a difference between case markers and adpositions: the former, but not the latter, can occur repeatedly in a phrase. However, this distinction turns out not to hold for all languages; for example, in some Slavic languages, there can be "agreement" of prepositions just as there is case agreement in many languages. Therefore, the ability to occur

repeatedly cannot be taken as a universal diagnostic for distinguishing cases from adpositions, and certainly does not distinguish Ps from Ks. One might also think that binding theory can provide a way of distinguishing between Ps and Ks; however, this turns out not to be the case, as we see in 5.2.4.

For now I can say that I have found several tests, discussed in chapters 2, 3, and 4, that give the same results (once certain factors have been accounted for); although I have not proved that they are definitive tests for the status of elements as syntactic or semantic cases (or as Ks or Ps), the fact that they agree is a hopeful sign. With further research, it may be shown that there are other such tests.

5.2.1 Extraction

In this section I shall briefly discuss the possibility of using extraction as a test for distinguishing syntactic cases from semantic cases. Extraction may yield a split among cases/adpositions which does not correspond to the split shown by the predication and objective genitive tests, and so is problematic for the claims in this thesis.

There seems to be a distinction of some sort among Spanish prepositions with respect to the possibility of extraction of PPs contained in the PPs which they head. In general, extraction of one PP out of another is impossible in Spanish, as shown in (4). However,

it is possible to extract a PP out of a direct object NP in this language, as in (5):

- (4) a. * ¿De qué amiga_i le regalaste un libro [a la hija e_i]?
'Of what friend did you give a book to her daughter?'
b. * ¿De qué tienda_i le compraste un piano [al dueño e_i]?
'Of what store did you buy a piano from the owner?'
c. * ¿De qué primo_i metió Juan el coche [en el garage e_i]?
'Of what cousin did Juan keep the car in the garage?'
(Demonte 1987:152)
- (5) ¿De qué escritora_i le regalaste [un libro e_i] a mi hija?
'Of what writer did you give a book to my daughter?'
(ibid.:153)

However, not all prepositions block extraction, as can be seen in (6):

- (6) a. ¿De qué amigo_i entregaste [a la hija e_i] a la policía?
'Of what friend did you give away his daughter to the police?'
b. ¿De qué coro_i el director hizo cantar [al mejor tenor e_i]?
'Of what chorus did the conductor have the best tenor sing?'¹ (ibid.)

Two questions need to be answered here: first, why is extraction of one PP out of another PP impossible in general, and second, why don't all prepositions behave uniformly in this respect? With regard to the first question Demonte (ibid.) says that the

¹ Note that this example gives evidence for the non-P status of the *a* which marks causees.

ungrammaticality of the sentences in (4) "might be attributed to what at a given period of generative grammar was established as the A-over-A condition. Namely, these constructions might be ruled out because a PP is extracted out of another PP".²

The second question raised above can now be answered readily enough, given the general realignment of categories argued for in this thesis, and in particular the removal of the *a* marking direct objects from the category P, as supported by the predicate subject test. Since this *a*, unlike the *a* marking indirect objects, is a K (or some other functional category), and not a P, (6) does not involve the extraction of a PP out of a PP (unlike the sentences in (4)), and so the A-over-A Condition is not violated.

However, it is not clear that the A-over-A account is correct. As Demonte (1987:153) says, "extracting even an NP out of the complement to a preposition results in ungrammaticality"; she gives the following examples:

- (7) a. ?*Who did you give a book to a friend of *t*?
 b. ?*Who did you put a frame on a picture of *t*?

Here the extracted element is not of the same category as the governing P, and the sentences are nevertheless ungrammatical.

² "The A-over-A principle states that a phrase of the category A (A arbitrary) cannot be extracted from another phrase of the category A." (Chomsky 1986b:71).

In order to account for (7), Demonte proposes an account which does not involve the A-over-A Condition, but rather the ECP. Crucial to this account is also the idea that the *a* of the direct object is not a true preposition. Demonte (1987:153) states:

Suppose that the extracted PPs are not lexically governed and that the ungrammatical sentences are ruled out by the ECP. If their traces are not lexically governed, they would have to be antecedent-governed to form a licit configuration. Since extractions out of NPs are licit in Romance languages (Cinque 1980), we could attribute the contrast between (4) and (5)-(6) to the fact that NPs are not absolute barriers to government but that PPs are.

Thus the ECP is not violated in (5)-(6), but it is violated in (4), as well as in (7), which also involves extraction out of a PP, and the ill-formedness of the latter is accounted for.³

Now, under either the A-over-A account, or the ECP account, the difference between (4) and (6) is explained (although the latter account is preferable since it also explains the ungrammaticality of (7)), if the *a* marking direct objects is not a P. It would thus seem that extraction could be used as another test for distinguishing Ps from Ks. For example, we would expect extraction of a PP out of a dative or genitive (except subjective or objective genitive) NP to be

³ Demonte mentions another account which also involves the ECP, and "is based on the assumption (Kayne (1981)) that prepositions are not proper governors" (Demonte 1987:153). As with the previously discussed account there will be "a difference between PPs within NPs and PPs within PPs" (Demonte 1987:153-4).

impossible, since this is extraction of a PP from a PP. This is supported by the following German data from Tappe (1989:163):

- (8) *von Paul haben wir den Berichten nicht geglaubt
 of Paul have we the-DAT reports not believed

However, the following data indicate that extraction out of dative NPs yields sentences which are acceptable in spoken, if not written, German, or at least better than sentences in which extraction from a prepositional phrase has taken place.

- (9) a. OK/?/OK Von welchem Freund hast du die Tochter geküßt?
 'Of which friend have you kissed the daughter?'
 b. OK/OK/OK Von welchem Autor hast du ein Buch gelesen?
 'Of which author have you read a book?'
 (10) a. OK/??/ Von welchem Freund hast du der Tochter geholfen?
 'Of which friend have you helped the daughter?'
 b. -/-/? Von welchem Orchester hast du dem Dirigent
 applaudiert?
 'Of which orchestra have you applauded the
 conductor?'
 c. -/-/? Von welcher Freundin bist du dem Bruder gefolgt?
 'Of which friend did you follow the brother?'
 d. -/-/?? Von welchem Freund hast du der Tochter
 telegraphiert?
 'Of which friend did you telegraph the daughter?'
 (11) a. */*/ Von welchem Freund hast du in dem Haus geschlafen?
 'Of which friend did you sleep in the house?'

- b. */*Von welchem Auto bist du über den Besitzer geflogen?
'Of which car did you fly over the owner?'

Extraction from accusative objects is shown in (9). In (10) we see extraction from a dative object, and in (11), extraction from a prepositional phrase. Here the dative shows similarities to the accusative, extraction out of dative phrases not being completely ill-formed.

Further, in English there does not seem to be a split between extraction from an accusative object (12) and extraction from (what I claim is) an underlying PP (13). While none of these examples is perfect, there is a contrast with extraction from a prepositional phrase (14):

- (12) a. ?Of which friend did you see the brother?
b. ?Of which friend did you hit the brother?
- (13) a. ?Of which friend did you help the brother?
b. ?Of which friend did you applaud the brother?
- (14) a. *Of which friend did you eat in the house?
b. *Of which friend did you go to the house?
c. *Of which friend did you put a book on the table?

The examples in (13) appear to be better than those in (14), which is not what we would expect if the verbs help and applaud take an underlying semantic case and if this case is a P. Based on these data it appears that one can not use extraction as a test for distinguishing Ps and Ks, or rather if one did use it, the results would not

correspond with the results of the tests that I have used, such as the predicate subject test. If one rejects extraction as a test, to avoid circularity one must give a principled account of why the results are not as expected. In other words, if all semantic cases are Ps, as I claim, then why do they not block extraction as prepositions do? There must be some difference between e.g. the dative in German and prepositions in that language, a difference which is not connected with category. I leave this as a problem for further research, but I would suggest that this difference, like two other differences discussed in previous chapters (involving the ability to be predicative and the ability to mark an object of a nominalized verb), may have to do with the ability of a P to assign a θ -role.

5.2.2 Split Topicalization

Botos (n.d.) gives evidence that there is a link between the case of a NP and its ability to participate in split topicalization (ST) in Hungarian, specifically that "ST was possible for nominative and accusative but not permissible with any of the other cases" (n.d.:2). Some of her data supporting this are given below:

- (15) a. Kék madarak, az éhesek lattak egy
 blue bird-PL(NOM) the hungry-PL(NOM) saw a
 bogarat
 bug
 'As for blue birds, the hungry ones saw a bug' (ibid.:6)

- 

Tappe (1989:159) brings up a restriction mentioned by Fanselow (1987) with respect to German: dative and genitive NPs can not be split topicalized. The reason for this is as follows: "Since there is just one Theta-role, but two nominal elements, that story [namely that *pro* is the head of a NP coindexed with the topicalized N] doesn't work with inherent cases because of the Uniformity Condition." (Tappe 1989:159).⁴

4 The uniformity condition given by Chomsky (1986a:194) is stated in (i):
 (i) If α is an inherent Case-marker, then α Case-marks NP if and only if $[\alpha]$
 θ -marks the chain headed by NP.
 Tappe is not in agreement with Fanselow's account.

This test, then, appears to give the same results as the tests in this thesis. However, data which I have gathered indicate that in German one can split topicalize NPs which bear dative case, as well as some NPs which are contained in PPs; examples of topicalization of NPs inside PPs are given in (16):

- (16) a. In Häusern, hat sie in größeren gewohnt als ich
'In houses, she has lived in larger [ones] than me'
- b. Mit Messern, möchte ich mit scharfen schneiden
'With knives, I like to cut with sharp [ones]'
- c. Unter Brücken, ging ich unter großen
'Under bridges, I went under large [ones]'

More data must be gathered, but if the judgements in (16) are standard, then split topicalization cannot be a universal test for distinguishing Ps from Ks, although it may apply to particular languages where there is a split, such as Hungarian. This test may be like the objective genitive test: not all languages have restrictions, but if a language does have restrictions, they apply to both NPs marked with semantic case and to adpositional phrases. Although I have only scratched the surface with respect to this phenomenon, it may be of value for the classification of Ks and Ps, although only in languages which have split topicalization and where there are restrictions on its application.

5.2.3 Repetition/Agreement

In this section we shall examine case agreement and the unusual phenomenon of preposition repetition. The existence of this phenomenon indicates that the fact that in many languages there is case agreement but not "adposition agreement" may not be of major significance in the classification of Ks and Ps.

Perhaps one of the most obvious apparent differences between adpositions and cases is that case markers can, and must in some languages, be marked on several elements of a NP, to agree with the head noun in case, while the repetition of adpositions in an NP is quite bad. The contrast is illustrated in (17)-(18):

- (17) a. **Latin:** urbium magnarum
 city-GEN.PL great-GEN.PL
 'of great cities' (Greenough et al. 1981)
- b. **Greek:** του δικαιου αντηρωπου
 the.GEN.SG just-GEN.SG man-GEN.SG
 'of the just man' (Crosby and Schaeffer 1928:4)

- (18) **English:** *in the in green in house

However, this is not a good test for distinguishing between Ps and Ks. First, it is not universally true that Ks can or must be repeated on elements within a NP. For example, in Turkish, as Lewis (1967:35) states: "A case-ending is attached only to the final element in a nominal group; in this respect the Turkish case-endings

behave like English prepositions and not like the case-endings of inflected languages such as Latin: 'good citizens', *iyi vatandaslar*, *boni cives*; 'of good citizens, *iyi vatandaslar-in*, *bonorum civ-ium*." [emphasis mine, ARL].

What is more striking is the fact that in some languages adpositions can be repeated within NPs. This is known as preposition repetition (PrepRep). Worth (1982) discusses this phenomenon in Old Russian and mentions its occurrence in Old Czech, Old Serbian, and Lithuanian, while Andersen (1971:950) says that "it is not frequent in Old Church Slavonic, but it is abundantly attested in East Slavic sources of various kinds until the 17th century in Russia, until the 16th century in Belorussia and the Ukraine. It is now limited to folk dialects and is stylistically restricted." An examples from Old Russian is *po reku po Oku* 'along river along Oka' (i.e. 'along the Oka river') (from Worth 1982:495).⁵ In (19) is an extreme example from the same language.

- (19) *ko mne, ko vašemu bratu k molodšomu, ko*
 to me, to your brother to younger, to

 knjazju k Vasil'ju k Jaroslaviču
 prince to Vasily to Jaroslavich (ibid.:496)

This phenomenon is seen by Worth as "a purely automatic, albeit optional grammatical marking process". Jones (1972), who discusses preposition repetition in the *bylina* ("the Russian folk epic") states

⁵ Thanks to Iliana Panova for translating the Russian data.

that it occurs there for metrical reasons and is "an instance of the phonological conditioning of a normally syntactical phenomenon" (p. ?). This may be true for the bylina, but I assume cannot be so for the non-poetic type contexts in which preposition repetition occurs.

This would appear to be an unusual phenomenon. Andersen (1971:951) cites, but does not pass judgement on, the following historical explanation:

The iteration of prepositions might point to a prehistorical development in which an original case (or cases) was replaced by prepositional phrases, but a special rule, the iteration rule, was set up to preserve agreement and hence, at least in some phrases, the distinctions formerly carried by case desinences alone. The textual attestation would then belong to a subsequent phase of development in which the original semantic distinctions between iterated preposition + case and non-iterated preposition + case had been reinterpreted as a stylistic difference, employable in all prepositional phrases regardless of the preposition and the case governed.

It is not so unusual for prepositions to be repeated on appositional NPs. For example, multiple occurrences of the preposition with elements in apposition are allowed "for the sake of clearness or emphasis" in Greek, as Smyth (1956:370) notes, citing the example from Plato's *Laches* 183c "ἐκ τούτων οἱ ὀνομαστοὶ γίγνονται, ἐκ τῶν ἐπιτηδευσάντων ἑκάστα" 'the men of mark come from those who have practiced each art' (more literally 'from those men the men of mark have come, from the men who have practiced each art'). This happens even in English, e.g. I live in New York, in the Big Apple. However, not all instances of PrepRep can be reduced to

apposition; sometimes PrepRep involves a noun modified by an adjective, both of which are preceded by a preposition.

It may be that the instances of PrepRep which are found are not exactly parallel to case agreement as in Latin and Greek. However, at least on the surface we cannot make universal claims about cases being able to occur repeatedly in an NP, while only one instance of an adposition can occur in an adpositional phrase. Further, there are some languages in which even case markers are not repeated, e.g. Turkish. Finally, in most languages there is no split between syntactic and semantic cases with respect to the ability to occur repeatedly in an NP.⁶ Thus the ability to occur repeatedly within a PP/NP can be used neither to tell Ps from Ks, nor even adpositions from case markers (although it must be admitted that repetition of prepositions is a rare and unusual phenomenon; usually it is safe to say that adpositions cannot be repeated).

5.2.4 Binding

In this section I shall explore whether binding can be used as a test to distinguish Ks from Ps. One would expect that it could be: since Ps block c-command, while Ks do not, neither predication of,

⁶ There is a split among cases in the Balto-Finnic languages: the "postpositional" cases (e.g. the comitative, the prolativ-comitative, the peripheral), unlike other cases, are not marked on modifying adjectives, i.e. the adjectives do not show case agreement for these cases. Oinas (1960:121) says that "Their lack of agreement is one of the reasons why several scholars have been inclined to deny their case-suffixal status." However, this may be changing for most of these cases; Oinas (ibid.) states that they "show the beginning of development toward concord of the attribute".

nor binding by, NPs contained in PPs (of NPs outside those PPs) should be possible. If semantic cases and adpositions are indeed of the same syntactic category, then they should behave uniformly with respect to binding, as they do with respect to predication. If they do not act uniformly, then my classification is incorrect, or what appear to be bindees are different for some language specific reason, or what appear to be binders are different for some language specific reason, or the binding theory is incorrect in one or more particulars, or it is not cross-linguistically valid.

The P/K distinction will be manifested in different ways for the three different binding conditions; I shall only deal with Principles A and C here. With respect to Principle A, reflexives and reciprocals should not be able to be bound by objects of Ps, including NPs bearing semantic cases. If there are not other possible binders in the governing category then the sentence in question should be ill-formed. With respect to Principle C, one would expect co-referent nouns/names which are both objects of Ps to be able to co-occur in the same governing category; they will both be free, since neither can c-command or bind the other.

Data from Hungarian indicate that NPs bearing semantic cases can be binders, contrary to expectations if semantic cases are Ps:

- (20) a. Jánosnak mindig baja van magával
 John-DAT always problem is himself-INSTR
 'John has always problems with himself.' (Marác
 1989:193)

- b. Jánossal vitatkoztam magáról
 John-INSTR argued-AGR1sg himself-DELAT
 'I argued with John about himself' (ibid.)⁷

These data may appear problematic, as they do not indicate that dative and instrumental NPs act differently than NPs in syntactic cases, which can also be binders. These examples should violate principle A if the dative and instrumental are Ps, since the reflexive pronouns have no other possible binders, and they must be bound. Thus one may question my realignment of categories, namely my claim that semantic cases are Ps.

However, it is not clear that the binding theory holds for English with respect to binders contained in prepositional phrases. Reinhart (1983) discusses several types of examples which are problematic for the c-command account of binding. The first such examples that she discusses involve indirect objects. The relevant examples are given in (21)-(23) (from Reinhart 1983:53).

- (21) a. *It didn't surprise her that Rosa has failed the exam.
 b. *It didn't occur to her that Rosa has failed the exam.
- (22) a. *I met him in Ben's office.
 b. *I spoke to him in Ben's office.
- (23) a. *Someone should tell her that Rosa's driving is dangerous.
 b. *Someone should point out to her that Rosa's driving is dangerous.

⁷ Marác gives this example a * judgement, but I assume from the context of the discussion that it is meant to be well-formed

The (b) sentences of these pairs should be grammatical, since the pronouns, being inside a PP (headed by *to*) is not able to c-command, and hence cannot bind, the name; therefore, Principle C is not violated. However, the sentences are ungrammatical; as Reinhart (ibid.) says, "there is not a difference in anaphora options of direct and indirect objects". To account for these facts, Reinhart proposes that indirect objects are not true PPs:

To handle such cases we may assume that indirect objects are distinguished syntactically from such PPs as locatives and instrumentals. Rather than being dominated by a PP they are dominated by an NP with a case marker which is lexically realized in English with a preposition, but it can be realized by other means in case-marked languages. If this is assumed, indirect objects c-command everything in VP ... (Reinhart 1983:54)

This explanation is not sufficient, since Principle C violations occur when an antecedent is contained in PPs headed by other prepositions. Reinhart (1983:174) gives the following examples:

- (24) a. *I met him in Ben's office.
 b. *I spoke to him in Ben's office.
 c. *I talked with him in Ben's office.
 d. ?I was thinking about him in Ben's office.

(24b)-(24d) should be grammatical, since him, being inside a PP can't c-command and hence can't bind Ben; the ill-formedness of (24a) is to be expected since there him does c-command Ben, violating Principle C. Reinhart says: "While the problem of indirect objects can be easily solved, if we assume that in fact they are not analysed as

PPs but as case-marked dative NPs (as I observed in Section 2.7), a more serious difficulty arises when we observe that certain oblique NPs behave the same way. Thus coreference is blocked in (24c) where the pronoun is in a with phrase "

The c-command account of binding also has difficulty in dealing with English with respect to Principle A. In (25) we see instances of what should be Principle A violations being grammatical:

- (25) a. I talked with the neighbors_i about each other_i.
 (Reinhart 1983:176)
 b. I spoke with Rosa_i about herself_i. (ibid.:177)
 c. I heard from John and Bill about themselves/each other.
 (Jackendoff 1990:431)
 d. gifts from John and Bill to themselves/each other (ibid.)

With respect to such problems, Reinhart (ibid.:176) says:

A syntactic solution to this problem seems to lie along the lines of reanalysis proposals, as for example in Williams (1980) and Hornstein and Weinberg (1981) -- the preposition of the PP is reanalysed to form a constituent with the verb, allowing the NP to c-command nodes in the VP. However, at least in the second of these studies, reanalysis applies to all verb-phrasal PPs which would yield the wrong results for the application of the anaphora restrictions: verb-phrasal locative PPs, as well as instrumental PPs always function as PPs with respect to anaphora.

Thus the binding theory, as currently formulated, cannot account even for English data. There is no distinction with respect to the binding theory among syntactic cases, semantic cases, and adpositions, therefore the Hungarian data presented above do not

argue against my realignment of categories, as even objects of adpositions can apparently be binders of elements outside of their adpositional phrase, contrary to the predications of the binding theory. There are some restrictions on binding, apparently connected with an hierarchy, but bearing semantic case or being inside a PP do not necessarily mean that a NP cannot be a binder. This means that binding cannot be used as a cross-linguistic test for distinguishing between Ps and Ks (although it is possible that in some languages binding phenomena will be sensitive to the P/K distinction). A more serious problem, which is independent of the P/K distinction, is the problem of preserving the c-command account of binding in the face of the data presented here. Finally, such facts cast doubt on the desirable possibility that there can be a unified account of binding and predication, as Rothstein has argued for: given the assumptions made in this thesis, c-command is relevant for predication, but apparently not for binding.

5.3 Conclusion

In summary, in this thesis I hope to have shown that first, there is justification for making the distinction between semantic cases and syntactic cases, and that it is possible to find ways of classifying individual cases on a principled basis, rather than relying entirely on one's intuition about whether an element has lexical or grammatical meaning.⁸ Semantic cases are not in fact Ks in the

⁸ One must still use intuition, but only to establish the clear cases of elements with lexical or grammatical meaning; presumably most people's intuitions

narrow sense used in this thesis, but simply Ps that are affixes. This may be an idea held by many, but I hope to have given that insight some foundation based on an examination of the syntactic behavior of adpositions, semantic cases, and syntactic cases.

Second, I have attempted to find a set of criteria which can distinguish syntactic cases from semantic cases. Most of these criteria or the ideas behind them, are not original to this thesis; however, to my knowledge they have not been correlated as has been done here. If we examine the behavior with respect to some phenomenon of constituents which are fairly uncontroversial representatives of one class or the other, and see how cases which are less clear in their classification behave with respect to the same phenomenon, we can say that the latter act like one class or the other in one way. If we can find several phenomena where this can be done, and if the results of such tests are shown to give consistent results, i.e. results which consistently indicate classification of a particular case with the syntactic or the semantic cases, then we may have some justification for saying that this case is indeed a member of one of these classes. The results of the tests I have discussed can be seen as evidence that the set of true cases is small, with no more than five or six members in a given language. All the other cases act like most adpositions and in fact should be placed in the same lexical category as adpositions. I have also argued that English and some other languages have

would be uniform with respect to such elements, e.g. everyone would agree that *armchair* has lexical type meaning, and I assume most people would agree that it is different from the accusative marker with respect to type of content .

underlying Ps, which are not phonetically overt, but which make their presence felt by blocking predication.

One of the tests mentioned in this last chapter does not, at least on the surface, give the same results as the tests in previous chapters, and I have not used it to classify syntactic and semantic case. Thus, PPs can be extracted out of dative NPs as well as out of accusative NPs (5.1). To simply not use tests which do not give the "right" results is to use circular reasoning; to avoid this one should be able to account for why the results do not come out as expected. There may also be other tests, or variations of the tests I have used, which do not give the same results as the tests discussed in this thesis. Accounts for the results of all these tests must be given before one can legitimately claim to have a definitive classification of syntactic and semantic cases; however, I have shown that the results of several tests, namely ability to be the subject of a predicate, ability to be predicative, ability to be translated into an objective genitive, and iteration, do agree (once apparent counter-examples have been accounted for). This may be seen as the foundation for a classification of Ps and Ks, and more generally may point the way towards an account of the distinction between lexical and functional categories.

Appendix

Some Well- and Ill-Formed Verb-Adjective Combinations in English Secondary Predication Constructions

The data here will indicate some verb-adjective/-noun combinations which can or cannot occur in secondary predication constructions, according to some authors. It should by no means, however, be taken as a complete representation of the predication data in English. Under some of the entries the type of construction, following the terminology of the source, is given. The year of occurrence of the instance of use is given in some cases. If the subject or object of a verb can be predicated of, then that is evidence that, at least in English and perhaps in other languages, the NP in question is not governed by an underlying P. On the other hand, the fact that a NP with a particular verb-adjective combination cannot be predicated of may indicate that subjects or objects of the verb in question are governed by an underlying P, or that for lexical, semantic, or pragmatic reasons the verb-adjective combination does not permit predication.

This appendix may serve as a model for further research into the possibilities of predication in English and in other languages as one way of detecting the presence of underlying Ps.

clausal subjects as subjects of secondary predicates

<u>awake</u>	refreshed and hearty (Visser 1970:183) (1727)	
<u>blush</u>	ruddy (Visser 1970:183) (1805)	
<u>burn</u>	crimson (Visser 1970:184) (1909)	
<u>come</u>	an honest daughter (Visser 1970:186) (1741)	
	thy friend (Visser 1970:186) (1671)	

<u>come</u>	a stranger (1678)	(Visser 1970:186)
<u>come (back)</u>	a prince (1855)	(Visser 1970:186)
<u>come (home)</u>	drunk	Nichols (1981a:3)
	roaring drunk (1696)	(Visser 1970:183)
<u>die</u>	good (1534)	(Visser 1970:183)
	old (1903)	(Visser 1970:184)
	young constructionally bound	Nichols (1981a:3) predicate nominal
	a beggar (1553)	(Visser 1970:186)
	a hero (1696)	(Visser 1970:186)
	a man (1781)	(Visser 1970:186)
<u>flash</u>	pearly and even (1930)	(Visser 1970:184)
<u>flourish</u>	green (1824)	(Visser 1970:183-4)
<u>get off</u>	very nervous (1848)	(Visser 1970:184)
<u>glitter</u>	white (1824)	(Visser 1970:183)

<u>go</u>	joyfull and glad (c1510)	(Visser 1970:183)
	Ambassador (1613)	(Visser 1970:186)
	prisoner (1594)	(Visser 1970:186)
<u>go (down to the grave)</u> a maimed and feeble man (Visser 1970:187)		
<u>live</u>	a bachelor (1599)	(Visser 1970:186)
	a Pharisee (1611)	(Visser 1970:186)
	servant (1867)	(Visser 1970:186)
	a servant (1749)	(Visser 1970:186)
<u>marry</u>	young (1925)	(Visser 1970:184)
<u>return</u>	a hero constructionally bound	Nichols (1981a:3) predicate nominal
(the waves) <u>roll</u>	dark (1838)	(Visser 1970:184)
(the sun) <u>set</u>	red (1816)	(Visser 1970:183)
<u>sit</u>	an idle looker on (1605)	(Visser 1970:187)
<u>walk (along)</u>	tired and hungry constructionally bound	Nichols (1981a:3) predicate nominal

**clausal objects as subjects of secondary predicates
well-formed**

<u>beat</u>	angry temporally dependent	(Roberts 1985:186)
<u>beat</u>	stiff resultant attribute	(Live 1978:137)
<u>boil</u>	sick depictive or resultative	(T. Rapoport n.d.:2)
<u>break</u>	new stage depictive	(T. Rapoport n.d.:5)
<u>bring (the prisoners) back</u>	alive concomitant attribute	(Live 1978:136)
<u>broadcast</u>	live manner-attribute	(Live 1978:139)
<u>brush</u>	smooth resultant attribute	(Live 1978:137)
<u>bulldoze</u>	level resultant attribute	(Live 1978:137)
<u>burn</u>	alive concomitant attribute	(Live 1978:130)
	black resultant attribute	(Live 1978:137)
<u>buy</u>	cheap manner-attribute	(Live 1978:139)
	sick adjunct (depictive) predicate	(T. Rapoport 1991:166)
	used depictive	(T. Rapoport n.d.:22)

<u>capture</u>	alive concomitant attribute	(Live 1978:136)
<u>carry</u>	full concomitant attribute	(Live 1978:136)
<u>carve</u>	thick/thin manner-attribute	(Live 1978:139)
<u>catch</u>	alive concomitant attribute	(Live 1978:136)
<u>chew</u>	raw temporally independent	(Roberts 1985:187)
<u>clean</u>	unplugged stage depictive	(T. Rapoport n.d.:5)
<u>comb</u>	straight manner-attribute	(Live 1978:139)
<u>consider</u>	smart temporally independent	(Roberts 1985:187)
<u>cook</u>	dry depictive or resultative	(T. Rapoport n.d.:2)
	fresh stage depictive	(T. Rapoport n.d.:5)
	contaminated adjunct (depictive) predicate	(T. Rapoport 199?:161)
<u>cut</u>	hot stage depictive	(T. Rapoport n.d.:5)
	short resultant attribute	(Live 1978:137)
	thick/thin manner-attribute	(Live 1978:139)

<u>cut</u>	wet adjunct (depictive) predicate	(T. Rapoport 1991:166)
<u>deliver</u> (the dinner)	hot concomitant attribute	(Live 1978:136)
<u>draw</u>	large manner-attribute	(Live 1978:139)
<u>drink</u>	bitter	(T. Rapoport n.d.:5)
	black depictive	(Halliday 1967:63)
	weak/black/strong concomitant attribute	(Live 1978:136)
<u>drop</u>	full depictive	(Halliday 1967:63)
<u>dye</u>	blue resultant attribute	(Live 1978:137)
<u>eat</u>	raw (1613)	(Visser 1970:551)
<u>find</u>	attractive depictive intensive	(Halliday 1967:77)
	unconscious depictive extensive	(Halliday 1967:77)
<u>flay</u>	alive (1865) objective complement	(Visser 1970:551)
<u>force</u>	loose resultant attribute	(Live 1978:137)
<u>freeze</u>	solid resultative	(Simpson 1983:143)
<u>fry</u>	crisp resultant attribute	(Live 1978:137)

<u>grow</u>	long resultant attribute	(Live 1978:137)
<u>hammer</u>	flat temporally dependent	(Roberts 1985:185)
	smooth resultative	(T. Rapoport n.d.:1)
<u>hate</u>	bitter stative depictive	(T. Rapoport n.d.:4)
<u>hold</u>	captive concomitant attribute	(Live 1978:136)
	slack/loose/tight manner-attribute	(Live 1978:139)
<u>kick</u>	open resultant attribute	(Live 1978:137)
<u>knock</u>	loose resultant attribute	(Live 1978:137)
<u>leave</u>	unhappy temporally independent	(Roberts 1985:187)
	a wreck	(Halliday 1967:76)
<u>like</u>	heavy stative depictive	(T. Rapoport n.d.:4)
<u>make</u>	scared temporally independent	(Roberts 1985:187)
<u>marry off</u>	young concomitant attribute	(Live 1978:136)
<u>meet</u>	drunk temporally independent	(Roberts 1985:187)
<u>open</u>	wet stage depictive	(T. Rapoport n.d.:5)

<u>order</u> (tea)	dark concomitant attribute	(Live 1978:136)
<u>photograph</u>	happy stage depictive	(T. Rapoport n.d.:5)
<u>pick</u>	ripe concomitant attribute	(Live 1978:136)
<u>plane</u>	smooth resultant attribute	(Live 1978:137)
<u>prefer</u>	dark stative depictive	(T. Rapoport n.d.:4)
<u>pry</u>	loose resultant attribute	(Live 1978:137)
<u>pull</u>	free resultant attribute	(Live 1978:137)
<u>pump</u>	dry resultant attribute	(Live 1978:137)
<u>read</u>	new depictive	(T. Rapoport n.d.:22)
<u>rent</u>	furnished concomitant attribute	(Live 1978:136)
<u>return</u> (the letter)	unopened concomitant attribute	(Live 1978:136)
<u>roast</u>	whole concomitant attribute	(Live 1978:136)
<u>roll</u> (the lawn)	smooth resultant attribute	(Live 1978:137)
<u>rub</u>	smooth resultative	(Halliday 1967:79)

<u>sand</u>	smooth resultant attribute	(Live 1978:137)
<u>see</u>	angry adjunct (depictive) predicate	(T. Rapoport 199?:167)
	sad temporally independent	(Roberts 1985:187)
<u>sell</u>	heavy unpainted non-circumstantial free predicate nominal	(T. Rapoport n.d.:5) Nichols (1981a:3)
	used stage depictive	(T. Rapoport n.d.:5)
<u>send (back)</u>	unopened (1700) objective complement	(Visser 1970:551)
<u>serve (the potatoes)</u>	cold concomitant attribute	(Live 1978:136)
<u>shave</u>	smooth resultant attribute	(Live 1978:137)
<u>ship</u>	green concomitant attribute	(Live 1978:129)
<u>shoot</u>	dead resultative	(Simpson 1983:143)
<u>slam</u>	shut resultant attribute	(Live 1978:137)
<u>slice</u>	thick/thin manner-attribute	(Live 1978:139)
<u>swallow</u>	raw concomitant attribute	(Live 1978:136)
<u>take (whiskey)</u>	neat/straight	(Live 1978:136)

<u>take</u> (soup)	hot concomitant attribute	(Live 1978:136)
<u>trap</u>	alive concomitant attribute	(Live 1978:136)
<u>walk</u> (the dog)	exhausted temporally dependent	(Roberts 1985:186)
<u>wash</u>	clean resultant attribute	(Live 1978:137)
<u>wave</u>	high manner-attribute	(Live 1978:139)
<u>wear</u>	short concomitant attribute	(Live 1978:136)
<u>weigh</u>	dressed non-circumstantial free predicate nominal	Nichols (1981a:3)
	empty	Nichols (1981a:3)
<u>wrench</u>	free resultant attribute	(Live 1978:137)
<u>wring</u>	dry resultant attribute	(Live 1978:137)
<u>yank</u>	free resultant attribute	(Live 1978:137)
ill-formed <u>check</u>	hot depictive	(T. Rapoport n.d.:19)
<u>hit</u>	broken depictive	(T. Rapoport n.d.:19)
<u>hug</u>	warm depictive (intepreted as resultative)	(T. Rapoport n.d.:19)

<u>kick</u>	tired depictive (OK as resultative)	(T. Rapoport n.d.:19)
<u>own</u>	young adjunct (depictive) predicate	(T. Rapoport 1991:169)
<u>phone</u>	sick depictive	(T. Rapoport n.d.:19)
<u>pursue</u>	contaminated depictive	(T. Rapoport n.d.:19)
<u>save</u>	small depictive	(T. Rapoport n.d.:19)
<u>spill</u>	black concomitant attribute	(Live 1978:131)

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