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Miscreant Morphemes:
Phrasal Predicates in Ugric

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Miscreant Morphemes:
Phrasal Predicates in Ugric

Farrell Ackerman

Abstract

In this study I examine phrasal predicates in the Ugric languages (Hungarian, Vogul and Ostyak) with particular attention to the reflexes of this phenomenon in Hungarian. These entities consist of a preverb (instantiated by a sublexical or lexical category) and a verbal stem. Preverbs are differentiated into two types according to the presence or absence of a synchronic syntactic relation to the verb stem: these types are argumental and prefixal, respectively. All preverbs are separable from an associated verb stem under certain specifiable syntactic conditions. Despite this behavior, it is argued that all Ugric preverb and verb combinations are formed in the lexical component of the grammar by morphological rules. Prefixal preverb + verb combinations are interpreted, in Chapter 4, as instances of derivation in which the preverb functions affixally. Argumental preverb + verb combinations are interpreted, in Chapter 6, as compound predicates in which a single selectional requirement of the verb is satisfied morphologically. Two additional types of preverbal constructions are examined and analyzed as morpholexical entities: 1) certain prefixal preverbs host possessive morphemes and these possessive morphemes are interpreted, in Chapter 5, as instances of pronominal incorporation, and 2) auxiliary + nonfinite constructions are interpreted, in Chapter 7, as examples of analytic predicates, i.e. morholexical entities which manifest a disjoint syntactic realization of their structural and functional heads.

Though the present study is primarily descriptive and exploratory, the cross-linguistic diachronic development and theoretical relevance of these phenomena are adumbrated. There is a cross-linguistic tendency for phrasal predicates to derive from the agglomeration of heads: phrasal predicates are predicate complexes consisisting of the

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head of the clause, i.e. the verb, and the head of some other constituent. From a theoretical perspective, it is proposed that phrasal predicates should be understood as instances of a broader phenomenon, namely, lexical phrases: these are entities created by morphological rules which do not exhibit the sort of phonological integrity customarily encountered with morphological compositions. This suggests the theoretical importance of distinguishing between the phonological and morphological aspects of wordhood: a single grammatical word can consist of several phonological words. The theoretical ramifications of two particular types of discrepancies are examined: 1) the so-called *bracketing paradoxes* due to discrepant morphological and phonological structure are investigated in terms of the revised version of Lexical Phonology proposed in Booij and Rubach (1984) and; 2) the discrete syntactic expression of structural and functional heads for certain lexical compositions involving auxiliary verbs is examined in terms of the notion *analytic predicate*, and the rudiments of a theory of analytic predicates are proposed.



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Dedication

I dedicate this study to Richard Langstaff, Basil Burwell, and William Dalton for caring at a time I needed it most, and to my parents, Meyer and Marilyn Ackerman, for caring all the time.

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Chapter 1: General Introduction

It is commonly claimed that descriptive grammarians know a good deal about particular languages (and language families) but lamentably little about linguistic theory. The complement has also been claimed: theoretical linguists display considerable virtuosity in formal argumentation but exhibit only cursory knowledge concerning the specificities of broad domains of grammar exemplified in diverse languages. These characterizations are, happily, false, and they are getting falser as linguistic research matures. They were true, in the minds of many, with evidence for their accuracy attested in the complexion of linguistic investigation over the past two decades: much language description offered with provocative disregard of developments in theory and much theory proposed with supercilious disregard of broad-based empirical confirmation.

A proliferation of formal linguistic frameworks and a broadening of the empirical base of theory construction have eventuated, over the past few years, in a promising tension between linguistic theory and the "thick description"[1] of grammatical phenomena. In particular, the present day emphasis on issues relating to the lexicon (interpreted to include derivational and, arguably, inflectional morphology) matches in its fervor the neglect of this domain evident - with numerable exceptions - in earlier generative analyses. One clear consequence of this avid attention to the lexicon has been a redistribution of the explanatory burden in linguistic argumentation. Formerly, one encountered nearly sovereign reliance on tree geometries and/or transformational rules for the explanation of syntactic phenomena. Presently, the examination of numerous languages containing complex morphology and the postulation of the so-called *configurationality parameter* have led to the re-evaluation of received generative wisdom concerning the sources of syntactic

[1] Cf. Geertz (1973) for an explanation of the term "thick description".

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explanation. In general, then, the study of the nature and complexion of the lexicon has led to a more interactive conception of grammar.

Though I cannot confidently claim that the present dissertation embodies the proper tension between language facts and theoretical 'fictions' I do believe that the ensuing discussion of phrasal predicates and the phenomenon of *lexical phrases*, at worst, avoids the twin pitfalls of indefeasible speculation and undirected description. At best, it addresses several neglected and acknowledged problems and provides plausible suggestions for their solution.

1. The Lexicalist Trend

In the recent past it was fashionable in linguistic theory to interpret grammar primarily though the prism of syntactic structures. Naturally, generative linguists acknowledged the existence of other components of grammar but there appeared to be a general consensus that the discovery and defense of particular phrase structure geometries would lead to an insightful understanding of human language as a species specific facility of humans. Few linguists working within the generative transformational framework at that time expected that the postulation of a productive lexical component would prove to be a necessary complement to an autonomous and independently motivated syntax.[2] Fewer still would have anticipated the central role the lexicon would claim in subsequent syntactic argumentation. Indeed, confidence in the explanatory force of phrase structure and syntactic transformations was so absolute that some theoreticians (notably Generative Semanticists) hypothesized that word-formation and other morpho-lexical processes[3] were properly interpreted as transformation-type operations performed on ever more abstract semantic structures: transformations, esteemed and apparently effective sources

[2] Consider the benign disregard of work by Gruber (even after its initial resuscitation by Jackendoff) and the exclusion of work by Fillmore as well as the general neglect of morphological studies in these early works.

[3] The term *morpho-lexical* in the present work is employed as a cover term to designate rules which apply in the lexicon. Many such rules are associated with lexical effects, such as diathesis, which will be examined later in this work. In the present context, morpholexical rules do not refer to so-called 'readjustment rules' or the like.

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of linguistic explanation, were invoked in order to 'capture', for instance, the subcategorizational and selectional similarities exhibited by certain verbal forms and their deverbal derivatives. This employment of transformations to account for cross-componential (or, in a more recent idiom, transmodular) and cross-categorial similarities elicited some strong objections in the form of Chomsky's "Remarks on Nominalization." Many of his remarks, after a time, served as a springboard for subsequent speculation concerning the nature and composition of the lexical component - commonly referred to as the Lexicon and - in the form of the Strong Lexicalist Hypothesis - interpreted to include derivational as well as inflectional morphology.

The pre-eminent role of the Lexicon and lexical issues for explanation in linguistic theory has been referred to as the 'lexicalist trend'. The import of this trend is clearly exhibited in the form of recent linguistic theories. Perhaps the most developed expression of lexicalist grammar is the theory of Lexical Functional Grammar.[4] This theory as well as several generativist theories of morphology and word-formation form the theoretical backdrop of the present work.

2. The Empirical Base

Lexicalism has not been the only trend to exert a formative influence on recent linguistic theories. There has been another, perhaps equally determinative factor: an expansion of the empirical base for theory construction and verification. Transformational grammar was often ridiculed by its detractors for the colossal scope of its claims despite the demonstrably parochial scope of its empirical base. The protests against such a view registered by generative apologists like Newmeyer (1981) are curiously self-refuting. A close review of transformational treatments of numerous languages (particularly taken from the list he provides) indicates that he misses the essential point of such objections: the majority of these studies are parasitic on assumptions formulated for

[4] Cf. Hale's lexical structure version of GB, Williams' ternality version (based on the centrality of *external/internal* arguments) of Government and Binding Theory and recent work within Head Driven Phrase Structure Grammar (Sag 1986) for parallel developments within the generative tradition.

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English - the lines of inquiry as well as the form of potential analyses are determined primarily from studies of (restricted domains of) English grammar. Linguistic phenomena from 'exotic' languages had a negligible effect on the research program and formal considerations of standard transformational grammar. The evident discontent of numerous theoretical linguists as well as the development of early alternatives such as Relational Grammar and Generative Semantics are only intelligible if a fair degree of early parochialism is acknowledged.

It seems worthwhile to note, in passing, that Newmeyer's misunderstanding appears endemic to the generative enterprise as practiced by numerous linguists over the decades. The desire to simultaneously praise the restrictiveness of a favored theory as well as the capacity of this theory to incorporate (fundamental) revision without essential change is a paradoxical tendency observable at the origins of generative research. Uriel Weinreich (1967) expresses, to my knowledge, the first and surely the most ironical remarks concerning this tendency.

> By the mysterious power to change his theory without changing it, Katz seeks to guarantee the perennial correctness of his approach, abstracted from any particular formulation of it.

These are, hopefully, excesses of only historical interest. A superficial survey of recent literature reveals that although criticism aimed at earlier versions of the theory was certainly justifiable it has become less so when one considers the broad scope of grammatical phenomena as well as the wide scatter of languages presently being analyzed within present generative models.

Since this dissertation is primarily concerned with phenomena in Hungarian (with various excursions into the analysis of similar phenomena in certain related and unrelated languages) it is, perhaps, instructive to mention clear differences in analytic strategies which illustrate the general nature of this change in attitude toward the study of 'exotic' languages.

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Kiefer's *On Emphasis and Word Order in Hungarian* (1967) is a detailed and ultimately unsuccessful attempt to analyze Hungarian syntax in accordance with an Aspects model of transformational grammar. Numerous analytic assumptions transferred from English are shown to fit awkwardly, if at all, with the facts of Hungarian. This is an unwitting achievement of the author. Kiefer's desire for adequate empirical coverage, however, eventuated in a rich compilation of grammatical descriptions which makes the work worthwhile years later despite the use of the patently inappropriate theoretical framework current at that time. His treatment shares with most American work of that period a confident neglect of morphology and lexical issues in general: a peculiar oversight given the robust morphology of Hungarian and, if I am correct, the central place of lexical considerations for an adequate analysis of this language.

Hungarian grammarians exhibited an early enthusiasm for transformational grammar. Their subsequent disillusionment derived from a pervasive recognition that the categories of analysis provided by the transformational framework were ill designed to address fundamental intuitions about the grammar of this language. Certain insightful and imaginative works on morphology, argument structure, and case government by Sándor Károly, Ilona Molnár, and László Dezsö seem farsighted from a contemporary perspective, but their speculations found little encouragement from practitioners of the early transformational model.[5] Indeed, these latter linguists found the Soviet lexicographic tradition with its emphasis on lexical semantics and morphological analysis a congenial antidote to generative repudiation of or lukewarm flirtation with these domains of grammar. We will see intimations at several junctures that this overlooked Soviet lexicographic tradition is a precursor, in many respects, of present generative preoccupations with the lexicon.

[5] Some of these early treatments led to intriguing and innovative proposals. For example, Károly (1968) proposed a level of linguistic representation in word-formation called logico-semantic representation. This resembles in more than name alone certain of the proposals of Marantz (1984) offered within a variant of Government and Binding Theory.

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In marked constrast to these precipitate generative prejudgments, recent speculation concerning the so-called 'configurationality parameter'[6] and the increased significance given to the Lexicon encourages a respectable analysis of Hungarian in terms more suitable to demonstrable phrase structure configurations and more in accord with traditional conjectures concerning Hungarian clause organization. For instance, the Government and Binding formulations of E. Kiss (1981 and elsewhere) represent an adaptation and elaboration of certain theses about discourse determined clause structure proposed in the late 19th century by Samuel Brassai.[7]

This specific return to tradition has spawned a resurgent interest in an inspired and acrimonious Hungarian linguistic tradition. Many modern arguments, in fact, appear to be repetitions of debates between grammarians of former generations. The present work can, like E. Kiss', be viewed as an extrapolation and theoretical reformulation of certain positions advanced by some of these sensitive and contentious old-timers.[8]

Whereas the GB analyses of E. Kiss, Szabolcsi (1981), and Horvath (1981) are predominently syntactic, these works have been supplemented by explicitly morpholexical and prosodic considerations in the work of several linguists affiliated with the Linguistics Institute in Budapest.[9] As we will see in 3.2, questions concerning the relative importance of different domains of grammar are, once again, old ones in Hungarian grammatical tradition.

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[6] This refers to an alleged parametric distinction between languages originally attributed to the form of their base rules as proposed in Hale, Jeanne and Platero (1977). These speculations have been altered and elaborated over the years. The view of configurationality adopted in the present work is the simple one conventionally accepted within LFG: the configurational status of a language is criterially determined by the manner in which it encodes grammatical functions. If GFs are encoded by reliance on phrase structure position this is configurational encoding while if these functions are encoded by e.g. case marking, this is non-configurational encoding. (For an alternative and seminal view of configurationality cf. Hale (1984)). It is commonly accepted that the manner of encoding GFs need not be uniform within a language: this permits one to postulate degrees of configurationality.

[7] Cf. 3.1 for a brief overview of Brassai's views and 3.2 for E. Kiss' application of these views to GB.

[8] As a historical note it should be mentioned that in most instances the hypotheses which I propose were developed in advance of studying Hungarian linguistic tradition. Only as an outsider and language learner affiliated with the Hungarian Academy of Sciences did I become aware of how germane these opposing opinions are for modern theoretical concerns.

[9] Kalman et. al (1984), Kornai and Kalman (1985), Varga (1983), Kenesei & Vogel (1986) and others.

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In summary, I am confident that the lexicalist trend and the investigation of 'exotic' languages have combined in such a manner as to facilitate inquiry into the phenomena examined in this dissertation, namely, *lexical phrases.* Lexical phrases, I will argue, (following Hungarian and Soviet Finno-Ugric scholarship) are transitional between productive lexical compositions and syntactic phrases. Any investigation of these entities requires simultaneous examination of morphology - understood as a productive portion of the Lexicon - and syntax.

3. The Theory

The selection of Lexical Functional Grammar as the theory in which my analysis is formulated results from my belief that it is congenial to descriptive intuitions about the nature and behavior of *phrasal predicates.* In my mind, then, the selection of this theory accords well with the desiderata for theory selection articulated in Bresnan (1982):

> A formal theory of grammar, such as LFG, is not itself a substantive linguistic theory. Rather, it is a language for precisely expressing descriptive rules and universal postulates of grammar. The choice of theory is important. If the formal theory contains the appropriate concepts and representations, the linguistic principles and grammatical descriptions generalize along the right dimensions, simplifying both descriptive rules and theoretical postulates. - 1982:282

Naturally, it would be naive to demand of any linguistic theory, given the infancy of the discipline, that it reliably provide the researcher with all the representational apparatus and conceptual distinctions necessary to handle every linguistic phenomenon. In the present study I will, however, forego proposing substantive emendations to the theory and content myself with focusing on certain explicit and inchoate aspects of it. I am employing LFG to talk about lexical phrases: I am not, in the present forum, formulating a theory of lexical phrases within LFG.

I will adhere to several theoretical assumptions held by practitioners of this theory

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(and in certain instances held more widely.) The most relevant morphological assumption concerns the location of inflection in grammatical theory: both inflection and derivation are relegated to the lexicon in the present work. This entails that fully formed words, i.e. words containing derivational as well as inflectional morphemes, assume categorially appropriate positions within phrase structure trees. This assumption, though contested, is often shared across theoretical lines.

The hypothesis that argument taking predicates (ATPs) select for the function of their arguments and only derivatively for their lexical or phrasal category is an assumption peculiar to LFG:[10] the most common and prevailing hypothesis, of course, being that ATPs subcategorize for the category of their complements and that grammatical functions are derivative from phrase structure position. In LFG, it should be noted, grammatical relations - referred to as *grammatical functions - are regarded as primitives.*

LFG assumes an essentially traditional notion of government in terms of feature selection: roughly, if an element determines features for another element the second element is governed. A classic example of government along these lines is the determinative relation which a predicate exerts over the case-forms or morphological shape of dependent arguments. Government, though not defined as a strictly structural relation (as in the Government and Binding framework) obeys a locality condition: it obtains only within the clause nucleus of the governor. For any ATP this means the domain defined by its selected functions. This assumption is, more or less, shared by dependency grammarians.

Finally, LFG (along with GPSG and Functional Unification Grammar (Kay 1983)) integrates grammatical and lexical information displayed within the clause by means of unification: percolation conventions operating on lexical and phrasal nodes insure that

---

[10] As will be shown in Chapter 3 lexical items in LFG are associated with subcategorizational information concerning the function i.e. SUBJ OBJ, OBL, etc. of obligatory arguments. This is referred to as *selection for function*. A recent innovation within the Government and Binding framework resembles selection for function. According to this hypothesis (cf. Chomsky 1986) an argument taking predicate s-(emantically) selects for its complements. That is, an ATP selects the *thematic role* of its complements while the categorial instantiation of this complement is essentially a derivative notion. This position, to repeat, resembles the LFG hypothesis of selection for function in numerous respects.

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information aggregates in a manner appropriate for principles of unification to determine the compatibility of information collected in this fashion.[11] Grammaticality is regarded primarily as a function of the success or failure of information to be integrated in the prescibed manner. In general, theories of this sort are concerned with discovering the constraints on the *flow of information* characteristic of natural languages.

I would only like to add at this juncture that the problems analyzed here do not, to the best of my knowledge, derive from theory bound assumptions but, rather, represent conundrums for all generative theories.

4. The Problems: An Overview

Now, what, more precisely, is this dissertation about? For the most part it is, as already indicated, an exploration of what I have referred to elsewhere as *twilight words*: concatenations of morphemes whose syntactic separability represents *miscreant behavior* with respect to prevalent theoretical assumptions concerning wordhood and morphology. Complex entities of this sort are problematic for generative theories of grammar since in these theories words are assumed to be units with phonological and/or syntactic integrity. Some variant of this assumption is required for the usual beliefs about the interaction of words with phrase structure to be maintained: it is conventionally assumed that lexical items appear under appropriate nodes in tree diagrams. This generally precludes the possibility of a single lexical item being dominated by multiple lexical (non-phrasal) nodes and moreover, is accompanied by a tacit analytic maneuver: whenever a relation can be established between two (or more) syntactically independent elements this is to be interpreted in terms of syntactic dependency.[12]

This parochial conception of wordhood appears, however, to be at variance with widely attested evidence for a contrary and more elastic interpretation of wordhood. This

[11] The operation of *feature percolation* will be introduced in greater detail at the appropriate time in the text. Cf. Chapter 4.

[12] The reader should at this point reflect on usual interpretations of English 'empty verbs' - *have, keep, get* - and grammatical meaning bearing AUXs - *will, can, must* - as complement-taking matrix predicates.

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might be called a *lexicalist interpretation of (complex) wordhood.* On this account, the status of (complex) wordhood is determined with reference to characteristic properties of morpholexical or word-formation rules (WFRs): *a complex word is an entity created by morpholexical rules and which may serve as input to the operation of additional morpholexical rules.*[13] This leaves open the possibility that complex words may or may not display phonological and/or syntactic integrity as usually understood: compositions without such integrity will be referred to as *lexical phrases.*[14] *Phrasal predicates* as a type of lexical phrase is the main focus of the present study.[15]

What are phrasal predicates? One can view concatenations of independent elements as a genus of verbal category called phrasal predicate. Given this sort of taxonomic approach, phrasal predicates can be interpreted as a species of complex predicate, namely, phrasal verbs. For the related and unrelated languages examined in this study phrasal verbs generally exhibit the structure, Preverb (PV) + V(erb). *Phrasal verbs or predicates are a type of complex predicate whose constitutive pieces retain their syntactic (in LFG terminology, their c-(onstituent) structure) independence.* That is, the pieces of phrasal verbs display some evidence as to loose phonological coalescence in clause structure.[16] There are other complex predicates which evince functional and structural similarities to phrasal predicates but which, criterially, do not exhibit the mobility of elements definitional of phrasal predicates. We will compare predicates with (in)separable prefixes in Chapter 4 and will see that they display striking similarities from the perspective of their lexical effects on simple verb stems.

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[13] As previously mentioned, by *morpholexical rule* I intend rules which combine morphemes and which yield effects on the lexical information associated with the morphemes which participate in these rules.

[14] This definition permits the subsumption of constructions in e.g. analytic or isolating languages, into the domain of the lexicon and, thereby, the word. It also renders synthetic and analytic constructions comparable by unifying them where they are similar, i.e. their relation to the properties of morpholexical rules, while permitting them to differ inconsequentially, i.e. in their surface manifestations.

[15] In Komlosy and Ackerman (1984) we proposed that lexical phrases are, in fact, restricted to categories functioning as predicates. There would be, then, a parametric difference between languages or within subdomains of a single language according to whether predicates can surface as lexical phrases. Cf. discussion in Chapter 4.

[16] Phenomenally, the constructions investigated here are quite similar to the constructions treated in Indo-European studies in terms of the complementary notions *"tmesis"* and *univerbation.* Cf. Discussion in Chapter 4 and Watkins (1963)

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Though these phrasal forms may sound exotic, the Ugric entities examined here are actually quite familiar: in many relevant respects they resemble the so-called 'verb + particle' constructions in English and the separable prefix + verb constructions commonly found in Germanic. The existence of such constructions has elicited some comment by descriptive and theoretical grammarians: linguists of both perspectives expressing puzzlement over the elusive nature of wordhood implied by these constructions. These compositions evince many profiles: derived words, compounds, syntagmata.[17]

Cross-lingustically, it appears that PVs exhibit certain recurrent properties: 1) they evidence similar historical origins (this will serve as diachronic motivation for a grammatical principle called 'head-to head attraction'[18] whereby argument taking predicates, i.e. heads, display a tendency to aggregate into *predicate complexes*, i.e. the constitutive pieces of these morphological groups tend to be argument taking predicates); 2) they exhibit similar effects with respect to word-formation in terms of operations on argument structure, determination of case government patterns, the assignment of grammatical functions to selected arguments, and the corpus of grammatical relations implicated in verbal compounding (this latter analyzed in Chapter 6 as *argument incorporation*); 3) their combination with verbal stems yields both semantically compositional and non-compositional results; 4) their combination with verbal stems often exhibits prosodic or phonological effects characteristic of word-formation processes. Each of these properties will be examined at the proper time. For the present, however, it seems worthwhile to note that despite the ubiquity of phrasal verbs in the languages of the world (Africa, Southeast Asia, the Caucasus, North America, Australia, the Urals, etc.) there has been comparatively little theoretical effort devoted to their analysis.[19] This is somewhat

[17] We will see throughout this work that descriptive linguists have had a difficult time differentiating straightforward verbal derivation from verbal compounding in many instances. Cf. Chapter 4 and 6 where the elusiveness of this distinction becomes particularly apparent.

[18] This finds an analogue in Marantz's synchronic operation of 'merger' examined in Chapter 4.

[19] Recently, however, Catell (1985) has published a study which addresses a subset of the construction examined here, namely, composite predicates. He analyses collocations of 'empty verbs' and nominals such as 'take/have a look' within the GB framework. English constructions of this type are not examined in the present work but I believe that the proposal made for *analytic predicates* in Chapter 7 could be extended to handle them. There has also been some recent work on composite predicates within the lexical structure framework of Hale (1984)

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surprising since they are intriguing entities from the perspective of contemporary theories of morphology and their interaction with theories of syntax: they demand that we develop theories of constituent discontinuities and that we explain how pieces of presumable lexical compositions retain their c-structure independence.[20]

I have mentioned in passing the problematic nature of lexical phrases for usual generative assumptions about the interaction between morphology and syntax. A popular conception of this interaction is embodied in the Lexical Integrity Hypothesis. According to this hypothesis (in most of its various strengths), morphological compositions (both simple and complex) constitute inviolable islands with respect to common syntactic operations. That is, syntactic operations can neither appeal to morphemes internal to complex words for purposes of, e.g. control or anaphoric interpretation, nor can they dislodge morphemes combined by word formation rules in order to effect constituent structure discontinuities or novel morpheme permutations. This hypothesis is so appealing that two linguists have sought to derive its effects from a procedure known as Bracket Erasure within level-ordered morphology.[21]

In several recent dissertations[22] Simpson (1983), Ishikawa (1985), Dahlstrom (1986) and O'Connor (1986) amplify a claim peculiar to Lexical Functional Grammar among generative theories:[23] these grammarians accept the thesis that functional differences do not correlate isomorphically with structural differences. In other words, the mapping of linguistic form and grammatical function is multifarious.[24] This aspect of LFG will be invoked several times throughout this study but for present purposes one particular instantiation is instructive: the linguists mentioned previously all demonstrate that units

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[20] We will see in subsequent chapters that several proposals have been developed recently in order to treat related phenomena: for instance, double structures (Zubizarreta 1981, Sadock 1985) modular morphology (Pesetsky 1985), merger (Marantz 1983) and reanalysis (Kiparsky 1983).

[21] Cf. Pesetsky (1979) and Mohanan (1981) and the introduction to Chapter 4.

[22] Cf. also Grimshaw's discussion of French clitics in Bresnan ed. (1982)

[23] This is a position presently being developed within Head Driven Phrase Structure Grammar (Sag 1986) as well.

[24] This contrasts sharply with Government and Binding claims: in GB every functional difference is reflected in a distinct structural encoding.

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with morphophonological integrity, i.e. units understood as incontrovertible 'words', are often interpretable as *functionally complex*. A typical domain in which this is attested is *causativization*: a language with lexical or morphological causatives i.e. where the causative marker is a morpheme contained in the verb, can exhibit bi-clausal effects.[25] This can be illustrated with an example from the Amerindian language Northern Pomo.[26] Consider the following sentences containing a simple verb (1a.) and its causativized partner (1b.):

1a. man mo:wal sip'un
3sg.f.A 3sg.m.P kiss
'she kissed him'

b. man mo:wal titi sip'un+ka
3sg.f.A 3sg.m.P NCBR.P kiss+CAUS
'she made him kiss her'

In Northern Pomo, as analyzed in O'Connor (1986), a non-clause bounded reflexive pronoun is (obligatorily) interpreted as co-referential with a SUBJ antecedent contained in another clause. Despite the incontestable surface unity of the causative verb form it appears that a covert clause must be present: the functional complexity of the causative verb form consists in the supposition that it contains a separate clause nucleus as the locus of the NCBR pronoun. If such a supposition is granted, the gloss provided for 1b. is accounted for: the SUBJ 'she' and the NCBR pronoun are in separate clauses and can therefore be licitly bound. In addition, an imaginable interpretation is correctly precluded: 1b. cannot mean 'she made him kiss himself' where the NCBR is bound to a SUBJ in its own clause.

The lesson here and in similar instances is simple: morphophonological integrity does not entail functional simplicity.

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[25] The phenomenon of functionally complex Japanese and Korean verbal forms was the focus of Shibatani's (1970) dissertation.

[26] This discussion is based on the analysis provided in O'Connor (1986). The abbreviations in the glosses designate the following: A = agent case marker, P = patient case marker, NCBR = non-clause bounded reflexive i.e. a reflexive marker whose SUBJ antecedent cannot be contained in the clause in which it itself occurs, CAUS = causative morpheme.

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The present enterprise might be interpreted as exploring the converse of this lesson: the absence of morphophonological integrity does not entail functional complexity.[27] That is, effects which intimate the lexical status of an entity appear to be somewhat independent of surface instantiation. Phrasal predicates consist, by definition, of syntactically separate parts but this alone is insufficient to inform us about their status as lexical entities. This dissertation utilizes phrasal verbs in order to explore the relationship between lexical rules (or more broadly, word formation rules - WFRs), their morpho-lexical reflexes and the syntactic behavior of these morpho-lexical reflexes.

It is a leitmotif of descriptive studies that phrasal verbs occupy an ambiguous region of the grammar: they are, informally, relegated to some level of representation intermediate between derivation and syntactic phrases. The basic problem for most linguistic theories is that no such intermediate level of representation is generally recognized. Certain commonly held beliefs about the scope of WFRs (for example, the No Phrase Constraint as formulated in Botha (1981)) even appear to preclude a morphological treatment of phrasal verbs and their deverbal derivatives. The challenge as I see it, then, is to propose a theoretical analysis which conforms with widespread pretheoretical intuitions concerning the structure, functional composition and c-structure behavior of phrasal verbs.

Certain preverb + verb constructions are reminiscent of incorporation compositions as discussed in, e.g. Sapir (1911) and Kroeber (1911):[28] 1) the relevant preverbs exhibit syntactic dependencies with an associated verbal stem familiar from studies on morphological incorporation; 2) incorporation compositions can display variable degrees of phonological fusion between their members; and 3) both morphological and syntactic considerations seem central for the adequate analysis of these constructions. Point 2 concerning the nature of the boundary between the Preverb and the Verb raises an important problem addressed more frequently in the Soviet than in the American linguistic literature:

[27] This issue has been recently addressed in the work on analytic vs. synthetic encodings of reflexives by Sells, Zaenan, and Zec (1985).

[28] Cf. Chapter 6 for discussion.

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word formation rules or, alternatively, lexical composition rules appear able to produce entities with multiple phonologically and/or syntactically independent members. In other words, we are faced here with an evident discrepency between the phonological and grammatical aspects of wordhood.

Ugric phrasal predicates are not only a prevalent phenomenon but, as we will see, they belong to a synchronically vital system of predicate formation. The intermediate category postulated for Hungarian phrasal verbs will be a V' category. This phrasal category is to be distinguished from its usual use as designating the syntactic domain, e.g. the VP, for the so-called 'internal arguments' of a predicate. V' in the present context designates a lexical phrase: a concatenation of lexical and/or sublexical categories whose pieces are separable under certain specifiable syntactic conditions. In some respect, this conception of V' resembles the notion *verbal group* as adopted by Skorik (1975) in his analysis of incorporation:[29]

> Meshchaninov defines incorporation as a special means of forming syntactic groups in which ' dependent elements are included in the incorporated complex with its basic stem' while at the same time these dependents are considered ' as members of the incorporating complex and not as members of the clause.' - Skorik p.128

Following Horvath (1981), Farkas (1984, 1986) and others it will be assumed that the lexical V' corresponds, in many instances, to an independent V' syntactic constituent.[30]

The are two main types of lexical V' constructions examined in this work. The first type simply consists of a PV and a simple verb stem. The second type, in contrast, consists of an auxiliary verb bearing grammatical meaning and a verbal stem (either simple

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[29] The notion 'verbal group' as designating an entity containing elements which are not daughters of an S is employed by Kálman et. al. (1984) to refer to phenomena interpreted as *analytic predicates* in Chapter 7.

[30] Cf. the interpretation of syntactic V' along the lines of Emonds (1976) found in Chapter 3 and discussion of syntactic V' in Chapter 6.

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or derived by means of adding a PV) bearing lexical meaning. The morphemes contained in these two main types of lexical V' constructions, exhibit the following linear sequence:[31]

TYPE 1	TYPE 2
a. [PV] [V] [INFL]	b. [PV/V-INF] [AUX] [V-INF][32]

These types are exemplified by the following Hungarian constructions.

TYPE 1	TYPE 2
a. [meg][gyöz][tem]	b. [meg][szoktalak][gyözni]
PV-convince-PAST-1sg	PV used to-1/2 convince-INF
'I convinced (him)'	'I am used to convincing you'

The abbreviation for preverb - PV - covers a categorially diverse collection of elements which share a property mentioned earlier: they are constrained to be instantiated by either lexical or sublexical categories. The functional composition of the phrasal predicate can be analyzed according to the presence or absence of a synchronic syntactic relation exhibited by the PV with respect to an associated categorial verb stem: there are certain PVs (*argumental preverbs*) which evince some synchronic syntactic relation to the V, and there are other PVs (*prefixal preverbs*) which do not exhibit such a relation.[33] On the interpretation presented here, the former are understood to enter into a compounding relation with a verb stem while the latter are argued to be instances of verbal derivation via affixation. A salient peculiarity of preverbal elements is that they are all separable. This fact, as we will see, has ramifications for the analysis proposed here: preverbs commonly preserve their status as independent phonological words.

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[31] These elements can be permuted in syntax, as we will, in accordance with various regular principles concerning the interaction of word order and discourse (Cf. Chapter 3) Their internal structure will be examined in Chapter 4.

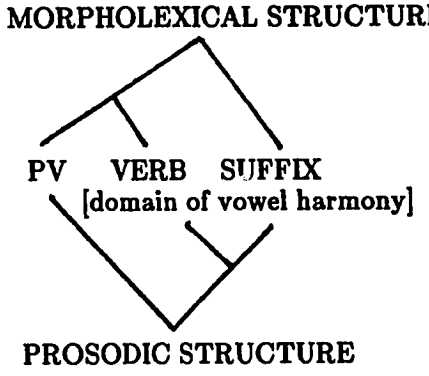
[32] If the infinitival form is simple i.e. without a preverb, then it alone precedes AUX, but if the infinitival form is associated with a PV then the PV appears before the AUX and the infinitival form appears after the AUX.

[33] As we will see, there are Hungarian PVs intermediate between prefixal and argumental PVs: some of these preverbs host incorporated personal pronouns. (cf. Chapter 5 for discussion) In addition, many present day prefixal preverbs formerly exhibited a syntactic relation to the verb stems with which they now combine into lexical units.

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We will see that lexical phrases are a domain which motivates the traditional conception of the word as a multifaceted entity: the phenomena to be reviewed are instances where the phonological and morphological criteria of wordhood diverge. In the present context, this divergence will be formulated - following Rubach (1984) and Booij and Rubach (1984, 1987) - in terms of double structure analyses for morpheme combinations within cyclic lexical phonology.

The analyis adapted from Booij and Rubach is quite simple. Preverb + verb combinations are analyzed as entities which exhibit discrepant morphological and phonological analyses. In particular, morpholexical rules create entities with one bracketing while prosodic rules assume an alternate bracketing. This can be represented, provisionally, as follows.[34]



In the course of this work I will argue that Ugric PVs are not a random collection of categories, i.e. affixes, nominals verbals, adverbials etc., as might appear from superficial examination. Despite the categorial diversity of PVs the entire class exhibits a palpable functional uniformity: they are, generally, interpretable as argument taking predicates. The underlying functional status of Ugric PVs as heads appears to have implications for universals of predicate formation: there is a cross-linguistic tendency for heads to agglomerate and form predicate complexes.

[34] In this diagram I have provided the information that vowel harmony is a phenomenon limited to the right of the verb stem in order demonstrate that the prosodic bracketing encompasses a relevant phonological domain.

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In summary, the constructions investigated in this dissertation, i.e phrasal predicates, are twilight creatures: they evince certain properties associated with phrases, i.e. their constitutive pieces exhibit a certain amount of syntactic independence, and they evince certain features suggestive of a lexical provenance. The investigation of *twilight words* is thus, inescapably, an inquiry into the interaction between morphology and syntax. Consequently, I commence this work in the spirit of Anderson's (1982) admonition:

> ...if the subparts of a grammar overlap in significant ways, then the properties of the elements will be described only in terms of the interaction of principles from distinct areas: an understanding of any one area can only proceed hand in hand with our understanding of others.

5. Chapters: The Organization of this Study

It is now time to describe the organization of this dissertation.

Chapter 2, entitled *A Morphosyntactic Typological Overview*, presents those grammatical phenomena of the Finno-Ugric languages which figure in the argumentation of this dissertation. Particular attention will be given to the Ugric branch of the family and within that branch to Hungarian. Emphasis will be placed on a descriptive explication of grammatical notions and constructional phenomena which play a role in subsequent discussion.

Chapter 3, entitled *Word Order, Prosody and Preverbs,* focuses on Hungarian (and to a limited extent, Vogul) clause organization. My emphasis in this chapter is on introducing the syntactic distribution of preverbs in the context of different clause types. I will review the relevant traditional and modern speculations concerning these issues.

Chapter 4, entitled *Prefixal Preverbs*, presents arguments for the quasi-affixal nature of this type of preverb in Ugric (and several other languages as well). It contains a detailed discussion of the morphological treatment of prefix + verb combinations from the perspective of recent theories of generative morphology and word-formation. This

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necessarily entails addressing the distinction between morphological and phonological words. The diachrony of these constructions is investigated in terms of a general principle called 'head-to-head' attraction and is related to various observations concerning variable degrees of fusion between morphemes. Prefixal preverbs are analyzed as lexical formatives participating in various types of verbal derivation in the Ugric languages.

Chapter 5, entitled *Pronominal Incorporation: The Case of Prefixes*, examines entities which are midway between prefixal and argumental preverbs. These preverbs are lexical formatives inasmuch as they determine the selectional requirements of the verbs with which they co-occur. They, additionally, host possessive suffixes which appear to satisfy the selectional requirements of the complex verb of which they are a constitutive member. These phenomena will be interpreted in terms of pronominal incorporation as proposed in recent LFG literature.

Chapter 6, entitled *Argumental Preverbs*, extends the analysis proposed in Chapters 3 and 4 to predicates with a different functional composition. One of the striking aspects of these argumental preverbs is their resemblance to the class of elements described as 'incorporated' in Sapir's classic article on noun incorporation (1911). In particular, he focuses on three broad functional categories: the incorporation of elements bearing objective, subjective or oblique functions (referred to here as *closed functions*, those behaving as predicative subject or object (secondary predicates referred to here as *open functions*), and elements bearing possessive relations, specifically the possessed argument, such as found in bahuvrihi compounds. Discussion will focus on the compound-like status of all such compositions in Ugric. The argumental preverb will be interpreted in terms of *argument incorporation*. Emphasis will be placed on the appositeness of *selection for function* (as assumed in LFG) rather than for category (as assumed in most other frameworks) in explaining argument satisfaction within compounds.

Chapter 7, entitled *Analytic Predicates*, examines the relationship between verbal forms and associated auxiliary elements. It will be demonstrated that there are suggestive

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structural and behavioral similarities between prefixal/argumental + verb and verb + AUX collocations. The latter constructions appear to be inchoate morphological compositions despite their syntactic appearance: the AUX element is the structural head of a clause and contributes properties to a clause nucleus while the apparent complement is the lexical head of this composite verb and provides the PRED feature value for the clause nucleus.[35] I will propose that the dependency between auxiliaries and some selected element is best interpreted as a lexical relation rather the syntactic relation of complementation ordinarily assumed. This analysis will obviate the requirement of invoking control realtions between the AUX and this complement. Defense of this lexicalist analysis will entail a discussion of grammatical vs. lexical meaning, the difference between structural and functional heads, and an examination of certain clause union effects.

[35] This is an analysis originally proposed in Ackerman (1984).

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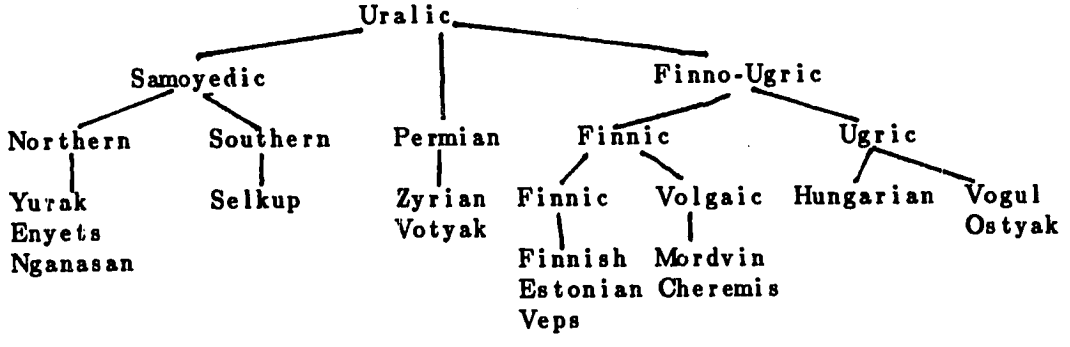
Chapter 2: A Morphosyntactic Overview of Uralic

Both this chapter and the following one provide the reader with a descriptive backdrop for the theoretical considerations which follow. It is my intention to introduce here those grammatical notions and phenomena which figure in subsequent argumentation: to acquaint the reader with the variety of means available for expressing certain grammatical phenomena in Uralic.

The presentation of select data from an unfamiliar family (Uralic, in this instance) is a problematic undertaking: one is tempted to hedge too much in order to avoid misrepresenting the facts. But this can tax the reader's tolerance for detail and obscure significant similarities between the relevant languages. If I have erred, it is on the side of generalization - on the side of 'lumping' instead of 'splitting'. This seems a necessary expedient.

1. General Remarks

The Uralic language family consists of two main branches: Samoyedic and Finno-Ugric. Affiliations between members of this family are depicted in the following diagram:[1]



[1] This is only a gross classification. It leaves out several languages - for example, Lapp - and conflates some subdivisions within Finnic.

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The best known representatives of the Finno-Ugric branch are also the languages that display the most divergent array of grammatical structures: Finnish and Estonian (Finnic languages) markedly contrast with Hungarian (Ugric) in this regard.

The Ugric branch - the focal point of the present study - is exhaustively comprised of three languages - Hungarian, Vogul (Mansi) and Ostyak (Hanti) - and numerous dialects. The latter two languages are the native idiom of some 4,000 and 15,000 speakers (respectively) who dwell, primarily, in the Hanti-Mansi Administrative District of the Soviet Union. This district is in eastern Siberia. Hungarian is the language spoken by various peoples in the Carpathian Basin region of Europe. The number of native speakers in this region, which comprises Hungary as well as portions of Romania, Czechoslovakia, Yugoslavia, Austria and the Soviet Union, is approximately 15 million.

The general typological cast of the Uralic family is 1) left-branching: heads of endocentric phrases are generally preceded by their dependents and are themselves, ordinarily, the rightmost elements within phrases; and 2) agglutinative: inflectional and derivational notions are signaled by suffixal concatenations of morphemes which, in general, exhibit allomorphic variation.[37] These languages are, then, typically SOV and most grammatical notions (derivational and inflectional) are expressed *synthetically.*

It is characteristic for heads of certain phrases to exhibit agreement with their dependents. For example, predicates (heads of clauses), postpositions (heads of adpositional phrases), and possessed NPs (heads of possessive constructions), commonly express agreement with person/number features of their dependents: predicates agree with SUBJs (and sometimes OBJs), postpositions agree with NP arguments of adpositional phrases,[38] while morphemes on possessed NPs reflect agreement with features of the POSS(essor) argument.

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[37] The two main conditioning factors of allomorphy in these languages appear to be 1) the number of syllables in the stem (cf. discussion of *bracketing paradoxes* with causative morphemes in Chapter 4) and, 2) stem determined rightward vowel harmony (as intimated in the diagram presented in Chapter 1).

[38] Whether the person/number morphology found on postpositions reflects agreement or *pronominal incorporation* is examined in Chapter 5.

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In certain respects these languages conform to the profile of *head-marking languages* proposed in Nichols (1986). On her account there is a useful typological distinction between languages: in *head-marking languages* syntactic relations are encoded by morphemes on heads of constituents while in *dependent-marking languages* these relations are reflected on dependent elements. Nichols also observes that certain languages or subdomains within a single language evince *double marking*. That is, both the head and dependent are marked to express syntactic relations. In the Uralic languages, the determination of head marking vs. double marking status often depends on the domain of grammar being investigated: this 'parameter' frequently varies across and even within phrasal categories.

There is considerable diversity among the Uralic languages with respect to the typological tendencies I have enumerated. This is hardly surprising given the age of the family and the fact that congener languages have often developed in geographical and cultural isolation from one another. In several instances, however, they have developed in intimate proximity to languages of other families and this has influenced their development. The culture shared by Turkic and Hungarian nomadic horsemen through several centuries is reflected in numerous lexical borrowings from Turkish: grammatical contamination exerted by Turkish on Hungarian, in contrast, is difficult to ascertain because of the typological similarities between Altaic (Turkic) and Uralic. The protracted relation between the peoples in the Baltic *Sprachbund* has led to traceable structural change in the Finnic languages: case and number concord between modifiers and heads, SVO order, as well as the appearance of prepositions are all innovatory in Finnic and demonstrable borrowings from Slavic.[4]

In the following sections I review certain grammatical phenomena in Uralic which have ramifications for the analysis of phrasal predicates.

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[4] I will return to certain of these phenomena below.

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2. Directionality of Branching

Questions pertaining to the relative order of modifiers and the elements they modify have been an abiding concern of linguists for at least a century. This concern, a preoccupation of 19th century German linguists, found expression in the contemporaneous works of Hungarian grammarians.

Traditional opinion concerning constituent sequences in Uralic is expressed by Hajdu:

> It is characteristic of the Uralic languages that dependents generally precede their heads. In this sense, the modifier precedes the constituent it modifies, the OBJ precedes the verb ... This order can be regarded as the rule for Proto-Uralic - (1981:167)

In modern linguistic analysis there are, primarily, two sources of speculation focusing on the sequences of dependents and heads.[5] The first is a tradition associated with the statistically oriented typological studies of Greenberg (1960). Such word order studies catalogue covariances in the sequencing of dependents and heads across phrasal categories such as NP, AP, etc., and within construction types, e.g. possessive, comparative, etc. This tradition represents an attempt to arrive at statistically significant patterns of ordering which can, in turn, guide the linguist in formulating *implicational universals*. This enterprise has discovered that languages appear predisposed to display invariant orders of modifiers relative to heads: modifiers in a single language tend to appear uniformly on a single side of heads independent of phrasal category or constructional type. These studies have also determined that despite pervasive tendencies for reliable sequencing there are numerous exceptions. Often the absence of pervasive regularity obscures more highly restricted correlations between certain phrasal or construction types. In this connection it

[5] A third tradition which discusses the sequencing of elements internal to syntagmata derives from logical semantics. In this tradition (exemplified in the work of Keenan 1979 and the revival of Categorial Grammar as illustrated in Steedman (1985)) the ordered elements are interpreted as *functors* and *arguments* while various principles of combinability are postulated to account for attested sequences.

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has been established that the relative order of constituents observed in certain phrasal or construction types can often serve as a fairly reliable predictor of the orders found in other phrasal or construction types: there is, in other words, a correlation between the relative order of constituents in phrases of different types. The tendency for cross-categorial invariance of ordering has been recently formulated as the Principle of Cross-Category Harmony in Hawkins (1983).

There is an analogue to Hawkins PCCH in a parallel linguistic tradition, namely, Generative Grammar. Most Generative linguists subscribe to 'some version of the X bar theory'. According to this theory, languages are expected to exhibit uniform expression of the phrasal categories. Consider the following outline of X bar theory:

> A primary distinction is customarily made between lexical categories (or parts of speech) - e.g. Noun (N), Verb (V), Adjective (A), Preposition (P) - and phrasal categories - e.g. Noun Phrase (NP), Verb Phrase (VP), Adjective Phrase (AP), Prepositional Phrase (PP), and Sentence (S). Each phrasal category contains a head - a member of one of the lexical categories - plus a variety of possible modifiers, which are typically other phrasal categories. Corresponding to each phrasal category there is a major phrasal category, that phrasal category which maximizes the possible modifiers of the lexical category... the major phrasal category dominates a constituent belonging to a double primed category (or, X''): this in turn dominates a constituent belonging to a single primed constituent (or, X'), which itself dominates a lexical category. The sequence of nodes from top to bottom of the tree ... constitutes the structural skeleton of the major phrasal category, to which various modifiers are attached at various levels. - Jackendoff 1984:63

Given the usual interpretation of X as a variable standing for any instantiation of a lexical category, there is a claim that all phrasal constituents, i.e. *projections* of X, share identical structure. There is an accompanying claim regarding the *unmarked* case for con-

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stituent order: modifiers consistently appear to the left or the right of heads across categories in a single language. Since the conventional representation of phrasal constituency is in terms of *tree diagrams* it has become common to refer to the leftward vs. rightward array of modifiers as *directionality of branching*. Directionality is determined relative to a lexical head: if the head is rightmost in a phrase with all dependents located on its left, then the phrase is *left-branching*, but if the head is leftmost in a phrase with all dependents arranged on its right, then the phrase is *right-branching*.

Though the standard interpretation of Uralic constituent sequences within these typological traditions identifies the family as essentially SOV and left-branching, individual members of the family exhibit considerable diversity in these domains. It is common in several Finno-Ugric languages for aboriginal constructions to coexist with innovatory constructions. This eventuates in a split in directionality of branching within particular phrasal categories or construction types. As mentioned previously, Finnish departs from canonical SOV orders in showing a preference for *basic*[6] SVO clausal constituent order. It also introduces several right-branching structures: prepositional phrases, finite relative clauses, and variable order within possessive and comparative constructions. Alternity of branching within a single category is exemplified by the following Finnish constructions where the relative clause may either follow (1a.) or precede (1b.) its head:

(1a.) kirja, jonka olen lukenut, oli hauska
book which COP-1sg read was amusing
'the book I read was amusing'

(b.) lukemani kirja oli hauska
read-PASS-1sg book was amusing
'the book I read was amusing'

[6] The term basic refers to the idea defended in Greenberg (1960), Keenan (1976) and others that it is possible and useful to identify a *sequence of constituents appropriate for conveying information in contexts which presuppose the least amount of shared information between participants in the conversation.* The postulation of a basic order does not preclude the possibility that a language may permit many constituent permutations. We will see (cf. Chapter 3), in fact, that constituent order is quite 'free' in Ugric.

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Whereas both Finnish and Estonian possess many categories which display alternate directionality, this phenomenon is far more restricted in the Ugric languages. These latter languages are more conservative: they more faithfully reflect the left-branching tendency reconstructed for Proto-Uralic. In addition, certain innovatory categories, e.g. prepositions, are absent from these languages.

Hungarian is the most maverick of the Ugric languages and exhibits limited alternity of branching.[7] In particular, it is problematic to establish a credible statement of directionality within Hungarian finite clauses. Basic clausal constituent order in Hungarian appears sensitive to constructional properties of clauses and/or lexico-semantic properties of predicates. The dominant basic order is SV(O). (O)VS is the basic pattern for the expression of natural events: either V is a 'weather' verb or a transitive verb of effect whose SUBJ is interpretable as a natural force. Finally, SOV is the basic order for clauses

[7] For example, Hungarian resembles Finnish in countenancing both right- and left-branching relative clauses: the right branching variant contains a finite verb while the left-branching variant contains a non-finite participial form of the verb.

[8] This order is assimilable to the SV(O) class on the interpretation that OV here represents a phrasal predicate formed by incorporation in the lexicon, i.e. the unit is morphologically complex predicate. Cf. discussion in Chapter 6.

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containing non-specific OBJs.[8] These basic orders are illustrated below:

(2a.) SUBJ V OBJ

a parasszt meg verte a tehenet
the peasant beat the cow-ACC
'the peasant beat the cow'

(b.) V SUBJ

hull a hó
fall the snow
'it's snowing'

(c.) OBJ V SUBJ

a tetöt el fujta a szél
the roof-ACC blew off the wind
'the wind blew the roof off'

(d.) SUBJ OBJ V

a fiú fát vág
the boy wood-ACC cut
'the boy is cutting wood'

Vogul and Ostyak, in contrast to Hungarian, still display predominently SOV sequences in finite clauses although SVO orders are occasionally attested and attributed to contamination from Russian.

Below the clause level (which is arguably exocentric on certain theoretical assumptions) in Hungarian all endocentric phrases preserve the original order in which dependents precede heads, i.e. they preserve left branching.

The predominance of left branching in the Ugric languages will be central to the explication of syntactic and lexical V' constituents advanced in subsequent discussion. In particular, we will see that the position immediately before the verb is a privileged position for such syntactic phenomena as Focus and such lexical phenomena as predicate formation by means of composition between preverbs and verbal stems.[9]

[9] Nichols (p.c.) observes that these two phenomena, i.e. a syntactic phenomenon and a lexical phenomenon, associated with immediately preverbal position are characteristic of the Caucasian language Ingush as well.

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3. Analytic vs. Synthetic

One of the descriptive parameters of language variation within typological studies is the differentiation between the *analytic* and *synthetic* complexion of a language as proposed in Sapir (1921):

> The terms explain themselves. An analytic language is one that either does not combine concepts into single words at all (Chinese) or does so economically (English). In an analytic language the sentence is always of prime importance, the word is of minor interest. In a synthetic language (Latin, Finnish, Arabic) the concepts cluster more thickly, the words are more richly enchambered but there is a tendency, on the whole, to keep the range of concrete significance in the single word down to a moderate compass." - 1921:128

This descriptive typology can be interpreted as calibrating the amount and types of information characteristically encoded within single (perhaps, extremely complex) words in a given language. Quite informally, it intimates a repository of conceptual and grammatical discriminations and catalogues the manner in which they are mapped into linguistic forms. Intuitively, it is not uncommon for one language to encode within a single word some collection of notions which find syntactically separate encodings in some other language. For example, the collection of grammatical notions encoded by strings of (frequently, contiguous) monosyllables in Chinese, are compacted into single lexical items in the Algonquin languages, Cree and Fox. Similarly, the same basic notions frequently exhibit variable encoding, i.e. analytic or synthetic, within a single language. This can occur within a single paradigm as in Irish verbal conjugation (cf. Chapter 5 for discussion), or across paradigms as in Finnish simple vs. perfect past tense. Consider the Finnish examples below:

(3a.) poika luin kirjan
boy read-PAST book-ACC
'the boy read the book'

(b.) poika oli lukenut kirjan

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boy COP-PAST-3sg read-PART book-ACC
'the boy has read the book'

The analytic encoding of the present perfect tense represented in (3b.) contrasts with the synthetic encoding of the simple past tense in (3a.) Constructions similar to that in (3b.) will be examined in detail under the rubric of *analytic predicates* in Chapter 7.

Before proceeding it is important to clarify a potentially perplexing aspect of the terms analytic and synthetic as they relate to the notion of *wordhood* in the present study. Sapir's strategy to rectify the inadequacies of 19th century morphological typologies was to focus on a *typology of concepts* encoded by language. These concepts - basic or concrete, derivational, concrete relational and pure relational - interact with two parameters inherited from former typologies: *morphological techniques* employed for encoding these concepts, e.g. agglutination, isolation, fusion, symbolic, are complemented by claims as to the *degree of synthesis*, i.e. analytic vs. synthetic tendency, evident in a given language. Sapir himself acknowledges that the degree of synthesis is the most mutable parameter in this classificatory scheme. The limitations of Sapir's typology have been catalogued by several linguists.[10] A particular complaint articulated by Anderson contends that Sapir's typology is flawed owing to its feeble predictive power: this classificatory schema yields few significant covariances and little of importance appears to follow from the identification of languages according to these three parameters. This complaint is reasonable: for example, as already indicated, Sapir observes that the synthetic nature of a language may change with few or no consequences to the rest of a grammar. What, then, might be the utility of the distinction between, e.g. analytic and synthetic strategies of encoding?

In the present study its utility is purely descriptive: it catalogues the general manner in which concepts are encoded. It is the concepts which are, in some sense, paramount. Sapir focused attention on the concatenation of concepts into "psychological unities": cer-

[10] Cf. Anderson (1985b.) and Martinet (1962) for examples.

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tain concepts, on this account, appear to have an affinity to aggregate with certain other concepts. I will propose - in the discussion of wordhood later on - that words viewed as 'psychological unities' need not exhibit phonological integrity: the manner of encoding associated concepts,[11] then, will not preclude an entity from being considered a *grammatical word*. The strategies of synthesis and analysis are not reliable diagnostics of wordhood when this term is understood as inclusive of several discriminable aspects of words: the mutability of languages in this domain reflects, rather, a diachronic process concerning degrees of adhesion between elements with conceptual affinities. These observations will receive further elaboration later on.

Sapir correctly classifies Finnish as a language with a predominently synthetic strategy. This observation can, by and large, be extended to the entire Uralic family. Of the two means by which synthetic encoding is accomplished , namely, *agglutination* and *fusion*, Uralic is, as previously mentioned, pre-eminently agglutinating.[12] Despite a pervasive tendency for synthetic encoding these language exhibit a modest proclivity for analytic encoding. We have already witnessed this inclination in Finnish predicates. A comparison of possessive constructions in Hungarian, Finnish and Estonian illustrates this spectrum of analyticity from another grammatical domain.

Table 1

11 This can be interpreted here as an indication of whether there is evidence for the phonological coalescence of morphemes.

12 Arguments have been advanced for the encroaching fusional complexion of encoding for Finnish and, more dramatically, for Estonian. The fusional strategy obscures morpheme boundaries and/or conflates multiple feature specifications into single morphemes. This contrasts with the (canonical) agglutinative pattern in which there is a one to one relation between some grammatical feature and some grammatical form.

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Possessive Constructions			
	Hungarian	Finnish	Estonian
Gloss	father+poss	father+poss	poss#father
'my father'	apá -m	isä-ni	minu isa
'your father'	apá -d	isä-si	sinu isa
'his/her father'	ap-ja	hänen isä-nsä (poss#father+poss)	tema isa

Following a synthetic, head-marking pattern, suffixal morphemes (i.e., possessive (PX) markers) indicate the person and number of the possessor in both Hungarian and Finnish - constructions such as these will be contrasted in Chapter 5 with other constructions employing possessive suffixes in terms of the difference between *agreement* and *pronominal incorporation*. A purely analytic technique is evident in Estonian where possessive pronominals obligatorily accompany the possessed NP.[13] In some sense, Finnish appears to be intermediate between the synthetic strategy of Hungarian and the analytic strategy of Estonian: the designation of 3rd person (singular or plural) in Finnish requires the presence of a possessive pronoun and suffixal marking on the possessed NP.[14] In Nichols' terms we have here an instance of double marking, i.e. both the head and its dependent are marked.

Double marking can occur in Hungarian as well. There are two alternants of the possessive construction in this language. In both variants the nominal with the

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13 Possessive pronominals are optional in Hungarian for all person/number combinations and for 1st and 2nd person singular/plural in Finnish. Their presence signals that the pronouns are emphasized for some discourse purpose.

14 The obligatoriness of 3rd person forms here parallels a similar requirement for the presence of 3rd person SUBJ pronouns with finite verbs in simple clauses. For the other two person/number combinations the appearance of overt pronouns in both possessive constructions and simple clauses is optional and signals emphasis. There is another remark worth making about the behavior of 3rd person possessive pronouns. These pronouns are omitted in anaphoric contexts when the possessed element is a non-SUBJ and the possessor is to be construed as coreferential with the SUBJ. If the 3rd person pronoun appears it is construed as disjoint in reference from the SUBJ. Consider the following sentences in this connection.

i. hän pitää uudesta kodistaan
s/he likes new-EL house-EL-3PX
's/he likes his/her (own) new house'

ii. hän pitää hänen uudesta kodistaan
s/he likes his/her new-EL house-EL-3PX
's/he likes her/his (somebody other than SUBJ) new house'

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POSS(essor) function is optional while the possessed NP is suffixed with a PX marker reflecting the person/number features of the POSS argument. The two main differences between these constructions are; 1) the case marker (CM) associated with the optionally present POSS argument and; 2) the constituency status of the possessive constructions. With respect to the first contrast, the POSS argument can appear either in the NOM(inative) or DAT(ive) case.[15] Consider the following examples:

(4a.) a fiú kalap-ja
the boy-NOM hat-3sgPX
'the boys' hat'

(b.) a fiúnak a kalapja
the boy-DAT the hat-3sgPX
'the boy's hat'

Although these alternative constructions convey identical relations they can be employed in different ways in phrase structure: whereas the construction with the NOM POSS is always an indivisible, left-branching constituent the NP members of the DAT alternant ordinarily form a discontinuous constituent.[16] The DAT variant is presented below in its discontinuous form.

(5) tegnap *a kalapját* csodálta meg *a fiu–nak*
yesterday the hat-3sg-ACC marvel-PAST-3pl/DEF PV the boy-DAT
'Yesterday it was the boy's HAT they marvelled at'

These double marking DAT possessive constructions formally resemble, 1) possessive predication with copular verbs and, 2) certain AUX constructions with inflected infinitives in Hungarian. These constructions will be interpreted as (presumable) analytic predicates in Chapter 7.

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15 Cf. below for a discussion of Case.

16 Evidence for the constituent status of these constructions as well as for the importance of directionality of branching will be adduced in Chapter 6 in terms of restriction on Focus constructions in Hungarian. In brief, only a single constituent can occupy the so-called *Focus Position* i.e. the position immediately before the predicate and this constituent can be enormously complex as long as it is left branching.

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There are two particular domains in Uralic where the analytic vs. synthetic expression of lexical and grammatical meaning figures prominently in the discussion of phrasal predicates: these are, constructions containing modal/aspectual/tense markers which function as main verbs and predicate adjective/noun constructions. First, I present a suggestive selection from the modal/aspectual/tense construction inventory and then I turn to the presentation of certain predicative constructions. Theoretical discussion of these constructions will be postponed until the appropriate time - they are presented here only to give the reader some familiarity with the relevant constructions.

In Chapter 7 constructions will be examined in which there appears to be a discrepancy between the c-(onstituent) structure head and the lexical (or, *functional*) head of a lexical composition. Negative verb constructions, characteristic of Finnic and Samoyedic, are exemplary of this type of derived predicate. The following abbreviated paradigms from Finnish and Cheremis serve to illustrate this phenomenon.

Table 2

Negative Verb Constructions			
Tense	Finnish	Cheremis	Gloss
Present	en lue	on lut	'I'm not reading'
	et lue	ot lut	'you're not reading'
	ei lue	ok lut	's/he's not reading'
Past	en luenut	šəm lut	'I didn't read'
	et luenut	šəc lut	'you didn't read'
	ei luenut	əš lut	's/he didn't read'

The basic pattern evident for this type of predicate consists of 1) a negative verb form encoding person/number features of the SUBJ (and tense in Cheremis) - this serves as the *structural head* - and, 2) an accompanying participial form which serves as the lexical or *functional head* of the composite predicate.[17]

[17] The reader should note that the grammatical information is distributed among the constitutive pieces of the Finnish analytic predicate: whereas person/number features appear on the negative verb tense designation is signaled by the form of the participial. We will return to these differences in Chapter 7 and also later in the present chapter.

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Majtinskaja (1960) describes concatenations of constituents such as those in negative constructions in the following manner:

> The tight connection between components of the two groups presented above [infinitives with modal and/or aspectual verbs - FA] is explained by the greater or lesser degree of diminution of lexical meaning in the independent [finite modal and/or aspectual - FA] constituent: in every case where lexical meaning is weakened the independent verb approximates the role of exponent of mood or aspect. Therefore in the given instances it is possible to refer to the independent element as the 'governing element' only inasmuch as it diverges from the structure of ordinary word combinations /it changes according to person, number, tense, and mood/ but with respect to [lexical - FA] meaning the 'governing element' is, properly speaking, the infinitival verb form.

Similar observations are offered by N. M. Tereschenko (1973) concerning so-called *sostavnoe glagol'noe skazuemoe* 'compositional verbal predicates' in her descriptive study of Samoyedic syntax.[18]

The theoretical ramifications of these observations will be elucidated in Chapter 7. For the present, it is sufficient to remark that Majtinskaja's and Tereschenko's characterizations of Uralic predicates are suggestively congruent with the the descriptive characterization of similar combinations of grammatical and lexical meanings in other languages and language families. The intuition that grammatical meaning bearing elements (Majtinskaja's "independent" constituents) function in a quasi-affixal manner despite their status as c-structure verbs appears to be a common intuition among both descriptive and theoretical linguists.[19]

A second domain in which there is often a discrepency between structural and functional heads is in predicate noun/adjective constructions. This predication type finds

[18] Cf. Chapter 7 for discussion.

[19] For example cf. Tryon (1976), and Vászolyi (1974) for similar intuitions concerning verbal phenomena in Australian languages and Mohanan (1982) for similar phenomena in Malayalam.

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synthetic encoding in Samoyedic and analytic encoding in Ugric.

Predicate adjective/noun constructions are intriguing in Samoyedic. The phonological attrition of a formerly independent copula has eventuated in constructions where nominals and adjectives appear to inflect like verbs.

Predicate Nominals in Yurak

Present Tense	Past Tense
xanena-dm hunter-1sg 'I am a hunter'	xanena-dam-s hunter-1sg-PST 'I was a hunter'
xanena-n hunter-2sg 'you are a hunter'	xanena-na-s hunter-2sg-PST 'you were a hunter'
xanena hunter-3sg 'he is a hunter'	xanena-s hunter-3sg-PST 'he was a hunter'
xanena-wa? hunter-1pl 'we are hunters '	xanena-wa-c hunter-1pl-PST 'we were hunters'
xanena-da? hunter-2pl 'you are hunters'	xanena-da-c hunter-2pl-PST 'you were hunters'
xanena-? hunter-3pl 'they are hunters'	xanena-c hunter-3pl-PST 'they were hunters'

In Yurak (and generally in Samoyedic)[20] predicate adjective and nominals participate in defective verb paradigms: the future tense and modal morphemes which regularly occur with incontovertible verb forms cannot appear with these adjectives and nominals.[21]

The synthetic predicative constructions of Samoyedic find analytic analogues in Hun-

[20] Similar examples could be cited for predicate nominal/adjective constructions in other Samoyedic languages as well as from the Finnic language Mordvin.

[21] Similar constraints on the type and distribution of morphemes with predicate adjective and nominals obtain for the predicative conjugational paradigm of Mordvin as well.

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garian:

Predicate Nominals in Hungarian

vadász	vagyok	'I'm a hunter'
vadász	vagy	'you're a hunter'
vadász		's/he is a hunter'
vadász	voltam	'I was a hunter'
vadász	voltál	'you were a hunter'
vadász	volt	's/he was a hunter'

The Hungarian version is composed of two syntactically independent forms, a nominal and a copula.

In summary, the analytic or synthetic complexion of lexical compositions is central to our investigation of phrasal predicates. The Sapirian differentiation between analytic and synthetic can be strictly interpreted as a characterization of strategies for combining certain types of information. This can be allied with the definition of the grammatical word as an entity, criterially, produced by morpholexical rules: given that the grammatical information brought together with lexical information by morpholexical rules belongs to the repertoire of concepts considered by Sapir, then the distinction between analytic vs. synthetic simply becomes a distinction between ways of forming complex lexical compositions with or without phonological integrity. Complex words exemplifying certain construction types, e.g. predicate noun/adjective, aspectuals etc., in different languages become comparable at the level of the rules utilized to produce them: such entities can differ with respect to the phonological independence and/or syntactic transparency of their component parts. They differ, in other words, with respect to superficial properties that tend to make languages appear more different than they really are.

4. Case

In numerous languages a morpheme assciated with a word signals the syntactic relation which that word bears to some governing element and/or intimates some semantic relation (perhaps, thematic role), associated with that word by virtue of the presence of this

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marker. Markers of this type are called *case markers* (CMs). We will see in the discussion of LFG in Chapter 4 that neither the relational functions served by CMs, e.g. the indication of SUBJ, OBJ, etc., nor the encoding of thematic relations, e.g. Agent, Theme, etc., are the exclusive charge of CMs. Similar discriminations can be conveyed by the linear sequence of constituents in a clause or by adpositional elements such as prepositions and postpositions, to mention just two obvious alternative strategies.

4.1. Case Forms and Case Functions in Ugric

In the present section I will review the inventories of CMs in Ugric introducing the reader to the forms and (approximate) functions served by these elements. Additionally, I will focus on the functional similarities and formal differences between CMs and postpositions - a theme examined in the previous section in terms of the analytic vs. synthetic complexion of constructions and a theme which will be examined in detail in Chapter 5.

Although scholars have reconstructed approximately 9 case suffixes for Proto-Finno-Ugric the present day Finno-Ugric languages display enormous cross-language diversity with respect to the size of CM inventories as well as to the functions served by particular CMs. On the other hand, there is clearly a common theme to the semantic discriminations conveyed by a core of these markers. A tri-partite division of spatial relations can be distinguished and factored into a small set of features: stationary location, i.e. [- motion], incipient or directed entrance or approach, i.e. [+ motion]/[+goal], and incipient or directed egress or departure, i.e. [+ motion]/[- goal]. The usual case designations for these distinctions are LOC(ative), LAT(ive) and AB(lative). These primary spatial notions often receive metaphorical extension and are applied to various conceptual domains such as being in a state, inception of a state, cessation of a state etc.[22]

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[22] Similar corpora of spatial relations and case expressions and extensions from primarily spatial to conceptual notions have been attested in numerous other languages. Cf. Talmy (1985), and Jackendoff (1979, 1984).

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For present purposes it is important to review the corpus of cases in Ugric and provide some general observations on the functions associated with CMs in these languages.

Ostyak possesses the simplest collection of CMs. There are, essentially, three nominal cases.[23] These are illustrated in all three numbers, singular, dual and plural, for the word *хор* 'boat' in the following diagram:[24]

Table 3

Ostyak Case Forms			
Case	'Boat'+Sing.	'Boat'+Dual	'Boat'+Plur.
NOM(inative)	хор	хор-ŋən	хор-ət
LOC(ative)	хор-ən	хор-ŋən-ən	хор-ət-ən
LAT(ive)	хор-а	хор-ŋən-а	хор-ət-а

The NOMinative singular case form is the bare, citation form of nominals. Members of the simple case inventory are simply suffixed to a nominal stem bearing the desired number morphology.

NOM case signals the SUBJ and OBJ function as well as the POSS function of nominals in possessive constructions.[25]

The LOC marker indicates containment in a space (i.e., its basic sense), but is also used to convey certain temporal notions, (e.g., the time at which an event occurs), as well as accompaniment, i.e. comitativity, and means, i.e. instrumentality.

The LAT marker indicates activity directed toward or into a space as well as transition into a state.[26] This CM also marks the demoted SUBJ function which (optionally)

[23] Adjectives in Ugric often exhibit the same distributional properties as nominals and, consequently, can assume the same CMs as nominals. This can occur in constructions such as 'Give me the red (one)' where nominal substitutes such as 'one' do not exist and the adjective functions as the head of the relevant phrase. There are ways to delineate different categories of A and N: certain derivational morphemes are sensitive to this categorial difference, and certain elements can modify other elements in syntactic phrases.

[24] Since morphophonological variation is irrelevant to present concerns, I will ignore vowel deletion, epenthetic vowels, and consonant gradation in this discussion.

[25] The pronominal series exhibits somewhat different CM patterns. In particular, the pronominal case paradigm contains three cases: NOM, ACC(usative) and DAT(ive). The SUBJ function is indicated by the NOM, the OBJ function by the ACC, and the DAT signals an OBL(ique) relation.

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accompanies a passive verb form.

Vogul exhibits a somewhat richer inventory of CMs than Ostyak. There are approximately 6 cases in this language. These are illustrated with the Vogul word *xap* 'boat' in the following diagram:

Table 4

Vogul Case Forms			
Case	'Boat'+ Sg	'Boat'+ Dual	'Boat'+Plural
NOM	xap	xap-iɣ	xap-ət
LOC	xap-t	xap-iɣ-t	xap-ət-t
LAT	xap-n	xap-iɣ-n	xap-ət-n
AB	xap-nəl	xap-iɣ-n l	xap-ət-nəl
INSTR(umental)	xap-əl	xap-iš- l	xap-ət-əl
TRANS(lative)	xap-i		

The NOM case, as in Ostyak, is identical to the base form of nominals (and adjectives). This CM indicates both the SUBJ and the OBJ functions. It also distinguishes the POSS function in possessive constructions.

The LOC CM denotes the location of some enitity in space or the occurrence of some activity or event in time.

LAT case marking indicates the directional proclivity of an action and, as in Ostyak, serves to mark the demoted SUBJ associated with passive verb forms.

The ABL case denotes the origin of motion or an antecedent source for some new state.

Finally, TRANS marks the endpoint and resultant state in a transition from one state to another.

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[26] This latter notion is encoded by a separate case marker in other Finno-Ugric languages, the translative case.

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Hungarian has the largest and most articulated case inventory in Ugric (and Uralic). The synchronically productive corpus of CMs is conventionally numbered at around 16.[27] These sixteen CMs are presented below with vowel harmonic exemplifications of the simpler allomorphic variants. In contrast to Vogul and Ostyak, Hungarian distinguishes only two numbers, singular and plural. Only the singular paradigms for *csonak* 'boat' and kép 'picture' are presented.[28] Where convenient I gloss the lexical item with the central sense of the CM. A simplified description of these polyfunctional forms follows the tables.

Table 5

Hungarian Case Forms

Case	Meaning	'Boat+case'	'Picture+case'
NOM		csonak	kép
ACC		csonak-ot	kép-et
DAT		csonak-nak	kép-nek
IN(essive)	'in'	csonak-ban	kép-ben
EL(ative)	'from out of'	csonak-ból	kép-ből
IL(lative)	'into'	csonak-ba	kép-be
SUP(eressive)	'on'	csonak-on	kép-en
DEL(ative)	'from off of'	csonak-ról	kép-ről
SUBL(ative)	'onto'	csonak-ra	kép-re
AD(essive)	'at'	csonak-nál	kép-nél
ABL(ative)	'away from'	csonak-tól	kép-től
AL(lative)	'to'	csonak-hoz	kép-hez
TER(minative)	'up to'	csonak-ig	kép-ig
TRANS(lative)	'into (state)	csonak-ká	kép-pé
INST(rumental)	'with'	csonak-kal	kép-pel
CAUS(al)	'for'	csonak-ért	kép-ért

The detailed ascription of functions to such a large repetoire of CMs is an enormous

[27] This figure excludes several case with fairly restricted application. These 'peripheral' cases are: the TEMP(oral) which designates the time at which an event occurs, e.g. karácsony-kor 'at Christmas time', the SOC(iative) which designates group inclusion in an activity, e.g. család-stul 'as a family', the DIST(ributive) which designates the distribution of a property over a set of individuals, e.g. fej-enként 'person-by-person', the MODAL functions adverbially, e.g. tulajdon-képpen 'really, actually' and finally, the FORMAL ESSIVE (an occassionally governed case) which designates the state of something or somebody, e.g. tanár-ként 'as a teacher'.

[28] Since the language is agglutinative the plural paradigms like those in Vogul and Ostyak are simply the same CMs suffixed to the root + plural morpheme (-k).

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undertaking. At the present time it is sufficent to review the central features and functions of this case inventory. Other aspects of case-marking will be postponed until the discussion of case government and case-marking within non-verbal compounds later in this chapter and in the discussion of the case-marking of certain preverbs in Chapters 5 and 6.

Hungarian CMs consistently encode the original tri-partite spatial and (spatially derived) conceptual relations of Uralic. The application of this general spatial contrast - in featural terms, [-motion], [+motion]/[+goal], and [+motion]/[-goal], - to particular spatial relations, namely, *containment relations, planar relations,* and *proximal relations* accounts for 9 CMs. Containment is the central relation signaled by the triplet IN (in), EL (out of), IL (into), relative position on a plane, the central relation signaled by SUP (on), DEL (from off of), SUB (onto), and proximity, the central relation conveyed by the contrast between AD (at), ABL (away from) and AL (toward).

NOM case is employed, primarily, to mark the SUBJ function.[29] As in Vogul and Ostyak, NOM case is also employed to mark the POSS function in adnominal possessive constructions.[30]

ACC case is basically restricted to indicating the OBJ function although it is occasionally used with elements in an adverbial function to designate, e.g. extent of time or

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[29] It is arguably the case that the SUBJ function is sometimes encoded by the DAT case in this language. For example, adverbial clauses are regularly controlled by a nominal functioning as the SUBJ in the matrix clause.

(i) a házból ki lépve, (nekem) eszembe jutott hogy....
the house-EL PV step-GER (1sg-DAT) mind-1sg-ILL come-PAST that...
'stepping out of the house it occurred to me that...

(ii) meg ijedve a nehézségtől, (nekem) abba kellett
PV scared the difficulty-ABL (1sg-DAT) PV must-PAST
'Scared of the difficulty, I had to quite studying Hungarian'

hagyni a magyar tanulást
leave the Hungarian study-ACC

In addition, several studies on anaphoric interpretation in an experimental setting seem to indicate that certain DAT arguments behave like SUBJ with respect to anaphora. Cf. Pleh and Radics.

[30] This holds for one of the variants of the Hungarian possessive construction as described earlier.

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amount.[31]

DAT case marks the OBL function with ditransitive verbs. As we will see in the discussion of secondary predication in Chapter 7, it is also employed to mark the presumable state of some entity in certain instances of ascriptive or evaluative predication:

(6) a lány butá-nak tekintette a fiút
the girl stupid-DAT considered the boy-ACC
'the girl considered the boy stupid'

Both the POSS function of possessive constructions (in one alternant) and the POSS (perhaps, SUBJ) function in predicate possession constructions appear in the DAT case. The predicate possession construction is illustrated below:

(7) a kapitaliszmus-nak nincs jövője
the capitalism-DAT is not future+3sg/PX
'Capitalism has no future'

Finally, the DAT case accompanies the SUBJ in constructions with *inflected infinitives.*[32]

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31 Majtinskaja (1955) reports that in numerous Hungarian dialects the ACC CM is generally omitted when the OBJ is not accompanied by a determiner and is in construction with an infinitive. She takes the following example from Horger (1925):

i. kiment bab szennyi
went out bean collect-INF
's/he went bean-collecting'

Constructions of this sort are suggestive for the hypothesis of lexical incorporation tendered in Chapter 6.

32 In certain dialects such as the Csango dialect spoken in Romania the SUBJ is apparently permitted to appear in the NOM case as in constructions of the following type:

én el kell mennem
I-NOM PV must go+INF+1sg/PX
'I must leave'

Additionally, the presence of personal inflection on AUX elements rather than on the lexical verb has been attested. Consider the following reported in Molecz (1900):

el kellett+em menni
PV must+PAST+1sg go+INF
'I had to leave'

I do not know how prevalent these variants are but their attestation does appear to indicate the interpretative problem they represent to native speakers. The reader should consult Chapter 7 for further discussion of constructions such as these.

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(8) a fiu-nak el kellett mennie
the boy-DAT PV must+PAST go+INF+3sg/PX
'the boy had to leave'

TER case designates the spatial or temporal endpoint of some activity or state.

TRANS case has, as its basic function, the expression of an endstate or the registration of change of state undergone by some entity. This case is frequently governed by verbs whose lexical semantics designates change of state.

(9) ez a folyomat általános-sé vált
this the process general-TRANS change-PAST-3sg
'this process became common'

INST case is utilized to indicate the implement with which something is accomplished or the means by which something is transported. It is also employed to mark the causee argument of a causativized transitive verb.

The element marked with the CAUS case expresses the purpose or goal of an action.

(10) fizetni kell a jegyekért
pay-INF must the tickets-ACC
'one must pay for the tickets'

Nominal case marking will play a prominent role in the discussion of case government patterns associated with argument taking predicates (ATPs). We will observe that case selection is often predictable given, 1) the lexical semantics of simple (classes of) verbs, 2) the presence of certain preverbs, and 3) the combination of certain preverbs and certain (classes of) verbs. It is also significant for the lexicalist thesis entertained here that both simple verbs and preverb + verb combinations exhibit a certain degree of idiosyncratic case selection.

4.2. Case Markers and Postpositions

Spatial relations (and conceptual derivatives) in Ugric are not encoded exclusively by

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CMs: there is a large inventory of postpositions employed to encode these notions as well. Just as verbs typically govern the case forms of selected arguments, in numerous instances a verb may subcategorize for complements with particular *postpositional requirements.* Similarly, a single form from certain notionally related collections of CMs and postpositions can serve to satisfy the selectional requirements of an ATP: the directional *goal* complement of certain motion verbs, for example, can be satisfactorily instantiated by either a synthetic, i.e. CM, or analytic, i.e. postpositional, encoding of elements with the appropriate feature matrix, e.g. [+motional]/[+goal].

This functional similarity between CMs and postpositions is not surprising given the diachronic development of case-marking in Uralic. The CM inventory in, e.g. Hungarian, finds its origins in the fusion of postpositions to nominal stems and the gradual attrition of phonological segments from the postpositions participating in this process.[33] This is a common developmental sequence in several languages with luxuriant case inventories. This domain is, consequently, one in which synthetic, i.e. CM, and analytic, i.e. postpositional, encodings are likely to display a certain amount of synchronic behavioral similarity.

Despite the functional similarities attributable to shared origins there are various criteria which can be utilized to determine the synchronic categorial status, i.e. postpositional vs. CM, of these elements. The relations between postpositions and several CMs will figure prominently in the discussion of pronominal incorporation found in Chapter 5. For the moment I will simply focus on some reliable criteria for differentiating postposi-

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[33] In many instances, present day postpositions themselves derive from case marked nominals which were originally in apposition to a dependent nominal. This is particularly evident in Vogul. Consider the following postpositional phrases based on the nominal *sāj* 'open space':

i) jĭw sāj-t	ii) jĭw sāj-n l	iii) jĭw sāj-n
door open-LOC	door open-ABL	door open-LAT
'behind the door'	'from behind the door'	'to behind the door'

Given the fact that these phrases are, historically, nominal phrases, there are several instances, synchronically, when the postposition is analyzed as the head of a possessive construction. We will see the consequences of this in Chapters 4 and 5.

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tions from CMs.[34]

Rombandeeva (1979) identifies two phonological processes in Hungarian whose domain of application is restricted: the lengthening of stem final vowels[35] and vowel harmony appear limited to the domain of the *phonological word.* Consider the following contrasts:

I. **Lengthening of Stem Final Vowels**

Case-Markers: **Postpositions:**

medvé-re	medve mellett
bear-SUBL	bear behind
'onto the bear'	'behind the bear'

II. **Vowel Harmony[36]**

fá-ra	fa mellett
tree-SUBL	tree behind
'onto the tree'	'behind the tree'

Whereas the stem final vowel [e] becomes [é] before a certain set of morphemes - represented here by the SUBl, this vowel undergoes no change when followed by a different set of morphemes - represented here by the postposition *mellett.*[37] With respect to vowel harmony, the +/- back value (and, as mentioned earlier, in certain instances +/-

[34] It has been observed by, e.g. Simpson among others, that adpositional phrases and case marked nominals are, frequently, functionally ambiguous: this exemplifies the thesis that function is underdetermined by structure. This constrasts with the hypothesis of a structure-function isomorphy as found in Government and Binding theory. Cf. reference to William's (1980) notion of Predication and c-command in Chapter 4. In the present instance,, an adposition might be interpretable as an ATP appearing with an obligatory argument (a classic dependent - head syntagm), or the adposition might be regarded as a merely formal relational marker, i.e. the nominal is not a dependent but simply an N bearing inflection in the form of the adposition. On both interpretations, however, there are phonological reasons to believe that the structure of this entity consists of a nominal and an adposition. That is, from the perspective of c-structure we are in both instances dealing with a PP. This sort of divergence between phonological criteria, functional notions and categories is characteristic of the phenomena investigated in this thesis.

[35] Actually lenthening is somewhat of a misnomer in several instances since qualitative rather than quantitative alteration is at issue. This is the case with the example provided in the text.

[36] a = [+ back], e = [- back] and a well-formed (non-compound) word conforms to the following structure:

[w V x]stem + [y V z]suffix
[α] [α]

[37] It bears noting that lengthening of this sort does not occur in compounding. For example, we shall see in Chapter 7 that the nominalization of *fát vág* 'wood-cut' is not * *fávágás* but *favágás.*

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round) of the stem vowels determine the feature value and therefore the allomorphic variant of suffixes. This can be seen by the comparing the SUBL case variants as they occur with both *medve* and *fa*. Stem determined variation for the form of postpositions such as 'mellet' does not occur.

From a syntactic perspective CMs and postpositions exhibit distinctive behavior with respect to conjoinability: whereas CMs cannot conjoin with one another (semantically compatible) postpositions can.

Conjoinability

Case-Markers:	**Postpositions:**
* fá-ra-ban	a fa mellett es alatt
tree-SUB-IN	the tree behind and under
	'behind and under the tree'

There is a noticeable tendency to omit the repetition of postpositions with demonstratives (12) and a restriction against omitting case markers in the same context (11).

(11) azok-nak az emberek-nek
those-DAT the people-DAT
'to those people'

(12) azok (mellett) az emberek mellett
those (beside) the people beside
'beside those people'

Finally, postpositions productively host the adjectivalizing derivational morpheme *-i* which cannot be suffixed to CMs.[38] This innovatory (in fact, prescriptively introduced)

[38] Actually there are limited and listable exceptions to this generalization such as the frequently cited:

nagy-ban ---> nagyban-i
big-IN big-IN-A
'wholesale'

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construction is illustrated below:[39]

(13) a fa mellett-i bokor
the tree beside-A bush
'the bush beside the tree'

Although discussion of this morpheme will be resumed below[40] it is, perhaps, worthwhile to observe at this juncture that the relationship of *-i* to the postposition is rather ambiguous: the basic interpretive options are whether *-i* suffixes to a lexical phrase functioning as the lexical category N or whether it instead suffixes to a postposition and the categorially altered postposition takes a complement. I will defer further discussion of this until the appropriate time.

We will see as this study progresses that the functional and structural ambiguity of wordforms in Ugric is central to an adequate understanding of phrasal predicates. The difficulty in limning the boundaries between CMs and postpositions will be of special significance in Chapter 5 when we discuss the relation between *inflecting postpositions* and *inflecting prefixal preverbs.*

In summary, then, the phenomena associated with Case - relational notions, government by ATPs, and the formal realization of relational notions in terms of synthetic vs. analytic forms - play a prominent role in subsequent discussion.

5. Agreement

There is a commonly observed phenomenon in language whereby certain elements in certain (phrasal) domains are constrained to share certain featural information such as

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[39] According to Temesi (1961:286) this construction was introduced by the language reform movement in the early 20th century as a means of avoiding what were regarded as 'clumsy' left-branching constructions containing the present participial form of the copula. Compare the following construction with the notionally similar one offered in the text:

i. a fa mellett való/levő bokor
the tree beside being bush
'the bush beside the tree'

[40] It will be addressed there in conjunction with the discussion of other derivational morphemes with apparent *phrasal scope.* Additionally, similar problems will be addressed in Chapter 4 where other so-called 'bracketing paradoxes' are taken up.

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person, number, gender, class, case etc. Occasionally, there is a requirement for complete identity of (relevant) features while in other instances participating elements simply display subsets of (relevant) features.

Perhaps the most familiar (and frequently attested) instance of agreement within a clausal domain is subject-verb agreement: the head of the clause, i.e. the VERB or PREDICATE, agrees with features of a single selected function, namely, its SUBJ argument. Verbal agreement with other selected functions, namely, OBJ and various OBL(iques) is also widely attested.

Another commonly observed domain for agreement is the NP. In such instances DET(erminers) and/or A(djectival) modifiers frequently agree with the head N in person, number, gender, animacy, specificity, etc.

In due course I will present some clausal and NP agreement patterns common in Uralic and especially germane to our investigation of Ugric. For the moment, however, I will focus on several general issues concerning this phenomenon.

There are, at least, three fundamental questions which arise with respect to agreement. Are there recurrent features and/or feature complexes ordinarily associated with particular types of agreement? Are there principles predictive of which elements may bear agreement morphology? Can agreement obtain between elements occurring in different *clause nuclei*? The last question, as will become clear, introduces a phenomenon conventionally called *clause union*. These general questions are addressed, briefly, in the order of their asking.

A reply to the first question is straightforward. The features enumerated earlier appear to be fairly representative of the features which figure in agreement phenomena (verbal and nominal) cross-linguistically. The common concurrence of, e.g. pronominal features, with agreement features is frequently attributable to the pronominal origins of agreement systems.[41] The diachronic relationship between pronouns and agreement

[41] Cf. Bresnan and Mchombo (1985) on Bantu, Katalin Radics (1980) for a detailed cross-linguistic

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markers can confound the analysis of certain phenomena: is one confronted in the relevant domain with an agreement system or, alternatively, a process of pronominal incorporation? This is the central question of Chapter 5 posed with respect to inflecting prefixal preverbs.

The second question is less tractable than the first and the present context is not the forum to focus on its resolution. For my purposes it is sufficient to present a schematic overview of relevant speculation expressed in Keenan (1979). A case could be made, I believe, for the adequacy of Keenan's analysis in handling the distribution of Finno-Ugric agreement phenomena introduced a little later on.

Keenan suggests some basic distinctions in order to define a straightforward mapping between the Logical Form (LF) and the Surface Form (SF) of languages: 1) a distinction between functional expressions i.e. functors, and argument expressions, and 2) a differentiation between two types of arguments expressions - Determined Noun Phrases (DNPs), i.e. more or less equivalent to the maximal major expansions in X bar theory, and Common Noun Phrases (CNPs), i.e more or less equivalent to the non-maximal expansion N of X bar theory. He proposes the Functional Dependency Principle (FDP) to account for the surface distribution of agreement morphemes:

The Functional Dependency Principle

> Given A and B distinct constituents of SF, A may agree with B iff in the LF expression of E, the LFs of the expressions of A are interpreted as functions taking the interpretations of expressions of B as arguments.

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analysis of this relationship with special attention to its manifestation in Uralic, and Majtinskaja (1969) for a typological survey of pronominal systems.

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This principle predicts variable distribution of agreement morphology in accordance with the DNP vs. CNP status of argument elements. Keenan provides the following chart of correlations between functions and agreement morphology:

Table 6

Functions and Agreement Morphology	
Functions taking DNP arguments	Functions taking CNP arguments
a. VPs b. TVPs c. Possessive Phrases d. Prepositional Phrases	a. APs b. Relative Clauses c. Articles d. Quantifiers e. Numerals

Ignoring, for the moment, claims concerning the phrasal vs. lexical nature of agreement the distributions predicted by Keenan's analysis are quite suggestive. For my purposes, the functions taking DNP arguments are canonical ATPs - the larger relevance of this will be developed later on. Its local relevance will be evident in the discussion of agreement in Uralic which follows discussion of the third question.

Assumptions (either implicit or explicit) concerning restrictions on the domains of agreement have been important for arguments addressing so-called 'clause union phenomena'. The theory employed in the present work, namely LFG, proposes a restriction referred to as the Functional Locality Principle to constrain the domain in which agreement can occur.

Functional Locality Principle

> Designators in lexical and grammatical schemata
> can specify no more than two function applications.
> - Bresnan 198:288

According to this hypothesis agreement is constrained to occur solely within a clause nucleus. The clause nucleus is defined, roughly, as the selectional (or, government)

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domain of an argument taking predicate: it contains the ATP and all arguments lexically associated with it. The Functional Locality Principle proscribes the operation of agreement across clause nuclei. This accounts for the frequent observation that matrix verbs exhibit agreement only with governed arguments. ATPs do not agree with arguments contained in clause nuclei which they select: a matrix ATP, in other words, does not exhibit agreement with, e.g. the SUBJ of a subordinate clause.

There are, however, certain types of refractory data. In particular, as will be discussed in Chapter 7, verbal auxiliaries in Ugric display agreement with the OBJ arguments of their infinitival complements. This phenomenon is exemplified below with a construction from Hungarian and Vogul:

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Agreement Across Clause Nuclei

Hungarian:

meg fog-lak gyöz+ni

PV will-1/2 convince+INF

'I will convince you'

fel szokt-alak jelenteni

PV used-1/2 report

'I am used to reporting you'

Vogul:

ań piγe ketungkwe pat ste

now son-3sg send-INF begin-PAST-3sgSUBJ/3sgOBJ

'he began sending his son now'

xār-ojka nujγalangkwe pat ste

reindeer skin-INF begin-PAST-3sgSUBJ/3sgOBJ

'he began to skin the reindeer'

In the preceding Hungarian constructions the future AUX *fog* 'will' and the aspectual AUX of inveteracy *szokott* 'habituated to' bear verbal morphology reflecting agreement with the 2nd person OBJ of their infinitival complements. In Vogul, the matrix verb indicating incipient action bears an agreement marker reflecting the 3rd person singular status of the infinitive's OBJ complement. The interpretation of agreement in constructions such as these is undertaken in Chapter 7 so I will turn now to a fuller explication of agreement patterns in the Ugric languages which figure in that discussion.

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5.1. Agreement in Uralic

Agreement morphology in Uralic is generally restricted to appear on phrasal heads - this distribution has already been intimated by the observation that Uralic is *head-marking* in Nichols' terms. For example, it is common for postpositions to exhibit agreement with dependents and for possessed NPs to show agreement with an associated POSS argument. The features relevant for agreement are person and number:[42] gender classification is absent. All Uralic languages distinguish three persons - 1st, 2nd and 3rd - but differ as to whether they make a two-way - SING, PL - or three-way - SING, DU, PL - distinction for number.

In several Balto-Finnic languages there is rampant agreement between constituents within an NP. This is characterstic of Finnish:

(14) tä-*ssä* iso-*ssa* ravintalo-*ssa* on hyvä ruoka
this-IN big-IN restaurant-IN is good food
'There's good food in this big restaurant'

I have referred to the innovative and areal nature of this phenomenon earlier. There is severely restricted nominal agreement in Hungarian: DEM(onstratives) agree with head nouns in case and number. This is illustrated below:

(15) az-ok-nak a szegény ember-ek-nek
that-PL-DAT the poor human-PL-DAT
'to/for those poor people'

Barring these innovated domains, agreement in Uralic is restricted to the concordance of features between certain clausal constituents and predicates.

5.1.1. Subject Agreement: Ugric

The most prevalent agreement pattern in Uralic is when person/number features of a SUBJ(ect) argument are reflected in in person/number paradigms for verbal morphemes: this is commonly referred to as *subject agreement.* The tables below present the regular

[42] We will see below that in certain languages 'definiteness' is also relevant.

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subject agreement paradigms for the Ugric languages - ignoring extraneous morphophonological factors.[43]

Table 7

Hungarian Subject Agreement			
SUBJ pers	vár-ni 'to wait'	beszél-ni 'to speak'	főz-ni 'to cook'
1sg	vár-ok	beszél-ek	főz-ök
2sg	vár-sz	beszél-sz	főz-öl
3sg	vár	beszél	főz
1pl	vár-unk	beszél-ünk	főz-ünk
2pl	vár-tok	beszél-tek	főz-tök
3pl	vár-nak	beszél-nek	főz-nek

Table 8

Vogul Subject Agreement (Northern Dialect)		
SUBJ Pers	unt-ungkwe 'to sit'	te-ngkwe 'to eat'
1sg	unt-eɣ-əm	te-ɣ-əm
2sg	unt-ēɣ-n(ən)	te-ɣ-ən
3sg	unt-i(j)	te-ɣ
1du	unt-i-mēn	te-ɣ-mēn
2du	unt-eɣ-ēn	te-ɣ-ēn
3du	unt-ēɣ	te-ɣ-ig
1pl	unt-e-w	te-ɣ-uw
2pl	unt-eɣ-ən	te-ɣ-ēn
3pl	unt-eɣ-ət	te-ɣ-ət

(The symbol -(V)γ- indicates a velar fricative designating the present tense.)

Table 9

Ostyak Subject Agreement (Kazimi Dialect)			
SUBJ Pers	kit 'send'	mons/mos 'tell'	ma 'give'
1sg	kit-ʎ-əm	mos-ʎ-əm	ma-ʎ-əm
2sg	kit-ʎ-ən	mos-ʎ-ən	ma-ʎ-ən
3sg	kit-ʎ	mos-ʎ	ma-ʎ
1du	kit-ʎ-əmən	mos-ʎ-əmən	ma-ʎ-mən
2du	kit-ʎ-ətn	mos-ʎ-ətn	ma-ʎ-tən
3du	kit-ʎ-əngən	mos-ʎ-əngən	ma-ʎ-ngən
1pl	kit-ʎ-uw	mos-ʎ-uw	ma-ʎ-uw
2pl	kit-ʎ-əti	mos-ʎ-əti	ma-ʎ-ti
3pl	kit-ʎ-ət	mos-ʎ-ət	ma-ʎ-ət

[43] The 2sg allomorphs -ol/el/öl occur when the preceding consonant is a sibilant.

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In the table above, the segment -λ- indicates a lateral fricative designating the present tense.

The morphemes in subject argeement paradigms are the ones typically utilized with syntactically intransitive verb stems, i.e. verbs which cannot (middles, passives etc.) or optionally may not co-occur with OBJ arguments. The appropriate utilization of the subjective paradigm is is constrained by another factor in addition to the transitivity of a given verb: in many instances properties of OBJ arguments - specifically, (in)definiteness - entail selecting either the subjective or objective conjugation. (Cf. below for tables and discussion) For example, in Hungarian the subjective conjugation is required when the OBJ is a 1st or 2nd person pronoun while the objective conjugation is obligatory with 3rd person OBJ pronouns. In general, it can be said that the conditions for the selection of subjective vs. objective conjugation are more grammatically determined in Hungarian than they are in either Vogul or Ostyak.[44]

5.1.2. Object Agreement: Ugric

In all of the Ugric languages - as well as in Mordvin (Volgaic) and the Samoyedic languages - verbal conjugation reflects properties of SUBJ *and* OBJ arguments.

Objective conjugation is employed in Hungarian when an OBJ with an ACC CM is accompanied by the definite article or a demonstrative. In general, objective conjugation occurs with (definite) 3rd person arguments[45] In other words, grammatical determination is an automatic trigger for object agreement in this language. The table below demonstrates that Hungarian objective conjugation reflects person/number features of the SUBJ

[44] Ugric linguists typically claim that paradigm selection for verbal agreement is discourse determined in Vogul and Ostyak. They note that there is no reliable relation between grammatical definiteness of the OBJ and the appearance of the objective conjugation in these languages as there is in Hungarian. It has been hypothesized that objective conjugation is employed when the OBJ is a Topic in Vogul and Ostyak. Given the problems attendant on all discussions of discourse functions such as Topic I will defer comment about conjugation selection in Vogul and Ostyak to another forum.

[45] Definiteness is indicated by an accompanying determiner or by inherent determination as with pronouns or proper nouns.

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as well as the definiteness of the OBJ argument: person/number properties of the OBJ are not registered in this paradigm. There is, however, one morpheme in this paradigm which encodes the *person* of SUBJ and OBJ: -lak/lek indicates that the 1st person is singular and that the OBJ is 2nd person singular or plural.

Table 10

Hungarian Definite Object Agreement			
SUBJ Pers	mond-ani 'to say'	ké r-ni 'to ask'	lök-ni 'to push'
1sg	mond-om	kér-em	lök-öm
2sg	mond-od	kér-ed	lök-öd
3sg	mond-ja	kér-i	lök-i
1pl	mond-juk	kér-juk	lök-jük
2pl	mond-játok	kér-itek	lök-itek
3pl	mond-jak	kér-ik	lök-ik
1/2	mond-alak	kér-lek	lök-lek

In Ostyak, the objective conjugation indicates the person/number features of the SUBJ and the number features of singular vs. dual/plural for 3rd person OBJs.

Table 11

Ostyak Object Agreement (Kazimi Dialect)				
	tu 'bring'		kit 'send'	
SUBJ Pers	3rd sg. OBJ	3rd du./pl. OBJ	3rd sg. OBJ	3rd du./pl. OBJ
1sg	tu-s-em	tu-s-λam	kit-s-em	kit-s-λam
2sg	tu-s-en	tu-s-λan	kit-sen	kit-s-λan
3sg	tu-s-λe	tu-s-λe	kit-s-λe	kit-s-λe
1du	tu-s-əmən	tu-s-λəmən	kit-s-emən	kit-s-λəmən
2du	tu-s-λən	tu-s-λən	kit-s-λən	kit-s-λən
3du	tu-s-λən	tu-s-λən	kit-s-λən	kit-s-λən
1pl	tu-s-ew	tu-s-λəw	kit-s-ew	kit-s-λəw
2pl	tu-s-λən	tu-s-λən	kit-s-λən	kit-s-λən
3pl	tu-s-eλ	tu-s-λaλ	kit-s-eλ	kit-s-λaλ

(Here -s- is the Ostyak past tense morpheme and -λ- is the object marker.)

The Vogul objective paradigm is the most highly differentiated one in Ugric:[46] the relevent morphemes encode the person/number features of SUBJs as well as all three

[46] The most elaborated objective conjugation paradigm in Uralic is possessed by Mordvin. In this language verbal affixes encode the person/number of both SUBJ and OBJ eventuating in complex verbal paradigms reminiscent of those found in numerous Amerindian languages.

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number discriminations, i.e. sg., du. and pl., for 3rd person OBJs.

Table 12

Vogul Object Agreement (Northern Dialect) mi - ngkwe 'to give'			
SUBJ pers/num	sg. OBJ	du. OBJ	pl. OBJ
1sg	mi-s-l-ə̆m	mi-s-aɣ-əm	mi-s-an-ə̆m
2sg	mi-s-l-ə̆n	mi-s-aɣ-n	mi-s-a n-ə̆n
3sg	mi-s-te	mi-s-aɣ-e	mi-s-an-e
1du	mi-s-l-amẽ̆ n	mi-s-saɣ-amẽ̆ n	mi-s-an-amẽ̆ n
2du	mi-s-l-ẽ̆ n	mi-s-aɣ-ẽ̆ n	mi-s-an-ẽ̆ n
3du	mi-s-tẽ̆ n	mi-s-aɣ-e n	mi-s-an-ẽ̆ n
1pl	mi-s-l-uw	mi-s-a -uw	mi-s-an-uw
2pl	mi-s-l-ẽ̆ n	mi-s-aɣ-ẽ̆ n	mi-s-an-ẽ̆ n
3pl	mi-s-anə̆l	mi-s-aɣ-anə̆l	mi-s-an-ə̆l

Here, *-s-* is the Vogul past tense morpheme and *-l-* is the object marker.

5.1.3. Predicative Agreement: Ugric

There are two additional types of agreement in the Ugric languages. Predicate adjectives/nominals agree with the number features of SUBJ complements. Secondary predicates - functioning as depictives and resultatives - tend to exhibit agreement with the number features of SUBJ or OBJ complements depending on the transitivity of the verbal stem. Representative examples of these agreement phenomena are presented below.[47]

[47] I thank Anna Szabolcsi for providing me with these examples and pointing out the intriguing variability of this phenomenon in Hungarian.

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Hungarian:

(16) a fiúk katonák/ *katona volt-ak
the boy-pl soldier-pl/* soldier be-PAST-3pl
'the boys were soldiers'

(17) a lányok boszorkánnyá/ boszorkányokká változt-ak
the girl-pl witch-TRAN-sg witch-TRAN-pl change-PAST-3pl
'the girls turned into witches'

a fiú boszorkánnyá/ boszorkányokká változtatta a lányokat
the boy witch-TRAN-sg / witch-TRAN-pl change-PAST-3sg/DEF the girl-pl-ACC
the boy changed the girls into witches

Constructions of this type will play a small role in the discussion of argument incorporation in Chapter 6.

6. The Structure of Words

I have already referred on several occasions to the notion *word.* In most instances I have relied on common intuitions about the nature of this entity: this view considers such entities as constituting a straightforward convergence of different domains of grammar. When reliance on common sense seemed misleading, however, I provided a general characterization of that aspect of this notion which I regard as focal for this study: *a (complex) word is an entity created by morpholexical rules and which may serve as additional input to subsequent morpholexical rules.* This statement betrays the bias of the present study: one must discriminate between the different aspects of wordhood. A word represents the confluence of several components of grammar but the criterial determinants of wordhood for the present study are morpholexical criteria. I am primarily concerned with the *grammatical word.*

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Satisfactory definitions of the *word* are notoriously elusive. The anatomy of a simple word reveals an admixture of properties. It is an assemblage of phonological segments associated with information. It displays preferences for certain sorts of combination with certain other elements. And, it exhibits certain syntactic behavior. A complex word reveals similar features: it generally contains more (or more types of) information, e.g. as a result of combining simple words as in compounding or by supplementing the simple word with *grammatical meaning.*[48]

Given the range of criteria utilized to characterize those entities referred to as words, the absence of a reliable definition - particularly one useful for cross-linguistic purposes - is understandable. The suspicion even arises that the absence of a uniform definition is less surprising than the existence of one would be: is there really any reason to suppose that phonological, morphological, syntactic and semantic criteria would all converge cleanly on a single entity? In fact, dissenting opinions about proposed definitions generally focus on the inadequacies of regarding some entity as an integral unit with respect to one or another of these criteria.

Problems attendant on defining the notion *word* have rarely been sufficient to abandon employing this notion. Instead, it becomes extremely important to elucidate which aspect(s) of this notion are crucial for a particular analysis. In numerous instances the isolation of a particular entity has utility in demarcating domains for the operation of certain phonological processes. This has led to the assumption that there are *phonological words.* In the present study the phonological word is not (always) coextensive with the conception of the word interpreted as a grammatical unit. The morpholexical or grammatical aspect of wordhood is highlighted here. The theoretical assumptions adopted in the present study postulate that morpholexical rules contained in the lexical component of the grammar produce fully derived and inflected forms: grammatical words, as a consequence, consist of two types of information, namely, lexical and grammatical. In

[48] Cf. Chapter 7 for discussion.

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traditional terms, we are dealing with *lexemes* accompanied by (inflectional and derivational) formatives. The combination of lexeme and formative (or lexeme and lexeme) which arises by morpholexical rule constitutes a word for my purposes.

This conception of the word closely resembles a view advanced by Ch. Bally (1950). It is a view particularly appropriate for the delineation of words in languages with analytic structure. Y. K. Lekomtsev, for example, finds Bally's view apposite for the analysis of Vietnamese:

> Because of its multiple significance and contradictoriness Bally proposes to divide the concept 'word' into two concepts: the 'semanteme' ('a sign expressing purely lexical meaning - either simple or complex - independent of form') and the 'syntactic molecule' ('every actualized complex, consisting of semantemes and one or several grammatical signs, actualizations or connections, both necessary and sufficient in order for it to function in a sentence.'). - 1964:207.

The association of lexically meaningful information with certain grammatically meaningful information does not necessarily entail phonological integrity in the union of exponents expressing these types of information. Consequently, the notion 'syntactic molecule' appears to be appropriate for the isolation of words in analytic languages.

Bally, unfortunately, appears to have cast his net too wide: on his account *le gros renard* 'the fat fox' is a 'syntactic molecule' where the grammatical sign indicating 'determination' necessarily co-occurs with a semanteme, in this instance, 'fat fox'. In other words, most syntactic phrases in current theories are 'syntactic molecules' on Bally's account. This analysis, in effect, obscures an admittedly evanescent distinction between syntactic phrases and certain wordforms.

Although the relevant boundaries between wordforms and syntactic phrases are often indeterminate it seems reasonable to maintain a difference between them. Therefore, I will refine Bally's intuition by juxtaposing 'syntactic molecules' to what I will refer to as *lexical molecules*: these are grammatical words, i.e. entities produced by morpholexical

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rather than syntactic rules. This preserves both the functional and structural compositional aspects of Bally's proposal: *lexical molecules* are functionally constituted of semantemes and associated grammatical information while they are structurally encoded by disjoint pieces without such discontinuity jeapordizing their status as 'words.'[49] Crucially, *lexical molecules* are the output of morpholexical rules.

The preceding discussion should be kept in mind as I embark on a descriptive overview of the structure of words in Uralic. As stated previously, when referring to words it is important to make one's emphases clear. The present overview takes as a point of departure the conventional or commonsensical conception of the word as the unremarkable confluence of different component of the grammar. We will return to the conception of the word as a 'lexical molecule' vs. a phonological unit in subsequent chapters.

In the theoretical portions of this dissertation I will focus on various aspects of morphological composition for Ugric (primarily Hungarian) lexical phrases. In order to anchor this discussion it is important to provide some descriptive remarks about word-structure in Uralic. The following section introduces the reader to general ways in which Ugric word forms (particularly, predicates) both resemble and depart from the forms found elsewhere in Uralic. The discussion concerning the demarcation of words represents a distillation of the more germane and significant observations on this topic contained in Zhirmunskii and Sunik (1963).

6.1. Affixation: Inflection and Derivation

Agglutination is the predominant method of morphological composition in Uralic. These languages are chiefly suffixing for both derivational and inflectional morphology. Although instances of prefixation are occasionally attested (for example, the *epa-*

[49] The semanteme here can be interpreted as a lexeme and any formative morpheme while the grammatical information can be interpeted as information contributed canonically by inflectional morphemes. These assumptions can be interpreted as comporting with speculation in recent theories of morphology concerning the hypothesis that both derivational and inflectional operations apply solely in the lexical component of grammar. This is the position taken in the present study. Cf. Chapter 4 for further discussion of the notions lexeme and grammatical information.

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'negative' prefix in Finnish or, the *leg-* 'superlative' prefix in Hungarian) this phenomenon is fairly uncommon for this family.

There are few, if any, distinctive phonological differences which correlate with the derivational vs. inflectional status of affixes. Certain standard distinctions between these two types of morphemes are observable in Uralic: inflectional morphemes tend to participate in paradigms and do not alter the categorial status of stems while derivational morphemes do not generally participate in paradigms but do tend to alter the categorial status of stems.

In those languages which exhibit vowel harmony (front/back as in, e.g. Finnish or front/back/round as in, e.g. Hungarian) allomorphy selection for suffixes affects derivational and inflectional morphemes similarly. Consider some examples in which inflectional suffixes (Finnish case, Hungarian verbal conjugation) are contrasted with derivational suffixes (Finnish agentive nominalization, Hungarian middle verb formation): (from Majtinskaja 1963)

Finnish:

(18a.) kala 'fish' -> kala-ssa 'in fish' vs. kala-staja 'fisherman'
(b.) metsä 'woods' -> metsä-ssä 'in woods' vs. metsä-stäjä 'woodsman'

Hungarian:

(19a.) mos 'wash' -> mos-ok 'I wash' vs. mos-akodik 'wash (middle)'
(b.) ver 'beat' -> ver-ek 'I beat' vs. ver-ekedik 'beat (middle)'
(c.) fésül 'comb' -> fésül-ök 'I comb' vs. fésül-ködik 'comb (middle)'

Certain languages exhibit stem allomorphy triggered by suffixation. For example, in those (primarily Finnic) languages with stem internal consonant gradation the selection of strong vs. weak grade is determined independent of the morphological status of suffixes and, roughly, on the basis of the syllabic structure of these suffixes and their closure efffects: if the suffix in Finnish (with certain morphologically determined exceptions) is C or CCV then this will close the preceding syllable and engender the weak grade of a

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preceding C. Consider the following Finnish examples:

(20) koti 'home' ---> kodi-ttomuus 'homeless'

(21) pitää 'keep' ---> pidä-n 'I keep'

The preceding examples illustrate qualitative gradation of t —> d / _ C(CV)#.[50]

There is a small collection of monosyllabic words in Hungarian which display stem allomorphy: suffixation elicits the appearance of a stem final -v. For instance:

(22) hó 'snow' ---> hava-t 'snow-ACC' & hav-as 'snowy'

It bears mentioning, in the present context, that all of these phonological processes occur within entities interpretable as words according to other, i.e. non-phonological criteria as well.

The linear sequence of morphemes exhibited by Uralic words conforms, in general, to expectations concerning the relative order of derivational and inflectional morphemes obtained from the analysis of other languages with concatenative morphology. In particular, derivational morphemes ordinarily precede inflectional morphemes: words appear to be constructed from the root rightwards. If one assumes some variant of the hypothesis that affixes are heads (cf. Chapter 4) these languages exemplify word structures which are left branching.

The relative order of a particular pair of morphemes has elicited much comment. In Finnish, Lapp, Mordvin and Samoyedic the case marker (CM) precedes the possessive marker (PX) while in Ugric, the CM follows the PX.[51] A third variation also obtains: in the Permian languages and Cheremis the relative order of CM and PX depends on which

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50 Finnish also possesses quantitative gradation operating on two grades of length, short and long.

51 The internal structure of certain elements in Hungarian seems to suggest that the CM + PX order is the original order: many Hungarian postpositions designating stationary location exhibit this order. For example, an inflected postposition (cf. Chapter 5 for discussion) such as *mell-ett-em* 'beside me' consists of a lexical stem *mell* 'chest', the archaic locative case marker *-tt*, and the 1st person personal suffix.

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CM is at issue.[52] Representative examples of these orders are presented below.

Linear Sequence of CM and PX

Finnish	-	CM + PX:	talo + ssa + ni house + IN + 1sg 'in my house'
Hungarian	-	PX + CM:	ház + am + ban house + 1sg + IN 'in my house'
Votyak	-	CM + PX:	murt+en+ym man+INST+1sg 'with the man'
		and	
		PX + CM:	murt+e+ly man+1sg+ALL 'to my man'

In Votyak, according to Collinder (1957), the PX ordinarily follows the CM. An inverse order, that is, PX + CM obtains for forms with the ACC(usative) CM and "external local cases", i.e. AD(essive), AL(lative), AB(lative).

There is, to the best of my knowledge, a single exception to the tendency for derivational morphemes to linearly precede inflectional ones. This exception is displayed in the structure of Ostyak passive verb forms: verb stem + TNS + PASS. Representative passive forms are presented below based on the verbs *kit* 'send' and *ma* 'give':

Structure of Ostyak Passive (Kazimi Dialect)

kit-λ-aj- m	ma-λ-ij- m
send-PRES-PASS-1sg	give-PRES-PASS-1sg
'I am sent'	'I am given'

The Ostyak passive morpheme has two allomorphs. Allomorph selection is conditioned, roughly, by the structure of the stem: vowel final stems select *-ij* while consonant final stems select *-aj*. The TNS morpheme is always consonantal: present tense is signalled by the lateral fricative -λ-, while *-s-* indicates the past tense. Since TNS morphemes always

[52] Cf. Comrie (1981), Hajdu (1981) and Thomason () for discussion.

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precede the PASS morpheme the TNS morpheme must be interpreted as transparent for allomorphy selection: the PASS morpheme sees past the TNS marker to the consonant/vowel final complexion of the verb stem.[53]

6.2. The Delimitation of Words

The determination of word boundaries in Uralic - as in other languages - is often problematic. Several of the phonological phenomena mentioned in the previous section, i.e. vowel harmony, stem allomorphy, apply strictly within a limited domain. This domain is customarily considered to be the *phonological word*. One additional (phonological) criterion which tends to delimit grammatical or morphological words from syntactic phrases is stress. In Finnish and, generally, in Ugric, main stress regularly falls on the initial syllable of a word.[54]

There is a common, often implicit, cast to the phonological criteria for wordhood cited in the Uralic literature: the phenemona display a rightward orientation. That is, the domain of words is most easily determined when suffixation is at issue. Since these languages are primarily suffixing the delineation of derived and inflected words is, more or less, straightforwardly demarcated. In contrast, the criteria for distinguishing compounds from syntactic phrases are frequently elusive: the non-head in both of these constructions appears to the left of the head.

The typical structure of Uralic compounds consists of the composition of two (or more) lexical categories. Whenever the the composed elements do not constitute a conceivable syntactic syntagm - for instance, as in N + N collocations - the compound status of these combinations is obvious even in default of morphophonological criteria. Such compounds are conventionally called *coordinate compounds* in the Uralic literature.

[53] Ostyak, the reader recalls, is Ugric - the closest congener language, Vogul, neither exhibits this type of (unexpected) sequencing nor contains a genetically related PASS morpheme. The Vogul PASS morpheme is *-we-*. Ostyak and Vogul passives will be mentioned in our discussion of analytic predicates in Chapter 7. Cf. Ackerman (1987d.) for a more thorough discussion.

[54] Cf. Majtinskaja (1963) and Serebrenikoff (1963) for further discussion of word boundaries in Finno-Ugric.

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However, when the constitutive members of compounds could conceivably represent syntactic syntagmata then the process of distinguishing lexical compounds from syntactic phrases is considerably more difficult. Compounds with this sort of internal functional complexion are referred to as *subordinate compounds*: they consist of a head (ordinarily, rightmost in the composition) and a non-head which bears some syntactic dependency relation to the head. Since this composition manifests the typical left branching directionality of dependent-head constituents in Uralic the structural distinction between words and syntactic phrases is obscured. This distinction is further obscured by the relative absence of leftward oriented morphophonological criteria in these languages.[55]

Anderson (1985b.) has suggested that in numerous languages the distinction between lexical compounds and syntactic phrases remains speculative. This opinion is commonly expressed in the Uralic literature[56]:

> Among Szilasi's principal contentions it is unquestionable that 'since tight formal criteria are missing, it is not possible to determine a precise and clear boundary in the Uralic languages between a syntactic relation and a compound.' Ries (Wortgruppe 6) also demonstrates that the transition between the compound and the word group [phrase - FA] is fairly wide." -

Rombandeeva (1973) in her discussion of Vogul *nominal* compounds enumerates three criteria which serve to differentiate these constructions from syntactic phrases: 1) compounds are distinguished by single word stress on the first syllable of the leftmost

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55 In certain instances such morphophonological criteria do obtain in compounds, thereby facilitating the desired differentiations. One example of this, cited in Majtinskaja (1963), is compounding involving certain sorts of dependent elements in Finnish. For example, consider the following:

i. suuri 'big' + kaupunki 'city' --> suurkaupunki
'metrapolis'
ii. varhainen 'early' + aamu 'morning' --> varhaisaamu-na
'in the early morning'

In (i.) we find a regular occurrence of vowel truncation while in (ii.) we find the combinative stem allomorph of 'varhainen'. If varhainen was in syntactic rather than lexical combination with its head we would witness case concord *varhaisena aamuna*. The presence of case concord in Balto-Finnic has become a criterion for distinguishing compounds from syntactic phrases.

56 Faludi Agota, Névszoi Összetételek az Osztyákban, Budapest (1948).

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member in contrast to the ability of each member of a syntactic phrase to bear stress;[57] 2) certain phonological phenomena occur within compounds and not within phrases (vowel lengthening or shortening on some member of the compound); and 3) it is impossible to interpose elements between members of compounds while it is possible to interpose elements between phrasal constituents.[58] Illustrative examples of the first two criteria are presented below with data from Vogul:

Criteria for Distinguishing Compounds from Phrases in Vogul

(23) Stress:

(a.) ēt*p*os 'moon' < et 'night' pōs 'light'

(b.) *ēt pos* 'night light'

(24) Vowel Shortening:

ūjxul 'animal' < ūj 'something living' xūl 'fish'

(25) Vowel Lengthening:

xasn̄ejiw 'pencil' < xasne 'writing' j̄iw 'wood'

In (23a.) the left member of the compound bears the stress (indicated by italics) for the entire word while in (23b.) each member of the syntactic phrase bears word stress. In (24), the vowel of the first member of the compound is lengthened in comparison with its indepedent non-compounded form. Finally, in (25), the final vowel of the first member of the compound is lengthened while the vowel of the head member is shortened.[59]

A major contention of the present thesis is that these phonological criteria do not necessarily hold for compounds when they function as predicates. In particular, violations of criterion 3, concerning the separability of constitutive pieces of compounds, is the

[57] This criterion obtains for the phrasal predicates examined here when they occur in the sequence PV + V.

[58] We will see that this criterion is unreliable in, at least, two respects: sometimes certain elements can be interposed between members of phrasal verbs while in other instances interposition of elements cannot occur between entities exhibiting an indisputable syntactic constituency. We will also see below that in certain instances members of compounds appear to participate in syntactic coordination and are, consequently, separable from one another.

[59] I do not know, at this time, the conditions for lengthening and shortening in compounds.

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central problematic of the present study. Rombandeeva, for example, explictly remarks that in verbal constructions consisting of PV and V the PV is separable from the verb stem: various elements can be interposed between the PV and V although, on her account, the PV + V combination is composed by morphological rules.[60] Additionally, she observes that the PV bears stress for the entire verbal phrase when the activity designated by the verb is focused.[61]

(26) piɣriś kātaɣe *xot* - lowtsaɣe
child hand-DU-3sg PV-wash-PAST-3sg/DU.OBJ
'it was wash his hand the child did'

In the preceding Vogul sentence the PV bears focus stress while focus interpetation is allegedly attributed to the entire complex verb.

Since verbal compounds figure prominently in later chapters I will defer discussing them for the moment and focus instead on certain properties in other types of compounds.

One of the reasons it is difficult to distinguish syntactic phrases from compounds in Uralic is that the first (or, left) member of compounds frequently bears a marker of syntactic relation to the second (or, right) member: the left member bears case-marking. Collinder (1965) observes that:

> In a derivative syntagmatic compound, the first member may be a qualifier without any inflectional ending, or it may be an oblique meaning-bearer... Non-derivative syntagmatic compounds are sometimes difficult to distinguish from mere syntagms.

Collinder's "non-derivative syntagmatic compound" corresponds to forms in which the head (or, rightmost member of the compound) does not undergo a categorial change. In contrast, "derivative syntagmatic compounds" contain a head which has undergone a

[60] Cf. Chapter 3 for a description of separability in Vogul.

[61] This also occurs in Hungarian when the entire verbal action receives focus interpretation. I do not know whether the PV in Vogul assumes word stress (in conformity with her third criterion) in unmarked clauses where it is contiguous and to the left of the verbal stem. The PV does, however, bear this stress in these contexts in Hungarian. Cf. Kálmán and Kornai (1985) for discussion of level prosody in Hungarian neutral clauses.

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categorial change.[62] Collinder mentions that oblique forms of left-members are frequently found in Hungarian non-derivative syntagmatic compounds. He fails to mention, however, that these forms systematically correspond to related derivative syntagmatic compounds. This type of relation is exemplified below:

27a.	egy-et	ért	---->	b.	egyetértés
	one-ACC	understand			one-ACC-understand-N
	'agree'				'agreement'

The verb in (27a.) has the following properties: it is semantically non-compositional,[63] the left-member is inflected with ACC case, the left member is separable (under conditions described below) and the entire form is categorially a verb. The nominal form in (27b.) is clearly related to the compound verb in (27a.): it shares the same non-compositional meaning, it preserves ACC CM on the left member. Phenomena of this sort represent one type of argumental preverb + verb combination discussed in Chapter 6.

The phenomenon of inflection internal to compounds is significant for a basic assumption of this dissertation, namely, that the Lexicon contains fully inflected forms of words. Although we will return to the details of this later the basic point can be stated simply. It is often the case that a theoretical position is adopted because it is expedient: it is useful for analysis and doesn't (obviously) violate descriptive intuitions. On the other hand, it may be the case that certain linguistic phenomena motivate the selection of a particular theoretical position: the potential existence of such phenomena 'follow' from the postulation of certain hypotheses. Case-marking internal to compounds appears to follow, in this manner, from the postulation that inflection occurs in the lexicon: given a restriction on the ability of syntactic constituents to 'feed' word-formation processes, the existence of internally inflected compounds conforms to a strong lexicalist supposition that inflected forms should participate in compounding processes. We will see the

[62] This way of stating the phenomenon may be inaccurate. One might argue, as I will, that e.g. an entire verbal compound is nominalized not simply the verbal element in it. Cf. Chapter 6 for discussion.

[63] Naturally, this does not mean that its synchronic meaning is unmotivated.

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relevance of this phenomenon for phrasal predicates in subsequent chapters so for the moment I would like to demonstrate its relevance in several other domains of word formation.

6.2.1. Adjective Derivation with the Suffix *-i*

In the present discussion I will examine adjectival derivations based on postpositional and nominal phrases. The suffix utilized is *-i* and it designates 'belonging to or location at'. This derivational process is illustrated with an adjective based on a simple nominal below: (28b.) is an example of a compound while (28c.) is generally considered to consist of an attributive adjective and a nominal within an NP.

(28a.) ház N 'house' ---> ház-i A 'domestic'

(b.) a háziállat
the domestic-animal
'the house pet'

(c.) a házi fel-adat
the domestic PV-assignment
'the homework'

This suffix is also employed in the adjectivalization of lexicalized nominal phrases. This use is exemplified below.

(29a.) fekete tenger N 'black sea' ---> fekete tengeri A 'from the black sea'

(b.) a fekete tengeri hal
the black sea fish
'the fish from the black sea'

We have already seen an example of a postposition or postpositional phrase which participates in this type of derivation. I repeat our earlier example below:

(30.) a fa mellett-i bokor
the tree beside-ADJ bush
'the bush beside the tree'

This derivational morpheme is generally suffixed to postpositions with the feature [-

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motion]. It should be noted that adjectives derived from postpositions in this fashion cannot be used without their complements; * *a melletti bokor* 'the beside bush'. In this way they are similar to adjectival derivations utilizing the suffix ú/ü examined later in this chapter. These are like English constructions such as * the eyed man, vs. the one-eyed man. Facts such as these raise the question as to whether the morpheme *-i* suffixes to postpositions or postpositional phrases.[64] However this question is eventually resolved, the bar level indeterminacy of the stem which serves as input to this derivational process, i.e. whether it is an A or an AP, is worth highlighting: this seems to be an instance where a phrase participates in derivation.

The distribution of the *-i* morpheme also helps illustrate the relation between derivation and derivation-internal inflection in certain adjectivalized postpositional phrases. Several postpositions which govern the CM of their dependents can host the adjectivalizing morpheme *-i*. Consider the following examples of this phenomenon:

(31) föld-ön kivül ---> földönkivül-i
earth-SUP beyond earth-SUP-beyond-ADJ
'beyond the earth' 'extra-terrestrial'

In this contruction the derived adjective clearly contains an inflected non-head form: the nominal *föld* bears the SUP case marking governed by the postposition *kivül.* The supposition that elements such as *földön* are contained within a complex adjective rather than simply within a phrase is supported by certain facts concerning modification. The adjective *földönkivuli* - like most Hungarian adjectives - can be employed as a nominal. This use is illustrated below:

[64] Given the basic generalization that *-i* derives denominal adjectives its suffixation to postpositions or postpositional phrases appears enigmatic. If we keep in mind, however, the diachronic origins of postpositions and their relations to CMs such suffixation is decidedly less mysterious: the majority of Hungarian postpositions (and Ugric postpositions generally) are case-marked nominals occurring in apposition to another nominal (ordinarily not marked with case). In other words, a postpositional phrase is a nominal compound from an historical perspective. In some sense, then, the applicability of this morpheme to postpositional elements is motivated by diachronic considerations.

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(32) Arpád el-gázolta a földönkivülit
Arpad PV-ran over-3sg/DEF the extra-terrestrial-ACC
'Arpad ran over the extra-terrestrial'

In its nominal use an adjective such as this can be modified by attributive adjectives. The attributive adjective in such a construction manifests two possible scope relations: either, 1) it modifies only the inflected nominal *földön* or, 2) it modifies the entire complex form. These options are presented below:[65]

(33) a távoli földön kivül-i
the distant earth-SUP beyond-ADJ

'the one from beyond a distant world'

or,

'the distant extraterrestrial'

The possibility of an interpretation on which the adjective modifies the entire complex derived form suggests that there are certain derived nominal forms in Hungarian which contain internally inflected members.

There is another instance involving the derivational morpheme *-i* in which inflectional markers seems to appear internal to derivational markers. In compositions of this sort *-i* combines with a variant of the EL(ative) case marker *-bel*: the resultant form *beli* is a fairly productive adjectival formative. A representative example of this form is presented below.

(34) a fal - unk - bel - i plébános
the village-1pl/POSS-EL-ADJ priest
'the priest of our village'

It is possible to interpret the adjective in the preceding construction as being based on the

[65] The two different interpretations correlate with different stress patterns: the first interpretation correlates with a pause between the inflected nominal and the postpositional form while the in the second interpretation there is a pasue between the adjective and the complex postpositional form.

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nominal *falunk* 'our village': the nominal consists of the nominal stem *fal* 'village' and the possessive suffix for 1st pl. On this interpretation a derivational morpheme suffixes to an inflected nominal form. This would seem to imply that nominal forms inflected with possessive morphemes are present in the lexicon at the time this type of adjectival derivation occurs.

In general, the adjectival forms derived by means of *-i* suffixation to postpositions suggest that 1) certain derivational processes may apply to certain types of phrases, and 2) inflected forms are present in the lexicon.

6.2.2. Twin Words

An additional variation on inflection internal to lexical compositions is the phenomenon of so-called *twin words* prevalent in Uralic: concatenations of two (frequently, sound symbolic or phonologically similar) lexemes both of which host morphology appropriate for their role in c-structure. These entities constitute single lexical items with duplicated markers of derivation and inflection. These are one type of *coordinate* compound mentioned earlier. Examples are presented below:

(35a.) lot - ott - am - fut - ott - am
X - PAST - 1sg run - PAST - 1sg
'I bustled about'

(b.) Nem követem a lotását - futását
NEG follow-1sg/DEF the X-3sg-ACC - run-3sg-ACC
'I don't follow (keep track of) scurryings about

In (35a.) we find a verbal twin word consisting of two stems: the first stem has no synchronic meaning while the second appears as an independent verb with the meaning 'run'.[66] The twin word means 'rush about wildly, bustle about'. The SUBJ agreement morpheme obligatorily appears on both members of the twin verb. The verbal form can

[66] In certain combinations, however, both stems represent synchronic verbal forms, e.g. *tesz-vesz* 'putter around' < *tesz* 'put' and *vesz* 'take', while in others it is the first stem which appears synchronically and the second which is either imitative or possesses marginal synchronic meaning, e.g. *dúl-fúl* 'fume with rage' < *dúl* 'rage' and *fúl* ' ? '.

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serve as input for nominal derivation as illustrated in (32b.): in this instance both the derivational morpheme and the appropriate inflectional morphemes (possessive and case) appear on both members of the twin noun.

A small selection of these lexicalized twin words obligatorily contain a possessive marker (more specifically, duplicated possessive markers) inflected for desired person/number features:

(36) kény+e - kedv+e
wish+3sg - mood+3sg
'one's pleasure/desire'

e.g. kény+uk - kedv+ük szerint járnak el
wish+3pl-mood+3pl according act PV
'they act according to their desire'

Once again, markers of inflection, namely, POSS(essive) morphemes, appear within lexical compositions. These inflectional morphemes are an integral part of lexicalizations such as those above: these constructions obligatorily contain PX inflection.

Since most recent frameworks in theoretical morphology (cf. Chapter 4) assume that the placement of inflectional morphemes follows the placement of derivational morphemes (in derivation by either affixation or compounding) the behavior of twin words would seem to indicate that fully inflected forms are contained in the Hungarian lexicon. This conclusion can be interpreted in the following manner. Let's make the following assumptions: 1) compounding is a derivational process, 2) the internal portions of derived words are opaque,[67] and, 3) all inflectional processes apply after all derivational processes. On these assumptions we would expect inflectional markers in compounds to appear only once, i.e. after compounding, and only on the rightmost member of the compound. However, this is not the distribution attested in twin words: twin words exhibit inflection internal to a derivational process. One way to account for this distribution is to permit inflected forms to be included in the lexicon and to order compounding after inflection. We will see that

[67] Cf. Chapter 4 for a statement of this assumption within Lexical Phonology.

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these assumptions are not only appropriate for twin words but for the phrasal predicates and their derivatives examined in later chapters. For the moment, it is sufficient to note that the internal composition of twin words suggests the viability of the morphological assumptions adopted in the present work.

6.2.3. Adjectival Derivation with the Morpheme *ú/ü*

There are, at least, two other prevalent properties of Uralic compounds which frustrate efforts to sharply delineate them from syntactic phrases: 1) there is a common adjectivalization strategy based on nominal phrases - hence Collinder's reference to "syntagmatic compounds" - and, 2) despite Rombadeeva's third criterion, compounds frequently display multiple dependents conjoined to the head by a marker of syntactic conjunction.[68] I briefly examine these phenomena in turn.

Derivation apparently based on nominal phrases is attested in Hungarian. This occurs with the suffixation of the adjectivalizing morpheme *ú/ü* which functions in several respects like the English morpheme *-ed* in constructions such 'dim-witted' and 'even-tempered'. Several Hungarian examples are listed below:

szükkör+ü < szük 'narrow' & kör 'circle'
'restricted'

gyorsesz+ü < gyors 'quick' & ész 'wit'
'quick-witted'

szükszav+ú < szük 'narrow' & szó 'word'
'laconic'

böbeszédü < bö 'abundant' & beszéd 'speech'
'loquacious'

nagyeszü < nagy 'big' & ész 'wit'
'ingenious'

The Hungarian constructions - like their more restricted English counterparts - resemble defective i.e. determinerless, modifying phrases. The phrasal complexion of the Hungarian

[68] It is less common for a single dependent to be related to conjoined heads although this is not unprecedented.

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constructions becomes evident when these adjectives host comparative and superlative morphology. Consider the following contrasts concerning the distribution of these morphemes.

Comparatives

A	B	
szükkörü+bb	szük+ebb körü	'more restricted'
szükszavú+bb	?szük+ebb szavú	'more laconic'
böbeszédü+bb	?? bövebb beszédü	'more loquacious'
?? nagyeszü+bb	nagy+obb eszü	'more ingenious'

Superlatives

A	B	
leg+szükkörü+bb	leg+szükebb körü	'most restricted'
leg+szükszavú+bb	?leg+szükebb szavú	'most laconic'
leg+böbeszédü+bb	??leg+bövebb beszédü	'most loquacious'
?? leg+nagyeszü+bb	leg+nagyobb eszü	'most ingenious'

The forms in column A host comparative morphology in the manner compatible with the assumption that we are dealing with complex lexemes: the comparative morpheme is suffixed to the AN combination while the superlative prefix precedes this combination in much the same way that it precedes simple adjectives. These examples resemble, in all relevant respects, the comparative and superlative forms of simple adjectives: *gazdag* 'wealthy' --> *gazdag-abb* 'wealthier' --> *leg-gazdag-abb* 'wealthiest'. The forms in column B, in contrast, display comparative and superlative morphemes internal to the derived adjective apparently irrespective of semantic compositionality.[69]

In summary, the behavior of comparative and superlative morphemes in adjectives derived with *ú/ü* seem to suggest the boundary between phrasal forms and derivations is fairly fluid.

[69] It should be mentioned that I have encountered marked variability in speaker judgments concerning these comparative and superlative constructions.

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7. Syntactic Coordination of Pieces of Words

The phenomenon to be examined here, namely, whether members of compounds (or more generally, constitutive pieces of complex words) comply with Rombandeeva's criterion of inseparability is easily exemplified with reference to a fairly neglected domain of inquiry in the familiar language German. It is sometimes the case that portions of derived words in German (specifically, portions of compounds) can be coordinated by explicit markers of syntactic conjunction:

Coordination in German Derivation

(37a.) Wild- und Meerschwein
boar and guinea pig

(b.) sowohl Wild- als auch Meerschwein
boar as well as guinea pig
'boar as well as guinea pig'

(38a.) Ein- und Ausgang
entrance and exit
'entrance and exit'

(b.) sowohl Ein- als auch Ausgang
entrance as well as exit
'the entrance as well as the exit'

(39a.) waren auf- und abladen
were loaded and unloaded
'were loaded and unloaded'

(b.) waren sowohl auf- als auch abladen
were loaded as well as unloaded
'were loaded as well as unloaded'

In the preceding examples several syntactically conjoined dependents share a single head. In (37), this is straightforwardly illustrated by a (non-compositional) nominal compound whose head is underived. In contrast, the example in (38) contains a nominal compound with a deverbally derived head: the nominal is based on the compound verbs *ein-gehen* 'enter' and *aus-gehen* 'leave'. These compound verbs, in turn, are composed of a separable prefix and a verb stem. Verbal constructions of this type are illustrated by the examples found in (39).

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In general, this type of coordination between members of complex words in German appears limited to compounds. It is, therefore, interesting to note that the examples in (38) are derived from compound verbs with separable prefixes: these verbal compounds resemble nominal compounds with respect to stress. Separable prefixes bear stress in German while in constructions with inseparable prefixes the verb stem assumes the stress associated with complex word.[70] In summary, deverbal derivatives based on separable prefix + verb combinations preserve the compound status of their verbal source. If we limit the observed syntactic coordination to compounds we have an explanation for the difference in behavior between deverbal derivatives based on separable vs. inseparable prefix + verb combinations. Members of nominals based on the latter cannot coordinate. This suggests that inseparable prefix + verb combinations should not be analyzed as compounds within this language while separable prefix + verb stem should.

The coordination behavior of German verbal compounds and their derivatives resembles the Ugric constructions examined in subsequent chapters. I present below some examples of this phenomenon from Hungarian.[71]

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[70] In Chapter 4 it will be demonstrated that there are certain phonological phenomena (the assignment of word stress, and a certain type of palatalization) that argue for the compound status of PV + V combinations in Hungarian.

[71] Hungarian is, apparently, more permissive than German in the restrictions it places on syntactic coordination between pieces of words. For example, as noted in Tompa (), two or more nominal stems may share a single case ending or derivational morpheme.

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(40a.) Magayar és Lengyel-ország
Hungarian and Polish land
'Hungary and Poland'

(b.) gáz és víz-vezeték-szerelö
gas and water main fixer
'gas and water main repair man'

(41a.) ki - be rohanga'lás
out of into runnning
'running in and out

(b.) a gyermekeinket fel és el nevelni
the children-1pl PV and PV grow
'to raise and spoil our children'

The examples in (40) display coordinated members of compounds consisting of lexical stems. The examples in (41), in contrast, are based on PV and V combinations.[72]

The ambiguous status of certain word groups as well as the uncommonness of prefixation in Uralic are signal factors in any discussion of preverbs in Ugric. Since preverbs - as suggested by their name - ordinarily occur to the left of their head the criteria for determining the wordhood of these compositions is expected to be elusive in this family. In fact, their status as words has been an issue of considerable debate: the resolution of these debates, naturally, depends on consensus opinion concerning the extension of the term *word*. My approach to this question, as suggested earlier, is to focus on the manner in which complex words are composed: *a grammatical word, in the present account, is an entity composed by morpholexical rules.*

8. Preverbs

As previously mentioned there are few clear instances of prefixation in these languages and verbal compound constructions are often difficult to differentiate from syntactic phrases. There is, however, a phenomenon of nascent prefixation (or, vestiges of historical compounding) manifested by separable preverbal elements closely associated with verb

[72] Example (41b.) is taken from Soltész (1959).

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stems. The main difference between derivation via prefixation and compounding has to do with the +/- synchronic syntactic relation as well as the categorial - sublexical and lexical - status of elements intimately associated with a verbal stem or derivative. Preverbs, accordingly, can be classified into two main functional types: [-relational] or *prefixal* and [+relational] or *argumental*.[73] From a synchronic perspective many prefixal preverbs are categorially sublexical while the argumental preverbs are categorially lexical.

The phenomenon of preverbs is exclusively limited to the Ugric branch and within this branch is most vigorously manifest in Hungarian. The vitality and fecundity of the Ugric preverbal systems is attested in the following remarks by M. Zsirai for Ugric and by L. Hadrovics for Hungarian:

> ...numerous preverbs, in one dialect or another, or in the service one verb or another, begin to lose their original coloration, their [historical FA] function before our eyes and are swept along on their development into formal elements.
>
> -Zsirai 1933:66

> Among our more recent preverbs many have arisen almost before our very eyes.
>
> - Hadrovics 1969:27

Though reliable criteria for distinguishing prefixal from argumental preverbs are elusive -[74] the boundary between these preverbal types is rather fluid and is in constant diachronic flux - there are commonly believed to be approximately 30 prefixes in Ostyak, 30 in Vogul and over 50 in Hungarian.

The following table contains an inventory of the most common prefixal preverbs in Hungarian. These prefixes are presented according to their statistical frequency as determined by Istvan Jakab (1976). Where possible, a gloss is associated with the prefix: the

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[73] Majtinskja (1955:207) on simple and complex verbs and the distinctions between prefixal and non-prefixal verbs.

[74] Some common criteria employed to differentiate the two are attrition of phonological segments in prefixes, i.e. the loss of final syllables from PVs which originally consisted of a lexical stem and case marker, the development of figurative meaning evident in prefixes, and the fact that prefixes generally exhibit the ability to combine with a larger number of verb stems than argumental preverbs.

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gloss, in most instances, conveys a 'central' sense of the prefix.[75] In certain instances the original sense of a prefix is still active while in other instances the prefix has developed new senses.[76] The reader should note that many of the Ugric prefixes contribute an aspectual nuance of perfectivity to the verbs they combine with in addition to whatever other senses they may contribute to the verb.[77] The case marking governed by the prefix in conjunction with the verbal stem will also be provided when this is more or less invariant.[78] The prefixes presented in italics are those that host pronominals as discussed in Chapter 5.

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[75] The gloss provided for *meg*, however, provides the meaning associated with its presumed etymological source. This prefix is perhaps the most semantically bleached of all the prefixes and conveys perfective and/or transitivizing efffects depending on the verbal stem with which it combines.

[76] With respect to the 'senses' or 'meanings' of prefixal preverbs Zsirai cites a charming characterization of Russian prefixes provided by Karcevski:

> The prefixed verb is like a complex idiogram whose exact
> meaning is discoverable only with knowledge of the context
> in which it's employed. (1933:40)

[77] The reader should consult Zsirai (1933) for a discussion of the forms and functions of prefixal preverbs in Vogul and Ostyak. Cf. Rombandeeva (1973) for additional information on these elements in Vogul.

[78] For a more detailed discussion of the types of government patterns associated with PVs the reader should consult Chapter 4. The reader should also note that several preverbs alternatively govern for ACC or OBL: I have in these instances only indicated the OBL markers.

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Hungarian Prefixal Preverbs					
Prefix	Gloss	Case	Prefix	Gloss	Case
1. meg	'behind'		21. félre	'to side'	
2. ki	'out'	EL	22. *neki*		DAT
3. el	'away'		23. egybe	'together'	
4. le	'down'		24. agyon	'entirely'	
5. fel	'up'		25. haza	'home'	
6. be	'into'		26. keresztül	'through'	SUP
7. át	'across'	SUP	27. ide	'hither'	LAT
8. össze	'together'	INSTR	28. *utána*	'after'	DAT
9. vissza	'back'		28.előre	'before'	
10. *rá*	'onto'	SUBL	29. tele	'full'	INST
11. *bele*	into'	IN	30. ujra	'again'	
12. szét	'apart'		31. ketté	'in two'	
13. oda	'thither'	LAT	közbe	'together'	
14. elő	'before'		32. felül	'above'	SUP
15. *hozzá*	'up to'	AL	33. helyre	'to a place'	
16. végig	'til'		szétjjel	'apart'	
17. körul	'around'		ujja	'anew'	
18. hátra	'back'		34. szembe	'opposite'	
19. túl	'beyond'	SUP	tovább	'further'	
20. *alá*	'under'	DAT	...		

There are certain similarities evident in the preverbal systems of Hungarian, Vogul and Ostyak. These features, in tandem with marked differences from the preverbal systems of contact languages, suggest the autochthonous origins of the Ugric system. Perhaps the most salient similarity is expressed in the hypothesis that the oldest preverbs in these languages originated from lative (goal) adpositions. The preverbs in all these languages are, additionally, separable from their verbal stems under specifiable syntactic conditions.[79]

Despite separability, as previously mentioned, E. I. Rombadeeva (1973) classifies PV + V constructions as instances of word-formation and comments:

> Prefixal word-formation in Vogul appeared comparatively late and therefore certain prefixes behave like completely developed word-formative affixes with certain verbs while other prefixes evince a transitional function between word-formative affixes and components of compound words. -1973:180

In quite similar fashion K. Soltez (1959) expresses the consensus view of Hungarian

[79] Cf. Chapter 3 for discussion

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grammarians about Hungarian PV + V combinations:

> If certain prefixed verbs occupy a place between a compound word and a derived word, then from another perspective we must locate prefixed verbs along the border between syntagmata [syntactic phrases] and compounds. - 1959:8

The array of functions performed by Hungarian prefixal preverbs is quite similar to those associated with the prefixal preverbs of Vogul and Ostyak. Soltesz (1959) in her fine, detailed study of the six most ancient Hungarian prefixes delimits certain functions as general features of prefixal preverbs:[80]

> We can distinguish the following main types [of effect] manifest in the relation between prefixed verbs and their unprefixed pairs:
>
> 1. the prefix signals the directionality of the activity designated by the verb
> 2. the prefix expresses verbal aspect
> 3. the prefix modifies the meaning of the verb
> 4. the prefix alters the syntactic role of the verb
> 5. the prefix is a means of verbal derivation - 1959:155

The properties associated with prefixes, on this account, are properties ordinarily associated with morpho-lexical rules within current generative theories of the Lexicon. This aspect of prefixes will be elaborately examined in Chapter 4. From a descriptive perspective one particular property bears scrutinizing at this time, namely, the imputation of derivational status to prefixal preverbs.

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[80] It should be noted that a single prefix can be polyfunctional. That is, a single prefix in combination with particular (types of) verbs can accomodate one or more of these separate functions

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Soltész observes a parallelism between prefixes and common derivational morphemes. She observes that irrespective of the functions served by prefixes in terms of aspectual nuances, modification of lexical meaning and alteration of syntactic valence:

> ... the prefix has stongly departed from the category of adverbials and in many respects stands close to being a derivational morpheme... Our prefixes, no matter how derivation-like their function, have preserved their formal independence and conforming to the general rules of word order take their place sometimes before, sometimes after and sometimes at several words remove from the verb stem. No derivational morpheme in our language can do this - nor can Indo-European verbal prefixes - therefore we cannot regard prefixes as true derivational morphemes. - 1959:172)[81]

The novelty of prefixation in the Ugric languages, naturally, led to speculation concerning its source(s).[82]

The autochthonous origins of the Ugric preverbal systems are defended in Zsirai (1933).[83] Among the characteristics which differentiate this system from a putative Slavic source are the categorial diversity of the Ugric elements functioning as preverbs as well as their uniform separability from verb stems and the particular behaviors attendant on this separability.[84] Whatever functional commonalities are shared by the prefixes of these two systems are plausibly attributable to universal tendencies in the development of prefixal

[81] It is not clear why Soltesz did not draw the obvious comparison between separable prefixes in Hungarian and those in the Indo-European languages of the Germanic branch. cf. Chapter 4 for further discussion.

[82] They were regarded as such baffling curios that in 1923 the Hungarian Academy of Sciences initiated a contest for the best scholarly essay addressing the following theme: The Formal and Semantic Development of Hungarian Preverbs Until the End of the 15th Century. The competition went winnerless but in 1928 a Czech comparative linguist published a monograph alleging the Slavic (particularly, Czech) origins of the Hungarian preverbal system. This position was countered in 1933 in a monograph by the Hungarian Finno-Ugricist Miklos Zsirai entitled The Ob-Ugrian Preverbs.

[83] There is still question as to whether prefixation is a relic of Proto-Ugric or whether a tendency toward prefixation existed at that time and later underwent separate developments in Vogul and Ostyak vs. Hungarian. Confirmation for this latter view comes from an examination of the inventories of prefixes in these languages: Hungarian shares very few prefixes with the other two languages while their inventories display many similarities.

[84] Cf. the discussion of the behavior of PVs in gapping constructions and yes-no question constructions in Chapter 3.

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systems cross-linguistically.[85] This, of course, does not preclude the possibility and certainty of a certain degree of loan translation from Slavic, German and even Latin.

One particular feature of the Ugric system is worth emphasizing: the appearance of preverbs historically related to adpositions eventuated in a contagion which spread to numerous other categories. These latter categories began to exhibit certain behavioral properties peculiar to prefixes - particularly, with respect to word order and the intimacy of their association with verbal stems. A wide variety of these new preverbs maintain a synchronic syntactic relation with an associated verb stem.[86]

[85] Cf. Chapter 4 for discussion

[86] It is conceivable that the fecundity of preverbal constructions in Ugric is traceable to the original XV order of constituents in Uralic. In particular, the attested salience of preverbal position in these languages may have eventuated in the regular collocation of certain elements with the verb. The syntactic force of these collocations may have dimished over time as they became lexicalized. Finally, as the number of lexical collocations increased the XV orders served as a pattern for verbal derivation. This type of diachrony would account for the commonness and vitality of this sort of predicate formation and might also explain the puzzling relation these wordforms bear to syntactic focus constructions in these languages. Naturally, this is a purely speculative schema I have presented here.

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Chapter 3: Word Order, Prosody, and Preverbs in Ugric

This chapter concentrates primarily on speculations concerning the interaction between word order, prosody and preverbs in Hungarian. The motivation for focusing attention on Hungarian is simple: comparatively little work has been done on the interaction of these phenomena in Vogul and Ostyak while Hungarian linguists have addressed these issues assiduously. Despite the difficulties of detailing these phenomena in Vogul and Ostyak I conclude this chapter with some relevant remarks concerning the expression of these phenomena in these languages. This discussion will rely on the excellent description of Vogul syntax found in Rombandeeva (1979).

1. Hungarian

A leitmotif of the Hungarian grammatical tradition has been an insistence on the interrelation between prosody and word order.[1] Linguists conventionally contend that the free constituent order of Hungarian is principled - serving discourse discriminations - and not promiscuous (as often alleged for the free word order in, e.g. the Australian aboriginal language Walpiri). Prosodic patterns are frequently examined in terms of their relation to particular orders of constituents and the discourse effects signalled by these interactions. The syntactic and prosodic behavior of preverbs is an acknowledged conundrum: preverbs, as we will see below, confound efforts to state simple relations between word order and prosody.[2] The miscreancy of preverbs was noted early and its significance played a seminal role in Hungarian linguistics.

---

[1] This theme has been taken up again in a recent project at the Hungarian Academy of Sciences cf. Kenesei (1986).

[2] Another class of elements is problematic as well, namely, quantifiers. I will ignore the behavior of quantifiers in the present study but interested readers should consult Simonyi (1902) on so-called *osszefoglalo szorend* 'summational word order' (including more than mere quantifiers), as well as E. Kiss (1984) for a reappraisal of this phenomenon.

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> The word order phenomena of preverbs have engaged our linguists. It even seems that the examination of the syntactic behavior of preverbs gave the impetus to studies of Hungarian word order. - Soltész, 1959:14

Word order studies in Hungarian have a creditable and vital history. Anyone who recounts the main theses and arguments of this tradition would be remiss if he didn't express appreciation to the linguists who participated in it and if he didn't supply some remarks concerning the general theoretical nature of their contributions. From present theoretical perspectives we often view the endeavors of such linguists as alternately engaging and enraging but, on most accounts, as charming instances of pretheoretical efforts.[3] This view, however, is unjustified: these linguists, more often than not, present compendious and exacting descriptions of linguistic phenomena and propose generalizations intended to relate and 'explain' these data. Why do we tend, then, to view them with condescension? Their conception of the goals of theory seems familiar: the postulation of covering or subsumptive laws for the broadest scatter of data. Certain of their inexactitudes, however, are worrisome: precision of statement and deference to formal models are ordinarily subservient to their desire for detailed description of linguistic phenomena. This aspect of their efforts is unfamiliar. I suspect that several of these linguists would find certain contemporary theoretical preoccupations equally unfamiliar and might characterize them in the manner Michael Ermat describes William Dilthey's discontent with *explanatory psychology* at the turn of the 19th century:

> The great error of explanatory psychology was the 'premature mixing of theory and observation' - what Goethe had similarly deplored as ' the overhasty transition from appearance to theory.' In its haste to provide a systematically predictive account of the mind's operation, psychology dispensed with the full tracing of experience and instead hurried to the construction of a theoretical

[3] The modern theoretical linguist might think here about his attitude toward such revered figures as Sapir and Jespersen.

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> model. The most 'economical' account of the data forced a reduction of the inherent richness and complexity of experience into theoretical models.

Dilthey, on this account, preferred a ***descriptive psychology*** wary of reifying its own best guesses about the phenomena it examined. Dilthey's complaint - and the complaint imputed to the relevant Hungarian linguists - was neither against scientific method nor against the formal expression of hypotheses. Rather, he was concerned to caution an enchanted world about the positivist abuses of scientific method; an exciting enterprise could be reduced to dogma by such abuse and dogmatic constructions however tightly formulated could lead to a diminution of frank questioning and honest hypothesizing.[4] Once again, the (implicit) spirit of the theoretical enterprise which informed the studies of Hungarian grammarians is evident in another aspect of Dithey's beliefs about the nature of inquiry:

> Dilthey's general attitude toward the function of hypotheses was reminiscent of Goethe who - following Bacon's aversion to 'anticipations of nature' found them likely to hinder seeing. They are necessary, but to easily become idols of the mind: 'Hypotheses are scaffolding which one uses to construct a building and takes away after it is done. As such they are indispensable, but one must not take the scaffolding for the building. - Ermat (1978)

Whether Hungarian grammarians of the 19th and early 20th century consciously held beliefs such as these is moot. On the other hand, the scrupulous detail evident in their descriptive work and the nature of their synthesizing generalizations indicate the vitality of this attitude. Their deference to detail and devotion to far-ranging description clearly counterpoint the modern urge to formalize much smaller domains of grammar.[5]

---

[4] Cf. F. Hayek (1955)

[5] Though this is not really the forum to speculate about conflicting methodological emphases one point does bear mentioning. The Hungarian grammarians were, I believe, more interested in 'true description' than in the explanatory power of favorite hypotheses. Robert Cummins (1983) remarks that:

> It is easy to overlook the fact that a theory which has no chance of being true can have much greater explanatory

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In summary, the tension between description and theory can be resolved in several ways: Hungarian grammarians arrogated less explanatory power to their hypotheses than modern grammarians but extended themselves more vigorously in the domain of description than modern theoreticians. The commitment by Hungarian grammarians to attentive and broad-based description turns out to have been a good gambit: neglect of their studies is hardly condign. We will see, in fact, that the most modern concerns are best understood with their descriptions and interpretations in mind. Present debates among theoretical linguists concerned with Hungarian syntax are, more often than not, foreshadowed in the arguments of these earlier grammarians while numerous data demanding explanation and/or crucial to the adoption of one or another hypothesis have often been elaborately discussed in their works.

1.1. Traditional Views

Well before the advent of the so-called *configurationality parameter* Hungarian linguists questioned the utility of analyzing Hungarian word order on the model of the SUBJ/PREDICATE bifurcation borrowed from Latin grammarians[6] It was commonly held that Hungarian clause structure reflected the exigencies of discourse discriminations such as TOPIC and FOCUS. Moreover, many linguists speculated that the clause in Hungarian consisted of a verb (or predicate) and a hierarchically undifferentiated array of arguments and adjuncts: in a more modern idiom, they proposed that the language did not contain a VP constituent with its consequent hierarchical distinction between "internal" and "external" arguments.

Fogarasi (1838) formulated the following straightforward characterization of clause

---

force than a well-confirmed theory about the same phenomena.

and again that:

... false theories can explain things (and have): it's just that the explanations they provide are not true."

[6] This might seem somewhat ironical considering the assumptions of some modern linguists concerning the non-configurational nature of Latin.

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organization in Hungarian.

Fogarasi's Law

> The emphasized word immediately precedes the finite verb form: the other words can stand either before or after the verb in any order.

There are several aspects of Fogarasi's Law. The first aspect concerns the characterization of the element which immediately follows an 'emphasized word', namely, the verb. A second aspect concerns the placement of clausal constituents surrounding the 'emphasized word and verb': are all possible orders really permissable? Third, what is intended by the locution 'emphasized word': do all elements in immediately preverbal position elicit the same 'emphatic' interpretation? I will address the first two issues immediately below and will defer discussion of the third until I have introduced the variety of clause types proposed in Hungarian tradition.

Klemm (1954) - along with other earlier linguists - observed that that aspect of Fogarási's Law which identifies the finite verb form as pivotal is inadequate as stated. A simple emendation was suggested:

Fogarasi's Law
(Revised)

> The word with main emphasis immediately precedes the finite verb form, nominal or adjectival predicate: the other words can stand either before or after the predicate in any order.

The substance of this revision consists in granting predicates rather than merely categorial verbs an axial role in clausal constructions.

Linguists, additionally, observed that Fogarási's Law was too liberal concerning the location of clausal constituents which surround the 'emphasized word and the verb'. Molecz (1900), for example, demonstrates how a literal interpretation of this assumption could eventuate in intelligable but indisputably ungrammatical constructions:[7]

[7] The constructions should be contrasted with the grammatical constructions '(az) atyám el adta a

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Hungarian Word Salad

* a házat el atyám adta
the house-ACC PV father-1sg sold-3sg/DEF
'my father sold the house'

* látogatni meg a szinházat fogom
visit PV the theatreACC will-1sg/DEF
'I will visit the theatre'

Samuel Brassai (1885) proposed that the arrangement of constituents within a Hungarian clause exhibits considerably more structure than suggested in either variant of Fogarasi's Law. On his account the Hungarian clause evinces an invariant partitioning into two units: the *elökészitö/inchoativum* or 'preparatory' portion of the clause functions as the *psychological subject* (the TOPIC), as understood in Germanic linguistic tradition,[8] while the *tüzetes rész* or 'detailed part' functions as the *psychological predicate* i.e. it expresses the essential information conveyed by the clause. The *tüzetes rész* is, in turn, analyzable into two portions: the *mondatzöm* or 'sentence substance' and the *egészitvény* or 'remainder'. These divisions exhibit an invariant linear ordering:[9]

Brassai's Invariant Clause Structure
(Schema)

(elökészitö) mondatzöm (egészitvény)

The *inchoativum* is an optional portion of the clause and appears in inital position if present:

> The inchoativum can consist of one or more words or phonological groups, or may even be entirely absent without affecting the well-formedness of the clause.
> - Brassai, date:38

---

házat' and 'meg fogom látogatni a szinházat'.

[8] Cf. the studies of Gabelentz and the Slavic tradition of theme/rheme based on these early speculations.

[9] Parentheses in the diagram indicate optionality.

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The *mondatzöm*, in contrast, is grammatically obligatory - in fact, it is the sole obligatory portion of the clause - and ordinarily contains the *grammatical predicate* i.e. verb or predicate adjective/noun.

The basic tripartite structure of clauses is illustrated with the following order of constituents:[10]

Brassai's Invariant Clause Structure

a föld | *kering* a | *nap* körül
the earth revolves the sun around
'the earth revolves around the sun'

The division of the clause into three units along these lines was also alleged to coincide with a (more or less) parallel division along prosodic lines: a Hungarian clause is assumed to consist of several *szolam* or 'phonological groups' which ordinarily receives primary stress on the first syllable of the initial member of a given group.[11] The *mondatzöm* was regarded as the *föszolam* or 'main phonological group'. In this group the initial member, in unmarked constructions, is the verb. That is, the verb is the prosodically most prominent member of a containing phonological group. In marked constructions conveying constituent FOCUS interpretation[12] a single constituent appears before the predicate[13] and becomes the prosodically most prominent member of the *mondatzöm*.[14] An example of a clause with a focused element is presented below:

(1) Árpád a sárga *inget* vasalta
Arpad the yellow shirt-ACC iron-PAST-sg/DEF
'It was the yellow shirt Arpad ironed'

---

[10] The double vertical line marks the boundary between the *elökészitö* and *mondatzöm*. The single vertical line marks the boundary between the mondatzöm and the egészitvény. The italics indicates stress.

[11] Cf. Molecz (1900) Chapter 1 and Varga (1983) for detailed discussion.

[12] Cf. This is the phenomenon referred to as *kirekesztö szorend* or 'excluding word order' by Kicsk (1916) and Simonyi (1902). I will refer to such constructions as Focus Constructions. For moderture on this phenomenon see E. Kiss (1981), Horvath (1981), Farkas (1984), Kenesei (1985)

[13] Cf. The revision of Fogarasi's Law above.

[14] Cf. Varga (1983) concerning complications with these interactions and Komlosy (1984) for otions concerning the clausal position of focused constituents.

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This clause consists of the *elökészitö* part containing a SUBJ and the *mondatzöm* whose phonological constituency consists of a preparatory part (containing the DET and ADJ) and the main part (containing the N and V.)[15] The verb in the *mondatzöm* is, crucially, a simple verb: it is not accompanied by a preverb. Consider the following pair of sentences containing a verb accompanied by an (argumental) preverb.[16]

Unmarked Construction (Mondás)

a napszamos || *fát* vág
the worker wood-ACC cut-3sg
'the worker is wood-cutting'

Marked Construction (Kirekesztö)

|| a *napszamos* vág fát
the worker cut-3sg wood-ACC
'it's the worker who's wood-cutting'

In this example the double vertical line demarcates the boundary between the *inchoativum* and the *mondatzöm* while italicized words host primary stress. The initial element of the *mondatzöm* is a bare, accusatively marked nominal in the unmarked construction: this bare nominal is an argumental preverb hence the translation of the verb as designating a complex activity. The preverb bears the primary stress ordinarily associated with the initial constituent of the *mondatzöm*; the stress ordinarily borne, that is, by a simple verbal stem. The initial constituent of the *mondatzöm* in the focus construction is the SUBJ NP: the presence of this constituent immediately before the verb correlates with the postverbal position of the preverb.

Although some debate surrounds the question as to whether the stress associated

---

15 Cf. Várga (1983) for the anatomy of phonological groups in Hungarian.

16 Italics indicate main stress. Whether the stress of a preverb is as strong as the stress associated with a non-preverbal element is moot. It is arguable that when the preverb is to the left and contiguous to the verb it bears word stress for the phrasal verb. It is unarguable that most preverbs when interpreted as participating in focus constructions elicit two potential interpretations: 1) the lexical content of the preverb is focused, or 2) the meaning of the preverb and verb combination is focused. Preverbs, consequently, contrast with non-preverbs in that when the latter occupy the position immediately to the left of the verb they necessarily engender a focus interpretation and this interpretation is restricted to this constituent i.e. it does not include the verb.

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with the initial elements of the *mondatzöm* is identical in both instances there is little debate concerning the interpretive options for these two constructions. In the first instance we have a contextually neutral clause while in the second we are dealing with a focus construction. Klemm (1954) - following tradition - characterizes the focus construction in the following manner:[17]

> With an excluding expression [focus construction - FA] we relate our assertions to a single concept or class of concepts, and in doing this we exclude everything else. For example, in the sentence:
>
> Peter ment föl
> Peter went up
> 'It was Peter who went up'
>
> nobody went up except Peter. Everyone else is excluded... In excluding constructions - as we see - the word designating the excluding concept... appears with primary stress immediately before the grammatical predicate. The 'closest argument' of the verb - particularly if this is a prefix - appears immediately after the grammatical predicate if the exclusion does not extend to this argument... - 1954:327

Traditional grammarians, then, observed that a categorially diverse collection of elements - known variously as verbal *meghatározó 'verbal determiners', legközelebbi bövitmény* 'closest arguments', *igemellék* 'verbal adjuncts/adverbials' or *igekötö* 'verb binders' - appeared as initial elements of the *mondatzöm* in unmarked constructions and were pronounced as a single unit with the categorial verb. These elements are referred to as *preverbs* in the present study. The distribution of preverbs poses problems for simple statements about Hungarian clause organization. This will become apparent as we review

[17] The comments in this quotation referring to the role of prefixes, naturally, extend to argumental preverbs such as the one which occurs in the previous example.

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several types of clausal constructions.

1.2. Word Order and the Behavior of Preverbs in Hungarian

Hungarian linguists distinguished two main sentence types which, roughly, correspond to a (vexatious) modern division between *unmarked* and *marked*. This distinction reflects intuitions concerning the discourse functions served by clausal constructions: the *mondás* or *unemphatic*[18] order of clausal constituents is appropriately employed in contexts where the speaker shares the fewest presuppositions with an interlocutor while the *ellenmondás* or *emphasized*[19] order of constituents is utilized when the fact of shared information is highlighted (this is functionally interpreted as TOPICAL information) and when aspects of information are challenged, e.g. by interrogation or assertion (this is functionally interpreted as FOCAL information).[20]

It was suggested in Chapter 2 that neutral or unmarked clauses appear in four orders: a particular order is contingent on properties of predicates contained in the construction as well as on semantic selectional information of select associated arguments. There are several different types of marked orders. A basic criterion for distinguishing among construction types is the effects on the ordering of preverbs entailed by these constructions. Linguists observed a syntactic peculiarity of preverbs: a single preverbal element tends to appear immediately to the left of the categorial verb unless discourse considerations or grammatical considerations mandate another order. That is, their location appears to depend on the markedness status of the clause in which they occur: in unmarked constructions (with level intonation) they appear immediately to the left of the verb while in marked constructions they appear either to the left of the verb (and some-

[18] Cf. Kicska (1916) and Simonyi (1902) respectively for these terms.

[19] Cf. Kicska (1916) and Simonyi (1902) respectively for these terms.

[20] As with all densely ramified topics this sort of sketch is necessarily simplistic. A more detailed account of these early views can be found in Molecz (1900), Simonyi (1902), Klemm (1954, 1942). There is a particularly ascerbic interchange between Joannovics (1902) and Brassai. A detailed description of the discourse functions served by variable word orders as well as the interaction of these with prosodic patterns can be found in Kalman et al. (1985).

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times discontinuous from it) or to the right of the verb (and sometimes discontinuous from it.) A schematic representation of these orders and the distribution of preverbs is presented below:

Linear Orders of Preverbs

'direct order': X PV V Y

'discontinuous order': X PV Y V Z

'inverted order': X V (Y) PV Z

the variables X, Y, Z designate constituents with any functional or categorial value, V = finite verb form, and PV = preverb.

These orders are exemplified by the following constructions.[21]

The 'direct order' of preverbs pertains to the sequences found in (I.) so-called 'unmarked' declarative constructions without quantifiers (a. & b.), with quantifiers (c.), with certain auxiliary elements (d. & e.), and copular constructions containing predicative gerundials (f. & g.); (II.) negative constructions in which predicates of different clauses are contrasted (a.); (III.) emphatic imperative constructions (a.); (IV.) subordinate clauses containing the complementizer *nehogy* and subjunctive verbal forms (a.). These types are

[21] I am adapting the type of distinctions proposed by Soltész (1959), Klemm (1928, 1940, 1942), and Simony (1902). Many of the examples are taken from Soltész. The constructions presented in the text are representative of types: they do not exhaust the class of constructions exemplary of any particular order. They are simply provided to give the reader an indication of the constituent structure behavior of preverbs. In several instances they constitute syntactic archaisms.

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exemplified below.

(I.):

(a.) a fiú körbe-járta a házat
the boy PV-walked-3sg/DEF the house-ACC
'the boy walked around the house'

(b.) a fiú ujságot olvasott
'the boy paper-ACC read
'the boy was paper-reading'

(c.) mindenki mindenkivel össze-kapott
everybody everybody-INST PV-quarreled
'everybody quarreled with everybody'

(d.) be akar-om csukni az ajto-t
PV want-1sg/DEF close the door-ACC
'I want to close the door'

(e.) a fiú szürcsölni kezdte az italt
the boy sip-INF began-3sg/DEF the drink-ACC

(f.) az ajto be van csukva
the door PV COP-3sg closed-GER
'the door is closed'

(II.):

(a.) nem ki-ment belöle, benn-szorult a pára
NEG PV-go-PAST-3sg out of it, PV-crowd the fumes
'the fumes didn't go out of it, they remained inside'

(III.):

(a.) el-pusztulj elöl-em
PV-be destroyed-IMP-2sg from before-1sg
'get away from me!'

(IV.):

(a.) az anyja vigyáz a gyerekére, nehogy el-essen
the mother watches the child-3sg-SUBL, lest PV-fall-SBJN
'the mother watches her child lest it fall down'

The 'discontinuous order' appears in; (V.) constructions of strong denial in which the NEG morpheme is interposed between the PV and V (a.); (VI.) constructions containing imperative verb forms conveying instructions to avoid engaging in an action (a.); (VII.) constructions containing the discourse particle *-is* 'also' (a.;) (VIII.) subordinate clauses

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containing a subjunctive verbal form and the NEG particle *nem* which is interposed between the PV and the verbal form; (IX.) adverbial clauses containing *mig* and a NEG element which is interposed between the PV and finite verbal stem (a. & b.). These sequences are exemplified below.

(V.):

(a.) ...hogy, honnan származott, azt el nem felejti
that whither originate-PAST-3sg that PV NEG forget-3sg/DEF
'he does not forget where he came from'

(VI.):

(a.) el ne késs
PV NEG late-3sg
'Don't be late!'

(VII.):

(a.) meg is öntözném azt a sürü könnyeimmel
PV also wet-COND-1sg/DEF that the thick tear-1pl-INST
'I would also wet that with my thick tears'

(VIII.):

(a.) az anyja vigyáz a gyerekére, hogy el ne essen
the mother watches the child-3sg-SUBL that PV NEG fall-SBJN
'the mother watches her child lest it fall' (Cf. IVa.)

(IX.)

(a.) addig jár a korsó a kútra, amig el nem törik
til then go-3sg the jug the well-SUB, til PV NEG break-3sg
'the jug goes to the well until it breaks'

(b.) addig nem beszéltünk, mig a pincér el nem ment
til NEG talked-1pl til the waiter PV NEG left
'we didn't speak until the waiter left'

Finally, the 'inverted order' is found in; (X.) constructions containing a (non-preverbal) focused constituent in declarative clauses (a. & b.) or constituent question clauses (c.); (XI.) constructions conveying sentential negation expressed by the negative particle *nem* (a.,b. c.) or which contain a negative adverbial (e.); (XII.) imperative constructions (a.), and; (XIII.) clauses conveying progressive or inchoative aspect with certain preverb and verb combinations (a. & b.).[22] Representative constructions are presented

[22] The postpositioning of PVs for aspectual effects is commonly found with verbs of motion in con-

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below.

(X.):

(a.) a fiú *a házat* járta körbe
the boy the house-ACC walked-3sg/DEF PV
'it was the house the boy walked around'

(b.) *a fiú* olvasott ujságot
the boy read-3sg paper-ACC
'it was the boy who was paper-reading'

(c.) ki járta körbe a házat
who walked-3sg/DEF PV the house-ACC
'who walked around the house?'

(XI.):

(a.) a fiú nem járta körbe a házat
the boy NEG walked-3sg/DEF PV the house-ACC
'the boy did not walk around the house'

(b.) nem akarom be-csukni az ajtot
NEG want-1sg/DEF PV-close-INF the door-ACC
'I don't want want to close the door'

(c.) az ajtó nincs be-csukva
the door NEG-COP PV-closed-GER
'the door is not closed'

(d.) rosszul csinálta meg[23]
poorly do-PAST-3sg/DEF PV
'he did it poorly'

(XII.):

(a.) feküdjetek már le, gyerekek!
lie-SUBJ-2pl already PV, children
'Get to bed already, kids'

(XIII.):

(a.) emelkedik föl a hold
rise-3sg PV the moon
'the moon is rising'

(b.) azt mondják, halsz meg
that say-3pl/DEF, die-2sg PV

---

junction with prefixal preverbs expressing direction. The example in (XIIIb.) is indicative of the more thoroughgoing aspectual use of postposed PV found in the Székely dialects of Hungarian spoken in Romania. The novels of Tamási Aron are full of examples which attest to this widespread postverbal use of PVs.

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'they say you're dying'

There are two additional types of syntactic behavior displayed by PVs which are instructive for subsequent discussion: 1) many prefixal preverbs participate in *gapping constructions* in which the categorially verbal portion of a complex predicate is missing, and 2) the PV can be utilized to *stand for* the verbal portion of a complex predicate in yes-no questions. I turn now to a brief examination of these phenomena.

1.2.1. Prefixal Preverbs and 'Gapping'

I will argue in Chapter 4 that phrasal predicates in Ugric consist of a categorial verb and a preverbal element functioning as a lexical formative: these elements constitute a single lexical unit with loose phonological coalescence. The PV + V exhibits its own case government requirements for complements. With these notions in mind consider the following sentence in which the categorial verb is absent from all clauses except the initial clause:

(2) azután nyugodt léptekkel **ki-sétáltam**
then calm steps-INSTR PV-walked-1sg
'I walked out into the hall, over to the back

a folyosóra, **el** a hátsó lépcsöhöz,
the hall-SUBL, PV the back staircase-AL
staircase, up to the sixth floor, into the receiving

föl a hatodik emeletre, **be** a vendég fogadó
PV the sixth floor-SUBL, PV the guest receiving
room for guests and through the closed French door.

terembe, **át** a becsukott franciaajtón.
room-IN, PV the closed French-door-SUP.

---

[23] A sentence such as this should be contrasted with a sentence containing an adverbial with a 'positive' sense:

(i.) jól meg-csinálta
well PV do-PAST-3sg/DEF
'he did it well'

In constructions such as the preceding the PV occupies preverbal position unless the, e.g. adverbial is focused. In this case, the PV - as expected - appears after the V.

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The reader has already seen in Chapter 2 that Hungarian has postpositional phrases: the PVs and case governed complements in the preceding sentence, consequently, do not represent a typical phrasal constituent in Hungarian. The Hungarian sentence is not amenable to sort of analysis appropriate for the English gloss: the English gloss might be interpreted as a single verb form appearing with conjoined prepositional phrases. The Hungarian sentence, however, is interpretable as an instance of 'gapping': repeated tokens of the categorial verbal element of phrasal verbs are omitted and the PV, in some sense, *stands for* the entire complex verb form. The varying case marking of complements in succesive clauses - a reflection of the different case government requirements exercised on complements by different complex verbs - as well as the fact that the PVs precede the clausal complements they govern, both attest to the supposition that the PV is a residual portion of an absent verb.

1.2.2. Preverbs and Yes-No Questions

The notion that PVs can, in certain instances, *stand for* an entire complex verbal form appears to find additional support in the behavior they exhibit in yes-no questions.

It is a typical strategy in Finno-Ugric to provide an assenting response to a yes-no question by repeating the verb used in the interrogative clause. For example, if an interlocuter inquires, *dolgoztál már*? 'Have you worked already', an appropriate way to convey a positive response is to repeat the verb and reply, *dolgoztam* 'I worked'. In general, if the verb is simple then one merely repeats the verb stem. However, if the verb occurs with a PV then it is conventional to repeat the PV alone. For instance consider the following interchange:

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Q: át-dolgoztad azt a fejezetet?
PV-worked-2sg/DEF that-ACC the chapter-ACC
'Did you revise that chapter?'

A: át.
PV
'I did'

I will make a provisional generalization that either the verb or a portion of the verb can be repeated as a positive response to a yes-no question.[24] The PV, as a portion of the verb, can be interpreted as *standing for* the entire verb in these constructions. That is, the status of the PV + verb combination as a lexical unit is reflected in the fact that the PV can be employed in affirmative responses to yes-no questions.

1.2.3. Conclusions

The verb or, more broadly, the predicate is, evidently, the fulcrum for any adequate statement of constituent order and syntax in Hungarian: it is central to the formulation of Fogarási's Law and it is the kernel of Brassai's *mondatzõm*. The verb and, in certain instances, the constituent immediately before it appear to be the phonologically and conceptually most prominent members of a clause. Despite the cardinal significance of the verb, however, traditional opinion diverged concerning the precise delimitation of the verb (or, predicate) in Hungarian. Fogarási and Brassai each advocated positions which remain the chief analytic options to this day: either the verb is interpretable as a simple verb *or* preverb + verb combination - Fogarási's view -, or the verb is interpreted solely as the simple verb and preverbs are some type of closely associated adverbial - Brassai's view.[25] These opposing conceptions were recognized by Brassai.

> Both Fogarási and I discovered a single fact almost at the same time: in the Hungarian sentence it is customary to accent the word (or phonological group)

[24] The notion that only portions of the verb can function in this fashion will assume additional significance when I examine *analytic predicates* in Chapter 7.

[25] Cf. Chapter 4 for critical remarks concerning preverbs as adverbials.

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> preceding the verb. The secret of Hungarian order consists in this fact... To investigate this law was our scientific responsibility. We undertook this, each in our own way, and arrived at an extension of this fact: accent falls not only on the phonological group preceding the verb but sometimes on the verb. Here we parted ways, however. I will describe the manner of this disagreement. Fogarási understood by the term 'verb' not only the actual verb but preverb + verb combinations as well, while I interpreted, and still interpret, 'preverbs' as independent adverbials. - 18 :11

In conclusion, it can be claimed that the behavior of preverbs represents a pivotal problem in Hungarian grammar. These elements evince a dual nature: their syntactic distribution is instrumental in the delineation of different clause types, while their intimate association with verb stems implicates a lexical provenenance for these combinations. Both of these issues were recognized by traditional grammarians. The second eventuated in a debate which it is the goal of this dissertation to resolve.

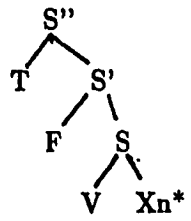
1.3. Modern Views: Hungarian

There are, presently, two opposing views concerning the configurational nature of Hungarian clause structure. On the view of E. Kiss (1981) the language is properly interpreted as non-configurational. Horvath (1981) and Farkas (1984, 1986) contend, in contrast, that the language is configurational. In this section I present a brief overview of E. Kiss' and Horvath's Government and Binding proposals. I conclude with some remarks concerning my assumptions about the nature of Hungarian phrase structure and the manner in which preverbs can be interpreted to figure in it.

E. Kiss' framework is, essentially, an adaptation of Brassai's observations on clause structure to a variant of Government and Binding. On her analysis, Hungarian is a non-configurational language with invariant designated positions (roughly) coincident with discourse discriminations such as T(opic) and F(ocus). Her base rules generate a D-

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structure of the following sort:



where Xn* = any number of maximal major categories in any order

In D-structure, the propositional portion of the sentence (S) begins with a verb and this verb is followed by any number of complements and adjuncts in any order. The positions to the left of the V are filled by the application of movement rules operating on maximal major constituents after the V. A rule of Focus movement may place a single constituent in the F position, while a rule of Topicalization may place any number of constituents in T position in any order.

In this framework, preverbs (called 'reduced complements') are generated after the verb and moved into the F position by F-movement if no other element is moved there by a prior application of this rule.[26]

E. Kiss's assumptions lead to many of the same problems which one encounters in Brassai's original model. Like Brassai's and Fogarási's systems, the present framework has the potential to generate odd and unacceptable constituent sequences. These are not outlawed by any general principles of the theory she proposes.

There are several salient liabilities concerning the treatment of preverbs. The presence of preverbs immmediately before the verb is not differentiated from the presence of other elements immediately before the verb: no explanation is provided for the fact that non-preverbal elements in this position obligatorily engender focus interpretation while

[26] It is important to note that F-movement appears to apply obligatorily to preverbs if 1) it has not applied to any other element, or 2) the preverb belongs to small class whose postverbal position signals imperfective aspect.

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preverbs do not necessarily engender such an interpretation. The obligatory syntactic movement of a PV into the F position remains unmotivated. The fact that PV + V sequences are commonly perceived as expressing the order for 'unmarked clauses' and that this order serves as the base for derivational processes appears adventitious on E. Kiss' account. In connection with this last remark it should observed that, as on Brassai's account, the lexical relation of preverbs to verb stems is left obscure here while the impression is created that they are interpretable as maximal major categories. With respect to this claim both E. Kiss' condition on the elements generated after V and the usual asumptions about the targets of movement rules suggest the maximal major status of preverbs: prefixal preverbs, however, have a dubious synchronic lexical status (they are certainly not phrasal), while argumental preverbs are, typically instantiated by lexical and not phrasal categories.

The twin assumptions that Hungarian is non-configurational, i.e., has no designated positions from which grammatical functions can be derived, and that clause organization reflects discourse discriminations are, as seen in the previous section, generally accepted assumptions within Hungarian grammatical tradition. The issue of configurationality, then, should be separated from the present incarnation of this intuition.[27]

Horvath (1981) articulates an alternative opinion concerning Hungarian configurationality. On her analysis this language is an "essentially right-branching"[28] configurational language. Following Emond's analysis of French clitics (1976)), Horvath introduces a 'maverick' left branching V' construction into Hungarian.[29] Her phrase structure rules generate a D-structure of the following sort:

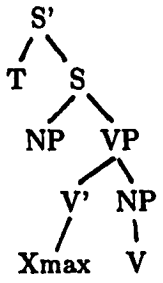
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[27] Cf. Working Papers in Groningen Linguistics (1984) for generally assenting intuitions concerning Hungarian non-configurationality and dissenting opinions concerning the encoding of this intuition within E. Kiss' framework.

[28] It is not obvious what support is to be enlisted for this claim about the dominant directionality of branching in this language.

[29] As partial motivation for this V' constituent she notes that neither sentential adverbials nor parentheticals can be interposed between the verb and constituent immediately to its left.

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On this analysis, the left position in the V' is the position for either preverbs or focused constituents. Horvath explicitly recognizes the possibility that preverbs and verbs may share a lexical relation but does not elaborate on the specifics of this relationship nor on how it might be may best interpreted to interact with the syntactic framework she proposes. Finally, like E. Kiss, she appears to assign preverbs a phrasal categorial status. In fact, she offers the interpretation that, e.g. prefixal preverbs, are intransitive postpositions. This is an untenable supposition for, at least, two reasons. First of all, numerous prefixal preverbs clearly govern the case marking of dependent arguments. Consider the following sentence in which *át* governs the SUP case of the OBLpath argument:

(3) Arpád át-osont a szobán
Arpad PV-slink-PAST-3sg the room-SUP
'Arpad slinked through the room'

Given the evident relation between this prefix and SUP case marking it is not evident what notion of (in)transitivity is being presumed.[30] In general, it should be observed,[31] that prefixal preverbs evince a relationship with a non-contiguous constituent in c-structure: the dependent constituent is, ordinarily, expressed by a phrasal category. In this manner, preverbs tend to demand complements much like ordinary adpositions. A second possible objection to the claim that prefixes are intransitive postpositions concerns

[30] For example, the postpositional use of *át* which, likewise governs the SUP case of its complement, is no more or less transitive than the prefixal use of this form. It is hard to believe that transitivity here should be interpreted merely as constituent contiguity.

[31] Cf. Komlosy and Ackerman (1984).

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the fact that numerous prefixal preverbs are not categorially postpositions, let alone, intransitive variants of this category.

The views about Hungarian syntax assumed in the present work represent an admixture of the hypotheses proposed by E. Kiss and Horvath. I assume that Hungarian is non-configurational. That is, grammatical functions are not defined in terms of phrase structure position. Following assumptions within LFG I will also assume that grammatical functions in non-configurational languages can be expressed by lexical as well as phrasal categories. Finally, I will assume that Hungarian contains a V' syntactic (as well as lexical) constituent.[32]

Since I will ignore the details of the interaction between lexical V's and constituent structure in the rest of this work it is appropriate to make some general remarks, at this juncture, regarding how I view such interactions.

According to the analysis of phrasal verbs proposed in this study morpholexical rules compose a lexical entity with the categorial status V'. The rules of lexical insertion which place lexical items into constituent structure trees are sensitive to this category: they can place the V' as a contiguous entity in constituent structure or they can effect other distributions depending on the phrase structure patterns isolated for a given language. The details of the interaction between phrasal verbs and constituent structure, consequently, is contingent on the isolation of the distinctive sentence patterns of a language. The manner in which discontinuous pieces of predicates are construed as constituting the same lexical unit is by a process referred to as *PRED integration*:[33] identically coindexed pieces of a lexical phrase unify in much the same manner as agreement features shared by separate syntactic constituents unify.

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[32] Evidence for the existence of this constituent as a syntactic entity can be found in Farkas (1984) and in Chapter 6 of the present work.

[33] Cf. Ackerman (1987a.) for elaboration.

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2. Vogul

The basic order of governable constituents[34] in a Vogul clause is represented in the following diagram based on Rombadeeva (1979).

SUBJ OBLrecipient OBJ OBLlocation PREDICATE

On Rombandeeva's account, the predicate consists of either a simple verb stem or complex verb form composed of a prefixal preverb + verb or an argumental preverb + verb. She claims that prefixation with separable prefixes is a productive form of predicate formation in this language.

There are several elements which can be interposed between the preverb and the verbal stem, specifically, the sentential negative particle *at* (a. & b.), the negative particle *ul* used with imperatives (c.), the constituent question word *xuń* 'when' (d.) and, an assortment of discourse particles including the emphatic particle *ta* (e.). These discontinuous sequences are illustrated below.

(4.) (a.) **kon at tāratite**
out NEG permit-3sgSUBJ/3sgOBJ
'he does not let it out'

(b.) am taw pálte **minungkwe at pats m**
I he toward-3sg go-INF NEG began-1sg
'I didn't set off toward it'

(c.) ān m **xot ul joruwlilen**
I-ACC PV NEG forget-IMP
'don't forget me!'

(d.) **kon** xuń **kwali**
out when go-3sg
'when does he go out?'

(e.) **juw** ta **tājapawes**
PV EMPH gobble up-PASS-PAST-3sg
'And lo, it was gobbled up'

[34] Cf. discussion of LFG in Chapter 4 for the notion 'governable function'.

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It should be observed that the verb form in (4e.) is instructive for the thesis that the PV + V constitute a single lexical unit. In particular, given the assumption that passive formation is accomplished by lexical rule, the passive verb form *juw-tajapawe*[35] can be straightforwardly associated with the active form of this verb, *juw-tajapi*. In connection with passive-active pairs of this type there are at least two problems which arise on the assumption that the separability of *juw* entails that it be considered some sort of adverbial or complement of the simple verb. First of all, the simple verb *tājapi* does not have exactly the same meaning as the complex verb: it simply means 'swallow'. Second, a syntactic rule of passive would have to be extended to operate on syntactic phrases and constrained to include only those alleged adverbs or complements that alter the lexical meaning and/or change the argument structure of predicates: these latter affects are ordinarily associated with morphological processes. The verbal constructions presented above are predicted to be lexical units on the assumptions adopted in the present study. On these assumptions any indication of difference in the meaning or syntactic behavior of related entities entails the operation of (morpho-)lexical rules. For the Vogul active-passive pair this means that a lexical rule of passive formation applies to relate these two lexical entities consisting of a PV + V. Since the lexical rule applies to lexical entities the PV + V must be contained in the Lexicon. The presence of the PV + V form in the Lexicon is, moreover, consistent with the assumption that change of meaning for a predicate entails the application of lexical rules. As we have seen, the simple verbal stem in our example does not have the same meaning as the prefixed form of this verb: if the addition of the preverb alters meaning then this change must be accomplished in the Lexicon. On the

[35] According to Kálmán (1976) the long vowel in the first syllable of words which act as right members of compounds often becomes short. The complex verbal forms presented in the text appear to illustrate this phenomenon: when the PV immediately precedes the verbal stem the vowel in the initial syllable of the verb is shortened and when the PV and the V are discontinuous this vowel remains long. I do not know the details of these phonological phenomena at this time. However, if the description presented so far is correct then there would appear to be phonological evidence for the compound status of PV + V combinations in Vogul. The compound status of these combinations would be even more compelling, naturally, if the phonological effect of compounding, namely, vowel shortening in the verbal stem, was maintained even when the PV and V were discontinuous in constituent structure. This phenomenon demands closer examination.

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whole, then, the basic assumptions of LFG require one to conclude that PV + V constructions of the given type are lexical entities. The sole peculiarity of these verbal forms is that their pieces are separable under certain syntactic conditions. This is the central problem presented by predicates in numerous languages and the central problem of the present study.

Various permutations of the basic word in Vogul order are possible and these are associated with discourse disciminations similar to those determinative of Hungarian clause organization. In particular, Rombandeeva describes focus constructions in the following way:

> If it is necessary, in an utterance, to distinguish one notion from a host of other possible notions, then, in speech, logical stress is placed on the constituent designating this notion. This logical emphasis facilitates the specification of precisely the desired entity... The affected word, in these constructions, as well as its modifiers, appear immediately before the predicate while, in instances of particularly intensive emphasis, it appears after the verb, at the end of the clause. 1979:69

This type of construction is exemplified below.[36]

(5a.) ut'śit'el'-uw *nājangxap jot* joxt s
teacher-1pl steamboat with come-PAST-3sg
'It was by steamboat the teacher came'

(b.) ut'st'el'-uw joxt s *nājangxap jot*
teacher-1pl come-PAST-3sg steamboat with
'It was by steamboat the teacher came'

For present purposes it is significant to note that when focal stress falls on the preverbal element this conveys the contrast of the activity designated by the complex verb with some other activity. This phenomenon is illustrated below.[37]

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36 Italics indicate stress in these examples.

37 This is similar to the affect engendered by the association of focus stress with the preverbal element in Hungarian: the preverb generally remains immediately to the left of the verbal stem and the focus interpretation is given to the complex verb understood as a single semantic unit.

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(6) pigriś kātage *xot* - lowtsage
boy hand-DU-3sg PV - wash-PAST-3sg/DU. OBJ
'the boy *washed* his hands'

In conclusion, even this rough sketch should suffice to suggest the significance which the verb (broadly interpreted to include preverb + verb combinations) has for the principles of Vogul clause organization. In addition, certain similarities between Hungarian and Vogul should be evident. Most importantly,, both languages contain separable preverb + verb combinations which appear to constitute a single lexical unit and which appear to be pivotal entities in the syntax of these languages.

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Chapter 4: Prefixal Preverbs

The Ugric languages possess luxuriant morphology. In this respect they exhibit a noteworthy resemblance to the Australian aborigine language Walpiri as characterized in Simpson (1983):

> ...[Walpiri] is a language in which the burden of representing the relations between predicates and arguments (Sapir's logical relations) is borne by the morphology, rather than the syntax. Many of the properties associated with constituent structure in English are associated with morphology in Walpiri. Recent work in generative grammar has tended to concentrate on languages which make greater use of constituent structure than Walpiri does. There has been relatively little attention paid to representing information about grammatical functions which is provided by morphology. - 1983b.

The intuition that morphology, in certain languages (or in certain domains of a single language), complements constituent structure as a source of syntactic explanation clearly demands the development of explicit theories of morphology. In the present chapter I review certain aspects of several such theories. The similarity between the Ugric languages and Walpiri lies not, however, solely in the purported importance of morphology for syntactic analysis but also in the fact that these languages share the grammatical phenomenon studied in the present work: they contain complex predicates whose component pieces are separable in syntax. In other words, they contain *phrasal predicates.* Nash (1982) claims that such phenomena constitute an *analytic paradox* for linguistic theory: according to the Lexical Integrity Hypothesis (LIH) if such predicates are formed in the lexicon then their component pieces should be opaque to the application of any subsequent syntactic rules. For a representative statement of the LIH consider the so-called *Morphological Island Constraint* proposed in Botha (1981):

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> The individual constituents of the complex words formed by means of WFRs [word formation rules] lose their ability to interact with inflectional, derivational and syntactic processes. - 1981:46

Simpson has offered a formulation of the LIH within the LFG framework:

> Constituent-structure processes (which include annotation of functional information, and indexing of anaphoric information) are blind to the internal structure of words. - 1983:75

The assumptions embodied in the LIH are so pervasive that Mohanan (1982b.) and Pesetsky (1979) attempt to derive lexical integrity from a morphological convention called *bracket erasure* in conjunction with the Opacity Condition within level ordered morphology.

The Opacity Principle

The internal structure at one stratum
is invisible to the processes at another

According to Mohanan:

> We may note that the principle of Lexical Integrity, first proposed in Chomsky (1970), follows directly from the Opacity Condition. The Lexical Integrity principle says that the syntactic rules cannot move material into or out of lexical items or modify their structure. What this means is that syntactic rules are blind to the internal structure of words. If word internal brackets are not present [that is, they have been eradicated by bracket erasure. - FA] in the output of the lexicon, it follows that syntactic rules cannot refer to word internal boundaries.

The paradox, then, consists in the fact that complex predicates in several languages upset our expectations about the syntactic and phonological inviolateness of words: portions of words appear to wander away from one another in constituent structure. The present chapter - as well as all of the remaining chapters - focuses on various

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manifestations of this 'analytic paradox'. All of these chapters share the same basic structure. They are partitioned into two parts. The first part addresses general, frequently comparative aspects of the relevant grammatical phenomena and contains, as well, an introduction to theoretical speculation and representational conventions employed in the analysis of these phenomena. The second part presents case studies from Ugric: several representative examples of a particular phrasal type are isolated and examined in the context of the overview presented in the first part.

In the present chapter I address several issues relating to *prefixal preverbs*. Prefixal preverbs will be interpreted as affixal morphemes which do not exhibit a synchronic syntactic relation to an associated verbal stem: they contrast, primarily in this manner, with the *argumental* preverbs examined in subsequent chapters.[1] That is, prefixal preverbs are not considered as complements of simple verbs but rather as constitutive members of complex predicates which often elicit diathetical effects on simple verb stems.[2] Argumental preverbs, by definition, display a synchronic syntactic relation to a simple verb stem and, like their prefixal congeners, function as constitutive members of complex predicates. Although in certain instances it can be argued that they engender effects in the argument structure of predicates, they themselves are best interpreted as satisfying certain selectional requirements of predicates. In Sapir's sense, they express grammatical or logical relations.[3]

The organization of this chapter is as follows. I begin with a descriptive presentation of data suggesting that, in most relevant respects, inseparable and separable prefixes deserve a uniform morpholexical analysis. By examining so-called *morphological bracket-*

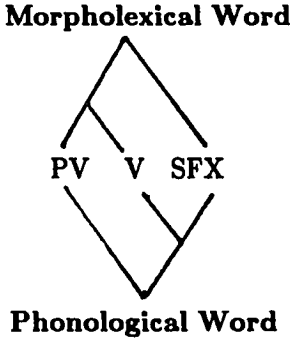
[1] This sharp delineation between two basic types is a matter of convenience. There are, for example, several preverbal elements which seem candidates for inclusion into the class of prefixes since they seem to occur typically or exclusively with verbal stems but yet they evince an isolable synchronic syntactic relation to the verb stem. Among these intermediate elements in Hungarian are *szét* 'apart', *ketté* 'in two', and *tele* 'full'. We will see that elements such as these might plausibly be interpreted as resultative secondary predicates. There are, in other words, several preverbs which are difficult to assign to one type rather than the other: this is to be expected given the diachronic development of preverbal systems.

[2] Simpson presents similar lexical effects as a function of prefixation by separable elements in Walpiri.

[3] Sapir's views about this issue are considered at length in Chapter 6.

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ing paradoxes we find that discrepancies between the morpholexical (or, grammatical) and phonological aspects of wordhood comport with certain traditional conceptions of the word and diverge from the proto-type theory of words encoded in the Lexical Integrity Hypothesis and Bybee's *scalar* conception of wordhood. Traditional views of wordhood are compatible with - indeed, they are conceived in order to address - the types of discrepancies presented by bracketing paradoxes. For our purposes, this means that the word is traditionally interpreted as a manifold entity: the word presents a morphological as well as a phonological visage and these two aspects of a word may be discrepant. The prefixal preverb constructions examined here (as well as other PV + V constructions examined in subsequent chapters) are analyzed as dual structures in the following manner:



On the one hand, the relevant prefixes (and, preverbs, more generally) constitute independent phonological words which compound with simple verb stems. On the other hand, these prefixes (and, preverbs, more generally) and verb stems constitute a single constituent from the perspective of morphology.

I examine two recent generative attempts to treat this type of discrepancy, namely, Modular Morphology as proposed in Pesetsky (1985) and an adaptation of Level Ordered Morphology found in Booij and Rubach (1984, 1987) and Rubach (1984). Since these proposals are parasitic on certain common assumptions concerning Lexicalist Morphology I review the relevant assumptions and representational conventions in this tradition as well.

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The reader should note that the principal points of interpretation proposed here for prefixal preverb + verb combinations hold for the analysis of other PV + verb stem combinations to come. In particular, throughout the following chapters, I suggest that so-called *tmesis*, i.e. the syntactic separability of preverb and verbal stem,[4] is simply an obvious indication in, e.g. Ugric, of the synchronic phonological wordhood of preverbs: the preverb (of whatever type) and the verb stem are independent phonological words in constituent structure. While evidence indicating the phonological wordhood of prefixes in languages with *univerbation*, i.e. phonological fusion of preverb and verbal stem,[5] may be more subtle than in those languages with separable preverbs, we will see that the preverb is still justifiably interpreted as an independent phonological word in these languages as well. There is, then, at least this cross-linguistic similarity between separable and inseparable prefixes: in both instances we are dealing with phonological words. But we will see that there are far more similarities between prefixes of these two types than the phonological one suggested above. I attempt to unify all these arresting cross-linguistic similarities in the phonological and morpholexical properties of preverbs by hypothesizing a principle of *head-to-head attraction* whereby independent elements functioning as *heads* agglomerate with the head of the clause, i.e. with the verb, to form a predicate complex. When the component portions of these predicate complexes are syntactically separable we are dealing with *lexical phrases*. When they are not, in contrast, we are dealing with the effects of univerbation. The comparative analysis of these complex verbal structures (irrespective of (in)separability) reveals a uniform cross-linguistic development: preverbs originate from independent elements (usually interpretable as predicates), these elements compound with a verb stem, and this diachronic process is often still palpable phonologically.[6] The entities examined in the present chapter, namely prefixes, are often the ele-

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[4] More broadly, this term is employed to designate separated members of compounds.

[5] I intend by this term the same as Watkins (1963) in his discussion of Indo-European preverbs. This diverges somewhat from the strict use of the term as designating the reanalysis of a bimorphemic structure as a monomorphemic one.

[6] Cf. Kurlywowicz (1964), Nichols (1986), Watkins (1963), Nash (1982).

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ments that have deviated most substantially from their original compound forms. In numerous instances they have; 1) lost or altered phonological segments; 2) lost their semantic transparency and assumed new senses.

The LFG account of syntactic separability proposed here is a straightforward application of Rubach's (1984) adapted version of Lexical Phonology: when morphologically composed entities are inserted into constituent structure trees the unfused phonological words constitutive of such entities can be placed into appropriate (discontinuous) positions in c-structure. That is, lexical insertion of independent phonological words accounts for the syntactic separability of constitutive pieces of predicates.[7]

Now, a final word concerning a theme which will recur throughout the remainder of this work. The purported 'analytic paradox' attendant on the analysis of separable preverb + verb constructions will be shown to dissolve in each instance when the LIH contronts the traditional manifold conception of wordhood: the LIH, I contend, expresses a prototype notion of word as the union of several factors. The canonical word of the LIH, in other words, reflects the clean convergence of lexical, grammatical, and phonological components of wordhood. Departure from the canonical correlations are considered *paradoxes* within the generative tradition. Since, however, there does appear to be a tendency for canonical convergence of criteria in numerous languages with synthetic encoding it is not my intention to dispense entirely with this hypothesis: instead, I will focus on apparent deviations. In this regard it is important to note that predicate formation appears to be a systematic exception to the predictions of this hypothesis from, at least, the following angle:[8] the morpheme boundary between preverbs and verbs remains intact,

[7] In this dissertation I will forego detailed discussion of the types of phrase structure which require different positions for preverbs. This is an enormous undertaking. It is sufficient at this time to present the nature of the relation between morphology and syntax envisioned here and to demonstrate that Rubach's speculations are fully compatible with LFG assumptions about this relation. Cf. Chapter 3 for discussion. It is, perhaps, also worth mentioning that the account of preverb positioning offered here differs significantly from an account in which rules of syntax re-position preverbs in syntactic trees as in the frameworks reviewed in Chapter 3.

[8] The reader should recall that I presented instances earlier where pieces of, e.g. nominals, participate in syntactic coordination and, consequently, seem exceptions to the LIH. In the present work I limit myself to predicates since they seem to constitute a prevalent exception cross-lingulstically.

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facilitating the ability for the component pieces of phrasal verbs to appear discontinuous from one another in constituent structure. We will see, in contrast, that deverbal derivatives based on phrasal verbs appear universally to entail the phonological fusion between preverbs and verbal stems: constitutive members of these combinations are inseparable.

1. Prefixes: Separable and Inseparable

The phenomenon of verbal prefixation as exemplified in the following Russian (Slavic) verb forms is attested in languages of disparate structure widely scattered throughout the world. It is commonly interpreted as a type of verbal derivation.[9]

(1) medlenno idut voly
slowly go-3pl ox-pl
'the oxen are moving slowly'

idti V 'go <(SUBJ)>'

(2) on došël do doma peškom
he PV-went til home-GEN foot-INST
'he went home on foot'

dojti V 'go up to, arrive <(SUBJ)(OBL)>'
OBLcase = do + GEN

(3) deti vošli vo dvor
children PV-went into courtyard-ACC
'the children entered the courtyard'

vojti V 'enter, go into <(SUBJ)(OBL)>'
OBLcase = α ∈ X + ACC

(4) v temnot'e on našël dver'
in dark-LOC he PV-found door-ACC
'in the darkness, he found the door'

---

[9] I have presented these verb forms in the lexical representation used throughout this diss The representational conventions will be explained below. The sole convention requiring expla this time is the one indicating that a particular verb governs one of several prepositions design lar features: the actual selection of specific prepositions in these instances is determined by accompanying nominals. The convention I utilize to express this is α ∈ X where alpha is the gov element and is expressed by a single exponent contalning the appropriate feature values. The r enjoined, at this point, to simply note the various differences evident in these lexical entries venience I present the citation form - the infinitival form of the verb. These examples are ba those provided in Apresian et. al. (1982)

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naiti V 'find <(SUBJ)(OBJ)>'

The wordhood status of complex verbs in Russian is unquestionable; standard assumptions concerning the morphophonological as well as morpholexical effects of affixation, e.g. alteration of lexical information,[10] are observable in the formation of these verb forms. On the other hand, there are certain palpably similar complex verb constructions in other languages, where the phonological bond between the prefix and an associated verbal stem is demonstrably loose - the two elements are separable (under certain specifiable conditions) in syntax. This type of construction is illustrated with examples from German (Indo-European) and Ingush (Caucasian) immediately below:[11]

German:

(5) um 8 Uhr fangen wir die Prüfung an
at 8 o'clock begin-3pl we the exam PV
'we begin the exam at 8 o'clock'

an-fangen V 'begin <(SUBJ)(OBJ)>'

Ingush: (Nichols 1985)

(6) (a.) a:ra ?a veanna...
PV PART gone-CV
'having gone out...'

(b.) iz a:ra ca vealar
he PV NEG go-3sg
'he didn't go out'

The following schematic representation illustrates (ignoring local variation and (in)separability) the typical tactics of morphemes within these complex constructions:

prefix + (X) + verb root + (inflection)

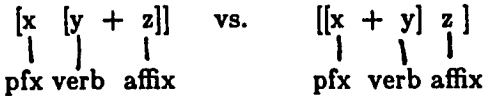
10 Cf. below for discussion of *lexical information*

11 The reader should consult Koopman (1985) for similar phenomena from Kru languages of Africa, Vata and Gbadi. In the Ingush examples the PART indicates clause chaining.

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Whereas the linear positioning of these morphemes is patent and unarguable, speculation as to the internal structure of these complex words is fraught with analytic problems. We will examine some of the contending interpretations in detail later on but a brief overview of the general problem at the present will provide the reader with the requisite background against which subsequent speculation should be viewed.

When, in the expected case,[12] prefixes are inseparable from their associated verb stems there have been claims concerning certain so-called 'bracketing paradoxes': while certain phenomena seem to suggest that, e.g. the verb root + inflection are sisters in a binary branching structure, other phenomena seem to suggest that it is, rather, the prefix + verb root which are sisters within a binary branching structure. This situation can be represented schematically as follows:



When, in the unexpected case, the prefix is separable from the verb stem, several linguists have claimed that the complex verb represents an 'analytic paradox' for morphological theory: its status as a word is contestable since the component portions of words should not ordinarily (or, perhaps, by definition) appear discontinuously in syntax.

The loose phonological relation between prefix and verb can appear in numerous guises. Sometimes the contrast in separability is relegated to different member languages of the same family as attested in the inseparability and separability of preverbs in Cree and Fox, respectively. Sometimes, as in German, there is a contrast within a single language between inseparable (Untrennbar) and separable (Trennbar) prefixes. And sometimes, as in Ugric, prefixes are always (or nearly always) separable under certain specifiable conditions.[13]

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[12] That is, the case in conformity with the LIH.

[13] Cf. Chapter 3 for discussion of the contexts of separability in Hungarian.

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Having spoken briefly about the morphotactic relations exhibited by preverbs and verbs cross-linguistically a few comments should be made about the categorial and functional complexion of preverbs. It is a commonly attested diachronic development for prefixal preverbs to derive from adverbial or adpositional elements originally designating directionality.[14] These entities - particularly, adpositions - have been observed to 'abandon' their complements as a consequence of combining with the verb stem. The stranded adpositional complements are subsequently reinterpreted as complements of the newly formed complex predicate. This process is illustrated in the two unrelated languages below:

Ingush: (Nichols 1984)

(7) na:nas biera: kuoc t'a-ju:x
mother-ERG child-DAT shirt-NOM PV-dress-3sg
'the mother puts a shirt on the child'

Hungarian:

(8) Árpád át-tört a tömegen
Arpad PV - break-PAST-3sg the crowd-SUP
'Arpad forced his way through the crowd'

In these examples I have purposely selected instances where the case government of OBL functions is attributable to the adposition/prefix.[15] In languages with inseparable prefixes, e.g. Russian and Georgian, the categorial status of these elements is fairly unquestionable: despite clear historical relations to adpositions they are, synchronically, just categorially unspecified affixes.[16] For languages with separable prefixes, however, - for example, those languages employed above to illustrate the diachrony of prefixation - the issue of categoriality is apparently more arguable: in default of a morphological theory which countenances 'loosely bound' or 'unbound' affixes it is problematic to assume that these separable elements are similar to the categorially unspecified affixes mentioned

[14] Cf. Kurlywowicz (1964) on Indo-European, Nichols (1986) on Chechen-Ingush and others.

[15] In these instances the adpositional source element for the preverb still exists synchronically with the same government requirement as indicated in the text.

[16] Cf. below for discussion of categorial specificity in morphology.

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previously. Their separability has suggested to several linguists that these preverbal elements deserve to be treated as complements of the verb:[17] prefixal preverbs, on this interpretation, would satisfy the subcategorizational requirements of predicates and like other subcategorized elements would be assigned a categorial (perhaps, a phrasal) specification. Such an analysis would obscure the criterial difference between prefixal and argumental preverbs alluded to earlier. For the present it is sufficient to observe that many prefixal preverbs may be interpreted as categorially unspecified from a synchronic perspective. In fact, the difficulty of assigning a credible synchronic categorial specification to preverbs will, consequently, make it awkward to talk about prefixal preverb and verb combinations as the sort of morphological compounds formed by argumental preverbs and verbal stems: prefixal preverb + verb combinations will be discussed, instead, as instances of affixal derivation.

The categorial and functional complexion of preverbs can vary widely across languages : one language may have an enormous repertoire of prefixal preverbs while another has a small one and one language may have a categorially diverse set of argumental preverbs while another may have a more restricted set or may have none at all. On the other hand, preverbal systems appear to share a basic functional similarity: the preverb was originally a *head* which has become a portion of the *head* of the clause, i.e. the verb or predicate. As mentioned earlier, a complex verb is a canonical predicate complex: it consists of several argument taking predicates. The process which yields these predicates is called *head-to-head attraction*: it appears to be the main determinative force in the development of preverbal systems. As we will see, it accounts not only for the historical sources of prefixal preverbs but suggests an underlying functional similarity behind the observable categorial diversity of preverbal elements.

The enigmatic character of separable preverb + verb collocations has been noted in both traditional and modern theoretical studies. Several linguists have supposed that

[17] E. Kiss (1981) and p.c. and Kiparsky p.c.

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separable preverbs in Indo-European, for example, yield a single lexical entity when they are composed with a verbal stem:[18]

> The position of P(reverb) has been described independently by Bonfante: either it occupies initial position, separated from the V ("tmesis") or else immediately precedes V, still written as a separate word. In subordinate clause we have already in the Rig Veda the "univerbation" of juxtaposed P and V, which becomes the rule later for the principal clause as well with the elimination of tmesis. This indicates that P and V even in tmesis are constituents of a single semantic "word". In both cases V occupies final position , with the reserve for the "amplified sentence. - Watkins 1964:1037

Whitney (1889) elaborates on the problematic aspects of Sanskrit preverbs in the following manner:

> Practically, in the later language, it is as if a compounded root were formed, out of root and prefix: from which then the whole conjugation (with derivatives) is made, just as from the simple root. Yet, even there, (and still more in the older language) the combination is so loose, and the members retain so much of their independent value, that in most dictionaries (that of Sir Monier Williams is an exception) the conjugation of each root with prefixes is treated under the simple root, and not in the alphabetic order of the prefix. Derivative words, however, are by universal agreement given in their independent alphabetic order, like simple words. - 1889:395.

It is clear from Whitney's remarks that the phonological criterion of separability appears to override all other considerations for the determination of wordhood: preverbal elements are listed under the alphabetic order of verbal stems associated with them. If

[18] There are, however, Indo-Europeanists - Vennemann, for example - who allege that preverbs are specifiers of verbs in much the same manner as adverbials. In other words, the separability of Indo-European preverbs has led to the same analytic options and debates we found with respect to Ugric preverbs as we saw in the previous chapter. The thesis that Hungarian preverbs are adverbials will be addressed below.

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morphemes maintain their phonological (and syntactic) independence, the argument runs, then it is incorrect to consider them portions of complex words. One problem for contemporary morphological theory presented by this description is the desirability of relating verbs to their deverbal derivatives: this relation is obscured if the verb is simply listed in the alphabetic order of its root while derivatives clearly based on the complex verb are given their own entry.[19]

The views about Hungarian preverb and verb combinations expressed by Samuel Brassai - whose syntactic claims were reviewed earlier - are instructive in this domain. The reader should recall that on his account preverbs were regarded simply as syntactically independent adverbials. That this position is untenable in default of defining distinct subclasses of adverbials should become evident as we proceed.[20] For the present, it bears mentioning that Brassai appeals to the phonological independence and syntactic separability of preverbs to support his contention that they are adverbials.[21] He derides the popular contention that preverbs and verbs constitute a single complex lexical item by comparing the syntactic behavior of these putative verbal compounds with the behavior of an incontestable nominal compounds, e.g. *sotartó* 'saltshaker' lit. 'salt-holder'. After demonstrating the separability of preverbs from verbs he challenges the defenders of the verbal compound hypothesis with ironical incredulity:

> Perhaps, it is possible to separate portions of compounds in the following manner:

---

[19] Such an analysis appears to presume that the preverb is a type of complement of the verb stem. However this is not an unproblematic assumption: the assumption that a simple verb is listed as 'subcategorizing' a morpheme (on analogy with idioms) raises problems. First of all, the productivity of this process is reminiscent of word-formation but is nowhere accounted for. Second, the question arises as to what sort of subcategorized elements these elements are, as well as, to why they, unlike other subcategorized elements enter so freely, as we shall see, into derivational processes.

[20] It should be said that even such a classification into subtypes simply begs the question. Why should we assume that these distinct classes of elements belong to a single type. And, moreover, is the adverbial category the most appropriate inclusive type?

[21] He also appeals to certain stress facts, namely, that ordinary adverbials as well as preverbs may bear primary stress for the phonological phrase which contains the predicate. Phonological aspects of PV + V combinations will be discussed later in this chapter but see also the discussion of this phenomneon in Chapter 3.

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*** a so tedd az asztalra tartót!?**

the salt put-IMP-2sg the table-SUB holder-ACC

'Put the saltshaker on the table'

Lit. * Put the salt on the table shaker'

The (expected) inseparability exhibited by pieces of nominal compounds contrasts markedly with the separability attested for preverb and verb combinations. If preverbs are adverbials (of whatever sort) then their mobility is as expected as the fixity found for pieces of compounds: adverbs, as syntactic constituents, should exhibit the same behavior as other syntactic constituents and therefore the hypothesis that preverbs are adverbs explains their mobility.

If preverbs behaved like adverbials in more than mere separability Brassai's speculations might seem plausible but the differences between adverbials and preverbs are more arresting than their similarities. Brassai himself unwittingly reveals a paradox in his position. He attributes the misinterpretation of preverb + verb combinations as compounds to spelling conventions whereby these elements are conventionally written together.[22] He adduces as evidence of the superficiality of this fact that the prior convention was to write them separately. This early convention was so prevalent, he argues, that it even obtained for verbal derivatives based on preverb + verb combinations. Brassai knew, as indicated in his use of the nominal compound *sotartó*, that pieces of nominal compounds are inseparable. He knew that this extended to deverbal derivatives. His comments about deverbal derivatives, therefore, admits of a paradox (at least as seen from a modern perspective): on his account a syntactic combination consisting of an adverb and a verb can serve as a base for deverbal derivation. This view contradicts a modern assumption that syntactic phrases cannot 'feed' word-formation processes. Naturally, the fact of contradic-

[22] It is worth questioning, of course, whether these facts really fall in Brassai's favor at all. One might counter that the spelling conventions might reflect the perception that these entities are, indeed, words.

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tion says little about the merit of the opposing claims but a closer investigation of the linguistic facts reveals that Brassai's position is incoherent. The assimilation of preverbs to the class of adverbials leaves open the possibility that every adverb and verb might constitute a base for deverbal derivation. This is demonstrably false. In fact, the complex verbal bases serving this purpose consist of preverbs and verbs. Independent of their participation in deverbal word-formation processes preverbs are significantly distinct from ordinary adverbials in, at least, two other respects: 1) preverbs exhibit different distributional behavior from ordinary adverbials and, 2) they engender effects on the argument structure and selectional requirements of an argument taking predicate. We will examine these phenomena in detail later in this chapter but for the moment I present a simple illustration of these differences between adverbials and preverbs.

(9)(a.) Árpád (halkan) osont a szobában
Arpad (quietly) sneak around the room-IN
'Arpad sneaked around in the room (quietly)'

(b.) Árpád (halkan) át-osont a szobán
Arpad quietly PV sneak the room-SUP
'Arpad sneaked through the room (quietly)

(c.) *Árpád át halkan osont a szobán
Arpad PV quietly sneaked the room
'Arpad quietly sneaked though the room'

A straightforward distributional difference between preverbs and adverbials is evident in the contrast shown in (9b.) and (9c.): when a preverb and adverbial co-occur it is the preverb which appears in immediately preverbal position.[23] There are, as suggested earlier, lexical consequences associated with the presence of preverbs. Three such consequences are evident in the differences between (9a.) and (9b.). The clause in (9a.) contains a verb with the following lexical entry:[24]

[23] Preverbs constitute a contrast set with adverbials from the perspective of other syntactic distributions as well. Cf. Chapter 3 for the syntactic behavior of preverbs.

[24] For further discussion of lexical entries, lexical information, alterations in lexical information and morphology will be presented below.

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oson V 'sneak <SUBJ, OBL>'
OBLcase = LOC
[+containment]

Clearly the presence of an adverbial, e.g. *halkan*, cannot account for the contrasts in meaning, argument structure and case government observable in (9a.) and (9b.): the sole difference between these clauses is the absence and presence of the preverb *át*. On this basis the presumable lexical entry for the verb in (9b.) would be:

át-onson V' 'sneak across <SUBJ, OBL>'
OBLcase = SUP

Despite the separability of *át*, then, this element appears to be a portion of a single lexical entity. These indications of difference between preverbs and ordinary adverbials correlate in an expected manner with evidence from deverbal derivation: whereas it is common for preverb + verb combinations to serve as the base for deverbal derivatives the same cannot be claimed for adverb + verb combinations (unless the combination is idiomatic.) It should be evident, in conclusion, that the attribution of adverbial status to prefixal preverbs has little explanatory value and raises the sorts of insurmountable analytic problems which often indicate reliance on mistaken assumptions.

At this point, I would like to reiterate that reliance on purely phonological criteria for establishing wordhood recurs in both descriptive and theoretical analyses and has been, I will argue, an impediment to understanding these constructions. There have been, on the other hand, various linguists who disavow, with understandable reluctance, these phonological criteria in favor of the desire to relate verb forms and their clear derivatives.[25]

[25] We will witness some examples of this from Soviet linguistic tradition somewhat later on. The reader should note that I am not claiming that phonological criteria are always irrelevant in determining the status of wordhood for some element. Rather I am proposing that they are sometimes an uninformative and certainly not the crucial criterion. As an example of how, e.g. stress, can be employed to corroborate the lexical status of an entity the reader should recall our earlier discussion of German separable preverbs. At that time I claimed that several separable preverbs can coordinate with one another just like several non-heads in indisputable compounds. The stress facts of German compounds extend to separable prefixes: the preverbs receive stress for the entire word. Given this phonological phenomenon

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Since our discussion of prefixal preverbs is predicated on the resemblance between complex verb constructions irrespective of the separability of their parts, it is important to elucidate the precise manner of their similarity. For this purpose, I will turn to a discussion of characteristic properties of prefixed verbs in a language where their status as words is indisputable. The examples will come from Serbo-Croatian. I will then compare the Serbo-Croatian examples with verbal forms from Hungarian: the separable preverb + verb combinations in Hungarian only arguably constitute a single word. This simple comparison will demonstrate that in all relevant respects the Hungarian verbs with separable preverbs exhibit properties familiar from the analysis of verbs with inseparable prefixes. The particular properties which will be investigated are the effects on subcategorizational, selectional, semantic and case government requirements engendered by the presence of prefixes, the participation of preverb + verb constructions in derivational processes, and certain diachronic aspects of preverb + verb combinations. This discussion will be, essentially, descriptive and introductory while the theoretical ramifications of these properties will be investigated in a subsequent subsection. The comparison is preceded by an introduction to lexical representation and germane assumptions in Lexical Functional Grammar.

1.1. Lexical Information and LFG

It is fruitless to compare morphological compositions in, e.g. Slavic and Ugric, unless we understand, at least in a general manner, the possible scope of their similarities and differences. In the preceding section I focused on what I regard as a minimal difference, namely, *phonological integrity*: Slavic complex verbs display phonological integrity while, e.g. Hungarian, complex verbs do not. In alleging that phonological integrity is a minimal difference I am, obviously, presupposing some criterial similarities.

---

of stress and the syntactic phneomenon of coordination the preverb + verb combinations seem assimilable into the class of compounds. In short, the phonological facts here coincide with other phenomena to help establish the wordhood of preverb + verb combinations in German.

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I turn now to a discussion of properties - independent of phonological integrity - ordinarily associated with words.[26] These are properties definitional of grammatical or morpholexical wordhood for a given entity.

What are the characteristic sorts of information associated with verbs and other argument taking predicates (ATPs)? In Lexical Functional Grammar (as well as in most other theoretical frameworks and lexicographic traditions)[27] the following information figures in lexical representations: 1) an indication of the phonological shape of a word; 2) an assignment of categoriality, e.g. a designation of the *part-of-speech* instantiated by the word; 3) an assignment of a) lexical meaning, i.e. the lexical semantics of the word, and b) grammatical meaning, i.e. modality, tense, aspect associated with the word; 4) a commitment to the number of arguments associated with an ATP as well as an a) attribution of *thematic role* or *deep case* assignments to semantic arguments and b) a method of calculating the grammatical function (GF) associated with each semantic argument selected by the ATP;[28] 5) a statement enjoining particular arguments of an ATP to exhibit particular morphological shapes, i.e. to bear certain case-markers.

1.1.1. Lexical Entries and LFG

In LFG, the preceding types of information are contained in the representation for lexical entries. Lexical entries have the following composition:

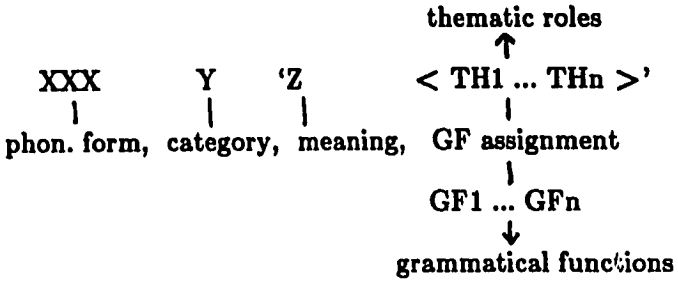
---

[26] The reader should note that I reserve discussion of the mophological aspects of lexical rules to a later part of this chapter. In other words, I will ignore, for the moment the manner in which prefixes combine with verbal stems as well as any statements concerning the lexical effects of morphological rules.

[27] For example the Soviet lexicographic tradition utilizes most of the lexical factors enumerated above. Cf. Apresjan, et. al. eds. (1983) for an excellent example of this tradition applied to the description of Hungarian and Russian verbal valence.

[28] The identification of GFs can be done directly as in LFG and Relational Grammar where GFs are interpreted as primitives or indirectly in terms of phrase structure configurations which derive GFs as in Government and Binding or in terms of the order of argument composition as in Montague Grammar and Head Driven Phrase Structure Grammar.

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Three types of information are contained within single quotes: 1) lexical meaning, i.e. the definition (usually in abbreviated form) of the word; 2) a predicate argument structure which is the list of actant roles, i.e. thematic roles, associated with selected arguments, i.e. obligatory arguments of a word, and; 3) an assignment of grammatical functions to semantic arguments of the ATP. The association of GFs with semantic arguments is constrained in LFG by the Function-Argument Biuniqueness Principle:[29]

Function-Argument Biuniqueness Principle

> Each argument of an argument taking predicate must be assigned a unique grammatical function, and no grammatical function may be assigned to more than one argument.

The mapping of GFs into predicate arguments must conform to the Function-Argument Biuniqueness Principle and the result of this assignment is referred to as the *lexical form* of an ATP. The lexical form is enclosed within angle brackets. The lexical form in conjunction with lexical meaning - in other words, all of the information contained within the single quotes - is interpreted as the *value* of the PRED feature attribute associated with ATPs.

LFG postulates a strong constraint on the locus of operations which can affect the information contained in lexical entries. According to the Principle of Direct Syntactic Encoding:

---

[29] This covers essentially the same phenomena as that handled by the *Projection Principle* and the *Extended Projection Principle* within the Government and Binding framework.

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> **Every non-lexical rule of grammar must preserve the assignment of grammatical functions.**

All such alterations are effected by lexical rules whose domain of application is limited to the Lexicon. In general, then, observable changes in the morpho-lexical properties, (e.g. the PRED feature value and/or case government demands), associated with particular argument taking predicates (and, more broadly, lexical items) imply the application of lexical rules. This is a reflection in LFG of a general (strong) lexicalist assumption concerning the relative scope of morphological vs. syntactic rules. The presumed scopes of these two sorts of rules are summarized in Scalise (1984:168):[30]

	WFRs	Ts
(a.) can change syntactic categories	yes	no
(b.) can change subcategorization frames	yes	no
(c.) are local	yes	no
(d.) have binary branching properties	yes	no
(e.) involve idiosyncratic information	yes	no
(f.) involve phrasal categories	no	yes
(g.) are ordered	no	yes
(h.) include movement rules	no	yes

We will see below that an argument for the lexical status of preverb and verb combinations follows, straightforwardly, from the preceding assumptions. I will assume that the properties associated with ATPs are properties ordinarily associated with simple verb stems. Moreover, I will assume that alteration of such properties entails the application of lexical rules. In consequence, a demonstration that the addition of prefixes leads to familiar alterations in lexical information (meaning change, diathesis, case government, etc.) is a demonstration that prefixation, in this language, is a lexical operation.

Thus far, we have seen that lexical entries for simple verbs contain, among other information, a lexical form and case assignment equations for the non-default values of

[30] WFR stands for 'word formation rule' while T stands for 'transformation' or more simply 'syntactic rule'.

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selected (or governed) GFs. Now, consider the following sentences:

(10) a törpe a kert-ben lakott
the dwarf the garden-IN dwell-PAST-3sg
'the dwarf lived in the garden'

(11) a törpe a kert-ben futott
the dwarf the garden-IN run-PAST-3sg
'the dwarf ran in the garden'

Sentences (10) and (11) are identical except for the verbs. This surface similarity, however, obscures a significant difference: whereas sentence (11) is still acceptable if the LOC complement, i.e. 'in the garden' is omitted, the omission of this constituent from (10) renders this sentence either elliptical or ungrammatical. Clearly, neither constituent order nor the internal structure of the LOC constituents, which are identically case-marked NPs, can explain these grammaticality judgments. The omissibility of complements, presumably, correlates with the difference between the verbs in these sentences. Let's assume that the lexical entries for the relevant verbs are;[31]

(12) lakik V 'dwell <(SUBJ)(OBL)>,
OBLcase = $\alpha \in$ LOC
[-motion]

(13) fut V 'run <(SUBJ)(OBJ)>'

The lexical entry in (12) identifies 'dwell' as a two-place predicate whose OBL function may be formally realized (or interpreted) by any single LOC case-marker/postposition with the feature value [-motion]. In contrast, the lexical entry for (13) indicates that 'run' selects only a single argumnet. The LOC complement in (13) is, accordingly, an optional modifier, i.e. an ADJ(unct).

Given lexical entries such as those in (12) and (13), quite simple well-formedness con-

[31] The notation, $\alpha \in X$, is intended to convey that the verb has government demands over a class of candidate case-markers/postpositions with specifiable features. In a language with prolific case, in which government is a frequent phenomenon, it seems appropriate to represent case requirements as requirements of particular lexical items. I have chosen to specify case features in the present work although it is possible that the governed features of particular (classes of) predicates can, in many instances, be demonstrated to follow from the lexical semantics of given (classes of) predicates.

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ditions on f-(unctional) structures determine whether the sentences in (10) and (11) (and variants with omitted arguments) are acceptable.[32] In order for a sentence to be judged grammatical the following conditions on f-structures must be satisfied:[33]

> Consistency: Every grammatical function and every functional feature must have a unique value.
>
> Completeness: If a grammatical function is selected by the argument taking predicate of an f-structure, it must appear in that f-structure.
>
> Coherence: If a subcategorizing grammatical function appears as an attribute of a member of an f-structure, the PRED of the f-structure must be subcategorized for that grammatical function.

Consistency proscribes, for instance, a situation in which the PRED feature (or, meaning) of the SUBJ function has two distinct values. The following example presents an unacceptable sentence together with an illicit f-structure which violates consistency:

(14) * a törpe futott a kacsa
the dwrf-NOM run-PAST-3sg the duck
'the dwarf, the duck ran'

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED 'dwarf'}] \\ \text{SUBJ} & [\text{PRED 'duck'}] \\ \text{TNS} & \text{PAST} \\ \text{PRED} & \text{'run <(SUBJ)>'} \end{bmatrix}$$

Completeness insures that all the selected functions associated with the PRED of an argument taking predicate find a (unique) value in the *clause nucleus* defined by this PRED feature. The clause nucleus can be understood as, minimally, *the domain of government or selection* defined by the PRED feature of an ATP: the PRED feature is the *head*

[32] The reader is referred to Kaplan and Bresnan (1982) for a discussion of the relation between f-structures and c-(onstituent) structures in LFG. In general, f-structures represent a distillation of the semantically relevant information gleaned from the annotations found on constituent structure trees.

[33] The statement of these conditions is taken from Simpson (1983).

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of the clause nucleus. Heads are assumed to *govern*, i.e. determine (semantic and grammatical) feature specifications for certain complements. The complements required by an ATP and over which the ATP has governmental influence are called *selected or subcategorized functions*. An ATP, in Lexical Functional Grammar selects for the function (SUBJ, OBJ, OBL, COMP, XCOMP) of a complement.[34] These are the *governable* functions of the theory. The phenomenon of pro-drop, prevalent in Hungarian, provides an illustration of the operation of completeness:[35]

(15) el-futott
PV-run-PAST-3sg
'it/s/he ran away'

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED 'pro'}] \\ \text{TNS} & \text{PAST} \\ \text{PRED} & \text{'run away <(SUBJ)>'} \end{bmatrix}$$

In this construction the absence of an overt pronominal in c-structure does not render the sentence unacceptable since an understood argument is interpretable as providing the value of the SUBJ complement selected by the verb 'run away'.[36]

Coherence demands that the governable functions which appear in f-structures can be associated with GFs found in the lexical form of the PRED feature of a containing clause nucleus. This is exemplified below by an unacceptable sentence in which the familiar one-place predicate 'run' co-occurs with an OBJ function.

---

[34] The XCOMP function is a so-called *open function*: it defines a clause nucleus which contains a SUBJ function whose PRED feature value is, typically, identical to the PRED feature value of a SUBJ or OBJ function of the predicate which selects the XCOMP function: whether the XCOMP SUBJ's value is *controlled* by SUBJ or OBJ function is, ordinarily, dependent on the transitivity of the matrix predicate.

[35] This is a prefixal preverb and verb combination.

[36] At this juncture it is important to mention a theoretical point concerning the representation of phonologically null entities such as the 'missing' pronominal SUBJ in (15). In the Government and Binding framework (cf. discussion in Chapter 5) these are represented as occupying 'empty' nodes in phrase structure (in c-structure). In LFG, however, they do not display a c-structure reflex but are, rather, hypothesized to appear in f-structures where they are construed with GFs in the lexical form of an argument taking predicate.

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(16) * a fiú futott a mokus-t
the boy-NOM run-PAST-3sg squirrel-ACC
'the boy ran the squirrel'

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED 'boy'}] \\ \text{TNS} & \text{PAST} \\ \text{PRED} & \text{'run <(SUBJ)>'} \\ \text{OBJ} & [\text{PRED 'squirrel'}] \end{bmatrix}$$

The f-structure induced from sentence (16) contains a clause nucleus headed by a PRED whose value is the lexical form 'run <(SUBJ)>'. There is an OBJ function contained in the clause nucleus of this PRED feature despite the fact that this governable function does not figure in its lexical form. Sentence (16) is, consequently, an incoherent construction.

Having presented the LFG representation of lexical information as well as delineated the general role of lexical information for syntax, we can proceed to a discussion of the typical effects engendered by the affixation of (in)separable prefixes in Serbo-Croatian and Hungarian.

1.2. Simple Lexical Effects of Prefixation: A Comparison

The arresting lexical similarities exhibited by prefix + verb combinations - independent of the phonological adhesion of prefixes to a verb stem - become evident when we compare Serbo-Croatian and Hungarian complex verbs. An illustrative sample of lexical properties correlative with the presence of prefixes is observable in the following lexical representations for the related pairs of Serbo-Croatian verbs *pasti* 'to fall' and *propasti* 'to

---

[37] These examples are based on István Silling's (1979) study of Serbo-Croatian - Hungarian bilinguals. It should be noted that the Slavic languages consistently pair verbs along the aspectual parameter perfective/imperfective: most verbal entries are, in effect, two verbs - a perfective variant and an imperfective variant. I have deliberately neglected these aspectual distinctions and have presented only the perfective members of the aspectual pairs. The variable X will stand for any case marker or preposition which is semantically compatible with thematic role of the relevant GF. Cf. Chapters 2 and 5 for an informal representation of this phenomenon in terms of feature sets. Finally, I have simplified these lexical entries by focusing on aspects of meaning characteristic for *propasti*. In particular, whereas *propasti*

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be ruined, to perish' and *viknuti* 'shout, scream' and *podviknuti* 'shout at, scold':[37]

(17a.) ukrasna biljka je pala sa stola
decorative plant 3sg/CL fell-FEM from table-GEN
'the decorative plant fell off the table'

pasti V 'fall <(SUBJ)>'

(b.) ukrasna biljka je propala od/zbog silnog polivanja
decorative plant 3sg/CL perished-FEM from heavy watering-GEN
'the decorative plant perished from overwatering'

propasti V 'be ruined, perish' <(SUBJ)>'

(18a.) majka viknula je na dete / * detetu
mother screamed-FEM 3sg/CL at child-ACC/child-DAT
'the mother screamed at the child'

viknuti V 'shout (at), scream (at) <(SUBJ)(OBL)>'
OBLcase = na + ACC

(b.) majka podviknula je *na dete / detetu
mother scolded-FEM 3sg/CL at child-ACC/child-DAT
'the mother scolded the child'

podviknuti 'shout at, scold < (SUBJ)(OBL)>'
OBLcase = DAT

It is typical for meaning differences associated with two morphologically related verb forms - simple verb stem and prefixed verb - to correlate with differences in lexical forms and occasionally to covary with variable case government requirements for the categorial exponents of selected functions. In the particular entries under investigation, we can see that the composition of lexical forms differs from (a.) to (b.). In addition, (18a.) and (18b.) indicate that case government patterns can vary although the GFs may remain constant.[38]

Meaning differences associated with simple vs. prefixed variants of verbs are maintained when clear deverbal derivation is at issue. For example, *pad* 'fall, decrease' and *padina* 'slope' are nominalizations based on *pasti* while *propast* 'ruin, destruction, failure'

can signify 'falling' in the literal sense of an activity it typically designates some extended sense of this basic action which the simple verb cannot convey.

38 In these illustrative examples I refrain from discussing whether in fact the OBL functions here are identical: they might, for example, be associated with different thematic role assignments.

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and *propalica* 'good-for-nothing, debauched person' are, similarly, nominalizations based on the prefixed verb *propasti.*

In summary, these representative Serbo-Croatian simple and prefixed verb pairs exhibit lexical forms which differ along several parameters; lexical meaning, predicate argument structure, and case government of selected functions. Moreover, the verbal forms are transparently related (at least with respect to semantic considerations) to derived forms. It is now time to compare these Serbo-Croatian forms with similar constructions from Hungarian. The reader should recall that whereas the Serbo-Croatian prefixes are inseparable the corresponding Hungarian prefixal preverbs are separable under the conditions previously discussed.

The Hungarian analogues of the Serbo-Croatian verb pairs are as follows:

(19) (a.) a disznövény (el) pusztult
the plant (PV) perished
'the decorative plant perished from overwatering'

a sok ontozés miatt/ * sok ontozésbe
the much watering because/* much watering-ILL

(el)pusztul V' 'perish <(SUBJ)>

(b.) a disznövény bele pusztult
the plant PV perished
'the decorative plant perished from overwatering'

a *sok ontozés miatt/ sok ontozésbe
the much watering because/ much watering-ILL

bele-pusztul V' 'perish from <(SUBJ)(OBL)>
OBLcase = ILL

(20) (a.) az anya kiáltott a gyereknek / * gyerekre
the mother cried out the child-DAT child-SUBL
'the mother cried out to the child'

kiált V 'cry out to, scream out to <(SUBJ)(OBLgoal)'
OBLcase = DAT

(b.) az anya rá kialtott a * gyereknek / gyerekre
the mother PV screamed the child-DAT child-SUBL
'the mother screamed at the child'

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rá-kialt V' 'scream at < (SUBJ) (OBLgoal) >
OBLcase = SUBL

Ignoring comparative issues of semantic extension exhibited by simple and prefixed verb pairs in both Serbo-Croatian and Hungarian, it is obvious that the meanings associated with pair members vary within a single language. That is, related forms exhibit different meanings. In Hungarian, we can observe some variations in the information associated with lexical items familiar from our brief overview of Serbo-Croatian: *el-pusztul* and *bele-pusztul* possess different lexical forms and while the selectional requirements associated with *kiált* and *rá-kiált* may be identical the case government patterns of this latter pair are different.[39] We will see that, as in Serbo-Croatian, these HUngarian verbal forms serve as bases for various additional derivational processes.

We have now witnessed in somewhat schematic fashion the typical sorts of effects on lexical information attested in languages with separable and inseparable prefixes. The effects seem similar in both languages although the phonological integrity of the relevant entities differs. The ways in which word forms in these languages resemble one another - and the number of these appears to be quite considerable - are ways in which lexicalist theories constrain the alteration of information associated with lexical entries. Irrespective, then, of phonological integrity the pairs of predicates in these lnaguages vary in terms of properties, purportedly, restricted to the lexicon.

Throughout this exercise the reader should have puzzled over the intimated interactions between morphology and lexical rules. In Serbo-Croatian we have every right to believe that morphological composition rules are intimately related to lexical rules. In Hungarian, however, the separability of preverbs indicates a looser adhesion between alleged morpheme combinations than is customarily countenanced in theories of morphology. What, then, is the precise nature of the relation between morphology and lexical rules? In the next section I will address this and related questions in an attempt to develop

[39] We will see below that the case government pattern for OBL arguments is fairly predictable given the lexical semantics of the verbal stem and the presence of, e.g. *bele* or *rá*.

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the theoretical apparatus for the analysis of phrasal predicates to follow.

2. Morphology and the Lexicon

In Chapter 1 I suggested that the notion *word* has a very variegated application in linguistic theory: it is simultaneously regarded as a central analytic postulate and a term with an elusive extension. At that time I mentioned that Bally's conception of the 'word' - or more accurately, his replacement for this notion - is quite serviceable in this context. A *lexical molecule*,[40] the reader will recall, consists of a *lexeme* and an accompanying array of morpho-syntactic notions such as tense, aspect, agreement etc., judged both necessary and sufficient for that lexeme to appear in a syntactic construction: this describes, essentially, a lexical stem plus the information contributed by associated inflectional morphemes. This conception of grammatical or morpholexical wordhood left open the possibility that an entity satisfying these criteria might not conform to standard phonological criteria for wordhood: in other words these entities might not display phonological integrity. The cursory comparison of Serbo-Croatian and Hungarian prefixed verbs demonstrated numerous salient morpholexical similarities between the constructions in these languages. From a phonological perspective, however, we were confronted with a distressing difference: whereas Serbo-Croatian prefixes exhibit the normal fusional properties of affixes their Hungarian analogues move about like independent words. Despite this difference I suggested that separable preverbs and verb stems are defensible grammatical words - they simply lack phonological integrity.

In the present section I would like to elaborate on different conceptions of wordhood for, essentially, two purposes. My first motivation is to demonstrate that the notion *word* is manifold and that we must be clear which aspect of this notion we are referring to when we make claims about wordhood: the *word* is not a unitary but rather a composite concept. The word has been (traditionally) analyzed as an abbreviation for three types of

[40] This represents my lexicalist revision and restriction of Bally's *syntactic molecule*

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words: lexical word, grammatical word and phonological word. Few linguists contend that the criteria relevant in the determination of these three aspects of wordhood neatly converge on single entities in such a manner that one can confidently claim that only those entities defined by the neat confluence of these criteria are *words*. Instead, a judicious use of criteria is demanded. From the perspective of a work focusing on the interaction between morphology and syntax - such as the present study - the criterial emphasis must be on the lexical and grammatical aspects of wordhood.[41] Since the notion *word* underlies so much speculation in morphological theory it is important to have an understanding of what it does and does not designate. This is, perhaps, banal but one's conception of wordhood has signal ramifications for assumptions concerning the form and content of the morphological component of grammar. The relevance of these remarks will become more apparent when I introduce the essential features of certain current lexicalist theories of morphology. These representational assumptions of lexicalist morphology will provide a framework within which I will analyze preverb and verb constructions.

2.1. Words

Matthews (1974) suggests that linguistic analyses relying on the existence of a single entity referred to as a *word* are necessarily problematic. The reason for this is that this entity is multifacited. Matthews distinguishes three senses for this term. I will utilize the Hungarian verb *kiáltottak* 'they screamed' to illustrate. Sense 1 views the 'word' as an assemblage of sound segments, stress patterns and, in general, the domain for the operation of a certain set of phonological operations. The Hungarian word *kiáltottak*, accordingly, consists of a certain set of phonemes, reliable stress on its initial syllable, and constitutes the domain for the operation of *vowel harmony*, i.e. both the linking vowel between the verbal stem and past tense morpheme *-tt* and the vowel variant of the 3pl morpheme are back vowels as determined by the backness of the final vowel of the verbal

[41] Cf. Lyons 1968:200 for a similar view.

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stem. Sense 1 defines the so-called *phonological word* or *word form*. Sense 2 attempts to distill what is common between word-forms of the following sort; *kiáltottak* 'they screamed' and *kiáltott* 's/he screamed'. The relation clearly derives from the meaning shared by virtue of a common root, namely, *kiált* 'scream'. Sense 2, then, views the word as a *lexeme*. Matthews states that the lexeme is "the fundamental unit of the lexicon of a language."[42] Lyons (1968) proposes the following characterization:

> Lexemes (the 'words' of traditional grammar) are the underlying invariant units considered in abstraction from their 'accidental' properties: lexemes are 'substances' which occur in various 'accidental' 'forms'... the words that occur in sentences have particular 'accidental' properties (e.g. nouns are either singular or plural, verbs are in the past or future tense, and so on); and the grammarian's 'paradigms' (and lists of irregularities) describe the 'forms' of words of different classes. - 1968:198

The lexeme, conventionally represented by small capitals, is basically a dictionary entry. As indicated by Lyons, however, a lexeme appears in various forms: these forms reflect (or determine - depending on how they are viewed) the role of the lexeme in particular syntactic constructions. Matthews refers to this additional information as *morphosyntactic categories* and suggests that the *term word should be reserved for a lexeme and the set of morphosyntactic paradigms it may participate in.*[43] Sense 3 conceives of the word as a grammatical entity - an assemblage of morphemes. With reference to our Hungarian example the word consists of a lexeme 'KIALT' and the exponents for the morphosyntactic categories of 'tense', and SUBJ's 'person/number'.

Sense 3 is the sense conveyed by the notions *lexical molecule* and *grammatical word*. The poor fit in French between sense 1 and senses 2 and 3 encouraged Bally to develop his alternative view of wordhood. In French the phonological word is frequently indefensible

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[42] Cf. Matthews 1974:22.

[43] Lyons (1968) refers to this as the *grammatical word*.

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as a single lexical entity according to the criteria of senses 2 and 3.

The opinions of Matthews (1974) and Bally (1959) converge here with respect to criterial and negligible determinants of grammatical wordhood. Phonological criteria may be corroborative for certain claims about wordhood based on grammatical criteria but cannot themselves be considered as primary criteria.[44] A *word*, on such an interpretation, *is simply an entity which is created by morpholexical rule and which may participate in paradigms.*[45] Since for present purposes the inflectional morphemes typically associated with paradigms are combined with lexical stems in the lexicon this claim can be interpreted as follows: a word is whatever is produced by the the morpholexical rules of a language, i.e. rules involved in derivation and inflection.

Before turning to review some assumptions and representational conventions in theories of lexicalist morphology it will be useful to provide some descriptive terminology applicable to senses 1 and 2 of the word.[46]

The term *lexical stem* encompasses three subtypes: 1) a *simple stem* instantiates a single lexeme; 2) a *complex* stem consists of a single lexeme and one or more derivational and/or inflectional morphemes, and; 3) a *compound stem* is comprised of (at least) to or more lexemes.[47] To use familiar examples, the Hungarian stem *puszta* means 'desolate, bare, bleak'. The addition of the *lexical formative* *-ul* creates the verbal stem *pusztul* 'perish'.[48] A central question addressed in this chapter is whether prefixal preverbs are

[44] For example, consider that Hungarian and Turkish vowel harmony are restricted to a domain that is coincident with the domain defined as an (inflected) word by grammatical criteria. Since uniform vowel harmony does not operate over the members of compounds, however, this particular phonological criterion is less instructive for determining the wordhood status of compounds than grammatical criteria. Cf. Chapter 6 for discussion of compounding.

[45] We will return to this in the discussion of lexicalist theories of morphology below. But for the moment the reader should recall our earlier discussion concerning the purely descriptive character of Sapir's analytic vs. synthetic distinction. This opposition can be viewed as a descriptive parameter cataloguing the manner in which languages encode words. This is to claim, essentially, that the lexicon is the main arena of similarity between languages: surface expression of lexical relations varies along a analytic/synthetic spectrum.

[46] These terminological distinctions rely on Matthews (1974).

[47] The reference here to 'at least' is intended to permit the presence of (any number of) derivational morphemes as long as at least two lexemes are present. Compound stems are the topic of Chapter 6. In the present Chapter I focus primarily on simple and complex stems.

[48] The details of this type of affixation are discussed below.

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interpretable as lexical formatives despite their syntactic separability. Since particular lexical stems participate in certain paradigms and are amenable to particular types of derivation, this question can be posed as follows: does the combination of prefixal preverb and verb stem constitute a lexical stem distinct from other possibly related (simple) stems with respect to its participation in certain paradigms and its ability to undergo certain derivational operations?

2.2. The Structure of Complex Words

One of the basic problems in any close analysis of languages with luxuriant morphology is the relation of word-formation to lexical rules. Are the predictable effects of lexical rules, i.e. alteration of lexical forms, operations on lexical meaning, and variation in case government patterns, simply attributable to the licit concatenation of morphemes? From the perspective of the present investigation one is required to ask a prior question as well: can separable elements which engender lexical effects be subsumed in a theory of morphology? This issue is, clearly, broader than the phenomena addressed in this dissertation: it introduces the issue of whether analytically encoded entities in Sino-Tibetan languages, for example, are appropriately analyzed in terms of morpholexical rules. For example, Baker (1985) proposes the so-called 'mirror principle' whereby the order of affixes in a complex word reflects the order of syntactic operations the word participates in. This is a theoretical statement of a relation between morphology and syntax well-known to descriptive linguists. However, some of these descriptive linguists have observed its effects in analytic languages with spare morphology and where, consequently, the word-formational aspects of Baker's claim are obscure. For example, Matisoff (1973) observes the following about Lahu (Tibeto-Burman):

> ... with the main verb ca 'eat' the auxiliary phe? 'be able' and ci [causative marker], we have two possible orderings, each imposing a (predictably) different semantic interpretation:

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a. ca phe? ci

eat able caus

'make someone able to eat'

b. ca ci phe?

eat caus able

'able to make (someone) eat'.

This raises an important issue since it can easily be demonstrated that languages with 'analytic' structure and languages with 'synthetic' structure can exhibit similar lexical effects although the proximate causes of such effects may be free morphemes in the former language and bound morphemes in the latter language. This observation repeats a point made earlier concerning the purely descriptive and classificatory utility of the analytic/synthetic distinction: to know the predominant strategy of morpheme combination for a language does not tell us all what we need to know in order to determine the status of these combined entities as 'words'. What we want to know about the relevant entities is how they were produced. Are they the output of morpholexical rules? If they are, then, what sort of relation between phonological and morphological processes can we postulate for these entities?

In the present section I will present a distillation of certain recent views concerning concatenative morphology. These views will, then, be applied to some prefixal preverb constructions in Hungarian.

Certain theories of grammar - LFG among others - assume that words are fully formed before their insertion into appropriate phrase structure positions. In LFG this is interpreted in conformity with the Strong Lexicalist Hypothesis: all the information associated with a lexical item as well as most morphophonological processes determining the form of this item occur prior to lexical insertion. Syntactic operations can neither alter lexical information - by addition or deletion - nor effect morphological changes relating to

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lexical information.

There are several theories of concatenative lexical morphology compatible with these fundamental assumptions of LFG. I will review some representative features of these theories. Although discussion will, essentially, be limited to derivational aspects of morphology the reader should note that these representational assumptions extend to inflectional morphemes as well.

2.3. The Representation of Complex Words

It is, of course, preposterous to assume that native speakers of a language must methodically derive every (complex) word during the course of conversation. That is, few linguists question the existence of a dictionary which contains morphologically complex entities in a fixed form which are ready to be employed on demand. It is reasonable, however, to assume that (classes of) these fixed forms frequently exhibit recurrent internal structure: these words are, then, interpretable as regular combinations of morphemes. They are, to use Aronoff's term *analyzable*. It is commonly observed that listed words though often structurally transparent exhibit certain semantic peculiarities: listed words are susceptible to *semantic drift*.[49] The accretion of idiosyncratic meaning commonly displayed by certain classes of elements can be utilized as a criterion for wordhood. If a collection of semantically idiosyncratic words share similar substructures, i.e. they are identically analyzable, and if they structurally resemble another collecton of semantically compositional entities then these two collections of elements can reasonably be assumed to share the same (lexical) status: if the former are words, then the latter are, likewise, words. That is, the presumed lexical status of idiomatic constructions with a certain internal structure lends credence to the supposition that certain structurally similar compositions should, likewise, be granted lexical status.

[49] Aronoff provides the example of the word 'transmission' on the reading where it designates an integral part of an automblle and not an act of transfer tranparently related to the meaning of the verbal base 'transmit'. We will see throughout that preverb + verb combination frequently display idiosyncratic and idiomatic meaning.

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There is clearly more to morphology than the mere analyzability of listed forms. Few linguists would question that there is a *productive* dimension to morphology as well: native speakers are capable of deriving novel though semantically compositional words on the structural pattern of familiar combinations of morphemes. This ability has generally been attributed to the speaker's command of the word formation rules (WFRs) - or as I refer to them here, the *morpholexical rules* - of his language. Since, from a structural standpoint, existing words so closely resemble possible words there is reason to believe that the rules of analysis are similar to the rules of synthesis or production. This claim is articulated in Aronoff:

> ... while the rules as rules of word formation are rules for generating forms, the same rules of word analysis can be viewed as redundancy rules... It is only a WFR which can serve as a redundancy rule, and WFRs are rules by which new words are formed. This means that the only sorts of facts which can count as redundancies or generalizations in the analysis of existing words are those which enter the formation of new ones. - 1976:31

This view can be simply illustrated with an example based on Aronoff (1976). We will assume that for a particular speaker the word 'actualize' is listed in his lexicon. This word is clearly segmentable into an adjectival stem 'actual' and a verbalizing suffix 'ize'. Knowledge of numerous similar constructions permits one, informally, to characterize the addition of this suffix as, a) changing the category of the adjectival stem into a verb, b) yielding a verb which means 'make ADJ'. For our imagined speaker, then, the word 'actualize' is analyzable: he himself does not create this word *ab novo* in the course of conversation. In contrast, the same speaker may well create the word 'communalize' to meet the exigencies of a particular communicative situation. The speaker can be understood to have produced this new verb. The crafted verb resembles the listed verb in certain obvious ways: 1) the verbalizing morpheme -ize is appended to an adjective; 2) the resultant verb means 'make ADJ'. In other words, the same conditions on morpheme com-

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bination, i.e. that -ize suffixes immediately to an adjectival stem, category alteration and meaning change, obtain in both instances. One could argue, accordingly, that the same rule is relevant for listed and spontaneously crafted forms while the sole difference consists in whether the rule is regarded as a means of analysis or a means of synthesis.

This position concerning the virtual identity of analytic and generative rules is resolved into a general condition on the well-formedness of complex words in Selkirk (1982):

> For every word of the language there must exist a *derivation* via the word structure of the language. - 1982:12

Several generative and lexicalist theories of morphology have been proposed. Many purport to conform to this desideratum. In languages with abundant agglutination the necessity for discovering principles of morpheme combination which serve the dual purposes of analysis and synthesis is of paramount importance. The desirability (and feasibility) of isolating such principles becomes apparent with reference to derivation in these languages. Collinder (1965) provides a representative example of complex derivation from Finnish:

> *pitkä* is 'long', *pitene-* 'become longer', *pidentä-* 'lengthen, make longer', *pidenty-* 'become longer, be dilated', *pidennyttä-* 'have something lengthened', *pidennyttele-* 'go on having something lengthened'; *-vä* is the suffix of the present participle; *-inen* stem for *-isen* means, among other things, 'inclined', and *-yys* stem form *-yyte* forms substantives denoting a quality, but thought of as not qualifying anything or anybody - abstracts. Thus *pidennyttelevä̈isyys* 'the inclination to go on having something lengthened' may be said to be a derivative of the eighth degree. 1965:50

We will see that similar phenomena can be adduced in the Ugric languages as well. On the assumption that there are isolable principles of morpheme combination how can these types of morphological regularity be represented? Despite disputes concerning the nature of the rules alleged to underlie word structures certain convergent theoretical assumptions

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appear in several recent lexicalist theories of morphology. It is primarily these commonalities which are the focus of attention here. After presenting the essential features of morphology operative in this study I will turn to an examination of how these features of morphology apply to several sorts of prefixal preverb + verb combinations.

2.3.1. Lexicalist Morphology

In several theories of lexicalist morphology affixes are regarded as lexical items with fairly familiar lexical entries. Derivational affixes are associated, when relevant, with; 1) a categorial specification - especially if they are category-changing derivational affixes; 2) a meaning; 3) an argument structure; 4) government specifications. All affixes - unlike free stems - are additionally associated with a subcategorizational frame determining the linear distribution of this element with respect to other morphemes. The subcategorizational frame of an affix is, in other words, equivalent to that aspect of a word-formation rule which satisfies the categorial co-occurence restrictions of morphemes. These properties of affixes can be illustrated with a simplified mini-lexicon of Hungarian.

Mini-Lexicon of Hungarian

Adjectives:	Affixes:
szép A 'beautiful'	-it V 'make ADJ <(SUBJ)(OBJ)> [A_]
vak A 'blind'	-Ul V 'become ADJ <(SUBJ)> [A_]
sárga A 'yellow'	

Verbs:

szépit V 'make beautiful <(SUBJ)(OBJ)>
szépül V 'become beautiful <(SUBJ)>'
vakit V 'make blind <(SUBJ)(OBJ)>'
vakul V 'get blind <(SUBJ)>'
sárgit[50] V 'yellow <(SUBJ)(OBJ)>'
sárgul V 'get yellow <(SUBJ)>'

The verbs in this lexicon are clearly analyzable as the combination of an adjective and a category changing suffix. The following is a sample derivation:

[50] The deletion of stem final vowels is a regular feature in this type of derivation.

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Sample Derivation

[vak]

[[vak] it]$_V$

[vakit]$_V$

The affix appears to determine various properties of the resultant verb: in particular, it determines the category, the meaning, and the lexical form of the derived word. For example, the Hungarian suffix *-it*; 1) alters the category of affected word from adjective to verb; 2) entails that the verb means 'make blind', 3) establishes the selectional requirements that the verb demands both a SUBJ and an OBJ complement.

The question naturally arises as to whether there are general and regular principles of derivation at work here. Several linguists have speculated that affixes are interpretable as the *head* of a construction. Williams (1981) suggests that "the head of a morphologically complex word is the rightmost member of that word." This has become known as the *Righthand Head Rule*.[51] *Percolation*, a general convention applicable to X bar structures at all levels of analysis, i.e. syntactic structure and word structure, insures that the features associated with a head become features associated with the derived word. Selkirk succinctly defines percolation as follows:[52]

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[51] A universal definition of headhood as contingent on leftward directionality of branching within the word has elicited justifiable criticism by other linguists (cf. Lieber (1980). It should be noted, however, that leftward directionality is relevant in Uralic since category changing and inflectional affixes in this family are suffixal. Cf. Selkirk (1981) for a revision of the RHR on the assumption that inflectional affixes are not heads.

[52] The symbol 'u' designates that a morpheme is unspecified for a particular value of some feature.

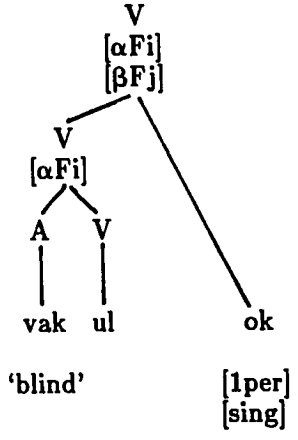
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Percolation

a. If a head has a feature specification [αFi], α ≠ u, its mother node must be specified [αFi], and vice versa.

b. If a nonhead has a feature specification [βFj], and the head has the feature specification [uFj], then the mother node must have the feature specification [βFj]. - 1981:76

Feature percolation of this sort, in effect, insures the existence of fully formed lexical items and explains how these lexical items become associated with the variety of information they bring with them into constituent structure. Percolation can be easily illustrated with an example from the Hungarian mini-lexicon,[53] namely, *vakulok* 'I am going blind'.



We can delineate the following paths of percolation: a) the derivational suffix *-ul* contributes all of its features - here represented by [αFi] - to the derived word, while b) the features unspecified by the head, namely, the morphosyntactic features of person and number are contributed by the alleged non-head *-ok* represented by [βFj].[54] The word created in this fashion consists of the complex lexical stem, e.g. *vakul*, and the morphosyntactic categories of tense and person/number.

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[53] I will assume for purposes of this demonstration that Hungarian word structure is restricted to binary branching trees although Selkirk speculates that multiply branching structures may exist in some languages. Cf. below for further discussion of this issue.

[54] The reader should note that certain features contributed by the stem such as, e.g. semantic selectional restrictions on the nature of the SUBJ argument, have been ignored here although they are clearly important.

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2.3.2. Prefixes

It has frequently been claimed that prefixes function less commonly as lexical formatives than other affixes.[55] Lieber (1980), however, cites certain instances in English (e.g. enslave) and German where prefixes appear to determine the categoriality of a complex lexical stem. Before presenting examples of this phenomenon I introduce Lieber's system of stem formation and category assignment via feature percolation.

On Lieber's account words consist of (complexes of) binary branching structures whose nodes are labeled in accordance with the following three[56] *percolation conventions*:

Percolation Conventions

Convention 1: all features of a stem morpheme including category features percolate to the first non-branching node dominating that morpheme.

Convention 2: all features of an affix morpheme including category features percolate to the first branching node dominating that morpheme.

Convention 3: if a branch node fails to obtain features by convention 2, features from the next lowest labled node are automatically percolated up to the unlabled branching node.

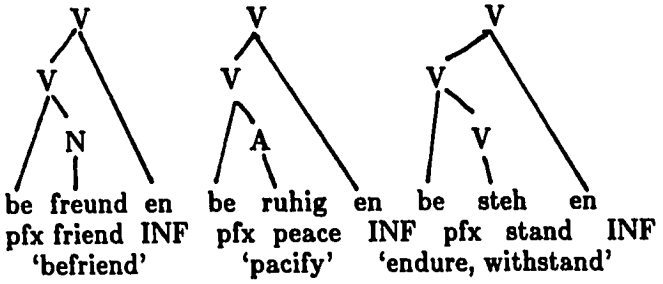
These properties of percolation can be illustrated with reference to German complex lexical verb stems consisting of an inseparable prefix and a simple A, N, or V stem.

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[55] This observation is presumably the basis of Williams' Right Hand Rule.

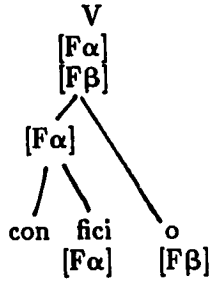
[56] Actually, there are four conventions but the fourth concerns compounding and will be reserved until the appropriate time. Cf. Chapter 6. The points of similarity between Lieber's and Selkirk's systems are greater than their divergencies. In particular, both regard affixes as lexical items with subcategorizational frames and both insist on the centrality of percolation. Perhaps the largest difference in these systems concerns the role of affixal subcategorization frames and category assignment. Selkirk likens the function of these frames to their syntactic congeners: they determine the placement of a morpheme in antecedantly formed tree structures. Lieber, in contrast, departs from the usual role of subcategorizational frames and permits the categorial classification of affixes to label (binary branching) trees in the manner described in the text.

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The effects of Lieber's percolation conventions can be seen by focusing on the complex verb 'befreund'. The nominal 'freund' labels the first non-branching node dominating it in accordance with convention 1. The prefix 'be', on the other hand, labels the first branching node dominating it. In order for this branching node to be assigned the category V the prefix itself must be associated with that category: the dominating, branching node inherits the categorial specification of the prefix. Finally, on Lieber's analysis, the INF(initival) suffix is associated with the category V and assigns this category to the first branching node which dominates it in accordance, once again, with convention 2.

The effect of Lieber's Convention 3 can be demontrated with reference to Latin prefixed verbs. On her interpretation a verb form such as *conficio* 'make, produce', has the following structural representation.

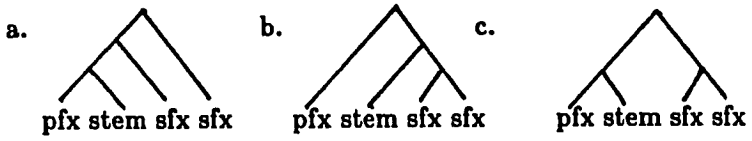


Latin prefixes are interpretable as ***categorially unspecified.*** As a consequence, categorial assignment to the first branching node dominating the prefix is accomplished by means of Convention 3: the categorial specification of the stem 'fici' determines the categorial status of the first branching node dominating both this stem and the categorially

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unspecified prefix.

Lieber observes that the analysis of Latin prefixed verbs raises a problem with respect to the postulation of a credible internal structure for these words. She proposes three logical possibilities for their analysis - given the restriction of binary branching.

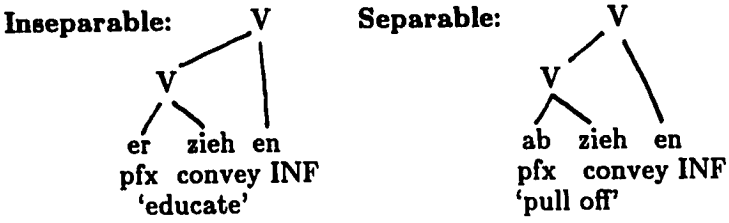


This issue will be addressed in detail later when we compare two recent proposals concerning this phenomenon presented in Pesetsky (1985) and Booij and Rubach (1984). For the moment it is sufficient to introduce the analytical possibilities and note that they have been suggested for unarguable instances of ordinary prefixation. That is, they are proposed for instances where there is indisputable phonological fusion between a prefix and a lexical verb stem: the *degree of fusion* between affix and stem is extremely intimate and eventuates in a single grammatical word with phonological integrity. The phenomena which are addressed in the present work, however, exhibit little phonological fusion between the entities which combine. Now, consequently, we arrive at the crux of our problem. Are there serious representational problems presented by separable preverbs? Or, does separability simply require commentary and the postulation of a parametric difference between predicates concerning degrees of phonological fusion?

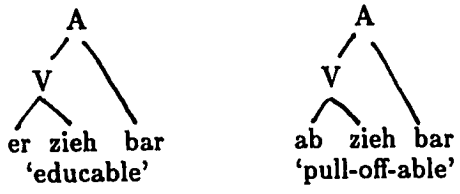
I will now demonstrate that from a purely grammatical perspective - that is, ignoring phonological effects - there is little reason to postulate different word-formation processes for complex lexical stems containing separable prefixes. The examples are, loosely, based on the analysis of German deverbal adjectives found in Lieber (1981). As we have already seen, certain inseparable prefixes of German are assumed to be categorially specified, according to Lieber, while Latin verbal prefixes are interpreted as categorially unspecified.

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The majority of German (in)separable prefixes are interpretable as categorially unspecified like the Latin prefixes mentioned earlier. On such an analysis prefixed verbs (whether separable or inseparable) based on the simple verb stem *ziehen* 'pull' exhibit the following internal structure[57]



The productive adjectivalizing suffix *-bar* applies to transitive verb stems yielding constructions as the following:[58]



The absence of any significant grammatical differences between complex lexical stems containing separable vs. inseparable prefixes suggests that a hypothesis claiming the necessity for essentially different representational schema for these constructions is unwarranted. I will assume, then, in the susbequent discussion of Ugric prefixal preverbs that these preverbs are morphological formatives. As formatives they are associated with subcategorization frames. This accounts for their restricted distribution: prefixal preverbs combine exclusively with verbal stems and when they appear as elements of non-verbal categories the relevant words are deverbal derivatives based on prefix + verb

[57] The reader should recall that there are stress differences between these complex constructions in German: the separable prefix recieves stress just like in lexical compounds while the stress is borne by the verb stem in complex constructions with inseparable prefixes.

[58] Similar examples can be adduced with other inseparable (*verziehen* 'pardon, forgive', *beziehen* 'enter, occupy') and separable (*anziehen* 'draw in, tighten') pairs.

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combinations.[59] These formatives differ from other formatives in that their combination with stems does not necessarily entail phonological fusion and consequent inseparability of the constitutive members of words.

The assumption being made here about the morphological constituency of separable preverb and verb stem is not universally accepted. For example Botha (1981) in a discussion of Afrikaans constructions similar to those in German argues that constructions such as *uit-sak-er* 'drop-out' cannot derive from the affixation of the agentive morpheme *-er* to a compound verb *uit-sak* 'drop-out': the verb cannot be compound, on his account, since such preverb and verb combinations "lack the internal cohesion of compounds." By this he means that elements can be interposed between the preverb and verb: these elements need not appear contiguous to one another in syntactic structure. On his account, the structure of the deverbal derivation is as follows $[PRT\ [V + er]]_N$. He concludes that Afrikaans has "no productive rule for forming deverbal compounds of the type, $[PRT + V]x]_N$." This is surely a curious situation for at least two reasons: 1) the collocational distribution of PRTs evidently extends only to verbs and their deverbal derivatives and; 2) the meaning similarities (compositional or idiomatic) between PRT + V combinations and $PRT + [V + x]_N$ combinations remain unexplained. Neither of these problems arise if the relevant PRTs (our, preverbs) are restricted to occur with V's and these combinations (or compounds) serve as bases for derivation. For Botha, however, this analysis remains inaccessible because it appears to be at variance with the No Phrase Constraint on word formation:

[59] The Latin, German, and Serbo-Croatian prefixes, similarly, co-occur solely with verb stems and their deverbal derivatives. They can be interpreted as categorially unspecified. The reader should recall that categorially specified prefixes in German (and presumably elsewhere) e.g. *ver-* and *be-*, can co-occur with nominal, adjectival, and verbal stems.

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No Phrase Constraint

Morphologically complex words cannot be formed by
(WFRs) on the basis of syntactic phrases - 1985:66

Since facts of syntactic interposition and syntactic separability suggest to him that PRTs and associated verbs cannot be lexical compounds their relation must be syntactic. If their relation is syntactic then they cannot serve as the base for derivation according to the No Phrase Constraint.

In effect, the analysis proposed in this dissertation agrees with the intuition behind the No Phrase Constraint: the derivations based on preverbs + verbs are, criterially, not based on *syntactic phrases.* The elements that combine are either sublexical (prefixal) or lexical (argumental) preverbs:[60] the constitutive elements of these compositions, in other words, are the standard elements of morphology. The existence of separable morphemes has, consequently, suggested that we entertain the notion of phrases, that is, lexical phrases in the lexicon. Preverb + verb combinations are common examples of such lexical phrases. To presume that they constitute bases for derivation does not violate the No Phrase Constraint as formulated above since the constitutive members of lexical phrases do not form syntactic phrases as these are ordinarily understood: the constitutive elements of such compositions are (generally) not maximal expansions of lexical categories.

The manner in which separable morphemes can be viewed is best illustrated by reinterpreting the (binary branching) trees presented earlier in terms of *labeled bracketing.*

It has been proposed by Pesetsky (1979) and Mohanan (1981) that after the concatenation of morphemes is accomplished a procedure called *bracket erasure* applies: this procedure eradicates the brackets between morphemes, making the internal composition of complex words opaque to phonological, syntactic and semantic rules. Bracket erasure, consequently, derives the Lexical Integrity Hypothesis: rules of grammar cannot isolate

[60] Cf. C. Weggelaar (1986) for a discussion of argument incorporation in Dutch.

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and operate on subportions of words.[61] The reader has seen, however, that the conception of word proposed in the present work is incompatible with the effects attributed to the LIH. This is hardly surprising since the motivation to return to the more traditional definition of words defended here arises from the widespread existence of phenomena incompatible with the assumptions of the LIH.[62] Since the LIH does seem to encode a tendency (which itself remains unexplained) for words to constitute inviolable islands I will assume that bracket erasure operates when the requisite effects of the LIH are demonstrable while *bracket retention*[63] operates when they are not. In addition, I will limit bracket retention to affixes (specifically, prefixes) co-ocurring with predicates. This means that there will be a parametric difference in predicate formation concerning the application of bracket erasure. A curious aspect of this parametric difference is its limitation to the domain of predicate formation.[64]

Previously, I mentioned that the prefixal verb systems of the languages cited in the text arise as a result of similar diachronic developments. I referred to the general process underlying this uniform development as *head-to-head attraction*: the head of an adpositional phrase dependent on a simple verb abandons its complement, coalesces with the simple verb, and the abandoned argument becomes a complement of the new complex verb. process is sometimes transparent.

The similarity in diachronic development of prefix systems irrespective of the (in)separability of the these derivational formatives is an arresting fact which requires more attention than it has received. We will see, in fact, that the *head-to-head attraction* attested in diachronic development displays clear reflexes in the synchronic analysis proposed below. In order to contextualize this proposal it is worthwhile reviewing a recent

[61] Cf. earlier in this chapter for formulations of this hypothesis.

[62] We will see in Chapter 6 that portions of word are not only separable as phonological units but they are isolable as syntactic and semantic units for purposes of modification and anaphoric antecedancy.

[63] Cf. Simpson (1983), and Komlosy & Ackerman (1983) for elaboration.

[64] In our discussion of Ugric prefixal verbs and derivatives it will become clear why this parameter is restricted to the class of predicates rather than specific categories. We will see that a combination of category and function is necessary here.

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proposal concerning the order of derivational vs. inflectional affixes and phonological boundary phenomena presented in Bybee (1985). This will help establish a descriptive backdrop for the comparison of modular morphology (Pesetsky (1985)) with a similar solution presented in Booij and Rubach (1984).

Bybee (1985) proposes that the commonly attested tendency for derivational affixes to appear closer to the stem than inflectional affixes is explained by a principle which she calls *relevance*.

> A meaning is relevant to another meaning if the semantic content of the first directly affects or modifies the semantic content of the second. - 1985:14

On her analysis, *relevance* is a matter of degree: the greater the extent to which a particular morpheme can be argued to affect the semantic content of another morpheme, the higher the alleged degree of relevance for the former morpheme. She suggests, for example, that morphemes which alter valence are, accordingly, more highly relevant than morphemes which simply register person/number properties of syntactic arguments. Since it is conventionally assumed that derivational morphemes - however difficult it is to distinguish them from inflectional morphemes - often entail semantic changes for simple lexical stems it is to be expected that these morphemes will appear closer to the stem than those engendering lesser effects. From our perspective Bybee's claim can be interpreted in the following manner: the more highly relevant morphemes combine with simple lexical stems to form complex derived and compound lexical stems.

We have seen, so far, that the presence of prefixes in Serbo-Croatian, Hungarian, Latin and German frequently display semantic changes that would motivate their inclusion into the class of 'highly relevant morphemes' on this account. But there is a paradox in Bybee's explanation. This becomes apparent when we see that Bybee attempts to associate *degree of relevance* to *degree of fusion*.[65] She proposes that the degree of

[65] I do not believe this paradox is diminished by the fact that Bybee hedges when she associates these two parameters. In her discussion of inflection she says, " If the meaning of an inflectional morpheme is highly relevant to the verb, then it will often be the case that their surface expression units will be highly fused, while the less relevant morphemes will have a looser association with the verb stem." (1985:53)

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phonological fusion traces a cline of the following sort (1985:13):

Degree of Fusion

lexical - derivation - inflectional - free grammatical - syntactic

On her analysis, elements toward the left of the scale fuse more tightly with stems than elements to their right.

The paradox, naturally, arises from the fact that separable prefixes as the most highly relevant morphemes show the least degree of (phonological) fusion. Bybee's analysis becomes problematic, one might argue, because she tacitly assumes something like the LIH: even if she sufficiently discriminates between the - let's say, three - different aspects of wordhood she too cavalierly assumes that strength of degree along different parameters will correlate neatly. Bybee's analysis leaves us with a vexing question: what is the relation between relevance and fusion? Undoubtedly, relevance is central to morphology while fusion is relevant to phonology but when we find the widely attested discrepencies between grammatical and phonological words found in separable preverb + verb combinations Bybee's analysis is no more informative than the LIH.

Although it is not my intention to resolve this paradox at this time, it might be suggested that the degree of fusion exhibited between morphemes is more profitably attributed to the relative degree of diachronic development associated with relevant derivational formatives than to *relevance*. This suggestion naturally raises the question as to the relation between phonological boundaries and diachrony.

Phonological boundary phenomena and degrees of fusion bewteen morphemes can be viewed historically in terms of the alteration of the type of boundary associated with particular morphemes. Hyman (1978) proposes the following taxonomy of boundary types and suggests that their hierarchical organization represents both a developmental

Though one might be motivated to hedge in this manner with inflectional morphemes which are in general less relevant than derivational morphemes the necessity to hedge with certain derivational morphemes and never to hedge with inflectional ones - as in German and Hungarian - invites suspicion.

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sequence and a gradient scale of fusion manifest between morphemes.

Boundary Alteration

// > ## > # > + > ∅

where: // = pause, ## = external word boundary, # = internal word boundary, + = morpheme boundary, ∅ = no boundary.

Given this array of boundary types, it is possible that certain constructions in certain languages will not exhibit the convergent properties characteristic of canonical words: discrepencies between the phonological and morphological aspects of these constructions may result from the assumption that phonology lags behind morphology in certain contexts. That is, whereas a complex lexical item may consist of prefixal preverb and a verb stem from a morphological perspective, the historical source of the affixal element, i.e. that it derives from an independent lexical category, is still reflected in its phonological behavior: the prefixal preverb is still an independent element from a phonological perspective. The preverb is located toward the left on the scale: this accords with its diachronic development and synchronic phonological behavior.

Having seen the basic representational conventions for morpheme combination and reviewed some foundational assumptions about morphology we can now inquire into how phrasal predicates can be treated within lexicalist morphology. For this purpose I turn to an appraisal of two recent attempts to address *bracketing paradoxes* - Pesetsky's analysis (1985) within what will be referred to as *modular morphology* and Booij and Rubach's (1984)[66] adaptation of lexical phonology. There is one grammatical phenomenon which both accounts attend to, namely, Slavic verbal prefixation so I will explicate the two treatments utilizing only this phenomenon. Pesetsky observes that his analysis of *jer lowering* for Russian resembles the proposal of Booij and Rubach for this phenomenon in Polish: I hope to demonstrate that where these analyses diverge from one another Booij

[66] Cf. also Rubach (1984), and Booij and Rubach (1987).

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and Rubach's is to be preferred.

Before turning to these treatments I present a typical example of a bracketing paradox which is the type of problem which the theoretical proposals have been constructed to address. The example employed is causative allomorph selection in Hungarian.[67] Causative allomorphy in this language is determined by the syllabicity of the verbal stem. The essential point is that the allomorph appropriate for concatenation with monosyllabic stems is selected when the monosyllabic verb stem co-ccurs with a preverb. The presence of the preverb is, consequently, irrelevant for the purpose of determining syllabicity.

Monsyllabic Stem: *-at-*

(21) (a.) ír 'write' ---> ir-at 'make write'

(b.) fel-ír 'prescribe' ---> fel-ir-at 'make prescribe'

Polysyllabic Stem: *-tat-*

(22) (a.) olvas 'read' ---> olvas-tat 'make read'

(b.) fel-olvas 'read aloud' ---> fel-olvas-tat 'make read aloud'

The causative morpheme *-Vt-* is selected in (21) because the verbal stem is monosyllabic: the PV in (21b.) is irrelevant for determining the syllabic structure of the verb for purposes of causative allomorphy selection. In (22) we encounter instances where the syllabicity of the verbal stem, once again, determines causative allomorphy: *-tat-* is selected in this instance because the verbal stem is polysyllabic. The presence of the PV in (22b.) is irrelevant for allomorphy selection. The paradox consists, then, in the fact that the basic verb stem and the causative morpheme appear to function as a constituent from the perspective of phonology while the PV and the basic verb stem appear to constitute a semantic and grammatical unit.

In summary, the classic cases of bracketing paradoxes are instances where there

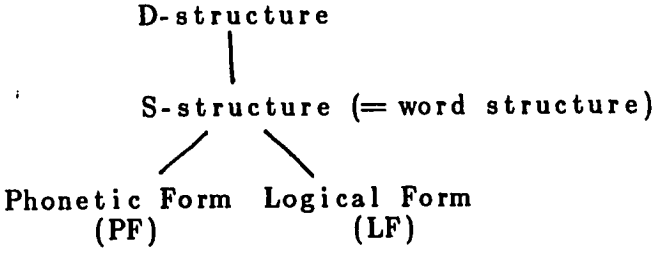
[67] Similar phenomena can be demonstrated for allomorphy selection in Vogul causative and reciprocal/reflexive verb formation.

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appears to be a discrepancy between the morpholexical and the phonological word. With this in mind, I turn to two proposals designed to address these discrepancies.

2.4. Modular Morphology

Pesetsky (1985) proposes a method for resolving certain irksome morphological bracketing paradoxes by apportioning the analysis of these forms to different modules of the grammar. I will refer to this treatment as modular morphology or MM. The essence of this proposal is that it extends common Goverment and Binding assumptions about the modular organization of syntax to the domain of morphology. That is, Pesetsky proposes that there is a parallelism between the analysis of clause structure and the analysis of word structure: given the familiar (GB) organization of grammar, as illustrated below, word structure is correlative to s-structure and s-structure is analyzable in terms of PF and LF.



The motivation for this proposal is to account for those instances when there appears to be a discrepancy between the phonological and semantic bracketings of words: the goal is to account for the type of *bracketing paradoxes* illustrated by the Hungarian causative forms cited in the previous section. The effect of this proposal is to provide multiple analyses of single structures in which each analysis exhibits the characteristic properties of either PF or LF.

One representative phenomenon which this proposal addresses is so-called *jer lowering* in Slavic.[68] Pesetsky observes that the correct distribution of vowel-zero alterations in

[68] I refer the reader to either Pesetsky's article or Booj and Rubach's article for the details of this

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Russian prefixed verbs can only be assured if prefixes are interpreted as the last morphemes to combine with verbal stems. However, the bracketing compatible with these phonological facts is at variance with the semantic complexion of these constructions: the prefix and verb root are justifiably interpreted as sisters from the viewpoint of semantic compositionality. The semantic bracketing, moreover, is clearly the structure utilized as a derivational base for further word-formation processes.

Pesetsky presents these conflicting structures and annotates the resultant paradox in the following manner:

PF	LF
[Prefix [Root + Suffix]]	[[Prefix + Root] Suffix]
undergoes the phonology	does not undergo the phonology
does not satisfy a semantic compositionality requirement	satisfies semantic compositionality

To repeat, Pesetksy contends that the bracketing proposed for PF, in which prefixes are sisters of complex stems, yields the correct forms from a phonological perspective. On the other hand, the late affixation of prefixes is incongruent with the semantics of the complex word form: the meaning of the form is derived from the combination of the prefix + root and therefore there should be some representation which conforms to the usual locality conditions of semantic composition. Since the relevant prefixes co-occur solely with verbs or within deverbal derivatives there should, additionally, be some way of representing the restricted subcategorizational requirements of p[refixes. The LF representation serves these latter requirements: the semantic compositional relation between the prefix and verb root as well as the categorial restriction on prefixation (c-selection) are relevant at this level of representation.

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phenomenon.

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On the basis of these and other similar examples Pesetsky proposes that bracketing paradoxes confirm the modular conception of grammar assumed in Government and Binding literature: the paradoxes dissolve when different properties of word structure are analyzed in the appropriate modules of the grammar. He offers the following hypotheses concerning the conditions on satisfaction at particular levels of representation:[69]

Level of Representation 1 (= PF)

1. prefix c-commands roots and suffixes
2. phonological restrictions on affixation are satisfied
3. phonological rules apply to this level's structure
4. logical scope relations are not necessarily given by c-command
5. does not necessarily satisfy semantic compositionality
6. c-selection is not satisfied
7. "positional" (noncategorial) aspects of subcategorization are satisfied

Level of Representation 2 (= LF)

1. suffixes c-command root and prefix
2. phonological restrictions on affixation are necessarily satisfied
3. phonological rules do not apply (apparently) to this level's structures
4. logical scope relations are given by c-command satisfied semantic compositionality
5. c-selection is satisfied
6. "positional" (noncategorial) aspects of subcategorization are satisfied

The mapping between these two levels of representation is achieved by the application of a rule called QR.[70] The resultant structures are as follows:[71]

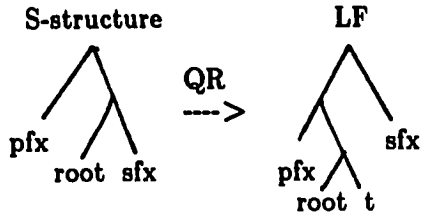
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[69] Pesetsky adopts the conventional assumption within lexicalist morphology that affixes are associated with subcategorization frames which conflate two types of information: they state the categorial status of the morpheme with which the affix can combine and they indicate where an affix is positioned with respect to this categorially specified morpheme.

[70] This is intended to express the analogy between sentential and word structure with respect to Logical Form since QR is alleged to be a distillation of properties associated with the familiar rule of Quantifier Raising in syntax. Cf. May (1985).

[71] For present purposes I will ignore issues relating to *traces* allegedly left by the operation of QR in word structure. There appears to be an assumption that S-structure is similar to PF while LF differs from both as a function of QR.

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Pesetsky suggests that QR applies cyclically as affixation applies in the construction of increasingly more complex words.

> ...As words are built up from the innermost root by successive concatenation of affixes... so the rules of phonology that apply within the lexicon will reapply in succession to each new domain created by the affixation - hence the cyclic effect.
>
> Cyclic application of rules and principles in LF can be derived in the same way. If LF is built up in tandem with affixation in the lexicon and LF principles of checking c-selection apply - like the phonological rules of the lexicon - each time a new morpheme is added to the representation, the cyclcity of c-selection follows immediately. 1985.

In summary, conflicts between semantico-morphological and phonological properties of words are attributed, in Modular Morphology, to complementary analyses at different levels of representation.

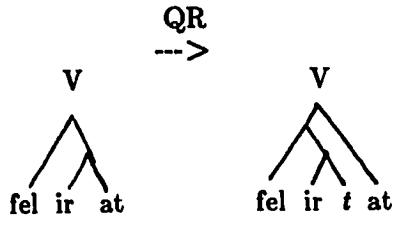
At this time I would like to focus on two aspects of this analysis: 1) how does this proposal relate to traditional conceptions of wordhood elucidated earlier?, 2) does this particular proposal introduce a new class of paradoxes?

It is worth emphasizing, I believe, that the phenomena analyzed as paradoxical here are puzzling precisely because they diverge from the putative canonical word as encoded in the LIH: the word, in the present instances, does not constitute a neat covergence of morphological, phonological, and semantic properties. Since Pesetsky's analysis is

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designed to treat incontestable - if problematic - complex words[72] the question arises as to its applicability to contestable complex words such as the phrasal predicates examined in the present study. Consider the following simple example of Hungarian causative formation cited earlier:

(23)



It should be apparent that Hungarian causative allomorphy selection can occur correctly in PF at the time when the verb form is monosyllabic. On the other hand, in LF, the PV and the V form a constituent which is c-commanded by the suffix *at* while the PV satisfies its c-selection requirement to adjoin a categorial V. If, in other words, Pesetsky's proposal works satisfactorily for the separable prefix + verb combinations in Hungarian or, more generally, for phrasal predicates - as, in great measure, I believe it does - this is, presumably, because these entities are as entitled to the status of words as constructions with inseparable components. The difference between these constructions concerns a single aspect of wordhood, namely, the phonological coalescence of constitutive morphemes.[73]

Modular Morphology might be understood as a theoretical formulation of the traditional multifaceted conception of wordhood reviewed several times in this study. By decomposing the unitary notion of word into an accumulation of contributory properties we left open the possibility of incongruence between any number of these factors. In traditional terms, incongruence is not paradoxical but was rather the source of speculation

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72 Nobody to my knowledge has argued that the prefix + verb combination in Slavic is anything but a word.

73 We will see that in this domain numerous inseparable prefixes resemble separable prefixes for diachronic reasons: on the account of Booij and Rubach, to be reviewed momentarily, both morphemes constitute *phonological words*. As examplars of *head-to-head attraction* prefixes originate from syntactically and phonologically independent entities. Their status as phonological words despite their nature as derivational affixes is a remnant of this diachronic process.

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concerning a multifaceted conception of wordhood: the ease with which Pesetsky dispells the alleged bracketing paradoxes attests, in my mind, to the correctness of these traditional views. The alleged paradoxes are, in other words, epiphenomenal: they stem from the prototype notion of word embodied by the LIH.

If the preceding remarks are correct, then Modular Morphology as presented is a translation of traditional views of wordhood into Government and Binding terminology.[74] Although in many respects this is an appealing treatment the guiding intuitions of this analysis can be addressed theoretically without adopting GB assumptions. In fact, the analysis provided by Booij and Rubach permits this option. But before reviewing their proposal I would like to a look a bit more closely at certain aspects of Modular Morphology. In particular, I would like to look at the construction of S-structure words and then at the well-formedness conditions on word structure imposed by the analysis of S-structure words at PF and LF. The question arises as to whether in resolving certain well-known paradoxes this proposal introduces some new ones. I will suggest that it may.

First of all, it should noted that the S-structure of words[75] more clearly reflects PF than LF: this is presumably a residual assumption of standard generative phonology according to which phonological boundaries were alleged to coincide with morpheme boundaries.[76] On the other hand, the discrepancy between s-structure and semantic bracketing is resolved by applying QR. This assumption is not surprising given the professed analogy between word structure and syntactic structure: LF is generally interpreted as derivative.[77] By this I mean that QR creates or reflects (depending on whether one

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[74] Naturally, it is also a translation that extends the scope of the basic principles of GB from syntactic structure to word structure. In this respect, it is an inventive and suggestive treatment.

[75] The S-structure postulated for words appears to have little independent motivation in Pesetsky's presentation: it seems to simply provide a structure which is checked against PF and LF constraints. We will see below that in certain instance it is difficult to know how Pesetsky derives his S-structures.

[76] Cf. Lehiste below for a statement of this assumption.

[77] It is difficult to know whether one should view the relations between levels of representation in a procedural or declarative manner. In any case, it is difficult to avoid procedural terminology. For my purposes, I do not believe it matters greatly if LF is understood as derived from S-structure via QR or whether one assumes a certain kind of simultaneity of structural levels which acts as a well-formedeness filter on prospective sentences.

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assumes a procedural or declarative approach to movement rules) structures which deviate from S-structure. In other words, there appears to be an implicit assumption that phonological aspects of words are, in some sense, primary while semantic aspects of words are, in some sense, derivative.[78] However, I have suggested several times that in the examination of wordhood phonological criteria are secondary and deserve a merely corroborative role in the determination of wordhood status. If this is correct one might expect that the implicit priority of phonological form in this analysis might prove problematic. There are certain grammatical phenomena that seem to indicate that this prognosis is borne out. I will now introduce these phenomena and then I will present Booij and Rubach's analysis: Booij and Rubach's analysis, basically, avoids these problems by assuming the essential independence of morphosemantic and phonological aspects of word structure.[79]

A potential problem of the following sort might arise for MM. If words are built from the root rightward with the last addition being prefixes then, if suffix selection is determined by the presence or absence of prefixes, the relevant S-structure would be indeterminate: suffixes could not be selected until prefixes were present, and by the time prefixes appeared it would be too late in the cycle to add suffixes. To avoid this situation morphology could overgenerate: suffixes could be selected irrespective of the presence or absence of prefixes and the principles associated with PF and LF would act as filters on the resultant combination of morphemes. Indeed, Pesetsky claims that overgeneration in morphology should be handled in the same manner as overgeneration in syntax: principles associated with various levels of representation are alleged to act as well-formedness conditions on syntactic structure as well as on word structure.

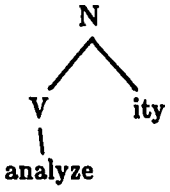
In his discussion of overgeneration Pesetsky focuses on how his proposal constrains the production of "morpheme salad" exemplified by **analyzitiable*. Given cyclic checking

[78] This is, perhaps, an unfortunate way to make the desired distinctions but it will become clear when we discuss Booij and Rubach's proposal that they appear to make opposite assumptions about the priority of structures.

[79] I am not claiming that MM cannot handle the problems presented in the text. Rather, problems like these, presently, seem to favor a Booij and Rubach analysis over the MM proposal as it is formulated.

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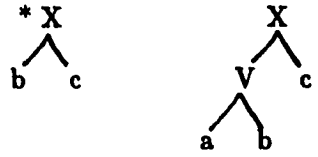
for the satisfaction of PF and LF demands on word structures, one can see that *analyziti-able* fails to satisfy c-selection on the first cycle since the suffix *-ity* must combine with an A(djective).



Pesetsky concentrates in this discussion on the categorial incompatibilities between contiguous morphemes. I would like to turn to a different sort of interaction between morphemes. This can be formulated as a question: how do words get formed in those instances when prefixation is predictive of suffixation? This can occur, in at least, two ways: the prefix determines the selection of allomorphy for some suffix, and/or the prefix as a valence changing marker circumscribes the set of suffixes (either derivational or inflectional) that can occur with the derived verb stem. I will briefly present examples which seem to be candidates for such ordering paradoxes: for allomorphy selection I present gerund formation in Sanskrit (separable prefixes and therefore phonological words), deverbal nominalization in Italian with *-mento*, perfective-imperfective pairing and deverbal nominalization in Russian based on non-syllabic verb roots, while for suffix selection constrained by prefix determined valence change I present adjective formation in Hungarian and definite agreement in Hungarian. I regard these phenomena as challenging for the following reason: it is not the case that MM produces incorrect forms - indeed, the order and categorial compatibility of morphemes in these instances is appropriate - but that it does not explain the creation of the correct ones. The phenomena examined below all share a single property: prefixation is predictive of suffixation.

The first type of problem concerns allomorphy selection. A schematic representation of these problematic structures is as follows:

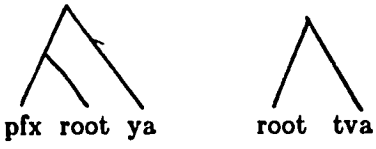
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In other words, these are instances, where the concatenation of a simple stem and a suffix is proscribed while the structure is apparently permitted when the stem is accompanied by a prefix.

Sanskrit as described by Whitney (1889) contains phrasal predicates similar to those in Hungarian. Whereas prefixes + verb stems constitute morpholexical units the separability of prefixes seems to suggest that these elements are less tightly fused phonologically than suffixes.

In Sanskrit there is suffixal allomorphy displayed in gerund formation. The two variants are *tva* and *ya*.[80] The conditions of allomorph selection are, roughly, that *tva* co-ocurs with simple verbal roots while *ya* co-occurs with verbal roots "compounded with a prepositional prefix." The selection of appropriate allomorphs is straightforward if at the time of selection the prefix is either present or absent. Since suffixes are more phonologically fused than prefixes one would assume that suffixes are sisters of roots from a phonological perspective and that prefixes are more phonologically independent. Consider the following examples below:



The obvious question that arises is how one constrains the other logical possibilities, namely, *ya* with unprefixed roots and *tva* with prefixed ones.[81] What rules out, in other

[80] I thank P. Kiparksy for apprising me of this phenomenon.

[81] It should be pointed out that although such exceptions do indeed occur the general tendency is as stated in the text. Cf. Whitney for discussion.

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words, structures of the following sort?:



This is clearly not a simple matter of satisfying categorial co-occurence restrictions: the allomorphs always appear adjacent to the requisite verbal category.[82] Instead this appears to be a matter of priority: a particular allomorph is selected because the prefix has antecedantly combined with a verbal root. The presence of the prefix determines the selection of the appropriate allomorph.[83]

In this instance, it is not the case that the assumptions of Modular Morphology yield an incorrect form but rather that they don't clearly explain the correct one. Let me elaborate. In Modular Morphology morphemes combine in word formation processes: cyclic application of relevant phonological and LF processes ensure the selection of appropriate allomorphs. In the present case, that would seem to mean that a root and a particular form of the gerundial morpheme combine. But, clearly, the correct allomorph can be selected only when the presence of the prefix is determined: one, apparently, needs LF structure in order to determine the proper allomorphy. The question arises as to why a potentially unacceptable structure is preserved until we know whether a preverb is added: why do we preserve root + ya until the prefix is added? If the presence of a particular suffix is sanctioned only by the presence of a prefix then the most straightforward way to select the appropriate suffix would be to assume the prior presence of the prefix rather to

---

[82] It is, perhaps, also worth noting that there does not seem to be a reliable semantic criterion to account for this distribution. In other words, it would be difficult to justify an account which claims that a semantic property of the concatenation is violated here. A semantic criterion, might, be invoked however, in the Russian examples presented below.

[83] According to Whitney it would be incorrect to assume that the mere presence of a syllable preceding the verbal stem is sufficent to elicit this behavior since the addition of the negative prefix does not establish the same type of allomorphy determination as that with preverbs. The allomorphy rule, in other words, seems sensitive to the derivational status of the preverbs. The class of preverbs, incidentally, resembles the Hungarian class in its categorial heterogeneity and historical origins.

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postpone judging the appropriateness of a given suffix until a prefix is added. The application of QR after a prefix is added appears to be a roundabout way of insuring the selection of the correct suffixes. As mentioned earlier, it is not my intention to provide potential MM solutions to the data which follow but rather to point to potential problems.[84] I present two other similar examples from Italian and Russian.

Scalise (1985) observes that the presence of the Italian nominalizing suffix *-mento* exhibits a restricted distribution. Consider the following forms:

cogliere --> * coglimento 'gather'
accogliere --> accoglimento 'welcome --> (a) welcome'

mostrare --> * mostramento 'show'
dimostrare --> dimostramento 'demonstrate --> demonstration'

forare --> * foramento 'make a hole'
perforare --> perforamento 'perforate --> perforation'

Scalise comments that prefixes in these and similar instances can be interpreted as *potentiating* the presence of a suffix.[85] In this instance, as in the Sanskrit examples, it is not obvious that appeal to either semantic or phonological considerations can explain the evident restriction on the selection of this suffix.

Russian imperfective verbs are productively formed by the suffixation of *-yva-* or *-iva-* to to (perfective) prefixed verbal stems where the prefix has altered the lexical meaning of the simple stem. This process is illustrated by the following pairs of verbs based on *pisat'*.[86]

---

[84] One could imagine, for example, that some rule might check structures at LF. In the given instance the the only permitted structures would be those in which *ya* appears with prefixed verbs and *tva* with simple one unless otherwise specified as exceptions. The gerundial allomorphs might be associated with information requiring that prefixes are either present or absent. In a similar vein, allomorphy selection might be relegated to PF: a morpheme would be selected at S-structure but its final form would be determined at PF by the presence or absence of a prefix.

[85] Cf. Williams (1981) for the concept of potentiation in morphology.

[86] The examples are taken from Pulkina et. al. page 308.

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pere-pisat' PERF 'copy' -----> pere-pisyvat' IMP
nad-pisat' PERF 'dedicate' -----> nad-pisyvat' IMP
o-pisat' PERF'describe' -----> o-pisyvat' IMP

For phenomena such as these there appears to be little question that the lexical (or semantic) unit consisting of the prefix and the verb is criterial for formation of imperfective verbs. In these examples, unlike those in Italian and Sanskrit, one might claim that a semantic selectional requirement is at issue. In particular, one might argue that the IMP allomorph only suffixes to stems with the feature [+PERF]. Even on such an interpretation, it is difficult to see why the semantic selectional requirement, which on Pesetsky's account is applied cyclically, is deferred in these instances until the second cycle: it is difficult to see, in other words, why the unacceptable form *pisyvat'* is preserved until the addition of the prefix adds the requisite aspectual feature.

In Russian, once again, nonsyllabic verbal roots which participate in abstract nominal formation contain a *mobile* or *grammatically conditioned* vowel. The typical nominalizing suffixes in this instance are *zero* and *-ka-*. There is a marked tendency for these types of derivations to be based on prefixed verbs: whereas the syllabic variant of the simple verb stem does not occur as a derived form, the prefixed form of the same verbal root does.[87] This is illustrated below:

brat' 'take' ---> * bor
vy-brat' 'choose' ---> vybor 'choice'

slat' 'send' ---> * syl
poslat' 'send' ---> posylka 'package'

naperet' 'press' ---> napor 'pressure'

In these examples, once again, there appears to be a relation between the presence of a prefix and the possible presence of certain suffixes.

[87] There are exceptions to this tendency such as *šov* 'seam' and *zov* 'call'.

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The second sorts of phenomena to be examined are instances where the presence of a prefix alters the valence of the root lexeme and thereby circumscribes the class of candidate suffixes which can appear with the prefix + verb composition. First, I illustrate with derivational suffixes and then I turn to inflectional suffixes.

Consider the following Hungarian verbs:

hat V 'influence, exert an influence on <(SUBJ), (OBJ)>'
$OBL_{case} = SUB$

meg-hat V' 'move, touch <(SUBJ), (OBJ)>

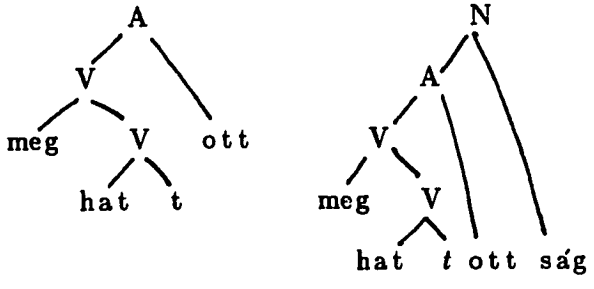
Whereas the simple verb cannot serve as a base for adjectivalization with the past tense form *-Vtt-* the complex verb can:

* hatott 'influenced' vs. meg-hatott 'moved, touched'

Expectedly, whereas the unacceptable derived adjective cannot serve as a base for further derivation the acceptable derived adjective can:

* hatottság 'influencedness' vs. meg-hatottság 'emotion'

We can, presumably, construct the acceptable forms in the following manner:



The scope of the adjectivalizing suffix in the preceding diagram correctly contains a semantic unit consisting of the (separable) preverb *meg* and the verb stem *hat*. However, the adjectival form based on the simple stem is unacceptable so that it is not immediately

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evident why the first stage in the derivation is preserved. This problem concerning the directionality of prediction for appropriate morphemes becomes even more evident when we examine constraints on suffixal verbal inflection.

In Hungarian there is a special verbal paradigm which serves to designate definite OBJs.[88] In the previous example we have seen that the prefixal preverb *meg* appears to alter the transitivity of the simple verb stem: *meghat* is a transitive verb whereas *hat* alone requires an OBL argument. The morphemes contained in the so-called OBJECTIVE paradigm can only appear with transitive verb forms. Consequently, we find the following distribution of the, e.g., 3sg DEF morpheme *-ja*:

(24)(a.) meg + hat + ja
PV influence 3sg/DEF

(b.) * hat + ja
influence 3sg/DEF

Now, the question obviously arises as to how to generate the form in (24a.) given the impossibility of the form in (24b.). Let us assume that inflectional forms from the OBJECTIVE paradgm are subcategorized to co-occur only with [+transitive] forms. This would outlaw the form found in (24b.) since it is intransitive while it would permit the form found in (24a.) since it is transitive. However, since only the form with the preverb is transitive it would appear to be the case that the placement of the suffix should occur only after the placement of the preverb. As with the derivation of Russian, one might appeal here to semantic selection satisfied on LF: the DEF markers only combine with [+TRANS] verbs. But here too the relevant semantic property is only available on the second cycle after requirements of LF should have ruled out, e.g. *hat+ja*. An obvious way to resolve this problem would be to claim that whereas c-satisfaction in LF is cyclic, other instances of semantic satisfaction are satisfied post-cyclically. The tenability of such a suggestion aside we are faced here, once again, with an example where the presence of a preverb appears to be predictive of suffixation while the reverse is not true.

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[88] Chapter 2 for elaboration of OBJECTIVE conjugation in Ugric.

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In conclusion, there appears to be no paucity of examples in which the presence of a prefix is predictive of the suffixal morphemes which figure in complex words. Additionally, in several instances, Pesetsky's derived semantic constituent, i.e. the prefix + verb, appears, paradoxically, to determine the morphological composition of the structure from which it itself derives.

I turn now to a discussion of Booij and Rubach's proposal. We will see that this analysis both avoids these derivational problems and more clearly delineates the factors contributing to alleged bracketing conflicts.

2.5. Level Ordered Morphology

Rubach (1984) proposes a revision of Lexical Phonology. The organization of standard LP is presented in diagram 1 while Rubach's revision is presented in diagram 2.[89]

Alternative Proposals for Lexical Phonology	
Diagram 1 (Standard)	**Diagram 2 (Revised)**
list of lexical entries	list of lexical entries
WFRs and cyclic rules	WFRs
words	words
postcyclic rules	cyclic rules
phonetic representation	postcyclic rules
	phonetic representation

These two proposals differ, primarily, in whether cyclic rules are assumed to apply during the process of word formation: on the standard account phonological rules are interspersed with WFRs while on the revised account they apply upon the completion of morphological composition processes. Pesetsky's analysis, as mentioned previously, assumes a more or less standard account: both phonological and semantic operations apply in a

[89] Cf. Rubach 1984:19-20

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strict cyclic fashion to a morphological structure. Rubach (1984) and Booij and Rubach (1984), however, adopt the revised view: the morphological component creates a word with a particular bracketing. Crucially, this morphological bracketing corresponds to the semantic bracketing of the complex word. The morphological word is, subsequently, analyzed phonologically. The phonological analysis may differ from the bracketing motivated for morphological composition. That is, this view represents a departure from standard assumptions within generative phonology concerning the basic convergence of morphological and phonological boundaries. As we have seen, this is an assumption still preserved (covertly) in Pesetsky's account: PF is more closely allied with s-structure than is LF.[90]

The revised view is the position presented here and the position which will be accepted in all subsequent discussion. It will be supplemented, however, with certain syntactic and diachronic considerations. In particular, I will suggest that the lexical entities created in this manner are placed in constituent structure by a rule of lexical insertion which is sensitive to phonological wordhood: in languages with separable preverbs which, consequently contain a V' lexical category, lexical insertion may effect lexical discontinuities, i.e. constitutive members of words are separable in c-structure. Finally, from a diachronic perspective, Booij and Rubach's hypothesis of phonological wordhood for certain morphemes will be interpreted as the historical remnant of compounding: in particular, prefixal preverbs - although affixes from a synchronic perspective - generally, originate from the compounding of a lexical category with a verbal stem. I turn now to a presentation of this revised version of level ordered morphology.

In Booij and Rubach (1984) a discrepancy between the morphological and phonological aspects of (verbal) prefixation in Polish is addressed.[91] Their proposal addresses *jer lowering* in Polish which in all relevant respects resembles *yer lowering* in Russian. In

[90] Cf. the discussion of s-structure in MM in the previous section.

[91] Although other phenomena are also discussed I will limit myself to this phenomenon in order to facilitate comparison with Pesestky's account.

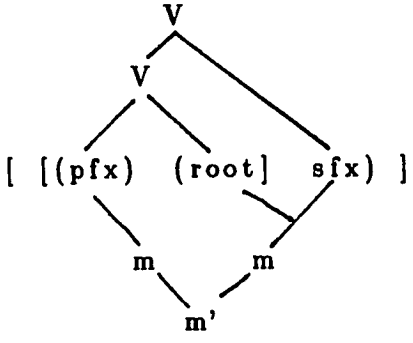
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other words, they analyze a familiar bracketing paradox. Booij and Rubach contend that Polish prefixes - despite their inseparability - should be interpreted as phonological words. They suggest that morphological word formation rules create an entity with one bracketing and that this entity may manifest an alternative bracketing for purposes of the formation of a phonological phrase.

> Prosodically, a prefix and a stem form a compound together (a *mot prime* which is abbreviated *m'*) in precisely the same manner as structures such as *zielono-czarny* 'green and black' do. The difference is solely morphological: *zielono-czarny* and the like are compounds also from the morphological point of view while prefix plus verb stem structures are not (prefixes are not lexical categories.)... The erection of *m'* must follow the WFRs which add inflectional endings and these are the last ordered WFRs in a derivation. - 1984:227

Booij and Rubach address discrepencies in boundary phenomena by proposing that the lexicon may contain such alternatively bracketed entities as the following[92]:

Grammatical Word



Phonological Word

Rubach summarizes these views concerning the dual nature of prefixes as follows:

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[92] The square brackets indicate morphological constituency while the parentheses indicate phonological constituency.

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> Observe that prefixes are phonological but not morphological words. Consequently, from the point of view of WFRs they are morphemes while from the point of view of phonological rules they are words. In this way we can reconcile the conflicting requirements of a correct morphological derivation (prefixes need to be added in earlier cyclic rules) and a correct phonological derivation (prefixes are processed phonologically after all the suffixes have been derived phonologically.) - 1984:228

On this analysis, the subcategorization demands of prefixes are satisfied morphologically on the first cycle. This morphological composition reflects, additionally, the semantic unity of the constituent represented by the prefix and the verbal root. The observation within MM that suffixes c-command (prefixed) verbs follows straightforwardly, on the present account, from the hypothesis that suffixation applies after prefixation. This also derives the restricted distribution of prefixes which are observed to appear solely with categorial Vs: deverbal derivation is based on the morphological constituent consisting of the prefix and V. The fact that certain suffixes are illicit with simple verb stems and permitted with prefixed verb stems,[93] similarly, follows since the verb (either simple or prefixed) constitutes the conditioning environment for the selection of suffixes: the potential presence or absence of certain suffixes is, in this manner, explained by the prior presence or absence of prefixes in the verbal base to which suffixes attach.

Booij and Rubach explicitly address the phonological aspects of these morphological structures. Prefix + verb combinations are assumed to resemble compounds from a phonological perspective: both the prefix and the verbal stem (plus its suffixes) are interpreted as phonological words.

The intuition concerning the double life of compound members was advanced for Estonian in Lehiste (1964) as well. After arguing for simultaneous but discrepant morphological and phonological accounts of (compound) words she laments the absence of

[93] Cf. the phenomena employed to illustrate ordering paradoxes in the previous section.

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such an analytic option in the traditional literature and in the literature spawned by tradition:

> Trubetskoy distinguished two types of languages: those which signal phonologically morpheme boundaries, and those which signal word boundaries. In recent transformational analysis, phonological boundaries are expressly permitted and expected at morphological boundaries. The possible existence of phonological boundaries that do not coincide with morphological boundaries appears to be left out of consideration, and by inference my be considered irrelevant to the description. - 1964:307

In general, compound structures appear to represent a domain in which morphological and phonological structure displays certain discrepancies. The delimitation of a single domain in which such discrepancies appear to occur suggests the possibility that the deviations observed between morphological and phonological structure may be principled. The phonological wordhood of prefixes is, perhaps, a remnant of their diachronic development from independent words, i.e. from an antecedent stage at which the relevant verbal constructions were clearly compounds.[94]

In summary the present analysis, like MM, provides a means of factoring out the component elements of wordhood considered in traditional views of this notion: it provides a means of isolating phonological characteristics of words from morphological characteristics of words. It also delimits a domain in which such discrepency occurs: compounding. The historical evidence - from numerous preverbal systems around the world - for the original compound status of prefixed verbs is patent. This explains why prefixal elements exhibit the phonological behavior characteristic for members of compounds.

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[94] Whether all discrepancies can be similarly motivated is obviously an empirical question. However, it is quite striking that one is continually confronted with structural discord of this type in the analysis of complex verbs. Although discussion is limited here to complex verbs with prefixal preverbs we will see in Chapter 6 that complex verbs with argumental preverbs represent canonical instances of verbal compounding.

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The analysis proposed for Polish inseparable verbal prefixes is applicable, I believe, to languages where preverbs are separable from their verbal stems. In the latter instance, we are confronted with the maximal case of phonological independence for components of morphologically unitary entities. On this analysis the difference between prefixation in Polish and Hungarian is even smaller than originally supposed: in both languages the prefixes are interpretable as phonological words. Hungarian differs in that phonological independence still correlates with syntactic independence.

The reader should recall that Ugric preverb + verb constructions are analyzed as V' constituents in the present work.[95] This was referred to in Chapter 1 as a *lexical phrase*. This phrase coincides with the prosodic phrase or *m'* postulated by B & R. The central difference between e.g. Polish and Hungarian, can be reformulated in the following manner with this conception of phrase in view: the lexical phrase in Hungarian predicates corresponds to a prosodic phrase whose constitutive pieces are separable in syntax while the prefixed verb in e.g. Polish, corresponds to a prosodic phrase whose constitutive components exhibit phonological fusion.

It should be recalled that the development of prefixal preverbs in Ugric reflects the common cross-linguistic profile of this development: prefixal preverbs originally were and, in certain instances, still are clearly related to lexical elements which can be interpreted as compounding with the verb: derivation by prefixation is rare in Uralic, as mentioned in Chapter 2, and a likely source of these derivations is the common head final compounding strategy found in these languages.

The utility of assuming that complex predicates in this language are phonological compounds is manifest in the operation of vowel harmony in Hungarian: the domain of vowel harmony, as mentioned in Chapter 2, is the phonological word.

Adapting the proposal of Booij and Rubach to phrasal predicates we arrive at the

[95] Cf. Komolosy and Ackerman (1983).

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following conception of the lexicon in Ugric. Prefixal preverbs are prefixes with the subcategorization requirement that they concatenate with a categorial V. The result of such concatenation is a lexical V' with its own lexical entry. This lexical V' corresponds, phonologically, to an M' prosodic constituent. The rule of lexical insertion is sensitive to the categorial designation V' and can effect constituent discontinuities between members of V's in c-structure.

I assume that the separability of preverbs and verbs is a parametric difference between languages. For example, Polish does not have a V' constituent although its prefixal verbs are analyzable as M's while Hungarian has both a V' and n M' with similar phonological constituency to that found in Polish. The differences, between Polish and Hungarian prefixed verbs, on this account, are thus reduced to a minimal difference concerning separability.

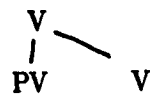
3. Ugric Prefixal Preverbs

In this section I turn to an examination of several different types of Ugric prefixal preverb + verb constructions. These are basically viewed from two perspectives. First of all, I look at the variety of ways in which the lexical form of a simple lexical stem is altered by the presence of a prefix. That is, I demonstrate the types of effect on lexical information that are engendered by or correlative with the presence of prefixal preverbs. Second, I discuss instances where prefixal preverb + verb stems appear to serve as bases for the operation of additional derivational processes - both those that maintain category but alter some feature such as transitivity which is associated with the meaning of the (complex) base and those that entail category change. In general, this aspect of the analysis demonstrates that phrasal verbs *feed* the lexical process of stem derivation. This interaction between phrasal verbs and derivation constitutes strong support for analyzing the former as lexical entities: if syntactic structures are proscribed from feeding lexical processes - as they are in lexicalist theories - then deverbal derivatives formed from complex verbal bases suggest a lexical provenance for the complex verbal bases.

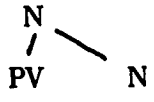
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The reader should note that the schematic rule combining prefixal preverbs with verbs stems is straightforward. The preverb, as an affix, is associated with a subcategorization frame which insures that it only concatenates with a verb stem. This permits structure (25a.) and prohibits structure (25b.):

(25a.)

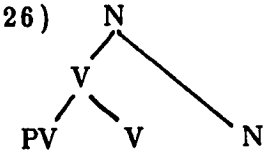


(b.) *



We will see as we progress that the proscription against structures such as (25b.) requires closer analysis of the internal structure of the nominal category. In fact, preverbs can occur within non-verbal categories when these are deverbal derivatives with the following structure:

(26)



In summary, the content of this section can be interpreted as addressing the two issues represented by the structures in (25a.) and (26). First of all, although the general rule of morpheme combination is simple the actual instantiation of this rule is quite complicated: subcategorization underdetermines the true possibilities for concatenation between particular (classes of) preverbs and particular (classes of) verbs. Our first task, then, is to isolate certain properties of prefixes and verb stems which facilitate concatenation and then to discuss the types of combinations that occur. The second issue I examine concerns the derivation of words based on preverb + verb combinations.

3.1. Prefix + Verb

I have claimed that prefixal preverbs are affixes associated with subcategorization frames which restrict their distribution: they only concatenate with verb stems. Having

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said this, however, I have hardly said enough since the reader is, perhaps, left with the erroneous impression that any prefixal preverb can combine with any verb stem. This is false. An illuminating way to convey the manner in which this is false it to view these constructions from the perspective of language acquisition.

As mentioned earlier, Slavic languages tend to exhibit verb pairing for discriminating aspectual distinctions: it is common for prefixed members of such pairs to convey perfective aspect and simple stems to convey imperfective aspect. M. Smocynska (1981) makes a remarkable observation in connection with these distinctions: she found almost errorless employment of verbal prefixation in the early speech of Polish twins. There are two possible interpretations of this observation: 1) children always utilize some prefixed verb form when the adult grammar demands one, 2) children always utilize the same prefixed verb form as required in the adult grammar. It turns out that her claim is restricted to the first interpretation: children appear to be sensitive to the tendency for prefixed forms to designate perfective aspect and use a prefixed form when a perfective form is required. In other words, they appear sensitive to the subcategorizational properties and aspectual effects of prefixes: any single element from a collection of preverbal elements can concatenate with the verbal stem and convey perfective aspect. On the other hand, they are considerably slower in acquiring knowledge as to which particular (classes of) prefixes can cooccur with particular (classes of) verbs. In other words, it is a more difficult task to isolate the semantics associated with individual prefixes as well as the constructional semantics appropriate to prefix and verb combinations.[96]

[96] I am ignoring here the vast number of idiosyncratic prefix and verb combinations which must also be acquired. It should, perhaps, also be mentioned at this juncture that the acquisitional task posed by this aspect of preverbs is a recurrent one cross-linguistically. The similar origins of preverbal systems in genetically unrelated languages clearly raises the question as to the cognitive dimensions of this phenomenon. In particular, such coincident origins for the preverbal systems in unrelated languages forces one to confront the relation between cognitive categories and grammar. The universality attested in the development of preverbal systems intimates a cognitive predisposition to grammaticize certain relations in similar ways. This, in turn, may be advantageous from the perspective of acquiring the relevant pieces of grammmar. This type of relation between grammar and acquisition is markedly different from the appeals to acquisition that recur in generative theory: I am suggesting that the types of constructions which acquisitionists should attend to are those that show arresting convergence in different languages. The explanation of such convergence is most likely a cognitive one: this is rich field of empirical inquiry.

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Bowerman (1981) addresses the issue raised by restrictions on the distribution of certain morphemes from the perspective of Whorf's analysis of grammatical categories. To establish the relevance of this enterprise it is necessary to restate the similarities between e.g. the Polish and Hungarian prefixal systems.[97] In both languages we find perfectly lawful concatenations of prefix and verb from a categorial perspective which yield anamolous complex verbs: for both languages, then, we must inquire as to the principles beyond subcategorization that explain the combinability of prefixes and verbs. Since there is little motivation for seeking such explanation in overt indicators such as phonological cues, inquiry has been directed toward covert categories.

According to Whorf (1965) languages contain both overt or *phenotypic* and covert or *cryptotypic* categories. An overt category is understood as a notional discrimination which is signaled by a surface indicator of this category. For example, the notion of plurality is variously expressed in English nominals by the presence of the regular plural morpheme *-s*, in, e.g. *squid-s* or by ablaut, in, e.g. *geese*. Overt categories definitionally demand the presence of some surface expression(s). In contrast, a covert category is understood as a notional discrimination for which no surface marker can be determined. On Whorf's interpretation, the existence of covert categories is revealed by the (im)possibility of the co-occurence of certain surface expressions with one another. He

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[97] It is, perhaps, worthy of note that diarists studying the acquisition of Hungarian observe that, at an early age, children tend to treat prefixes as inseparable from verb stems: in contexts of obligatory separation in the adult grammar the children tend to preserve the sequence PV + V. This perhaps testifies to a predisposition to assume something like the LIH: pieces of entities perceived as lexical units are expected to exhibit phonological integrity. This predisposition may account for the tendency toward "univerbation" mentioned several times in the present work The perceived "closeness" of Hungarian prefixes (and more generally, preverbs) to verb stems has been examined in an experimental setting in Pleh, Komlosy and Ackerman (1984, in press)).

There is another interesting phenomenon associated with the Hungarian child's early use of prefixal preverbs. According to Zsolt (1981) at an early period of development (1;6-2) during which children utter polysyllabic words there is a pronounced tendency to utilize the prefixal preverb and omit the associated verbal stem. For example, the child tends to use a prefix such as *el* in contexts where it is only appropriate to use an entire complex verb such as *el-tünik* 'disappear'. For this example, provided by Zsolt, the simple verb generally means 'seem' so that the child presumably has the complex verb in mind when the sentence he utters appears to signify the disappearance of something. This strategy - whereby the preverb *stands for* the verbal unit - is, it should be recalled, an option in the adult grammar for yes-no questions and 'gapping'.

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refers to such co-occurence patterns as the *reactances* of covert categories. He illustrates this concept with restrictions on the distribution of "reversative" *un-* prefixation in English: the isolation of a covert verbal category designating "covering, closing, surface attaching" is, on this account, implicated by the acceptability of such verbs as *unbutton, untangle, uncover* in contrast with the unacceptability of such verbs as **unbreak, *unthrow, *unhear.*

Bowerman suggests that in three different domains - reversative un-prefixation, semantic extension from spatial to temporal notions, and a uniform underlying notion of instrumentalization - one finds evidence for the existence of covert categories: the child, presumably, must isolate such categories in order to achieve adult command of English grammar. For example, Bowerman notes that instrumentalization may be an underlyingly unitary concept: the instrumental argument encoded by the preposition *with* is cognitively similar to the instrumental clause encoded by *by.* She produces evidence attesting to the uniform use of *with* for both types of arguments by English children in the early stages of acquisition. This is followed by the misapplication of *by* to instrumental arguments despite early former mastery of *with* in these contexts. This early impulse to treat instrumental arguments and clauses identically is grammaticallly inappropriate in English but entirely appropriate in Hungarian: in the latter language both these structures utilize the instrumental case *-val/vel.*[98] The grammatical encoding of these presumable cognitive distinctions will be adressed below when I propose a *generalized grammaticality condition on semantic representation.* For the moment, the reader is encouraged to focus on the subtlety of the distinctions the child is required to isolate: the child must, presumably,

[98] It is common for child language reseachers in generative grammar to begin their studies with claims about the subtlety of the phenomena to investigated. The subtlety of these phenomena is used as an argument against claims that such phenomena are learned: since they are so subtle they cannot be learned and therefore must be innate. The subtlety of the present phenomena is irrefutable and Bowerman demonstrates that the relevant categories are achieved by succesive approximation. This raises the plausible question as to whether more sophisticated learning theories could account for the subtle syntactic phenomena which are allegedly unlearnable. It is, undoubtedly, a purely empirical problem to determine how much of acquisition is attributable to learning mechanisms. Given a detailed account of such postulated mechanisms, the residue of unanswered questions could be accounted for, in last resort, by appealing to innate predispositions. Cf. Schlesinger (1982) for similar speculation concerning the acquisition of grammar.

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become sensitive to the reactances between overt categories since they are the most instructive means for determining the covert categories of a language.

On several occasions I have mentioned that prefixal preverbs are polyfunctional. This polyfunctionality has two aspects. It is commonly the case that a single prefixal preverb serves multiple functions simultaneously, for example, an indication of both directionality and perfectivity. On the other hand, the same prefixal preverb[99] may be associated with a wide range of meanings: sometimes it may manifest a merely idiosyncratic (if motivated) meaning in its combinations with individual verb stems and sometimes it may assume specific senses in combination with particular (classes of) verbs.

Once again, the characterization of the Sanskrit preverbs found in Whitney is quite appropriate for the situation observed in Ugric. After presenting a list of common preverbs he remarks:

> Some of these, of course, are used much more widely and frequently than others... The meanings given above are only the leading ones. In combinations of root and prefix they undergo much modification, both literal and figurative - yet seldom in such a way that the steps of transition from the fundamental sense are not easy to trace. Sometimes, indeed, the value of the root is hardly perceptibly modified by the addition of the prefix. - 1889:396

The problem of the linguist in this domain is quite similar to the task of the child as illustrated in the preceding passages: clues for determining the underlying meanings of prefixal preverbs and verbs are presented, primarily, in terms of reactances.

In the following section I present several types of prefixal preverb + verb combinations. I have chosen the clearest examples for expediency. The reader should keep in mind throughout that the presentation represents an instructive simplification. First I present an assortment of common effects exerted on lexical information by the the presence of

[99] This, naturally, can be phrased alternatively in terms of homonymous prefixes if one is so inclined.

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prefixal preverbs. Then I turn to an examination of three classes of combination: 1) prefixal preverbs designating directionality in combination with verbs of motion, 2) a process I will refer to as *group predicate formation* with the prefix *össze*, and, 3) *causal predicate formation* with certain intransitive verb stems and the prefix *bele*.

3.2. Effects on Lexical Information: Hungarian

The preceding discussion has illustrated that argument taking predicates are associated with a meaning, a specific number of arguments, that these arguments are assigned GFs, and that these GFs are associated with particular case government patterns i.e the argument taking predicate circumscribes the (set of) candidate case-markers associable with its selected functions. Lexical information of this type is criterial (within LFG) for the determination of syntactic grammaticality.

The presence of a prefix can affect any aspect of information contained in the lexical entry of a simple argument taking predicate. The ensuing discussion presents some of these effects. The reader should recall that all prefixes in Hungarian are separable in c-structure under identical syntactic conditions and that this obtains irrespective of the productivity or idiosyncrasy of its combination with a verb stem.

The appearance of a prefix can entail an alteration in lexical meaning (27 and 28) or simply contribute aspectual nuances concerning perfectivity and inception (29 and 30):

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(27a.) a fiú győzött a verseny-en
the boy win-PST-3sg the contest-SUP
'the boy won the contest'

győz V 'win <(SUBJ)(OBL)>'
OBL_{case} = SUP

(b.) a fiú le-győzte az ellensége-t
the boy-NOM PV-win-PST-3sg/DEF the enemy-ACC
'the boy defeated the enemy'

le-győz V 'defeat <(SUBJ)(OBJ)>'

(c.) a fiú meg-győzte az ellensége-t róla
the boy-NOM PV-convince-PST-3sg/DEF the enemy-ACC it-DEL
'the boy convinced the enemy of it'

meg-győz V 'convince <(SUBJ)(OBJ)(OBL)>'
OBLcase = DEL

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(28a.) a fiú dolgozott a képletek-en
the boy-NOM work-PST-3sg the equations-SUP
'the boy worked on the equations'

dolgozik V 'work on <(SUBJ)(OBL)>
OBLcase = SUP

(b.) a fiú át-dolgozta a képletek-et
the boy-NOM PV-work-PST-3sg/DEF the equations-ACC
'the boy reworked the equations'

át-dolgozik V 'rework <(SUBJ)(OBJ)>

(29a.) a szabó készitette a ruhá-t
the tailor-NOM prepare-PST-3sg/D the clothes-ACC
'the tailor prepared/was preparing the clothes'

készit V 'prepare <(SUBJ)(OBJ)>'

(b.) a szabó el-készitette a ruhá-t
the tailor PV-prepare-PST-3sg/D the clothes-ACC
'the tailor prepared (= completed) the clothes'

el-készit V 'prepare <(SUBJ)(OBJ)>'
[+complete]

(30a.) a fiú szerette a lány-t
the boy-NOM love-3sg/DEF the girl-ACC
'the boy loved the girl'

szeret V 'love <(SUBJ)(OBJ)>'

(b.) a fiú meg-szerette a lány-t
the boy-NOM PV-love-PST-3sg/DEF the girl-ACC
'the boy began/grew to love the girl'

meg-szeret V 'love <(SUBJ)(OBJ)>
[+inchoative]

The presence of a prefix can restrict the general directionality of OBLθ arguments of motional verbs by constraining the class of potentially satisfying case markers/postpositions (31b. and c.) or by establishing unique case-marking requirements on selected complements (31d. and e.)

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(31a.) a fiú dobta a labdát a fal felé/a tó-ba
the boy-NOM threw-DEF the ball-ACC the wall toward/the lake-IN
'the boy threw the ball toward the wall/into the lake'

dob V 'throw <(SUBJ)(OBJ)(OBLgoal)>'
OBLcase = α ∈ LOC
[+motion]
[+goal]

(b.) a fiú be-dobta a labdá-t a tó-ba/a szék alá
the boy-NOM PV-throw-PST-3sgf/D the ball-ACC the lake-IN/the chair under
'the boy threw the ball into the lake/under the chair'

(c.) * a fiú be-dobta a labdát a fal felé
the boy-NOM PV-threw-DEF the ball-ACC the wall toward

be-dob V 'into throw <(SUBJ)(OBJ)(OBLgoal)
OBL_{case} = α ∈ LOC
[+motion]
[+goal]
[+containment]

(d.) a fiú bele-dobta a labdá-t a doboz-ba
the boy-NOM PV-throw-PST-3sg/D the ball-ACC the box-IN
'the boy throw the ball into the box'

(e.)* a fiú bele-dobta a labdá-t a szék alá
the boy-NOM PV-throw-PST-3sg/D the ball-ACC the chair under

bele-dob V 'into-throw <(SUBJ)(OBL)>'
OBL_{case} = ILL

In (31) the presence of *be* 'into'[100] and *bele* 'into' clearly affects the demands of the predicate over its arguments. The entire construction designates the change of location of some OBJ to a contained space.

The addition of a prefix can diminish (32) or augment (33) the number of arguments associated with an argument taking predicate:

[100] This transparent directional sense is not its exclusive sense synchronically. For example, with numerous denominal verbs it conveys a sense of enclosure: *börtön* 'prison' ---> *be-börtönöz* 'imprison', *fal* 'wall' ---> *be-faloz* 'wall in', *üveg* 'glass' ---> *be-üvegez* 'put glass in'.

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(32a.) a fiú a sarok-ba tolta a szekrény-t
the boyNOM the corner-IN push-PST-3sg/D the chest-ACC
'the boy pushed the chest into the corner'

tol V 'push <(SUBJ)(OBJ)(OBLgoal)
OBLcase = α ∈ LOC
[+motion]
[+goal]

(b.) a fiú meg-tolta a szekrény-t * a sarok-ba
the boy-NOM PV-push-PST-3sg/D the chest-ACC the corner-IN
'the boy pushed the chest * into the corner'

meg-tol V 'push <(SUBJ)(OBJ)>'[101]

(33a.) a fiú kényelmesen ült
the boy-NOM comfortably sit-PST-3sg
'the boy was sitting comfortably'

ül V 'sit <(SUBJ)>'

(b.) a fiú végig-ülte az elöadás-t
the boy-NOM PV-sit-PST-3sg/D the performance-ACC
'the boy sat through the performance'

végig-ül V' 'sit through <(SUBJ)(OBJ)>'

The presence of prefixes can correlate with the reassignment of GFs to an unchanged constellation of predicate arguments:

[101] One need only recall the well-formedness condition referred to as coherence earlier in order to find an explanation for the unacceptability of that variant of (b) which contains the OBLgoal function: the PRED feature of the verb *meg-tol* selects only two governed functions and the sentence contains three.

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(34a.) a fiu rá-rakta a szená-t a szekér-re
the boy-NOM (PV)-load-3sg/D the hay-ACC the wagon-SUBL
'the boy loaded hay onto the wagon'

rá-rak V' 'onto-load <(SUBJ)(OBJ)(OBLgoal)>'
OBLcase = SUBL

(b.) a fiú meg-rakta a szeker-et szená-val
the boy-NOM PV-load-3sg/D the wagon-ACC hay-INST
'the boy loaded the wagon with hay'

(c.) * a fiú meg-rakta a széná-t a szeké-re
the boy-NOM PV-load-3sg/D the hay-ACC the wagon-SUBL
'the boy loaded the hay onto the wagon'

meg-rak V' 'load <(SUBJ)(OBLinst)(OBJ)>'
[+completive] OBLcase = INST[102]

In (34a.), the verb requires that the theme argument be associated with the OBJ and the goal argument with the OBLgoal function. Moreover, the OBLgoal is obligatorily governed for the SUBL case. In contrast, the verb in (34b. & c.) requires that the theme argument be realized in the INST case while the goal argument occurs in the ACC case and takes on the OBJ function. The reassignment of GFs to thematic roles is not only evident in the case government patterns of these verbs but is reflected in verb agreement as well: the verb agrees with the (theme) OBJ in (34a.) and with the (goal) OBJ in (34b.)

The presence of particular prefixes can lead to variation in the semantic selectional restrictions imposed on selected functions:

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102 Examples such as these prove problematic for interpretations of secondary predication relations parasitic on c-command domains as proposed in Williams (1980). Hungarian, in general, presents the same scatter of grammaticality judgements as those found in English but unacceptable sentences such as * *the boy loaded the hay onto the wagon full,* cannot be explained by appealing to the fact that *the wagon* being contained in a branching phrase i.e. PP, cannot c-command the secondary predicate *full.* In Hungarian, *a szekérre* 'onto the wagon' is indisputably an NP and, consequently, in a potential c-command relation to the secondary predicate. Yet the corresponding Hungarian construction is unacceptable: * *a fiú rárakta a szénát tele a szekérre.* It should be noted that a PV such as *tele* exhibits the restricted distribution of prefixal preverbs, i.e. it generally is limited to occurring with verb stems, and determines case government (the INSTR case) like a prefixal preverb does. On the other hand, one might interpret this prefix as bearing an argumental relation to the verbal stem, namely, the XCOMP function. This entity, thus, appears to be midway between a prefixal and argumental preverb.

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(35a.) a fiú lopás-sal vádolta a lány-t
the boy-NOM theft-INST accuse-PST-3sg/D the girl-ACC
'the boy accused the girl of theft'

(b.) a tény-ek vádolnak
the fact-pl accuse-3pl
'the facts accuse'

vádol V 'accuse <(SUBJ)(OBJ)(OBL)>
OBLcase = INST

(c.) a fiú meg-vádolta a lány-t lopás-sal
the boy-NOM PV-accuse-PST-3sg/D the girl-ACC theft-INST
'the boy accused he girl of theft'

(d.) * a tény-ek meg-vádolnak
the facts-pl PV-accuse-3pl
'the facts accuse'

meg-vádol V 'accuse <(SUBJ)(OBJ)(OBL)>'
SUBJ animacy $=_c$ +

Prefix and verb stem combinations undergo verb derivation processes that operate on their lexical forms by augmenting or diminishing the number of selected functions associated with a (composite) lexical entry as in causativization (36) and middle formation (37 & 38), respectively.

(36a.) a fiú rá-kapott az ivás-ra
the boy-NOM PV-get-PST-3sg the drinking-SUBL
'the boy got into the habit of drinking'

rá-kap V 'get to, into the habit <(SUBJ)(OBL)>
OBLcase = SUBL[103]

(b.) a törpe rá-kap-at-ta a fiú-t az ivás-ra
the dwarf-NOM PV-get-CAUS-PST-3sg/D the boy-ACC the drinking-SUBL
'the dwarf got the boy into the habit of drinking'

rá-kapat V 'get someone into the habit <(SUBJ)(OBJ)(OBL)>'
OBLcase = SUBL[104]

103 This non-compositional verb form derives from the simple verb stem kap 'get, receive'.
104 This non-compositional verb form is based on the simple verb stem *kap* 'get' receive'.

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(37a.) a fiú el-idegenedett az anyjá-tól
the boy-NOM PV-estrange-MID-PST-3sg the mother-3sg-ABL
'the boy became estranged from his mother'

el-idegenedik/idegenül[105] V 'become estranged <(SUBJ)(OBL)>
OBLcase = ABL

(b.) a lány el-idegenitette a fiú-t az anyjá-tól
the girl-NOM PV-estrange-PST-3sg/D the boy-ACC the mother-ABL
'the girl alienated the boy from his mother'

el-idegenit V 'estrange <(SUBJ)(OBJ)(OBL)>
OBLcase = ABL

(38) az ellenség meg-győzödött róla
the enemy-NOM PV-convince-MID-PST-3sg it-DEL
'the enemy became convinced of it' (Cf. example 27c.)

The sort of morphological causativization evident in (36) is common in Hungarian. For present purposes the existence of such constructions is significant because they involve valence changing morphology which operates on the lexical forms of uncausativized prefix + verb combinations: they treat the combination of prefix + V as a lexical unit. Middle formation (the existence of intransitive and transitive verb pairs as exemplified in (37) and (38)) is also quite common in Hungarian. Once again, the present relevance of such constructions concerns the fact that the lexical forms for the prefix + V combinations serve as input to this derivational process.

The presence of prefixes may affect the *zero anaphora* possibilities associated with an argument taking predicate.

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105 It is worth observing that neither *idegenedik* nor *idegenül* exist as simple verb stems: they are morphologically well-formed structures which exist only with prefixal preverbs. The same phenomenon can be observed for several phrasal verbs.

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(39a.) (a fiú) az asztal-ra tette (a toll-at)
the boy-NOM the table-SUBL put-PST-3sg/D the pen-ACC
'the boy put the pen on the table'

tesz V 'put <(SUBJ)(OBJ)(OBL_{goal})>'
$OBL_{case} = \alpha \in LOC$
[+motion]
[+goal]

(b.) (a fiú) rá-tette (a toll-at) (az asztal-ra)
the boy-NOM PV-put-PST-3sg/D the pen-ACC the table-SUBL
'the boy put the pen on the table'

rá-tesz V 'onto put <(SUBJ)(OBJ)(OBL_{goal})
$OBL_{case} = SUBL$[106]

Whereas the simple verb in (39a.) must be accompanied by a directional complement, the prefixed verb in (39b.) countenances the ommission of this complement. The reference of the missing complements is construable from context: they are interpreted as definite in reference. The omissibility of selected arguments of predicatesi, so-called 'pro-drop', is a common feature of Hungarian.

Finally, the presence of prefixes can affect the selection of sentential complements:

(40a.) el-jöttem Magyarország-ra, hogy meg-ismerjem a népet
PV-come-PAST-1sg Hungarian-SUBL that PV-know-SBJ-1sg/DEF the people-ACC
'I came to Hungary to get to know the people'

(b.) * meg-jöttem Magyarország-ra, hogy meg-ismerjem a népet
PV-come-PAST-1sg

The preceding examples have given the reader some indication of the scope of lexical affects associated with prefixation in Hungarian. These illustrations are neither exhaustive nor do they do justice to the clear regularities exhibited by many prefix and verb compositions. They are, however, sufficent to indicate that in a grammar constrained by strong lexicalist assumptions they are necessarily treated as lexical compositions.

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[106] Examples such as this will be analyzed in greater detail in Chapter 5 where 'inflecting' prefixes are discussed.

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I turn now to a closer investigation of three particular predicate formation types asssociated with the addition of prefixal preverbs to verb stems.

3.2.1. Directional Prefixes

Perhaps the most straightforward instances of prefixal preverb + verb combinations are those in which the preverb designates direction and the verb designates motion. It is instructive in this connection to recount Simpson's (1983) speculations about the difference between *manner of motion* vs. *change of location* predicates.

> I adopt the working hypothesis that if the meaning of a verb makes specific reference to location or time, the location/time is probably a syntactically relevant argument of the verb... Only some verbs, such as *go, come, descend, arrive, ascend, leave, enter* actually have as a part of their meaning the place left or the place arrived at. I call this class, change of location verbs... In Walpiri, a verb *wilypi-pardimi* 'emerge, exit, come out of' is a change of location verb. It focuses on the place, or *Source*, but implies an endpoint. I assume that this focus is reflected in the subcategorization: *wilypi-pardimi* takes an XCOMP linked to the semantic role of SOURCE and if an endpoint is expressed it has the function ADJ(unct). On the other hand, manner of motion verbs like *parnkami* 'run' focus on neither the endpoint nor the SOURCE but imply both. - 1983:

I have quoted these comments at length since they contain some assumptions central for the present analysis of Ugric prefixal preverbs. The parallelisms between e.g. Walpiri and Hungarian, with respect to semantic classes of predicates are best conveyed by presenting some simple examples. The Hungarian verb *fut* 'run' resembles the Walpiri verb *parnkami* - as described by Simpson - in terms of its lexical representation: the Hungarian verb is a *manner of motion verb* which obligatorily selects a SUBJ argument and can co-occur with ADJ arguments indicating a variety of spatial and temporal notions. The fol-

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lowing sentence containing the one-place predicate *fut* is, accordingly, acceptable.

(41) Árpád futott
Arpad run-PAST-3sg
'Arpad ran'

The lexical entry for the verb *fut* is presumably something like the following:

fut V 'run <(SUBJ)>'

A sentence containing the simple verb *fut* can be shown to contrast with sentences containing derived predicates based on the same simple verb stem: the addition of a prefix specifying directionality of an activity turns a *manner of motion* predicate into a *change of location* predicate. Consider the following examples of this phenomenon. I have provided a lexical entry for the complex verb as well as a sentence illustrating its use.[107]

(42) Árpád be futott a szobá+ba/ tetö alá
Arpad PV run-PAST-3sg the room+ILL/ roof under
'Arpad ran into the room/in under the roof'

be-fut V' 'run into <(SUBJ)(XCOMP)>
$XCOMP_{case} = \alpha \in$ LOC
[+motion]
[+goal]
[+containment]

(43) Árpád mögé futott a fal+nak/* fal
Arpad PV run-PAST-3sg the wall+DAT/wall NOM
'Arpad ran behind the wall'

mögé-fut V' 'run behind <(SUBJ)(XCOMP)>'
$XCOMP_{case} = DAT$[108]

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[107] It will be apparent that I have accepted Simpson's conjecture that the 'focused' locational argument of change of location predicates are assigned the XCOMP function. I have little of substance to say at this point concerning whether this argument is best interpreted as an XCOMP or OBL.

[108] The formation of predicates of this type is restricted in two ways: 1) the formation is not productive synchronically, 2) the formations seems limited to operate on intransitive verbs. The reader should also note that the simple verb *fut* 'run' can be used with an ADJ argument *a fal mögé* 'the wall behind'. The diachrony of the preverbal construction containing *mögé* is a classic instance of *head-to-head attraction*: the head of the ADJ (either interpreted as an adposition or a possessed element in a possessive construction) strands it's argument and becomes a portion of the clausal predicate. The DAT form of the abandoned argument can be explained as the usual reflex of a possessed argument in discontinuous possessive constructions. Cf. Chapter 6 for a brief discussion of the incorporation of possessed elements and

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The representation for *be-fut* requires some comment. First of all, I have classified this construction as a V': this can be interpreted as an instruction to the rule of lexical insertion that - under the appropriate conditions - constitutive pieces of this lexical entry will be independent in c-structure. Second, the case requirement specification for the XCOMP function states that any single member from the class of LOC(ative) markers with the appropriate feature specifications can satisfy the government requirements of this predicate.[109]

A commonly cited criterion for differentiating selected complements from adjuncts - that is, for distinguishing complements demanded by ATPs from other complements which may appear in a clause nucleus - is *zero anaphora*: when native speaker sense that the absence of an overt element correlates with an interpretation of determinate reference we are inclined to assume that the absent element is a selected complement of the verb.[110] This phenomenon becomes evident in the following examples which are, essentially, the previous sentences without their XCOMP arguments.

(44) Árpád be futott
Arpad PV run-PAST-3sg
'Arpad ran in'[111]

(45) Árpád mögé futott
Arpad behind run-PAST-3sg
'Arpad ran behind (it)'

In the preceding sentences the absent argument is semantically interpreted as a determinate referent of a type governed by the predicate: the argument absent from (44) is an

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consequent constituent discontinuities.

[109] The features used here are prsesented in Chapter 2 in the discussion of CASE. Whereas case government frequently requires satisfaction by a single case marker there are many instances - in Hungarian and elsewhere - where government is better understood as a demand for feature specifications compatible with numerous surface markers.

[110] This phenomenon will be looked at in greater detail in Chapter 5 in the context of *pronominal incorporation*.

[111] English behaves in an interesting manner with respect to zero anaphora with predicates of this sort. We can, for example, say 'John ran into the room' or 'John ran in' but not '* John ran into'. We utilize the simple directional preposition, e.g. *in*, in those contexts where Hungarian employs a prefixed verb without an expressed dependent argument. Cf. Fillmore 1985 for discussion of different types of zero arguments.

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appropriately case marked locative argument while the absent argument from (45) is the DAT goal.[112]

In summary, the differences in meaning evident in the comparison between prefixal preverb + verb combinations and related simple verbs, as well as the different case government patterns displayed by morphologically related verb forms, converge with *zero anaphora* criteria to indicate the lexical status of directional preverb + verb combinations.

I turn now to a discussion of the morpholexical rules appropriate for this type of verbal derivation. The following (illustrative) representation seems sufficent for prefixal preverbs bearing directional meaning in combination with motional verbs:

be [_ V] 'into <(XCOMP)>
[+motion] $XCOMP_{case} = \alpha \in LOC$
[+manner] [+motion]
[+goal]
[+containment]

mögé [_ V] 'behind <(XCOMP)>
$XCOMP_{case} = DAT$

The morpholexical process concatenates prefixes with appropriate verb stems. Percolation conventions contribute affixal information to the stem. The result is a composite verb form.[113] This type of predicate formation which relates a simple motional verb to a change of location verb is exemplified below:

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112 Interestingly enough the verb commonly used to refer to the interpretation of zero anaphora is a prefixed verb where the prefix functions in a quasi anaphoric function. The verb is based on the verb *ért* 'understand': *oda-ért* 'thither understand' or to 'understand as there'.

113 Since it is conventional in derivational processes for affixes to be assigned the category associated with the word they derive, i.e. affixes commonly determine the category of the derived form, the reader may wonder whether preverbs are indeed categorially unspecified. After all, their concatenation with a verbal stem eventuates in a V'. This would seem to suggest that prefixal preverbs are associated with the category V'. In the present work I leave this an open question and proceed on the assumption that prefixal preverbs are categorially unspecified (as in Latin) and that their concatenation with verb stems conventionally results in a V' or lexical phrase as indicated in the text.

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fut V 'run <(SUBJ))>' <----> be-fut V' 'run in <(SUBJ)(XCOMP)>'
$XCOMP_{case} = \alpha \in LOC$
$[+...]$[114]

fut V 'run <(SUBJ)>' <----> mögé-fut V' 'run behind <(SUBJ)(XCOMP)>'
$XCOMP_{case} = DAT$

The resultant complex verb, in these instances, is more or less a summation of the features contributed by the directional preverb and the simple verb stem.

It should be observed that the creation of these as well as all other V' constructions within the lexicon makes predictions with respect to various aspects of their behavior: in particular, they should behave like simple lexical items with respect to participating in additional derivational processes, undergoing certain phonological operations and their susceptibility to semantic drift. Later in this chapter we will see that all of these predictions are satisfied.[115]

There have recently been several proposals to account for similar derivational processes in other languages.[116] In this connection I will review some of the relevant features of the analysis of Bantu applied verb forms found in Marantz (1984).[117]

3.2.1.1. Marantz and Merger

In order to account for certain logico-semantic dependency relations evident between a verbal morpheme and a syntactic constituent Marantz proposes a process of *merger*: this is a sort of synchronic morphosyntactic analogue of *head-to-head attraction*. He speculates that merger may occur at different levels of analysis - generally, however, it occurs at

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114 The features associated with the LOC complement will be the same features as those required by the preverb *be*. These are listed above in the lexical entry for this preverb.

115 Although I will not address semantic drift directly the reader will encounter numerous instances of polysemous and idiomatic V' constructions. These attest to the fact that such entities are susceptible to semantic drift just like listed lexical items.

116 The interested reader should consult Marantz (1984), Hale (1984) and Cattell (1984) for these Government and Binding treatments.

117 The reader should note that the proposal under review was hypothesized for indisputable instances of word-formation: its apparent applicability to phrasal predicates would appear, as with Pesestky's proposal, to intimate the lexical nature of these constructions despite the separability of preverbs.

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some point between the appearance of the relevant entities in the *logico-semantic* and *surface representation.* Marantz characterizes the level of logico-semantic representation as a "representation of the syntactically relevant semantic interdependencies among sentential constituents."

The fact that Marantz assumes 1) a theory different from the one assumed here,[118] i.e. a theory with numerous underlying levels of representation, and 2) that merger entails relation changes in the Bantu example provided below (the addition of prefixal preverbs to verb stems in Ugric does not always entail this sort of change) should not obscure the principled similarities in predicate formation evident in e.g. Chi-Mwi:ni and Hungarian. I turn now to an illustration of the process of merger.

Consider the following example sentences from Chimwi:ni.

(46) Hamadi O - *sh* - pishile *cha:kuja*
Hamadi SB OB cooked food
Hamadi cooked the food

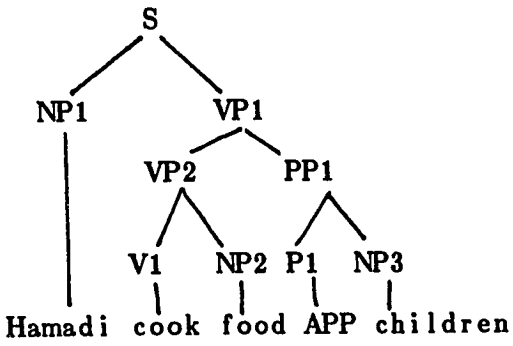
(47) Hamadi O - *wa* - pik - la - ile *wa:na* cha:kuja
Hamadi SB OB cook APP T/A children food
Hamadi cooked the children food

In these examples I have italicized the OBJ agreement marker and its dependent NP argument: the OBJ argument in (46) has the thematic role *patient* while in (47) it has the *benefactive* role.[119] The assignment of OBJ function to a benefactive argument correlates with the presence of the *applied* affix in the verb. Marantz represents the logico-semantic

[118] Marantz's framework is a variant of Government and Binding framework.
[119] I employ these thematic role names in purely diacritic fashion throughout.

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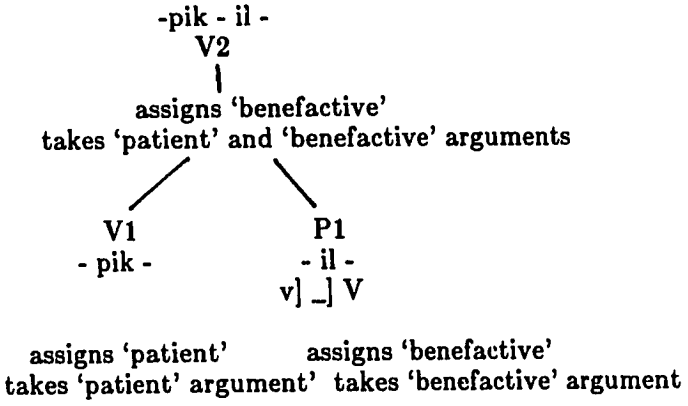
relation of the applied construction as follows:



This representation is related to a merged construction in which P1 is a part of a complex predicate and the argument of P1 becomes an argument of this complex predicate. Marantz comments:

> The merger of P1 and V1 into the derived verb expresses the modifier-modifee relation between PP1 and VP2 which P1 and V1 head. Therefore the argument structure of the derived verb V2 will be a combination of the P-A (predicate argument) structure of V1 and the modifier argument structure.

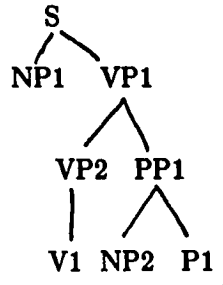
The derived verb form receives the following representation in Marantz's system, where the assignment of features follows, more or less, the percolation conventions reviewed earlier.



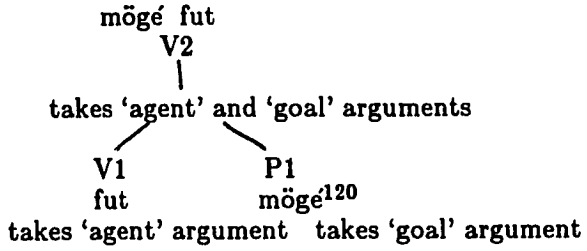
The utility of these assumptions about merger for phrasal predicates becomes evi-

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dent with reference to a simple example from Hungarian. The complex verb *mögé-fut* 'run behind' receives the following representations in such a system.



Árpád futott a fal mögé



An obvious question arises in connection with such predicate formation processes: Do the basic intuitions behind such an analysis require the particular theoretical assumptions employed? The short answer, I believe, is in the negative. In defense of this conclusion I offer the following discussion.

The phenomenon of Bantu applied verb formation as described here is, clearly, similar to the directional preverb + verb combinations we have seen before: the head of the logico-semantic modifier of V1, i.e. the preposition-like APP(lied) morpheme referred to in the diagram as P1, affixes to V1 and eventuates in a single complex predicate V2. The "abandoned" argument of P1 becomes a direct argument of the complex predicate: there

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[120] The government of DAT case by P1 when functioning as a preverb may receive a plausible diachronic explanation in an analysis where the argument of P1 is a possessor argument which always bears DAT marking in the discontinuous variant of possessive constructions. Cf. Chapter 2 for elaboration. From a synchronic perspective, however, it seems plausible to suggest that *lative* postpositions functioning as prefixal preverbs simply govern the DAT case for the arguments they contribute to the simple verb. This appears to hold not only for *mögé* 'behind' but *alá* 'under', *utána* 'behind' etc.

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is, accordingly, an intimation of non-contiguous dependency between the affix and its former argument. The basic intuitions of this analysis should be familiar: it is a restatement of the descriptive observations we have already reviewed concerning the diachronic origins of preverbal systems. It is, in other words, a particular encoding of the general principle I referred to earlier as *head-to-head attraction.*[121] In this encoding the logico-semantic relations determinative of argument structure (which, in these examples, feed the morphological composition of predicates) are expressed in constituent structure representations: certain elements dependent on the V may merge with the V, thereby altering lexical as well as morphological structure. As with Pesestky's GB speculations concerning the multifaceted nature of words, so we have here the GB encoding of a common intuition: certain pieces of complex words exhibit dependency relations with one another and determine dependency relations with complements.

For present purposes it is worth recalling Marantz's characterization of logico-semantic representation in this connection: it is a representation which encodes "semantically relevant syntactic information". This is precisely the operative characterization of f-(unctional) structures in Lexical Functional Grammar. Since argument structures act as well-formedness conditions on f-structures in this theory, alterations of argument structures are consequential for f-structures. Such alterations, we have seen, are limited by the Principle of Direct Syntactic Encoding to lexical processes. The net effect of these assumptions in LFG is that one need not and cannot postulate a syntactic level of representation - such as Marantz's logic-semantic level - which is the source of certain morphological compositions. In LFG, intuitions concerning the logico-semantic dependencies between elements are adequately addressed by appealing to morpholexical rules which

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121 It is, perhaps, worth noting that Marantz does not speculate as to why certain elements, namely, heads, appear to merge with verbs. Moreover, it is not evident from his account that 'merger' or something like it may have considerably wider application than that demonstrated for relation changing affixation in applied verb formation. In particular, I have in view here the phenomena of argumental preverbs interpreted as instances of incorporation in Chapters 6 and 7 of the present work. We will see, in Chapter 4, that Baker (1985), for example, proposes something akin to Marantz's merger procedure for Iriquioan incorporation.

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compose complex predicates: the effects of percolation in these types of verbal derivation will have syntactic consequences since they determine f-structures for ATPs.

In the present proposal, prefixal preverbs are interpreted as affixes, i.e. lexical entries with subcategorizational frames, and they are associated with various other sorts of information as well. This information becomes associated with the simple verb stem by means of percolation conventions. As we see from the Hungarian example of *mögé-fut* the mere merging of P1 with V1 will not provide us with an adequate lexical form for V2: we are missing the stipulation that *mögé* governs the DAT case of the complement it contributes when it is employed synchronically as a preverb: this is exactly the sort of information we expect to associate with an affix. In contrast, if *mögé* derived simply from the movement of an adposition the DAT case would not be called for since this adposition does not govern this case when it functions as a postposition: a movement rule would presumably alter the case-marking of the moved NP from NOM to DAT somewhere between the launching and landing site.[122]

In conclusion, the usual assumptions of LFG restricting the domain of word-formation to the lexicon appear to perform admirably with respect to the types of complex verbs reviewed here.

3.2.1.2. Jackendoff and the Grammaticality Constraint

There is a final issue concerning representation which I would like to consider before returning to a discussion of different Hungarian prefixal preverb + verb combinations. This is a problem addressed in Jackendoff (1984) concerning constraints on the form of semantic representations. One class of predicates investigated by Jackendoff in this con-

[122] The fact that *mögé* as well as several other lative postpositions governs the DAT case in these contexts is probably explained by the hypothesis that this is a reflex of a former possessive construction: the POSS element in a discontinuous possessive constructions is always in the DAT case. This explains the selection of the DAT vs. other potential case markers for the complement in the present constructions. On the other hand, to assume that these structures are created by means of a synchronic movement rule - a possible analysis - would constitute, in my opinion, a confusion between synchronic grammar as a representation of native speaker competence and diachronic development.

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nection are verbs which require directional complements such as *put* in English. A sentence such as 'Sam put the book on the table' can be given a semantic representation in any of the following three ways:

(48) PUT(SAM, BOOK) & ON(BOOK, TABLE)

(49) PUT(SAM, BOOK, ON(BOOK, TABLE))

(50) (a.) [ON (PUT)] (SAM, BOOK, TABLE)
(b.) ON (PUT (JOHN, BOOK) TABLE)

Jackendoff claims that each of these proposals is problematic. The first formulation is peculiar since the left conjunct is "incomprehensible". The second formulation is patterned on the analogy of causatives such as 'Sam caused the book to be on the table'. Jackendoff contends that this representation raises an insurmountable syntactic problem: the conditions under which the copula *to be* appears or is absent are elusive. As a consequence, the intended reading i.e. 'Sam put the book to be on the table', deviates inexplicably from surface encoding. The third formulation interprets, e.g. *put on*, as a complex predicate composed of a preposition and a verb. Jackendoff observes that:[123]

> The preposition is to be thought of as an operator that adds one more argument to the verb. 1983:62

His sole complaint about this otherwise intuitively appealing analysis is that it appears to run afoul of the Grammatical Constraint as defined below:

Grammaticality Constraint

> one should prefer a semantic theory that explains otherwise arbitrary generalizations about syntax and the lexicon. - 1983:13

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123 The assumption that English possesses complex predicates brings the preceding discussion of Chi-Mwi:ni and Hungarian closer to home. Even though the surface form of 'put' is not a complex verb there are, obviously, numerous verb + particle combinations in English that are candidates for the sort of analysis of phrasal predicates presented in the present work.

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The Grammaticality Constraint attempts to restrict semantic representations - as much as possible - to accord with justifiable representations of syntax. In the example under consideration, the violation of this constraint arises from the fact that neither of the representations in (50) reflect the constituency relations which obtain in syntax. Jackendoff comments:

> In (50a.) [his 4.9a], the preposition, which in syntactic structure forms a constituent with its object, now instead forms a constituent with the verb in logical form. *There do exist morphemes in languages of the world that form a constituent with the verb and have the semantic effect of adding an argument - for example, causative affixes; but it seems quite implausible to treat prepositions as semantically parallel with them.* In (50b.) [his 4.9b.], the preposition becomes the outermost operator of the logical form, rather than being embedded under the verb. In either case, what is not expressed is that 'put' is fundamentally a three-place predicate: "Sam put the book" is nonsense in isolation. - 1983:62 [italics added]

Beyond demonstrating the manner in which the examples in (50) violate the Grammaticality Constraint Jackendoff makes an observation which becomes inexplicable in the context of the present work: it is implausible, he remarks, to treat prepositions (and, one may presume, adpositions more generally) in a similar fashion to, e.g. causative morphemes, in their relation to verbs. However, it should be apparent by now that Jackendoff's incredulity is inappropriate: it is easily demonstrated that both cross-linguistically and diachronically many adpositions engage in lexical relations with verbs and engender effects on the argument structure of simple verb stems. Although this point should be plain by now the reader should consider the Hungarian analogues of "Sam put the book on the table":

(51) Árpád az asztalra tette a könyvet
Arpad the table-SUB put-3sg/DEF the book-ACC
'Arpad put the book on the table

(52) Arpad rá-tette a konyvet az asztal-ra

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Arpad PV put-3sg/DEF the book-ACC the table-SUBL
'Arpad put the book on the table'

In (51) we see that directional complements ordinarily appear in preverbal position: on the assumption that Hungarian contains a syntactic V' position[124] the directional complement and the verb constitute a constituent. In (52), the prefixal preverb *rá* concatenates with the verb to form a complex verb *rá-tesz* 'onto put' which governs the SUB case for its directional complement. Such a verb form can be shown to contrast with other complex verb forms when we see that case government demands for directional complements correlates with the presence of particular prefixes. In this connection, consider the related verb form *be-tesz* 'into put':

(53) Árpád be-tette a hirdetést az ujság-ba
Arpad PV put-3sg/DEF the ad the newspaper-ILL
'Arpad put the ad in the paper'

The lexical entries for these verbs are presumably as follows:

tesz V 'put, place <(SUBJ)(OBJ)(XCOMP)>'
$XCOMP_{case} = \alpha \in LOC$
[+motion]
[+goal]

rá-tesz V' 'onto put <(SUBJ)(OBJ)(XCOMP)>'
$XCOMP_{case} = SUBL$

be-tesz V' 'into put <(SUBJ)(OBJ)(XCOMP)>"
$XCOMP_{case} = ILL$

In summary, the semantic representations in (50) may not violate a Grammaticality Constraint: they simply do not reflect surface syntactic constituency in English. But if the Grammaticality Constraint is to be considered as a viable restriction on semantic representation it must be interpreted as more than a claim about approximate isomorphy between the syntax of a single language and universal semantic representation. In order to make this clear I propose a Generalized Grammaticality Constraint:

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[124] CF. Chapter 6 for discussion.

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Generalized Grammaticality Constraint

semantic representation should reflect attested cross-linguistic encodings of certain relations

On this interpretation, the formulations in (50) accurately reflect semantic intuitions which find frequent surface reflexes in the verbal systems of numerous languages. The fact that this representation deviates from English syntactic constituency relations is irrelevant given the preponderance of evidence for the relevant constituency in other languages.[125] The tendency for predicates to aggregate is the central tendency examined in the present study of phrasal verbs. In fact, it is the essential element observed in Hungarian change of location predicate formation and the element which renders predicate formation in Hungarian comparable to the sort of predicate formation discussed by Marantz.

Before investigating two other types of prefixal preverb + verb combinations I present a summary of the analysis proposed for directional preverbs and motional verbs.

Directional preverbs are affixes associated with all the information contained in lexical entries plus a statement of their subcategorizational requirements. In the present instance, the preverbs are associated with subcategorizational frames demanding their concatenation with categorial Vs. Unlike the concatenation of suffixes, the positioning of prefixes does not entail phonological fusion between this element and the verb. The strategy of concatenation is similar to that referred to as *juxtaposition* in Mithun (1985) and Sapir (1911).[126] The derived verbs are listed as V' to reflect this lack of fusion. From the perspective of surface syntax, the rule of lexical insertion has access to the information that entities are V's and, consequently, can place the constitutive members of such compounds in appropriate c-structure positions.[127]

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[125] In Chapters 6 and 7 we will see that similar questions concerning syntax and semantics re-occur in the analysis of resultative constructions and analytic predicates. There too, the complex verb proposal found in the Montague tradition and in Categorial Grammar will be seen to be appropriate.

[126] Cf. Chapter 6 for elaboration.

[127] Discussion concerning the delimitation of the set of c-structures required for Hungarian must be

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3.2.2. Group Predicate Formation

Karoly (1969) presents the following examples of simple *group* or *symmetrical predicates*:

(54) (a.) a büntetés arányos a bün-nel
the punishment proportional the crime-INSTR
'the punishment is proportional to the crime'

(b.) a büntetés és a bün arányosak
the punishment and the the crime proportional-PL
'the punishment and the crime are proportional'

(55) (a.) Péter hasonló János-hoz
Peter similar John-ALL
'Peter is similar to John'

(b.) Péter és János hasonlo(a)k
Peter and John similar-PL
'Peter and John are similar'

For present purposes, it is important to note that these adjectival predicates permit alternative encodings for their complements: we find either a SUBJ and an OBL complement (as in the (a.) examples) or coordinated SUBJ complements (as in the (b.) examples).

Hungarian possesses a prefixal preverb *össze* which, in addition to several other functions, participates in the creation of what will be referred to as *group* predicates.[128]

Before exploring how the prefix *össze* participates in the creation of predicates like those presented above some general comment is required about this prefix. Although it is difficult to distill a central meaning for this prefix the polysemous English word 'together' and certain senses of the Russian verbal prefix *s-* seem serviceable here. A provisional characterization of the meaning of *össze* suggests that it conveys a general sense of 'collec-

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postponed until another ocassion. However, an indication of the variety of syntactic patterns which must be considered can be found in Chapter 3.

[128] According to the Hungarian Etymological Dictionary this word is the LAT(ive) case-marked form of a word with Uralic pedigree meaning 'complete, entire, perfect'. It is unanalyzable synchronically and moreover can occur in the modern language only in conjunction with a verbal stem: either the prefix and verb stem appear together overtly (as a predicate in deverbal derivatives) or the prefix occurs alone and the verb is elided. In this section I have, primarily, taken my examples from the Russian-Hungarian valence dictionary compiled by Apresjan et. al. I thank András Kornai for assistance with examples here and in the following section.

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tivity' which becomes determinate in conjunction with the lexical semantics of the (class of) verb stem it combines with.[129] Naturally, there are numerous instances where the addition of this prefix (as well as most others) alters the meaning of the simple verb stem in dramatic and (more or less) unpredictable ways.[130] In general, however, this prefix designates the collection of individual entities into a unit. Once again, depending on the lexical semantics of the simple verb stems and the inherent properties of the collected entities, the prefixed verb tends to convey simply the location of the collected entities or the joint (purposive) vs. reciprocal action they engage in.[131] Consider the following Hungarian example (and its English gloss) in illustration of the effects of this prefix:[132]

(56) A kisfiú össze-rakta a kockákat de a kép
the boy PV piled the pieces but the picture
'the boy put the pieces together but the picture

nem állt össze
not stood together
didn't hang together.'

The preceding example illustrates that verbs with *össze* select arguments (OBJ if transitive as in the first clause, and SUBJ if intransitive as in the second) which are notionally and/or grammatically plural. That is, they demand plural interpretability for their *absolutive* arguments.[133] It is evident that notional plurality need not concide with

[129] A close analysis of the verbal semantics of stems which combine with *össze* is indispensable for the isolation of different meanings of this prefix. This is presently being done for this prefix as well as numerous others in a series of psycholinguistic experiments I am conducting with Csaba Pléh.

[130] Cf. Majtinskaja Vol. II 1959:189 for examples.

[131] Depending on the verbal semantics of the stem, collection into a unit may even entail disasterous effects on an object: in such instances the 'compacting' leads to an untenable density and the object is adversely affected. For example, consider *össze-rág* 'chew to bits' derived from *rág* 'chew' where, presumably the activity of compacting eventuates in the destruction of the object affected by the action. We can see a similar phenomenon with *össze-megy* 'shrink' derived from the simple verb stem *megy* 'go'. In such constructions the prefix appears to behave like a resultative morpheme. We will see later on in this chapter and in Chapter 6 that resultative complements are a type of argumental preverb.

[132] The reader should note that the second instance of the preverb appears in postverbal position in the example below. This is attributable to the presence of the negative element *nem*. The relevant verbs are understood to be *össze-rak* and *össze-áll* respectively. Cf. the lexical entries for these verbs presented below.

[133] The term absolutive arguments is intended to designate SUBJs of intransitive predicates and OBJs of transitive one. Cf. Ackerman 1981 where these relations are referred to as *grammatical figures* and Anderson (1978) where a similar distinction is proposed in terms of the notion *grammatical topic*. Also Blake and Mallinson 1983.

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grammatical plurality since the SUBJ function of the second clause is grammatically singular: *kép* 'picture' in this context is to be interpreted as 'pieces constitutive of the picture'. This same point can be conveyed by considering another 'meaning' of *össze-all*, namely, 'congeal, set' which can be predicated of SUBJ arguments instantiated by mass terms.

The lexical entries for the phrasal verbs are presented below paired with their simple stem bases:[134]

áll V 'stand <(SUBJ)(OBL)>'

össze-áll V' '1. gather, assemble, 2. hang together <(SUBJ)>'

rak V 'load, pile <(SUBJ)(OBJ)(XCOMP)>'

össze-rak V' 'load, put together <(SUBJ)(OBJ)>'

Another sense conveyed by this prefix is 'joint involvement by members of a collection': this is transparently parasitic on the concrete collectional sense presented previously. Phrasal predicates conveying this sense of the prefix are the focus of the present section: the predicates expressing this sense are *group predicates*. Consider the following examples illustrative of this function. In each instance I have provided a sentence containing the simple verb stem which serves as the base for the phrasal verb. The reader should note that these simple verb stems have different argument structures and/or different case government patterns for their complements than those associated with the derived group predicate. The (b.) and (c.) variants demonstrate that group predicates

[134] I have selected just those meanings of the verbs which it is expedient to isolate.

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entertain alternative syntactic realizations without a discernible semantic difference.

(57) (a.) a fiú a lány-ra/ * lány-yal mosolygott
the boy the girl-SUBL / * girl-INST smile-PAST-3sg
'the boy smiled at the girl'

(b.) a fiú össze-mosolygott a lán-nyal/ * lányra
the boy PV - smile-PAST-3sg the girl-INST
'the boy exchanged a smile with the girl'
(they share a confidence, or agree with each other)

(c.) a fiú és a lány össze-mosolyogtak (egymással)
the boy and the girl PV - smiled-PAST-3pl each other-INST
'the boy and girl exchanged smiles (with each other)'
i.e. they share a confidence, or agree with one another'

(58) (a.) az ajadékok nehezen fértek a böröndbe
the gift-pl with difficulty fit-3pl the suitcase-ILL
'the gifts fit into the suitcase with difficulty'

(b.) a fiú nem fért össze a lánnyal
the boy NEG get along-PAST-3sg PV the girl-INST
'the boy didn't get along with the girl'

(c.) a fiú és a lány nem fért(ek) össze (egymással)
the boy and the girl NEG get along-PAST-(pl) PV each other-INST
'the boy and the girl didn't get along (with each other)'

(59) (a.) Árpád futott (a barátjával)
Arpad ran (friend-3sg-INST)
'Arpad ran with his friend'

(b.) Árpád össze-futott a barátjával
Arpad PV - ran the friend-3sg-INST
'Arpad ran into his friend'

(c.) Árpád és a barátja össze-futott(ak) (egymással)
Arpad and the friend-3sg-INST PV - ran-(3pl) each other-INST
'Arpad and his friend ran into each other'

In certain instances the phrasal verbs in the preceding examples stand for a subclass of constructions. For example, the verb in (57) stands for a small class of group predicates where the addition of the prefixal preverb conveys a sense of shared knowledge or conspiratorial alliance between the participants: *össze-néz* 'look at one another in agreement', *össze-nevet* 'laugh in agreement with one another' are additional examples. In other instances, such as (58) and (59) the meaning of the phrasal verb is idiomatic

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although this idiomatic meaning may manifest a certain degree of transparent motivation.

For the Hungarian verbs under consideration the presence of *össze*; 1) contributes a sense of joint/reciprocal action and thereby implicates the involvement of, at least, two participants, 2) adds an OBL argument in the INST case, 3) the OBL can be realized in an alternative construction as a member of a conjoined constituent functioning as either the SUBJ or OBJ (depending on transitivity), 4) when the coordinated variant occurs the reciprocal pronoun may appear in the INST case.[135] These properties correlate with the presence of the prefixal preverb *össze*: the ability to affect properties such as these is attributed to lexical processes in LFG.[136]

In conclusion, the formation of group predicates with the prefixal preverb *össze* implicates a morpholexical rule which combines this prefix with verb stems (with, as yet, indeterminate lexical semantic properties). A sample derivation follows:

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[135] A certain parallelism with English is apparent in these examples. However, there is a striking difference between the languages: in the sentence with a coordinate SUBJ English must display an overt reciprocal pronoun while this is an optional element in Hungarian:

Arpád és a barátja összefutott(ak)
*Arpad and his friend ran into

[136] The assumption that lexical processes are implicated here is found outside of generative grammar. For example, Soviet linguistic tradition conventionally associates the types of information listed above with lexical entries for predicates. In the present case this is represented as follows in Apresjan et. al.

N1 V N2/t N3/vel	<--->	N1 és N3 V N2/t
NOM ACC INST		NOM and NOM ACC

N1 V N2/vel	<--->	N1 és N2 V
NOM INST		NOM and NOM

The intuition underlying these patterns is simple. It is, arguably, the type of intuition that led to the postulation of lexical redundancy rules within the generative tradition.

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össze PV [_V['group <(OBL)>'
OBL$_{case}$ = INST
PL = +

fér V 'fit (into) <(SUBJ)(XCOMP)>'
XCOMPcase = α ∈ LOC
[+motion]
[+containment]

össze-fér V' 'get along with <(SUBJ)(OBL)>'
'OBL$_{case}$ = INST
PL = +

The prefixal preverb *össze* combines with a verb stem. In the present instance, the combination eradicates the XCOMP function associated with the simple verb stem and replaces it with the OBL (instrumental case-governed) function contributed by *össze*. The resultant V' requires that there is a plurality of arguments to interpret: this requirement is insured by the presence of PL = + associated with the preverb. The plurality requirement for group predicates is reflected in the fact that they display alternate syntactic encodings I provide here a schematic representation of the redundancy relation exhibited by group predicate.[137] The double headed arrows suggest a biconditional relation between the alternated expressions permitted by group predicates.

[137] Whether.the redundancrelation e correlates an OBL function with a SUBJ or OBJ is predictable from the transitivity of the complex verb.

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össze-V V' 'X <(SUBJ)(OBL)>'
OBL_{case} = INST
PL = +

<---------->

össze-V V' 'X <(SUBJ)>'
PL = +

össze-fér V' 'get along with <(SUBJ)(OBL)>'
OBL_{case} = INST
PL = +

<---------->

össze-fér V' 'get along with <(SUBJ)>'
PL = +

In general, it does not matter to a given group predicate whether its SUBJ function is instantiated by a coordinate constituent or a single NP inflected for plurality: both instantiations are compatible with the semantic requirement of plurality associated with group predicates.

In summary, we have witnessed another domain in which prefixal preverbs clearly perform a derivational function: the preverb *öszze*, in one of its uses, is instrumental to the formation of a certain class of group predicates in Hungarian.

3.2.3. Causal Predicate Formation

The final type of prefixal preverb + verb combination to be investigated will be referred to as *causal predicate formation.* This is to be differentiated from causative verb formation: the addition of a causative suffix correlates with the introduction of a causer argument with familiar effects on the valence and case-marking of simple verbs.[138] With causal predicates, in contrast, an OBL complement is introduced: this complement provides the reason or motivation for the state designated by the main predicate. The com-

[138] Cf. Comrie (1981) for a proposal concerning a well-attested relationship between the marking of causee arguments and a grammatical relation hierarchy.

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plement is governed for the ILL case and the new verb appears with the prefixal preverb *bele*.[139]

The Hungarian prefix *bele* has numerous functions.[140] A basic use of this prefixal preverb is to convey the movement of an entity into a contained space. This sense is closely related to the basic directional force of the prefixal preverb *be* investigated earlier. The following sentences exemplify the concrete spatial sense shared by these two preverbs.

(60) Árpád bele-ugrott a to-ba
Arpad PV jumped the lake-ILL
Arpad jumped into the lake

(61) Árpád be-ugrott a to-ba
Arpad PV jumped the lake-ILL
Arpad jumped into the lake

(62) Árpád bele-került a csapdá-ba
Arpad PV got the trap-ILL
Arpad fell into the trap

The designation of spatial containment serves as the basis for various sorts of semantic extension. The following constructions exemplify such extensions.

(63) Árpád bele-kényszeritette az adatokat az elmélet-be
Arpad PV forced the facts the theory-ILL
'Arpad forced the facts into the theory'

(64) Árpád bele-feledkezett a regény-be
Arpad PV forgot the novel-ILL
'Arpad got absorbed in the novel'

(65) Árpád bele-egyezett a kérés-be
Arpad PV agree the request-ILL
'Arpad agreed to the request'

It is an invariant property of *bele* - unlike, e.g. *be* - that it governs the ILL case of its com-

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[139] This preverb will be investigated from another perspective in the following chapter where we will see that it accomodates incorporated pronouns.

[140] According to the Hungarian Etymological Dictionary both this prefix and the prefix *be* trace common origins from the nominal *bel* 'inners, guts'. The origin of *bele* is disputed: either it derives directly from *bel* plus the LAT case marker *-e* or it is formed from the prefix *be*. The reader should recall the following typical historical progression: a body term in apposition to a nominal begins to function like an adposition and then the adposition becomes a portion of the main predicate.

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plement irrespective of the particular sense conveyed by this prefix in concatenation with particular (classes of) verbs. This government pattern obtains, as well, for those predicates which I will refer to as *causal predicates.*[141] This type of predicate is illustrated below:[142]

(66) Árpád bele-bolondult abba a lány-ba
Arpad PV went crazy that-ILL the girl-ILL
'Arpad flipped over that girl'

(67) Árpád bele-halt a szomoruság-ba
Arpad PV died the grief-ILL
'Arpad died of sadness'

(68) Árpád bele-fáradt a nehéz munká-ba
Arpad PV tired the hard work-ILL
'Arpad got tired because of the hard work'

(69) Árpád bele-vakult abba a komoly betegség-be
Arpad PV went blind that-ILL the serious illness-ILL
'Arpad went blind because of that serious illness'

Causal predicate formation, to the best of my knowledge, appears to occur exclusively by the addition of *bele* to (stative) intransitive verb stems.[143] That is, there appear to be no transitive verb forms in which the governed ILL complement is interpreted as a cause of the action designated by a complex verb consisting of *bele* and a verb stem. Consider the following constructions in this connection.

[141] It is likely that the senses of *bele* which I have isolated actually reflect a single basic meaning which assumes different senses in combination with the lexical semantics of (classes of) verbs. This is true of most of the prefixal preverbs: in general, the semantic extensions exhibited by these elements comports with frequently attested semantic change of similar elements in other languages. This development follows, for instance, a tendency for spatial relations to serve as a basis for temporal and other conceptual extensions. I leave the further discussion of this issue for another forum.

[142] Discussion of several of these examples will be resumed in the following chapter when they will be assimilated to a larger class of predicates whose PV's host incorporated pronouns.

[143] Note that when *bele* co-occurs with intransitive verbs of motion the added complement is interpreted as a GOAL argument.

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(70) (a.) * Arpád bele-vitte Lacit a barátság-ba
Arpad PV bring-PAST-3sg/DEF LAC-ACC the friendship-ILL
'Arpad brought in Laci out of friendship'

(b.) Arpád bele-vitte Lacit a cég-be
Arpad PV bring-PAST-3sg/DEF Laci-ACC the firm-ILL
'Arpad brought Laci into the firm'

(71) (a.) Arpád bele-vakult a ragyogó fény-be
Arpad PV blinded-3sg the bright light-ILL
'Arpad was blinded by the bright light'

(b.) * Arpàd bele-vakitotta Lacit a ragyogó fény-be
Arpad PV blind-PAST-3sg/DEF Laci-ACC the bright light-ILL
'Arpad blinded Laci with the bright light'

(72) (a.) Arpád bele-fáradt a sok munká-ba
Arpad PV tired-3sg the much work-ILL
'Arpad tired from the heavy workload'

(b.) * Arpád bele-fárasztotta Lacit a sok munká-ba
Arpad PV tired-3sg/DEF Laci the much work-ILL

Example (70) demonstrates that a complex transitive verb with *bele* constrains its ILL complement to be interpreted as GOAL and proscibes a causal interpretation for this complement. This expresses a general tendency with transitive (motional) verbs. In (71) and (72) we see that transitive variants of acceptable intransitive casual predicates are unacceptable: the CAUS argument appears unable to modify the OBJ (or any other function) of this transitive complex verb.

In summary, *bele*, in the relevant constructions, contributes a complement into the lexical form of the complex predicate: this complement is governed to appear in the ILL case. In addition, the complement is interpreted as a CAUSAL argument and the complex verb assumes a lexical meaning whereby the state denoted by the basic verb stem requires specification as to its cause: whereas the simple verb stem merely denotes a state whose source can be conveyed by an ADJ, the complex form contains as a part of its meaning the requirement to specify that source.

The morpholexical process of causal predicate formation is represented in the following, somewhat schematic, fashion based on the verb *vakul 'go blind'*.

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vakul V 'go blind <(SUBJ)>'

bele $\begin{bmatrix} \_\ V[\\ [\text{-trans}] \\ [\text{+state}] \end{bmatrix}$ 'because of <(OBL)>' $\text{OBL}_{\text{case}} = \text{ILL}$

bele-vakul V' 'become blind because of <(SUBJ) (OBL)>' $\text{OBL}_{\text{case}} = \text{ILL}$

As indicated, the preverb bele combines with an intransitive, stative verbs tem. The preverb contributes its lexical form to the simple verb stem and this eventuates in a composite lexical form for the derived causal predicate.

The reader has now seen the general nature of predicate formation processes involving a small collection of prefixal preverbs. The addition of prefixal preverbs to verb stems engenders several sorts of effects on lexical entries. In LFG, these effects are attributable solely to the application of lexical rules. In the following section we will see that the theoretical assumptions which constrain us to analyze PV + V combinations as lexical enitites are corroborated by the behavior of these combinations in another domain: PV + V constructions participate in the same verbal and deverbal derivational processes as simple lexical items.

3.3. Derivation

Conclusions concerning the lexical character of prefix and verb compositions based on the (principled) variability of lexical forms could be incongruent with certain incontestable facts of Hungarian derivational morphology. In particular, it is conceivable that prefix + verb compositions could never participate in the derivational processes accessible to simple verb stems. This inaccessibility, in tandem with the syntactic separability of PVs would lead to some discomfort concerning the conclusion that the relevant constructions are truly lexical entities. We can, consequently, utilize the conclusion regarding their lexical status, based on the alterations of lexical forms, as making a clear prediction: prefix + verb combinations as presumable lexical entities should participate in various

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types of word formation processes undergone by simple Hungarian verbs. Examples (36), (37) and (38) illustrated the behavior of certain PV + V combinations in the domain of verbal derivation. We saw in those examples that these complex verb forms maintain their basic meaning (even when idiomatic) and preserve portions of their case government patterns under causativization and middle formation. In the next few paragraphs we will see that these combinations undergo common category changing operations as well.

The 3rd person, indefinite past tense form of verbs can undergo zero conversion in order to become adjectives. (73) is an example of zero adjectival conversion and the attributive use of the affected lexeme:

(73) töltött káposzta
stuffed-PST cabbage
'stuffed cabbage'

The examples in (74) illustrate similar zero conversion based on the combination of the prefix *meg* and the simple verb stem *hat* 'influence'. (74a.) and (74b.) contrast the lexical entries for the simple and prefixed versions of this verb stem while (74c.) presents an attributive use of the prefixed variant. The adjectival form of the simple verb stem is ill-formed as indicated by (74d.): this attests to the fact that different bases behave differentially with respect to derivation.

(74a.) hat V 'influence <(SUBJ)(OBL)>'
OBLcase = SUBL

(b.) meg-hat V 'touch, move (emotionally) <(SUBJ)(OBJ)>

(c.) meg-hatott fiú
'touched boy'

(d.) * hat-ott fiú
'influenced boy'

There are numerous restrictions on the creation of adjectives formed in this manner.[144]

[144] In Laczko and Ackerman (1984) it is claimed that the constraints on this type of adjectivalization are twofold: 1) it is a necessary condition on this derivation that the base verb should have an absolutive argument, i.e. an intransitive SUBJ or transitive OBJ, 2) there is a thematic condition on the absolutive

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For the present, it is sufficient to focus on those contraints correlative with the presence or absence of prefixal preverbs and related to the selectional demands of verbs which serve as a base for this derivational process. Such constraints suggest, once again, the lexical status of prefixal preverb and verb combinations. Consider the following:

(75) (a.) * a sárgult levél
the yellowed leaf
'the yellowed leaf'

(b.) a meg-sárgult levél
the PV-yellowed leaf
'the yellowed leaf'

The preceding constructions are illustrative of those instances in which the presence of a (completive) aspectual prefix sanctions this type of adjectivalization.[145]

Adjective formation of this type is apparently also constrained by the lexical forms of the verbs which may serve as a base for such derivation. Consider the following examples in this connection.

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argument that it be interpretable as undergoing a change of state. Cf. Laczko (1985, and forthcoming) for further reflections on these constructions.

[145] The constraints on these adjectival forms are more complex than indicated in the text. For example, consider the following forms which resemble those above:

i) * a készült ruha
the prepared clothes
'the prepared clothes'

ii) az el-készült ruha
the PV-prepared clothes
'the prepared clothes'

iii) a bálra készült ruha
the ball-SUB prepared clothes
'the clothes prepared for the ball'

In other words, it is not simply the presence or absence of prefixal preverbs which sanctions such formations but the possibility of modifying the adjectival form with an element which forces a perfective aspectual interpretation: the presence of the nominal 'the ball' in (iii) facilitates an interpretation in which the preparation of the clothing has been accomplished. Cf. Ackerman and Laczko (1984) and Laczko (forthcoming) for elaboration.

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(76) * a hivatkozott rendelet
the cited regulation
'the cited regulation'

(77) (a.) * a rá-lött madár
the PV - shot bird
'the shot at bird'

(b.) a le-lött madár
the PV-shot bird
'the shot down bird'

(78) (a.) * az el-olvasott ember[146]
the PV - read person
'the read person'

(b.) az el-olvasott könyv
the read book
'the read book'

(c.) az (sokat) olvasott ember
the much read person
'the (well) read person'

The proscribed and permissable constructions in the preceding examples are presumably related to the lexical forms associated with the verbs on which these constructions are based. The lexical entries for these verbs are presented below.

hivatkozik V 'cite, refer to <(SUBJ)(OBL)>'
OBLcase = SUB

rá-lö V' 'shoot at <(SUBJ)(OBL)>'
OBLcase = SUB

le-lö V' 'shoot down, kill <(SUBJ)(OBJ)>'

olvas V 'read <(SUBJ)(OBJ)>'

el-olvas V' 'read <(SUBJ)(OBJ)>'
ASP = + completive

The unacceptable constructions (76) and (77a.) are based on two place predicates which select OBL functions while the acceptable construction in (77b.) is based on a two place

[146] This construction would be acceptable in a reading in which the person involved was readable. For instance, the person might have Anna Karenina tatooed on his body.

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predicate which selects for an OBJ function. In general, it can be claimed that the two place predicates which participate in this derivational process select for OBJ functions. This explains the acceptability of both (77b.) and (78b).[147]

These constructions illustrate, in conclusion, that the presence or absence of a preverbal element determines the ability of the base predicate to participate in this type of adjectivalization.

Hungarian has a means for for forming negative adjectives along the lines presented above. Consider the following representative examples of this derivational process.

(79) a fel nem vett kérdés
the PV NEG put question
'the unasked question'

(80) a ki nem mondott kérdés
the PV NEG express question
'the unexpressed question'

The negative adjectival forms in the preceding examples are derived from the phrasal predicates *fel-vesz* 'to put (a question) and *ki-mond* 'express, pronounce.' The negative element *nem* is interposed between the preverb and the adjectivalized verb stem.

Another means of adjectival category conversion is via the suffixation of *ható* '-able' or *hatatlan* 'un- -able'. The structures in (81) illustrate the employment of these morphemes with a simple verb stems while (82) displays their use with a related phrasal predicate.

147 That grammatical functions are necessary but not sufficent as conditions on this type of adjectivalization should be evident from a comparison of example (78a.) where the former SUBJ argument of a transitive verb is the head of the NP with (78c.) where the former SUBJ of a transitive verb with an optional OBJ complement is the head of the NP.

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(81a.) old V 'dissolve <(SUBJ)(OBJ)>'

(b.) old-ható anyag
dissolve-able material
'soluble substance'

(c.) old-hatatlan anyag
un-dissolvable material
'insoluble substance'

(82a.) meg-old V 'solve <(SUBJ)(OBJ)>'

(b.) meg-old-ható feladat
solvable task
'solvable task'

(c.) meg-old-hatatlan feladat
unsolvable task
'unsolvable task'

In the present case, the suffixes can apply to both simple and phrasal verbs. A condition on the use of these suffixes is that they concatenate with verb forms which contain OBJ complements in their lexical forms. It should be observed that the semantic modification engendered by the presence of these suffixes is identical in both instances. That is, the relevant modalities are predicated of the meanings contained in the lexical forms of both the simple and the phrasal verb.

The preceding examples of derived adjectives have all involved the attributive use of these elements. A peculiarity of Hungarian word formation becomes evident with the predicative use of these adjectives: despite the clear evidence that PVs are contained in derived adjectives in (82), they remain separable from the adjectival stem under the same conditions as they are separable from verbal stems. The idiosyncratic complexion of such separability is evident in the differential behavior of adjectives formed with *ható* vs. those formed with *hatatlan:* whereas the PVs of predicative adjectives created with the former are separable, PVs contained in predicative adjectives formed with the latter are inseparable:

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(83a.) *ez a feladat* oldható meg
this the task solvable PV
'It's this task that's solvable'

(b.) * *ez a feladat* oldhatatlan meg
this the task unsolvable PV

(c.) *ez a feladat* megoldhatatlan
this the task unsolvable
'It's this task that's unsolvable'

In other words, when adjectives derived with *ható* function as the predicate of a clause the PV behaves as if it were still associated with a verb.

Separability within derived adjectives depends not only on the particular suffixes employed for derivation but also on the presence or absence of a categorial verbal element in the clause. In Hungarian, verbless clauses are the norm for predicative constructions in the present tense. In clauses with future tense, past tense, or overt expression of modality, however, the focused elements immediately precede the tense and/or mood bearing categorial verb while the PV becomes inseparable from the derived adjectival stem. This phenomenon is illustrated below with focus constructions containing a past tense copular form (84a.) and a present tense conditional form of the copula.

(84a.) *ez a feladat* volt megoldható/ *oldható meg
this the task was solvable
'It's this task that was solvable'

(b.) *ez a feladat* volna megoldható/ * oldható meg
this the task would be solvable
'It's this task that would be solvable'

From the perspective of the word formation processes presented earlier, it appears to be the case that whereas the suffixation of *hatatlan* entails bracket erasure, the suffixation of *ható* preserves brackets. The idiosyncracy of this process becomes even more apparent when one considers that the addition of the comparative formative *-Vbb* to adjectives derived by means of *-ható* entails bracket erasure. Consider the following constructions in this regard:

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(85) (a.) *ez a feladat* meg-oldható-bb
this the task PV - solvable-COMP PV
'It's this task that's more solvable'

(b.) * *ez a feladat* oldhatóbb meg
this the task solvable PV

In comparative (and superlative) forms, the PV looses its ability to separate from the adjectival stem even when functioning as the predicate of a clause.

There is one additional instance of adjectival category conversion relevant to separability: the suffixation of the (moribund) morpheme of 'required action' *andó/endo appears to entail bracket retention when the derived adjective functions predicatively:*

(86a.) megoldandó feladat
must be solved task
'a task that requires a solution'

(b.) *ez a feladat* oldandó meg
this the ask must be solved PV
'It's this task that must be solved'

In (86b.) we see that the prefixal preverb contained in the adjectival form of (86a.) appears after the adjectival stem in focus constructions involving a predicative use of the derived adjective.

I turn attention now a different type of derivation, namely, nominalization. Prefix + verb combinations and simple verbs undergo category conversion via the suffixation of nominalizing morphemes. The most productive suffixes of this type are *ság/ség* 'ness' and *ás/és.*[148] The use of these suffixes is illustrated with the lexical entries for simple verb stems in (87) and with those for prefixed verbs in (88):

[148] The less productive nominalizing suffix *at/et* will figure in subsequent discussion.

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(87a.) hat-ás N 'influence <(OBL)> < hat 'influence'
OBLcase = SUBL

(b.) érz-és N 'feeling (sensation)' < érez 'feel'

(c.) fárad-ság N 'tiredness' < fárad 'be tired'

(88a.) meg-érzés N 'presentiment' < meg-érez 'have a presentiment'

(b.) meg-oldás 'solution' < meg-old 'solve'

(c.) meg-hatott-ság 'touchedness, movedness' < meg-hat 'move'

(d.) össze-futás 'running into' < össze-fut 'run into'

The nominal status of these derivations - based on simple or phrasal verbs - becomes evident when we look more closely at the structure of NPs in Hungarian. The nominal head is the rightmost element in these phrases and is (potentially) preceded by an attributive adjective. The relevant structures are illustrated below with an NP headed by *hatás* 'influence' (89) and an NP headed by *meg-oldás* 'solution'.

(89) NP



az erös hatás
the strong influence

(90) NP



a jó meg-oldás
the good solution

If we assume that modifying adjectives occupy an invariant position with respect to the head of an NP then preverbs must be considered to be portions of a nominal. In other words, the position of the modifying phrase in the NP indicates that, e.g. *meg-oldás* is a categorial N. It is a categorial N derived from the phrasal verb *meg-old* 'solve'.

The structure of the NP is useful from another perspective as well: it helps differentiate between pieces of complex verbs that express syntactic relations to a verb vs. constituent structure complements of a verb which may express similar relations.[149] The manner in which the nature of the complement can be determined is demonstrated in the

[149] This distinction will become particularly evident in the discussion of *incorporation* in Chapter 6.

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following discussion.

A deverbal nominal formed from *ás/és* can serve as the head in possessive NP constructions. If the verbal base is intransitive, i.e. selects for a SUBJ function which must be satisfied syntactically (either by a c-structure constituent or ellipsis), then the POSS(essor) argument is equivalent to this SUBJ. If the verbal base is transitive, i.e. selects for an OBJ function, then the POSS argument is equivalent to the OBJ function. In both of these instances the POSS function is instantiated as an NP in a possessive construction.[150] Examples of these two types are presented below.

(91) (a.) a fiú nevetett
the boy laughed
'the boy laughed'

(b.) a fiú nevetése
the boy-NOM laughing-3sg
'the boy's laughing'

(c.) a fiú-nak a nevetése
the boy-DAT the laughing-3sg
'the boy's laughing'

(92) (a.) a fiú dobta a labdát
the boy threw-3sg the ball-ACC
'the boy threw the ball'

(b.) a labda dobása
the ball throwing-3sg
'the throwing of the ball'

(c.) a labdá-nak a dobása
the ball-DAT the throwing-3sg
'the thowing of the ball'

In a complex possessive construction additional functions may also appear but these must precede the participial form of the copula, *való*. Examples of complex possessive phrases are presented below: these are headed by nominalizations based on the complex verbs *be-dob* 'throw into' and *össze-fut* 'run into'.

[150] The examples in the text are base on those found in (1985). The reader should consult Chapter 2 for a description of alternate possessive constructions Hungarian.

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(93a.) a fiú be-dobta a labdát a tóba
the boy PV-threw-3sg/DEF the ball-ACC the lake-ILL
'the boy threw the ball into the lake'

(b.) a labdának a toba való be-dobása
the ball-DAT the lake-ILL PART PV-throwing-3sg
'the throwing of the ball into the lake'

(94a.) a fiú össze-futott a barátjával
the boy PV-ran the friend-3sg-INST
'the boy ran into his friend'

(b.) a fiunak a barátjával való össze-futása
the boy-DAT the friend-3sg-INST PART PV-running into-3sg
'the boy's running into his friend'

The lexical entries for these phrasal verbs are:

be-dob V' 'throw into <(SUBJ)(XCOMP)>'
$XCOMP_{case} = \alpha \in LOC$
[+motion]
[+goal]
[+containment]

össze-fut V' 'run into <(SUBJ)(OBL)>'
$OBL_{case} = INST$

Since *össze-fut* is an intransitive verb its SUBJ function plays the role of the POSS in the possessive construction (94a.). On the other hand, the additional selected complement (in this insatnce, the instrumental case-marked NP) appears to the left of *való*. Since *be-dob* is a transitive verb its OBJ function plays the role of the POSS function while its OBLgoal complement appears to the left of *való* (93b.). In other words, those functions which would ordinarily be satisfied by NPs in c-structure with verbal entries are optionally instantiated by NPs in the possessive construction.

Given the preceding, complex NPs can be utilized as a diagnostic to differentiate phrase structure complements of a predicate from portions of that predicate - some of which, such a prefixal preverbs, are determinative of lexical properties of predicates and others of which, such as the argumental preverbs examined in Chapters 6 and 7, serve to morphologically satisfy the selectional requirements of predicates. The crucial

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phenomenon to note is that phrasal complements, i.e. constituents which appear as phrasal complements in c-structure, appear to the left of *való* while elements that are portions of the verb appear to the right of *való*. The elements to the right of *való* are preverbs. This differentiation between phrase structure complements vs. pieces of predicates also conforms to the evidence presented previously concerning nominal modification: the location of nominal modifiers with respect to the nominal head of NPs suggests that preverbs are portions of derived nominals.

In summary, it appears to be the case that Hungarian contains an environment, namely an NP, in which one can examine whether an element is a part of the predicate or a clausal complement of that predicate. Preverbs, as portions of predicates, appear to the right of nominal modifiers and *való*, while arguments appear to the left of *való*.

There is a final instance of nominal derivation to be examined here: as with the derived adjectives mentioned earlier, there are certain negative nominal constructions which are formed by the interposition of the negative element *nem* between the preverb and the nominalized verb stem. A single example is presented below.

(95) be nem avatkozás
PV NEG interference
'non-interference'

This negative nominal is, clearly, related to the phrasal predicate *be-avatkozik* 'interfere, meddle' and the derived nominal *be-avatkozás* 'interference.'

The foregoing discussion suggests that if derivation is limited to occurring in the lexical component of grammar - as assumed in most generative approaches to word-formation - then the testimony of the preceding derivations concurs with the conclusion that prefix + verb constructions are lexical: if they are not lexical entities then how can we explain their participation in derivational processes which occur only in the lexicon and how can we explain (in a straightforward manner) the systematic semantic relation exhibited between prefixed verb forms and their apparent deverbal derivatives? Our

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earlier conclusion concerning the lexical status of prefix and verb constructions based on (perhaps, theory-internal criteria of) alterations of lexical forms, appears to coincide with general expectations concerning the participation of lexical entities in ordinary derivational processes.

There is one additional way in which we would expect prefix + verb combinations to participate in word-formation processes: their deverbal derivatives could function as either right or left members of compounds. In (96) and (97) we observe that such constructions do indeed occur.

(96) (a.) baromfi-tenyésztés
poultry-raising
'poultry-farming'

(b.) erö-ki-fejtés
strength-PV-display
'display of strength'

(97) (a.) vérzés-csillapitó
bleeding-pacifier
'blood-clotter'

(b.) be-melegitö-gyakorlat
PV-warming-exercise
'warm-up exercise'

In (96a.) the right member of the compound is the nominalized form of a simple verb while in (96b.) the right member is a nominalized form of a prefix + verb combination. The compounds in (97) illustrate that the left member of a compound can be either a derived form of a simple verb (97a.) or a derived form of a prefix + verb combination (97b.).

The present discussion has led to the conclusion that Hungarian possesses a vigorous strategy of predicate formation involving an odd type of prefixation: the prefixal morphemes are syntactically separable. In the following section I will argue that this is not only a tenable conclusion from a morphological perspective but an unavoidable one given the restricted distribution of prefixes.[151]

[151] As mentioned in Chapter 2, prefixation as a means of predicate formation is quite limited in Ural-

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3.4. The Concatenative Distribution of Prefixal Preverbs

In the previous discussion I demonstrated that Hungarian prefix + verb combinations can feed the same word-formation operations fed by simple verbs. However, a very significant fact about the distribution of prefixes was neglected: they are, basically, limited to occurring in complex verbs or in deverbal derivatives based on complex verbs. From a morphological perspective, then , this distributional restriction can be accounted for by associating a subcategorizational frame with the lexical entries for prefixes. This is common practice for the representation of affixes in the theoretical approaches to morphology presented earilier in this chapter. Where the present proposal diverges from common practice is that certain pieces of the resultant complex verb, i.e the prefix and the verb stem, are each accessible for insertion into c-structure. In other words, whereas in most morphological composition processes the brackets between component pieces are erased, in the present case they are retained. This was referred to earlier as *bracket retention* following Simpson (1983) and Komlosy and Ackerman (1983). On this analysis consider the following lexical entry for the prefix *meg:*

meg [_ V]

This prefix can enter into combination with e.g. *old* 'dissolve' and form the new predicate *meg-old* 'solve':

$[\,[\text{meg}]_{PV}\,[\text{old}]_{V}]_{V'}$ V' 'solve <(SUBJ)(OBJ)>'

In the preceding discussion we saw that deverbal adjectives could be formed from an entry such as *meg-old* and that bracket retention vs. bracket erasure appeared to be an idiosyncratic property associated with suffixal formatives:

---

ic. Essentially, it obtains in the Ugric branch of Uralic.

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$[[[meg]_{PV}\ [old]_V]_V,\ ható]_A$ 'solvable'

$[[megold]_V,\ hatatlan]_A$ 'unsolvable'

There is a clear derivational relation displayed by, e.g. the preceding adjectives and the phrasal verb *meg-old* 'solve'. The simplest explanation for this representative regularity between prefixes and associated stems is to treat them as affixes in the manner suggested above. This, additionally, accounts for the observed distributional restrictions of prefixes: they co-occur only with verbal stems or within deverbal derivations. An account which locates the relation between prefixes and stems in the lexicon is moreover compatible with the sort of idiosyncratic behavior exhibited by *ható* vs. *hatatlan:* the application of bracket erasure vs. bracket retention is clearly keyed the presence of these particular morphemes.

From the perspective of the revised version of lexical phonology presented earlier, these prefix and verb combinations can be considered dual entities: the rules of morphology compose a grammatical word with a particular structure while the prosodic rules apply to an entity with a somewhat different structure, i.e. they apply to the grammatical word analyzed as consisting of two phonological words.

3.5. Phonological Corroboration

It should be apparent from the preceding discussion that prefix + verb combinations participate in all manner of derivational phenomena. Their ability to serve as input to derivational processes indicates, in lexicalist theories of morphology, that they have a lexical provenance. This comports with our previous conclusion concerning their lexical status based on the inquiry into the types of lexical effects engenderd by prefixes. In the present section I examine two phonological phenomena which similarly suggest the lexical status of these entities.

Word stress and so-called *l palatalization* are two phonological phenomena which seem to suggest that prefixal preverbs + verbal stems constitute a single lexical unit. I

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briefly consider these phenomena below.

3.5.1. Word Stress

There is general consensus among linguists that - however subservient word stress may be to prosodic phenomena in Hungarian - stress exhibits a certain regularity: whether a word is stressed by virtue of its prominence in a clause or phrase or whether it appears in citation form, stress invariably falls on its initial syllable. This pattern obtains for both simple words (derived and inflected) and compounds. The phenomenon is illustrated by the examples below in which a comma precedes the stressed syllable.

(98) 'gyözhetetlen 'invincible'

(99) 'gyözelemvágy 'thirst for victory' (lit. victory-desire)

The preceding words based on the simple verbal stem *gyöz* 'win' display the same stress phenomena irrespective of whether they are derived (98) or compound (99). This pattern of stress extends to phrasal predicates and their derivatives as well. Consider the following words - related to *gyöz* - in this connection.

(100) 'meg-gyöztelek 'I convinced you'

(101) 'meg-gyözhetetlen 'unable to be convinced'

In the preceding examples the prefixal preverb *meg* bears word stress in both the phrasal predicate (100) and the adjectival form derived from this phrasal predicate (101.).

The fact that PV + V combinations participate in the stress phenomena characteristic of both simple and compound words supports the hypothesis that the PV + V constitute a word. This is an example where phonological phenomena can be utilized to corroborate suspicions concerning the lexical status of an entity.

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3.5.2. Palatalization

There are several sorts of consonantal assimilation attested in Hungarian. In the present section I will focus briefly on one variant: the consonant /j/ in certain environments engenders gemination and occasional quality changes in an immediately preceding palatal consonant. One particular alteration of this type is relevant for present purposes: the consonant *l* assimilates and becomes a geminate *jj* in certain contexts when it immediately precedes j.[152] Kenesei & Vogel (1986) observe that this phenomenon occurs in both syntactic and lexical domains. For present purposes it is important to remark on the fact that this type of palatalization occurs: 1) between a lexical base and a suffix (102a. & b.), and 2) between members of compounds (103a. & b.): that is, one clear domain for the operation of this process is the unit coextensive with incontestable morpholexical words.[153]

(102) (a.) tol-ja to[jj]a 'shove-3sg/DEF'

(b.) cél-juk cé[jj]uk 'purpose-1pl'

(103) (a.) fél-jegy fé[jj]egy 'half-price'

(b.) szél-jegyzet szé[jj]egyzet 'margin-note'

An additional context in which this assimilation occurs - as observed by Kenesei & Vogel - is between a PV with a final *l* and a verbal stem with an initial *j*. Kenesei & Vogel provide the following infinitival verb forms in illustration of this phenomenon.

(104) (a.) el-jönni e[jj]önni 'away-come-INF'

(b.) fel-jönni fe[jj]önni 'up-come-INF'

---

[152] Kenesi & Vogel (1986) is an intriguing attempt to delimit the domain of this phenomenon by developing an account of the relation between prosodic phrases, syntactic phrases, and logical form in Hungarian. The reader is advised to consult this paper for the array of factors allegedly determinative of the domain of l-palatalization.

[153] Examples are from Kenesei & Vogel 1986.

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This phenomenon occurs between the appropriate PV + V in neutral clauses with finite verb forms as well. This is exemplified below.

(105) a fiú el-játszotta a szerepet (e[jj]átszotta)
the boy PV-played-3sg/DEF the role
'the boy acted the role'

Kenesei & Vogel propose that certain prosodic stress phenomena facilitate l-palatalization in certain syntactic environments.[154] It turns out that, given this proposal, the palatalization exhibited in the preceding context is problematic for any syntactic theory in which the PV + V are not a lexical unit: if they are not a lexical unit then palatalization is hard to account for, while if they are, then palatalization simply follows from the fact that all words undergo this process. The relevant entity would, accordingly, be a lexical V' consisting of a preverbal element (either affixal or lexical) + V: since this is a lexical unit it is predicted to undergo the assimilation characteristic of lexical units. In general, then, the conclusion that PV + V represents a lexical entity would help explain why palatalization operates in this otherwise unexpected context.

The fact that PV + V combinations behave like indisputable words with respect to l-palatalization tends to suggest that they are, indeed, lexical entities.

In conclusion, certain phonological phenomena seem to corroborate the conclusion arrived at earlier on the basis of morpho-lexical criteria: PV + V collocations are lexical phrases.

3.6. General Conclusions

In summary, evidence regarding 1) the effects engendered by prefixal preverbs on lexical forms; 2) the existence of indisputable instances of morpho-lexical derivation based on PV + verb combinations; 3) the affixal complexion of prefixal preverbs from the perspective of distributional regularities; and, 4) certain phonological phenomena all suggest the

[154] Cf. Kenesei & Vogel for details.

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same conclusion: prefix + verb combinations are lexical entities despite their syntactic separability.[155]

[155] This conclusion is also congruent with several sorts of child language acquisition evidence concerning early production errors, overgeneralizations etc. Cf. Pléh et. al. (in press) for some discussion.

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Chapter 5: Pronominal Incorporation: The Case of Prefixal Preverbs

In Chapter 4 we observed that the presence of prefixes, 1) alters the meaning (either lexical or aspectual) of simple verb stems; 2) constrains the general nature of OBL complements by circumscribing the corpus of candidate case markers and postpositions associated with selected GFs (grammatical functions) or by specifying the selection of particular case-markers or postpositions; 3) augments or diminishes the number of selected complements associated with a simple verb stem; 4) reassigns GFs to predicate arguments; 5) effects variable semantic selectional restrictions on predicate arguments; 6) licenses zero anaphora in certain constructions.[1] Additionally, it can be demonstrated that simple verbs and prefix + verb combinations feed the same derivational processes: 1) host various verb derivational morphemes; 2) host category changing morphemes, and; 3) having undergone nominalization processes can serve as either the right or left member of nominal compounds.

Recent speculation concerning the relative scope of lexical vs. syntactic rules suggests that the properties enumerated above are engendered by the application of morpholexical rules: the preverb + verb combinations are, consequently, assumed to have a lexical status.

Finally, from the vantage of constraints on the concatenation of morphemes prefixes are most efficiently interpreted as possessing their own subcategorizational requirements: they only appear with verbs or within deverbal derivations.

In the present chapter, we will examine a set of approximately 10 prefixes (of variable productivity) which differ from the 40 or so other prefixes in displaying a sole peculiarity: they can host possessive suffixes (PXs) indicating the person and number of some selected argument. Since many of these forms are identical to suppletive or oblique forms

[1] This is clearly related to 3 above.

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of personal pronouns and inflected postpositions the discussion will begin with an introduction to the form and function of these pronouns and postpositions. Since I will propose an interpretation of inflected postpositions in terms of 'pronominal incorporation' I will make a brief but necessary digression into the analysis of the synthetic vs. analytic expression of personal pronouns in several other languages, notably, the Celtic languages Irish and Breton and the Bantu language Chichewa. It is not the data from these languages which is of central significance (indeed, the presentation of data from these languages will be quite limited) but rather, 1) the striking similarity in the distribution of agreement morphology/incorporated pronouns across several categories, and; 2) the theoretical analyses these data and this distribution have spawned. Hale and McCloskey (1984) interpret the relevant Irish facts as evidence for the existence of (obligatory) null arguments in phrase structure. Anderson (1982) proposes that similar data from Breton argue for an analysis in terms of the obligatory syntactic incorporation of pronominals into a word form of several categorial types. Bresnan and Mchombo (1985) endorse an 'incorporation' analysis but one in which incorporation is accomplished morpho-lexically. I will accept the general outlines of Bresnan and Mchombo's proposal and demonstrate how it can be applied to the analysis of inflecting postpositions (and more broadly, possessive morphemes (PXs)) in Hungarian. The 'incorporation' analysis will then be extended to account for the errant behavior of certain PVs which bear inflectional markers and which are isomorphic to inflecting postpositions and case-markers. These PVs enter into the morpho-lexical processes of predicate formation presented previously.

1. Postpositions and Case-Markers

This section is devoted to an analysis of certain pronominal forms in Hungarian. Hungarian oblique personal pronouns are, essentially, personal forms of inflected synchronic case-markers.[2] Since these forms resemble inflected postpositions in several respects it is necessary to make some general comments on the relation between case-

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markers and postpositions in this language.

The large inventory of case-markers in Hungarian finds its historical source in the agglutination of postpositions to nominal stems and the subsequent attrition of final segments from these former postpositions. Their diachronic relation to one another is exhibited, among other ways, by the fact that both forms participate in similar basic spatial discriminations and that many forms from both categories can host inflectional morphemes from the possessive paradigm (PX markers). The following subsections describe these latter similarities between postpositions and case-markers.

1.1. Inflecting Postpositions and Oblique Personal Pronouns

In Chapter 2, I observed that Hungarian (as well as most of Uralic) makes a three way distinction for spatial and locational relations irrespective of the case or postpositional encoding of the relevant notions. I represent this pervasive tripartite discrimination in terms of features associated with the general label LOC:

LOC:

[-motion] = stationary presence

[+motion] = incipient or directed entrance
[+goal]

[+motion] = incipient or directed egress
[-goal]

These features will be utilized to characterize the classes of postpositions and case-markers below.

1.2. Inflecting Postpositions

A large number of postpositions and case-markers participate in paradigms whose

[2] The reader should consult Chapter 2 for criteria which can be utilized to distinguish postpositions from case markers in modern Hungarian. The diachronic relation between these entities will be apparent throughout the present chapter.

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columns are determined by the feature values of LOC. Cells of the paradigm are determined here by the person/number features of PXs which appear suffixed to these postpositions and case-markers. Consider the following paradigms for postpositions:

Canonical Forms:

	[-motion]	[+motion] [+goal]	[+motion] [-goal]
'behind'	mögött	mögé	mögül
'under'	alatt	alá	alól
'before'	elött	elé	elöl
'above'	fölött	fölé	fölül
'between'	között	közé	közül[3]

Forms Inflected with PX: 'behind'+PX

1sg.	mögött-em	mögé-m	mögül-em
2sg.	mögött-ed	mögé-d	mögül-em
3sg.	mögött-e	mögé-(je)	mögül-e
1pl.	mögött-ünk	mögé-nk	mögül-ünk
2pl.	mögött-etek	mögé-tek	mögül-tek
3pl.	mögött-ük	mögé-jük	mögül-ük

There are, additionally, several postpositions which do not participate in three way paradigms but can host PXs:

[3] It should be evident that these forms can be further analyzed into *Vt* (the former LOC(ative) case marker), V (the former LAT(ive) case marker, and *Vl*. Historically, these case markers were suffixed to nouns and these nouns entered in apposition with other nouns. Cf. Chapter 2 for discussion. These nominal constructions of apposition are, apparently, the source of postpositions in Hungarian.

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Canonical Forms:

után	'after'
miatt	'because'
végett	'because'
felé	'toward'
felöl	'about'
körül	'around'
nélkül	'without'
szerint	'according'
által	'through'
ellen	'against'

Sample Form Inflected with PX: 'after'+PX

1sg.	után-am	1pl.	után-unk
2sg.	után-ad	2pl.	után-atok
3sg.	után-a	3pl.	után-uk

The canonical forms of inflecting postpositions appear whenever the dependent argument of the postposition is a lexical NP or demonstrative pronoun:

(1) az asztal mögött
the table behind
'behind the table'

The 3rd person inflected form of the postposition appears whenever a 3rd person definite referent is intimated and there is no lexical NP:

(2) mögött-e
behind-3sg
'behind-s/he/it'

In contemporary Hungarian, a lexical NP cannot co-occur with an inflected postposition:

(3) *az asztal mögött-e
the table behind-3sg
'behind the table'[4]

[4] In old Hungarian (even up to the 19th century and, apparently, attestable in certain modern dialects) a lexical NP could co-occur with an inflected postposition. (Cf. Maracz (1984) for an attempt to explain such phenomena in terms of AGR within the Government and Binding framework.) In such instances the OBJ of the postposition would occur in the DAT case. This was (and is) the typical alter-

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Overt personal pronouns exhibit quite restricted distribution with inflecting postpositions. The NOM form of personal pronouns occur cliticized to the inflected postposition only in communicatively marked contexts. Combinations of NOM pronoun and inflected postposition signal the Topic or Focus (or otherwise emphatic) status of the given constituent:

(4) EN-mögött-em (only if emphasized[5])
1sg-behind-1sg
'behind-ME'

TE-mögött-ed
2sg-behind-2sg
'behind-YOU'

O-mögött-e
3sg-behind-3sg
'behind-S/HE/IT'...

An illustration of the emphatic use of the inflected pronoun *elött* is presented below:

(5) szerintem valaki már **énellöttem** el-kapta
according-1sg somebody already before-1sg PV-caught-3sg/DEF
'in my opinion somebody got to him before me!'

---

nate strategy for the marking of the POSS function in possessive constructions. This is not unusual since in most instances the postposition is itself historically a case-marked form of a nominal. In these postpositional constructions (as well as in modern possessive constructions) the DAT NP and the inflected head can constitute discontinuous constituents in c-structure. A frequent comment with respect to the use of the DAT alternate is that it was utilized in communicatively marked contexts: the DAT was construed as the T(opic) or F(ocus) of the clause.

It would probably be incorrect to interpret DAT marking in such instances as lexically governed by P. Rather, it would be reasonable to interpret DAT marking as being contructionally governed by the possessive construction. We will see below that certain postpositions do, in contrast, lexically govern the case marking of their complement.

Finally, it is intriguing to note that the distribution of canonical vs. inflected postpositions in modern Hungarian parallels the distribution of canonical vs. inflected prepositions in Breton:

i) din 'to me' ii) din-me 'to me' (emphatic)

iii) da Yannig 'to John' iv) * dezhañ Yannig 'to John'

In (iv) the 3sg inflected form of the preposition cannot co-occur with a lexical NP.

[5] Focus intepretation is given in these examples.

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I will return to investigate the evident co-occurence restrictions between lexical NP and PX markers after examining the set of case markers (CMs) that inflect with PXs.

1.3. Inflecting Case-Markers

The combination of CM[6] and PX function as *oblique* personal pronouns. Once again, the markedness features associated with LOC are relevant for a large set of these forms:

Morphological Case Form:

	[-motion]	[+motion] [+goal]	[+motion] [-goal]
'containment'	-ban/ben	-ba/be	-bol/böl
'surface'	-n/Vn	-ra-re	-ról/röl
'proximity'	-nál/nél	-hoz/hez/höz	-tól/töl

Sample Form Inflected with PXs: 'onto' + PX

1sg.	rá-m	1pl.	rá-nk
2sg.	rá-d	2pl.	rá-tok
3sg.	rá/reá	3pl.	rá-juk

As with postpositions, certain case-markers which do not participate in tripartite paradigms can host PXs:

Morphological Case Form:

-val/vel	'with'
-ért	'for' (cause or motivation)
-nak/nek	'to, for' (DAT)

Sample Form Inflected with PXs: 'with' + PX

1sg.	vel-em	1pl.	vel-ünk
2sg.	vel-ed	2pl.	vel-etek
3sg.	vel-e	3pl.	vel-ük

[6] Although case-markers (CMs) are ordinarily bound morphemes in the present instances they serve as bases for the suffixation of PX markers. The reader should recall that the majority of such case-markers are historically related to postpositions. Given this connection it may not seem so strange to speak about 'inflected case-markers'.

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As was the case with inflecting postpositions, the NOM form of the personal pronoun may appear as a proclitic on the case-marker + PX complex:

EN-rá-m	'onto-ME'	MI-rá-nk	'onto-US'
TE-rá-d	'onto-YOU'	TI-rá-tok	'onto-YOU' (pl)
O-rá/reá	'onto-S/HE/IT	O-rá-juk	'onto-THEM'[7]

In the preceding examples - as in similar examples with inflected postpositions - the presence of the personal pronoun signals the marked discourse function of the entire constituent. This constituent is emphasized in some manner.

1.4. Postpositions Governing Oblique Cases

Finally, there is a small number of postpositions which govern an oblique case for their dependent arguments. In general, these postpositions cannot host PX morphemes. They will, consequently, be referred to as *non-inflecting* postpositions.[8]

alul	P	'under <(OBJ)>' $OBJ_{case} = SUP$	kívül[9]	P	'beyond <(OBJ)>' $OBJ_{case} = SUP$
át	P	'through <(OBJ)> OBJcase = SUP	szemben	P	'opposite <(OBJ)>' OBJcase = INST
belül	P	'within <(OBJ)> OBJcase = SUP	túl	P	'beyond <(OBJ)>' OBJcase = SUP
együtt	P	'along (with) <(OBJ)>' OBJcase = INST	végig	P	'to the end <(OBJ)>' OBJcase = SUP

---

[7] The focus interpretation is indicated in these examples.

[8] This list is illustrative not exhaustive.

[9] To the best of my knowledge this is the only governing postposition which can also host PXs. In particular, to express the notion 'beyond me' it is possible to employ either of two forms:

i) rajtam kívül ii) kívül-em
I-SUP beyond beyond-1sg

It is not possible to emply the inflected with the governed form of the personal pronoun:

iii) * rajtam kívül-em
I-SUP beyond-1sg

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The preceding list contains the presumable lexical entries for the relevant entities. The way to express the notion e.g. 'together with person/number', is to use the postposition *együtt* along with the appropriate oblique form of the personal pronoun.

vel-em együtt 'along with me'
vel-ed együtt 'along with you (sg)'
vel-e együtt 'along with s/he/it'...

These case governing postpositions can be satisfied by the overt presence of an (oblique) personal pronoun. This contrasts with the constraint against overt personal pronouns with inflecting postpositions (in similarly neutral/unmmarked contexts).

Personal pronouns in the NOM case can appear as proclitics alongside the inflected forms of case-markers. This construction resembles the proclitic use of NOM personal pronouns with inflected postpositions. In both instances the entire constituent is interpreted as communicatively marked.[10]

(6) En-velem együtt 'along with ME'
TE-veled együtt 'along with YOU'
O-vele együtt 'along with HIM/HER/IT'...etc.

The argument requirement of case-governing postpositions can, naturally, be satisfied by a lexical NP as well:

(7) Arpád-dal együtt
Arpád-INST along
'along with Arpád'

Having seen the lexical entries for governing, non-inflecting postpositions, the reader should consider the following representative entries for inflecting postpositions and case-markers.

[10] I have provided only the Focus interpretation here.

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mögött P 'behind [-motion] <(OBJ)>'

-ra/re CM [{N/A} _][11] 'onto [+motion]/[+goal]'

Oblique personal pronouns are formed by suffixing the appropriate person/number morpheme from the PX paradigm onto any of the approximately 14 case-makers which can accomodate them.

At this juncture I will pause and evaluate the phenomena presented thus far. Several Hungarian postpositions and case-markers inflect for the person and number of their dependent argument. The morphological markers utilized for this come from the possessive paradigm (PX). The same paradigm is employed for inflected postpositions/case-markers, possessed NPs in possessive constructions, and for inflected infinitives.[12] Inflecting postpositions exhibit complementarity with respect to argument satisfaction: the canonical form of the postposition occurs with a lexical NP but the inflected postposi tion is incompatible with the presence of a lexical NP. An overt proclitic (NOM) pronominal can co-occur with an inflected postposition but this collocation signals some marked discourse emphasis. There is a second complementarity: the satisfaction conditions displayed by inflecting postpositions contrasts with non-inflecting ones: whereas the former do not co-occur with overt pronominals (except in communicatively marked contexts) the former must co-occur with the appropriate oblique pronominal forms in order to convey the desired person/number distinctions. Finally, the use of PX markers with postpositions exhibit a restriction not evident in other uses of these markers: whereas the PX markers on postpositions cannot co-occur with lexical NPs these markers can co-occur with lexical NPs in their other uses. In two such instances, namely, possessive constructions and inflected infinitives optionally present arguments occur in the DAT case.[13]

[11] Following various proposals in generative morphology (citations) the lexical entries for morphemes contain subcategorizational information, i.e. information concerning the surface location of morphemes in terms of the syntactic categories they co-occur with.

[12] The latter constructions will figure in subsequent discussion. Cf. Chapter 6.

[13] There is no evidence that the head of such constructions lexically governs case-marking for these

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2. Theoretical Perspectives

Recently there have been several attempts within the theoretical literature to account for the types of distributions between inflectional morphemes and syntactic constituents described so far. In the present section I will briefly review some of these proposals and adopt an approach in terms of *pronoun incorporation* for the analysis of the Hungarian data.

2.1. An Agreement Analysis of Irish Inflection

McClosky and Hale (henceforth M&H) present several sorts of inflection in Irish. Verbal paradigms (in certain dialects) exhibit a split with respect to the analytic vs. synthetic encoding of person/number distinctions. The following paradigm illustrates this distribution:

cuir 'put'

chuirfinn	'I put'	chuirfimis	'we put'
chuirfea'	'you put'	chuirfeadh sibh	'you put'
chuirfeadh se'	'he put'	chuirfeadh siad	'they put'
chuirfeadh si'	'she put'		

As can be seen, whereas person/number is expressed synthetically in 1sg, 2sg and 1pl the remaining discriminations are expressed analytically. Crucially, synthetic encoding precludes the appearance of an overt pronominal. In contrast to most instances of pro drop, i.e. the optional omissibility of pronominals from surface structure, pronominals are strictly prohibited from appearing in surface structure with the synthetic verb form. M&H extend their discussion to include inflecting prepositions and inflected possessed arguments of possessive constructions. They demonstrate that the (obligatorily) absent argument in all three constructions bears a sufficient resemblence to one another with respect to various sorts of syntactic behavior as to require a uniform analysis. They propose

arguments. Rather, DAT marking appears to be a constructional property. I will not examine case-assignment of this sort here.

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that in all instances the Irish inflectional markers are encodings of AGR and that the obligatorily null argument shares the same features as a governing AGR. This proposal is succinctly stated in the following condition:

> * pro unless governed by AGR for F some combination of
> [αF] [αF]
> person-number features.

A noteworthy peculiarity of this analysis is how it departs from the usual case of pro drop. In the present instance it seems odd to speak of agreement since there is not and moroever cannot be any overt constituent with which AGR agrees. In contrast, in common cases of pro drop a pronominal can appear and demonstrably exhibit features identical with those of an agreeing morpheme. This peculiarity is noted by M&H and led them to discuss (and eventually dismiss) an analysis in which the inflectional markers are interpreted as themselves pronominals, i.e the so-called 'incorporated pronoun' analysis. We will turn to this alternative as proposed by Anderson after looking a little more closely at the sort of morphology which might provide the correct synthetic and analytic forms. Perhaps the most salient aspect of M&H's analysis is their claim that these Irish data necessitate postulating empty nodes in syntactic configurations: a claim intended to indicate the superior explanatory force of Government and Binding theory. We will see below, however, that equally compelling alternatives which do not entail phantom constituent structures are both formulable and intriguing.[14]

2.1.1. The Morphological Elsewhere Condition

McClosky (1985, 1986), in an article focusing on particular aspects of issues raised in MH, makes the following observation with respect to the complementarity exhibited between synthetic forms and analytic expression: "It is also true that use of an agreeing form of V, P, or N is obligatory if one is available." At this point he appeals

[14] The Irish phenomena may be interpreted as instances of the general morphological tendency referred to as *head-to-head-attraction* in the previous chapter.

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to an analysis presented in Andrews (1984) in terms of a Morphological Elsewhere Condition (MEC). I turn now to a brief discussion of the MEC.

Andrews' proposal is intended to account for the Irish facts as well as for a scatter of phenomenally similar facts in other languages. He isolates two effects which have particular relevance here and which any adequate account must address: 1) mutual exclusion, i.e. the appearance of either a synthetic or analytic form and not a commingling of strategies,[15] 2) morphological blocking, i.e. when a morphological (synthetic) form exists this has priority over the presence of the analytic form.

Mutual exclusion, on this account, follows from the well-formedness condition within LFG called 'consistency' or 'functional uniqueness'. The definition of Consistency is provided below.

Consistency

Every grammatical function and every functional feature must have a unique value

The effect of this condition is to prohibit two separate constituents with PRED feature values from being indexed with the same selected GF.

In the present instance, mutual exclusion of synthetic and analytic forms is predicted if the inflectional marker itself contributes a PRED feature, i.e. PRED = pro; the inflectional marker is a pronominal. The relevant grammatical function requirement of an argument taking predicate is uniquely satisfied by the PRED feature contributed within the morphology. If, with respect to the analytic form, the requisite PRED value derives from an element in c-structure then consistency prohibits the satisfaction of the relevant selectional requirement by any morphological element.[16] Andrews assumes an

[15] Andrews does address certain instances where the two strategies are mixed but notes that such constructions are communicatively marked. In other words, the overt c-structure constituent appears to bear a discourse function such as Topic or Focus rather than serving to satisfy the argument requirement of some argument taking predicate. Cf. reference to anaphoric binding in the discussion of possessive 'agreement' below.

[16] An analysis of this sort, i.e. utilizing consistency to explain mutual exclusiveness, has been proposed by Grimshaw (1982) in order to account for the complementarity evident between clitics and lexi-

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incorporation analysis whereby the inflectional marker is interpreted as an argument contributing the feature PRED = pro.

Although the attested complementarity can be accounted for by consistency another dimension to the problem remains: what determines the appearance of one particular form over the appearance of a form which covers the same notional territory? Andrews proposes 'morphological blocking' as an answer to this question.

Morphological blocking is accomplished according to the Morphological Elsewhere Condition:

> A form A cannot appear in a structure X if there is a form B morphologically dependent on A and more highly specified than A such that the f-structure associated with B is included (not necessarily properly) by the functional substructure corresponding to A in X.

An illustration is required to make the purport of this proposal clear. Consider the English verb 'like' and the inflected form 'likes'. On Andrews account these forms can be represented as follows:

```
      like
[PRED 'like <SUBJ, OBJ>']
        |
        |
      likes
[ TNS    PRED ]
[ SUBJ   PERS 3 ]
[ SUBJ   NUM  SG]
```

In such configurations, the mother node, i.e. the root, will be given the value A while subordinate nodes, i.e. leaves, will be given the value B. B is by definition a morphological dependent of A. A and B will share PRED feature values, i.e. the lexical form associated with PRED, by virtue of the mother-daughter dependency. In an obvious sense, this makes them related forms of the same word. B, in the preceding diagram, is more highly

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cal NPs in French.

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specified than A since B unlike A is associated with feature values for one of its selected arguments, i.e. for the SUBJ. These feature values are determined by the morphology since they are contributed by the suffixation of a morpheme i.e. -s, which carries this information. This is what it means for B to be morphologically more specified than A.[17]

The MEC can be applied to Irish inflection in the following manner. Since the morphologically composed synthetic forms share the PRED feature associated with the analytic forms but are associated with additional information, i.e. the person/number information about their SUBJ function, they are more highly specified than the the analytic forms.

The manner in which one determines the appropriateness of a given morphological form (synthetic vs. analytic) for a particular sentence becomes evident when one considers the following scenario. Let's assume that an f-structure has been induced from a c-structure containing the analytic form. The MEC claims that if this f-structure could have been built on the basis of the synthetic form, then it is ill-formed if it is based on the analytic form: in other words, the more highly specified form is the only appropriate one with this f-structure. This can be illustrated with reference to the Irish verb paradigm presented earlier. Let's assume that the analytic form *chuirfeadh* co-occurs with the first person, plural SUBJ pronoun in c-structure. In this instance, the f-structure induced by this clause will have a SUBJ PRED feature specification indicating that the SUBJ is pronominal and has the features first person and plural. However, this is precisely the f-structure which the synthetic verb form *chuirfimis* (1st, pl.) would have provided. As a conseqence, the analytic form is in inappropriate with this f-structure: the morphologically more specified form should have been selected.

In this manner, then, the MEC provides a portion of the complementarity associated with these forms; it explains why certain pronouns cannot co-occur with the analytic forms. However, we also must account for the fact that synthetic forms cannot co-occur

[17] The reader should recall here the presentation of feature percolation presented in Chapter 4.

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with any overt pronominals in c-structure. Consistency explains this aspect of complementarity: if a c-structure pronominal were present with the form *chuirfimis* the proniminal features introduced by the synthetic form would compete with the features introduced by the overt pronominal for determining the PRED feature value of the SUBJ. Even if these features are identical the SUBJ's features cannot be uniquely specified as required by this well-formedness condition.

2.2. Pronominal Incorporation in GB

Within the Government and Binding framework there has been an alternative proposal to the type of analysis found in MH for another Celtic language. Anderson (1982) considers inflectional morphology in Breton which closely resembles the phenomena in Irish and concludes that such morphology is pronominal:

> Suppose, then, that we identify the pronominal agreement with the missing set of subject pronouns. Suppose, that is, that we posit a rule which locally moves a pronoun subject into the position of verbal agreement (obligatorily). In that case, the behavior of agreement as a pronominal would follow directly from the fact that it is basically a pronoun (in subject position), and the absence of the expected subject pronouns would follow from their obligatory incorporation into the verbal morphology. - 1982:

In this GB analysis the hypothesis of pronominal incorporation explains two phenomena: 1) the pronominal complexion of AGR, 2) the complementary distribution of AGR and overt c-structure pro nouns. Anderson argues that an augmented version of GB's binding conditions provide the explanation for these properties. If AGR in Breton is a referential element (in this instance a pronominal) then it must be free in its governing category and it can serve as a (c-commanding) governing category in order to properly bind an empty category. The proscription against overt SUBJs co-occurring with AGR follows from the possibility of AGR binding the empty SUBJ position and the impossibility of AGR binding a referential constituent in SUBJ position (such entities must be free in their govern-

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ing category.) Additionally, the inability of Topic arguments to co-occur with AGR and overt SUBJs admits of a similar explanation: the Topic can bind the empty SUBJ position but if it also bound AGR then AGR, a referential element, would be bound rather than free. This would violate condition B of the Binding Theory. It is these instances of binding by Topic that require an extension of the usual binding conditions in order to permit A' binding.

Anderson's crucial intuition, for present purposes, is the hypothesis that the Breton facts are not instances of agreement but rather of (obligatory) pronominal incorporation. A similar interpretation can be defended for Irish inflection as presented previously. There are clearly several aspects to such an analysis. First, there is the claim that AGR is really a pronominal. Second, there is the claim that this pronominal is co-indexed with an empty argument position. Third, there is the hypothesis that we are dealing with "obligatory" incorporation, i.e. a syntactic movement rule creates a morphologically composed entity. Anderson comments on this last property:

> Our conclusion, then, is that the morphological material which represents agreement in Breton is an element which has an independent function in the syntax, and which is in fact generated by the rules of the base outside of the word in which it ultimately appears.

The first assumption of Anderson's analysis, i.e the pronominal nature of the relevant inflectional morphology, appears to be theory neutral. On the other hand, the latter two features appear theory bound. In particular, coindexation with an empty argument position and movement appear to entail a theory such as GB. An adequate analysis of such data, however, may not necessarily entail such a theory. Bresnan and Mchombo (1985) account for similar distributions of inflectional morphology and overt referring expressions in a theory which does not countenance empty nodes in c-structure and which prohibits word formation via syntactic operations. The basic intuition regarding the status of apparent agreement morphemes as pronominals, however, remains constant.

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2.3. Pronominal Incorporation in LFG

Bresnan and Mchombo's analysis is formulated within the theory of Lexical Functional Grammar. This theory strictly delimits the domain of word formation: word formation occurs solely in the Lexicon. On the basis of this hypothesis several linguists working within this framework have developed accounts of 'incorporation' (where an element with an independent syntactic function (in Anderson's sense) becomes a portion of, e.g. a verb) via the application of lexical rules. The effect of such a lexical rule is to alter the lexical form of a simple verb stem by adding certain specifications, e.g. OBJ PERS = α, OBJ NUM = β, to the selected GF instantiated by the incorporated element. In effect, the PRED feature of the resultant complex verb is partially satisfied in the morphology. This analysis of incorporation is illustrated below with an example from Greenlandic Eskimo: (from Simpson 1983)

(8) angisuunik qamuteqarpoq
big-NOM-PL-INST sled-have-INDIC-3sg
'he has a big sled'

Simpson hypothesizes that the preceding incorporated verb form bears an equation specifying that its OBJ function is 'sled'. This equation appears in the lexical entry of the simple verb 'have' as a result of a morphological process of incorporation. In effect, morphological incorporation creates lexical forms for complex verbs which contain a selected function whose PRED feature value is specified.[18] An obvious consequence of incorporation, on this interpretation, is that the morphological satisfaction of argument requirements precludes the simultaneous satisfaction of identical functions by an independent c-structure constituent. This is proscribed by the well-formedness condition referred to as *consistency* earlier.

It is interesting to observe certain additional properties of incorporation on this

[18] Cf. Chapter 6 for an elaboration of instances where pieces of complex lexical items satisfy the selectional demands of a verb form.

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analysis. Subcategorization or selection in LFG is for grammatical function rather than for syntactic category as in most other generative theories. As a consequence, lexical categories (zero level categories) are permitted to satisfy selectional requirements of predicates. This is, in fact, what appears to be occurring in many instances of incorporation: a lexical category with the appropriate function satisfies a subcategorizational requirement of the predicate. A corollary of the fact that lexical categories behave in this manner is the appropriateness of handling such complex constructions morpho-lexically: the lexicon is generally acknowledged as the locus for the combination of lexical categories such as in compounding.

An account of incorporation along these lines obviates the need to appeal to the generation of (virtual) c-structure positions and consequent obligatory incorporation of elements occupying such positions into landing sites within a verb form.[19] It is not that the lexicalist analysis is necessarily superior to the latter but rather that it, presently, seems more compatible with basic assumptions of the theory within which it is formulated. The latter type of analysis raises at least as many questions as it purports to answer. For example, What is the status of obligatory movement rules in such a grammar? What sorts of rules move non-maximal lexical categories? Is the landing site of such movement an A' position: Is the position within the V interpretable as an A' position? Why do just the movement rules under discussion move non-maximal constituents to positions within the verb or more generally, an argument taking predicate? Are these movement rules the same type as that presupposed in the joining of AGR (or more generally, INFL) and the verb in English? Is the resemblance between incontestable morpho-lexical compositions, i.e. words formed within the lexicon, and the entities allegedly formed by syntactic verb movement or 'rule R' fortuitous? These and other questions would seem to require answers before an analysis along syntactic lines becomes compelling.

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[19] Cf. Anderson above.

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Bresnan and Mchombo's analysis of Chichewa verb and preposition 'agreement' utilizes the hypothesis that morpho-lexical processes can create partially specified lexical forms. On their analysis, the alleged OBJ agreement marker of Chichewa is actually an incorporated pronoun while the SUBJ agreement marker alternately functions as a pronoun or as an agreement marker.[20]

I would like to highlight just a few aspects of this analysis. This lexicalist analysis accounts for complementarities between incorporated pronouns and lexical NPs in the manner illustrated for Andrews' proposal previously: well-formedness conditions of the theory outlaw these co-occurrences. It accounts for the selection of the synthetic, i.e. incorporated, verb form vs. analytic form by adopting Andrews' Morphological Elsewhere Condition: it should be recalled that synthetic forms are morphologically more highly specified than analytic ones.

Although it will play only an indirect role in subsequent analysis it is worth mentioning that Bresnan and Mchombo relate the distribution of incorporated phenomena to a recent typological distinction between *'head-marking'* and *'dependent-marking'* languages proposed in Nichols (1985). On Nichols' account languages can be classified according to whether they (primarily) indicate syntactic relations as morphological marking on the heads of categories or on dependent elements, e.g. case-marking. The 'inflections' exhibited in Irish, Breton and Chichewa are classifiable as instances of head marking. This typological classification is significant, for present purposes, inasmuch as it postulates the complementary strategies of synthetic vs. analytic encoding as basic oppositions amenable to analysis along the lines proposed by Andrews.[21]

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[20] The ambiguous nature of certain verbal morphology with respect to alternately functioning as a pronominal or as an agreement marker is attributed to the degree of lexicalization of diachronically incorporated pronominals. Given the well-attested historical relation between agreement morphology and former independent pronouns there is no particular reason to assume that all such observable diachronic processes have achieved a final unambiguous state. Indeed, the differential behavior of languages in this domain attests to such variability of development. The utilization of optionality, then, should be interpreted as a means to account in a simple way for attested cross-linguistic as well as language internal behavior. The reader is referred to Bresnan & Mchombo (1985) for detailed arguments bearing on this claim.

[21] As seen in Chapter 2, Nichols acknowledges that there are languages intermedate between these extremes and refers to them as *double marking* languages. Hungarian is legitimately included in this

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3. Pronominal Incorporation and Postpositions

We can now return to the distribution of PX markers and lexical NPs (including demonstrative pronouns) reviewed earlier. The reader should recall that the following distributions require explanation: 1) the complementarity evident between the inflected form of a postposition (synthetic encoding), and the canonical form of a postposition when accompanied by a lexical NP or demonstrative pronoun (analytic encoding), 2) the difference in co-occcurence restrictions exhibited by PX markers on postpositions vs. on the possessed head of possessive constructions, 3) the different possibilities in overt argument satisfaction for person/number features exhibited by inflecting vs. non-inflecting postpositions. Moreover, we will require a means to generate the appropriate synthetic vs. analytic forms of these postpositions. Each of these issues will be addressed in turn.

I repeat below the lexical entry for the inflecting postposition mögött *'behind'*, as well as the licit distributions it participates in:

(9) mögött P 'behind <(OBJ)>'

(10) (a.) az asztal mögött
the table behind
'behind the table'

(b.) mögött-e
behind-3sg
'behind s/he/it'

An inflected postposition cannot co-occur with a lexical NP or demonstrative pronoun:

(11) * az asztal mögött-e
the table behind-3sg

(12) * e mögött-e
this behind-3sg

---

category.

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3.1. Inflecting Postpositions and Conjunction

The evident complementarity between inflected postpositions and lexical NPs naturally leads to certain complications in conjoined structures: since pronominal reference is indicated by the PX marking on a postposition and lexical NPs cannot co-occur with inflected postpositions, a potential problem arises when it is desirable to conjoin a pronominal and a lexical NP in a postpositional phrase. There are two attested solutions to this problem. The first is to conjoin postpositional phrases instead of conjoining the NPs contained in a single postpositional phrase. The second is to conjoin a lexical NP with the inflected postposition.[22] The relevant structures are presented with the symmetrical postposition *között* 'between'. The structures in (13a. & b.) exemplify the conjunction of two lexical NPs, examples (14a. & b.) the conjunction of a pronominal referent and a lexical NP,[23]

(c.) the conjunction of two postpositions with pronominal reference.

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[22] The first solution is the form prescribed by grammars while the second is the strategy often employed during discourse. I thank András Kornai for discussion concerning these alternatives.

[23] Example (14b.) is quite similar to the conjunction facts cited by M & H and further examined in McClosky (1986) in favor of the AGR interpretation of inflection for Irish verbs, prepositions and possesive phrasese. On their interpetation the existence of this type of conjunction involving, e.g. prepositions, suggests the following underlying structure:

i) AGR NP
[αF]

pro CONJ NP
[αF]

The obligatorily absent 'pro' element is referentially identical with AGR. In other words, the relevant conjunction facts are interpreted as evidence in favor of the postulation of null categories in syntactic structure and the AGR analysis of inflection. I forego further discussion here of the theoretical ramifications posed by the Irish and Hungarian facts. In Ackerman (1987a.) I examine the Hungarian data from the perspective of the incorporation analysis proposed in the present chapter.

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(13) (a.) a konzultácio Árpád és Marika **között**
the consultation Arpad and Marika between
'the meeting between Arpad and Marika'

(b.) * a konzultácio Arpad **között** és Marika **között**
the consultation Arpad between and Marika between

(14) (a.) a konzultácio **közte** és Árpád **között**
the consultation between-3sg and Arpad between
'the consultation between her and Arpad'

(b.) ? a konzultácio Arpád és **közte**
the consultation Arpad and between-3sg
'the consultation between Arpad and her'[24]

c.) a konzultácio **köztem** és **közted**
the consultation between-1sg and between-2sg
'the consultation between me and you'

The following sentence exemplifies the use of this type of postpositional phrase:[25]

(15) **közötte** és az ige **között** egy jelentéktelenebb szó foglal helyet
between-3sg and the verb between a more insignificant word occupy place
'a more insignificant word occupies the place between it and the verb'

For present purposes it must suffice to focus on certain descriptive aspects of this distribution and postpone discussion of their theoretical implications for another forum (cf. Ackerman 1987a.). The repetition of the symmetrical postposition is permitted when it is inflected: that is, repetition is the common strategy with pronominal referents (14b. & c.) while it is apparently proscribed with lexical NPs (13b.). The existence of these options may be related to the general prohibition against the co-occurence of lexical NPs and inflected postpositions: the recourse to repetition insures that a lexical NP is not in con-

[24] For certain native speakers it appears that constructions with symmetrical postpositions like *között* are considerably better than with non-symmetrical postpositions such as *mellett* 'beside'. These speakers find constructions such as:

i) ?? Arpád és mellette
Arpad and beside-3sg
'beside him and Arpad'

quite questionable and prefer the strategy in which the an inflected postposition conjoins with a PP.

[25] The example is taken from Molecz 1900:83.

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stituency with, i.e. is not a sister of, an inflected postposition. This sort of explanation is even compatible with an example such as (14b.) if the first conjunct is interpreted as having undergone the sort of ellipsis of repeated constituents observed elsewhere in Hungarian grammar.[26] In the present case, an element is missing from the first conjunct since, as commonly attested in left-branching constructions (Ross 1970), the head must appear as the rightmost element while identical constitutes to its left can be omitted. A construction such as (14b.) is, consequently, reminiscent of *conjunction reduction* phenomena.

In general, then, the presence of a PX precludes the presence of a lexical NP or demonstrative pronoun. This (by now) familiar instance of mutual exclusion is predicted by the well-formedness condition *consistency* on the assumption that PX is an incorporated personal pronoun. The postposition, e.g. *mögött* selects for a single dependent function. For grammatical completion, then, there must be some single constituent whose PRED feature satisfies this selectional requirement. Naturally, a lexical NP or demonstrative pronoun can supply this PRED feature. What would preclude a PX marker from co-occurring with one of these constituents? If these PX markers are associated with the equation for personal pronouns, i.e. PRED = pro, then the PRED feature of the lexical NP or demonstrative would compete with PXs in the satisfaction of the single selected GF associated with the postposition. This would eventuate in an inconsistent f-structure for the relevant sentence: a single GF would be associated with two necessarily independent, i.e. uniqueness of PRED indexation, PRED feature values. Conversely, the mere presence of a PX marker on a postposition suffices to satsfy the selectional demands of that argument taking predicate. As an incorporated pronoun the PX is, once again, associated with the feature value for ordinary pronouns, i.e. PRED = pro. The dependent argument of the postposition is, consequently, interpreted as a pronominal: its feature value is 'pro'.

Complementarity, then, follows from PRED uniqueness in tandem with the indepen-

[26] Cf. Chapter 2 on conjunction between parts of words, and Chapter 3 on 'gapping' or ellipsis of verbal stems with prefixal preverb + verb combinations in clause chaining constructions.

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dently motivated well-formedness condition, *consistency*. In providing an explanation for complementarity in terms of pronoun incorporation we are claiming, in effect, that postpositional PXs are not instances of agreement. This conclusion accords with descriptive intuitions concerning agreement: the thesis of agreement is difficult to defend given the (obligatory) absence of overt lexical NPs and demonstratives which such markers are alleged to agree with. A theory - such as LFG - which permits morphology to create partially specified lexical entries (cf. discussion of Greenlandic) obviates the need to postulate obligatorily null arguments in c-structure with which inflectional markers are claimed to agree (cf. discussion of Hale and McClosky)

We will return to the actual morphology of such constructions after investigating the variable functionality of PX markers with postpositions and possessed heads and inquiring into the sorts of lexical entries appropriate for inflecting and non-inflecting postpositions.

PX markers on possessed heads of possessive constructions can co-occur with lexical NPs:

(16) a fiú kalap-ja
the boy hat-3sg
'the boy's hat'

This contrasts with the proscription against similar co-occurrences with postpositional PX markers. The behavior of PXs in possessive constructions appears to be a clear and traditional example of agreement: the person-number features on the PX reflect the features of an overt or covert, i.e. contextually construable, constituent.

Hungarian, then, exhibits two different functions for morphemes from the same paradigm, i.e the PX paradigm: an agreement function in possessive constructions, and a pronoun incorporation function with inflecting postpositions.[27]

[27] The analysis of PX markers in possessive constructions may, in fact, be more interesting than suggested above. The DAT possesssor variant might be interpreted as an instance in which the PX marker is indeed an incorporated pronoun which is anaphorically bound to a c-structure constitutent with a designated discourse function. This would accord with the general fact that POSS arguments are omissable in both variants of the possessive construction as well as with the traditional observation that the DAT variant is employed when portions of the construction assume certain marked discourse roles. (cf.

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It was previously demonstrated that governing, non-inflecting postpositions can co-occur with oblique forms of personal pronouns in contextually neutral constructions. This contrasts with the expression of identical person/number features with inflecting postpositions: the appropriate exponent of such features is the incorporated pronoun i.e. the PX marker. Let us assume - contrary to our previous hypothesis - that postpositional PXs are agreement markers. A noteworthy peculiarity in terms of argument satisfaction ensues: whereas the dependent argument of non-inflecting postpositions may be (the appropriate case-form of) lexical NPs, demomstrative pronouns or personal pronouns, the dependent argument of inflecting postpositions cannot be an overt personal pronoun.[28]

These distributions would seem to indicate that the lexical entries for inflecting postpositions must stipulate that they cannot be satisfied by personal pronouns. In contrast, non-inflecting postpositions can be satisfied by the usual spectrum of constituents. In addition to entailing a curious stipulation on lexical entries this analysis implies a major difference between two classes of postpositions in Hungarian.

The assumption that inflectional markers on postpositions are incorporated pronouns, however, avoids these pitfalls. First of all, if PXs are personal pronouns then the requirements of the lexical entries for inflecting postpositions need not stipulate that they cannot be satisfied by personal pronouns - an odd stipulation on any account. Secondly, the absence of such a stipulation permits argument satisfaction for inflecting and non-inflecting postpositions to be identical.

There remains the question of how one accounts for the morphological shape of the canonical and inflected forms which actually occur. Within LFG, it is assumed that words are fully formed before lexical insertion into c-structure, i.e. that all derivation and

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Bresnan & Mchombo for an analysis of incorporated pronouns as participating in anaphoric binding.)

[28] The reader should recall that although personal pronouns can co-occur with inflected postpositions this form always signals some marked discourse motive. The same form of the personal pronoun can also co-occur cliticized to the oblique form of personal pronouns with governing postpositions and serve the same discourse functions. The important fact to note is that independent personal pronouns cannot occur with the canonical forms of inflecting postpositions.

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inflection occurs prior to lexical insertion.[29] The Morphological Elsewhere Condition, as discussed earlier, proposes that morphologically more specified entities have priority over less specified (and, effectively, paradigmatically related) entities relative to the context of lexical insertion.[30]

For present purposes this can be interpreted as follows. Inflected postpositions are more highly specified than canonical forms by virtue of containing feature person-number specifications for their dependent argument. Since inflection is performed in the lexicon within LFG more highly specified forms can morphologically block the appearance of less specified forms. The less specified, i.e. canonical, form appears only if a more specified form has not been selected. The suffixation of PX markers to postpositions creates a lexical entry with a partially specified PRED feature, i.e. this is the result of morphological incorporation. As a consequence, there can be no constituent in c-structure which satisfies the argument requirements of the postposition. In contrast, the canonical form, being unspecified with respect to features of its selected argument must be satisfied by the PRED feature of an element exclusive of morphological composition. The status of inflected postpositions as morpho-lexically composed entities permits the alleged morphological blocking effects exhibited by synthetic forms vis-à-vis (related) analytic ones.

In summary, the hypothesis that postpositional PXs are incorporated pronouns, 1) accounts for the attested complementarity between lexical NPs and personal pronouns

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[29] It is a simple matter to demonstrate that certain inflectional processes precede derivational ones in Hungarian. Collinder (1965), for example, observes that certain case-inflected nominals serve as stems for verbal derivation.

hát	--->	hát-ra	--->	hát-rá-l
back		back-SUBL		back-SUBL-verbal morpheme
'back'		'onto the back'		'retreat, withdraw'

Additionally, case morphemes regularly appear within derived words (especially when based on PV + V combinations. In this connection, the reader should consider the following nominal based on the phrasal verb *kétség-be esik* 'get depressed' < depression-ILL fall.

kétség-be-esés		
doubt-ILL-falling		
'depression'		

[30] cf. Andrews (1984) for a definition of this context.

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observed for inflecting postpositions; 2) helps distinguish two different functions of morphemes from the same paradigm: the agreement use in possessive constructions and the pronominal use with postpositions; 3) permits a uniform account of function satisfaction in postpositions; 4) accords with basic assumptions about the lexical nature of inflectional morphology and the MEC within LFG.

4. Pronominal Incorporation and Inflected Case-Markers

Previously, case-markers inflected with PX morphemes were referred to as oblique forms of personal pronouns. The PX morphemes on postpositions, in contrast, were argued to be personal pronouns. Since the PX morphemes on both inflected postpositions and case-markers are identical the question arises as to whether the entire inflected case-marker should be regarded as a personal pronoun or whether this status should be reserved for the PX itself. I will briefly present some motivation for believing that both of these options are in force on different occasions.

There are certain verbs which govern the DAT case for their OBL argument. The verb *ajándékoz* 'present, give as a present' is one such verb. Sentence (17) illustrates that the OBL DAT requirement can be satisfied by either a lexical NP or an oblique personal pronoun.

(17.) a tanár ajándékozta a könyv-et a fiu—nak/ nekem
the teacher-NOM present-PST-3sg/D the book-ACC the boy-DAT/ me-DAT
'the teacher presented the book to the boy/ to me'

It is important to note that in the preceding example the DAT marked complements are governed by the simple verb *ajándékoz*. This contrasts with other instances in which a verb governs the DAT case for its OBL complement when the relevant government pattern is derived via the prefixation of an inflecting prefix such as *neki*.[31] The lexical entries in (18) illustrate that the the simple intransitive verb *megy* 'go' is altered by prefixation of

[31] As with several inflecting prefixes the canonical form of the prefix *neki* is identical to the 3sg personal pronominal form of the inflected DAT case-marker *nak/nek*.

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the prefix *neki*. In the present instance, the addition of this prefix not only adds an argument and governs its case marking but the meaning of the resultant prefix + verb combination is somewhat idiosyncratic.

(18a.) megy V ' go <(SUBJ)(OBLΘ)>'

(b.) neki-megy V 'go at, attack <(SUBJ)(OBL)>'
$OBL_{case} = DAT$

A complex verb such as *neki-megy* cannot co-occur with an independent personal pronoun:

(19) a fiú neki-ment a lány-nak/ * nekem
the boy-NOM PV-go-PST-3sg the girl-DAT/ * me-DAT

The appropriate PX morpheme must be suffixed to the prefix in order to express the desired person/number features of the OBL argument:

(20) a fiú nek-em- ment
the boy-NOM PV-1sg-go-PST-3sg
'the boy attacked me'

In other words, it appears that the presence of the PX morphemes suffice to satisfy the OBL requirement of the complex verb *neki-megy*.

In the following section it will be argued that the PX marker in inflecting prefixes is an incorporated pronoun. However, the evidence from verbs such as that contained in sentence (17) appears to indicate that in certain instances an entire case-marker + PX constituent might arguably be interpreted as an oblique personal pronoun. In particular, it might be regarded as such whenever it is clear that it itself does not determine a government pattern for a predicate but simply satisfies it. On the other hand, when a form demonstrably determines the case government pattern and/or lexical meaning of a verb, the PX morpheme on that form can be interpreted as an incorporated pronoun which satisfies the selectional requirements of the complex verb of which this form is a constitutive component.

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5. Pronominal Incorporation and Prefixes

We saw earlier that separable prefix + verb combinations are reasonably interpreted as morpho-lexically composed entities. We have also seen that the MEC accounts for complementarity and priority of synthetic over analytic forms from the same paradigm by relying on the morpho-lexical composition of synthetic forms. Both of these properties, i.e. the lexical status of prefix + verb combinations and the reliance of MEC on morpho-lexically composed entities, help to explain certain restrictions on the occurrence of personal pronouns with certain Hungarian prefixes.

Several inflecting postpositions/case-markers can function as PVs. The following list (taken primarily from Jakab 1976) presents 10 of these PVs. The list reflects the productivity of these PVs in terms of their statistical frequency as determined from an examination of two sources (The Hungarian Explanatory Dictionary and Országh's Hungarian-English Dictionary.)

rá	PV	[_ V]	'onto	<OBL)>' OBL_{case} = SUBL
bele	PV	[_ V]	'into	<(OBL)>' OBL_{case} = ILL
hozzá	PV	[_ V]	'up to	<(OBL)>' OBL_{case} = ALL
alá	PV	[_ V]	'under	<(OBL)>' OBL_{case} = DAT
neki	PV	[_ V]	'to	<(OBL)>' OBL_{case} = DAT

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utána	PV	[_ V]	'after	<(OBL)>' OBL_{case} = DAT
mellé	PV	[_ V]	'beside	<(OBL)>' OBL_{case} = DAT
ellen	PV	[_ V]	'against	<(OBL)>' OBL_{case} = DAT
mögé	PV	[_ V]	'behind	<(OBL)>' OBL_{case} = DAT
benn	PV	[_ V]	'inside	<(OBL)>' OBL_{case} = IN

In the simplest and most straightforward instances prefixation of these PVs to a simple verb stem augments the argument structure of the verb stem and determines a case government pattern for the resultant complex predicate. As in all cases of the prefixation in Hungarian the prefixation of inflecting elements yields concatenations whose pieces are separable in c-structure.

Earlier we observed that the addition of prefixes often entails an alteration in the information associated with the lexical entry of simple verbs. The resultant complex verb differed from the simple verb with respect to meaning, case-government, argument structure etc. With this in mind consider the following constructions containing complex verbs with the prefix *bele*.

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(21) a bohóc bele-halt a bánatá-ba
the clown-NOM PV-died the grief-3sg-ILL
'the clown died of grief'

bele-hal V 'die of <(SUBJ)(OBL)>'
OBL_{case} = ILL

(22) a bohóc meg-halt bánatá-ban
the clown-NOM PV-died the grief-3sg-IN
'the clown died of grief'

meg-hal V 'die of <(SUBJ)(OBL)>'
OBL_{case} = IN

(23) a fiú szerette a lány-t/ * lány-ba
the boy-NOM love-PST-3sg/D the girl-ACC/ * girl-ILL
'the boy loved the girl'

szeret V 'love <(SUBJ)(OBJ)>'

(24) a fiú bele-szeret-ett a lány-ba/ * lány-t
the boy-NOM PV-love-PST-3sg the girl-ILL/ * girl-ACC
'the boy fell in love with the girl'

bele-szeret V 'fall in love <(SUBJ)(OBL)>'
OBL_{case} = ILL

As in certain typical instances of predicate formation the presence of, e.g. *bele* changes the meaning of the composite verb form as well as determines a particualr case government pattern for an OBL argument. How can we express the features associated with personal pronouns for these OBL functions? Consider the following examples employing the phrasal verbs *bele-köt* 'quarrel' and *bele-szeret* 'fall in love with':[32]

[32] The verb *bele-köt* consists of *bele* and the simple verb stem *köt* 'bind'. The phrasal verb can have a compositional meaning such as 'bind or wrap up in' as well as the idiomatic meaning provided in the text. The sentences in (26) are adapted from Majtinskaja Vol. II 1955. I have limited myself to examples in which the prefix is inflected with 1st, 2nd and 3rd singular. This is for brevity. The morphemes for the plural person-number feature combinations can be used as well.

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(25) (a.) a fiú bele-kötött a szomszédjá-ba
the boy PV-bound-3sg the neighbor-ILL
'the boy quarreled with his neighbor'

(b.) a fiú belém-kötött
the boy PV-1sg-bound-3sg
'the boy quarreled with me'

(c.) a fiú belé̓d-kötött
the boy PV-2sg-bound-3sg
the boy quarreled with you'

(d.) a fiú belé̓(je)-kötött
the boy PV-(3sg)-bound-3sg
'the boy quarreled with him'

(26) (a.) a fiú bele-szeretett
the boy-NOM PV-love-PST-3sg
'the boy fell in love (with her/him/it)'

(b.) a fiú belé̓-(je) szeretett
the boy-NOM PV-3sg love-PST-3sg
'the boy fell in love with her/him/it'

(c.) a fiú belé̓-m szeretett
the boy-NOM PV-1sg love-PST-3sg
'the boy fell in love with me'

(d.) * a fiú bele-szeretett belé̓-je/belé̓-m
the boy-NOM PV-love-PST-3sg OBL3sg/OBL1sg
'the boy fell in love with her/him/it/me'

(e.) a fiú bele-szeretett abba
the boy PV-love-PST-3sg that-ILL
'the boy fell in love with that one'

The sentences in (25) demonstrate that the prefixed verb can co-occur with a lexical NP in the ILL case (25a.) and with inflected prefixes when the referent of the oblique argument is pronominal (25b.-d.). The second set of sentences show that the overt expression of independent (oblique) personal pronouns is incompatible with the presence of an inflectable prefix (26d.). In order to express the desired person-number features the appropriate PX marker is suffixed to this prefix. This yields a particular form of the oblique personal pronoun from the paradigms presented earlier. The canonical form of the prefix can co-occur with a lexical NP (25a.) or demonstrative pronoun (26e.). This

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distribution should be familiar from the discussion of restrictions on argument expression for inflected postpositions presented earlier.

Before analyzing the distributions of lexical NPs and personal pronouns with this type of complex verb I will present some additional examples of this phenomenon containing a different prefix, namely, *rá:*

(27) a fiú rá-sozta a tragács-ot a barajá-ra
the boy-NOM PV-salt-PST-3sg/D the heap-ACC the friend-3sg-SUBL
'the boy fobbed off the heap on his friend'

(28) a fiú rám sozta a tragács-ot
the boy-NOM PV-1sg salt-PSR-3sg/D the heap-ACC
'the boy fobbed off the heap on me'

In these sentences we find the idiomatic expression *rá-soz* 'fob off' in which lexical NPs are governed for the SUBL case and person/number features of this OBL argument are expressed by the appropriate PX morpheme on the prefix. As in the sentences with *bele* overt (oblique) pronominals cannot appear in c-structure:

(29) * a fiú rá-sozta a tragács-ot rám[33]
the boy-NOM PV-salt-PST-3sg/DEF the heap-ACC onto-1sg

Finally, from the perspective of relevant data, consider the following composite verb whose PV is an inflecting postposition:

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[33] There are, however, certain instances where emphatic forms of oblique pronominals can co-occur with an inflected preverb. Consider the following sentence containing both the forms *énrám* and *rám*.

i) De *énrám* nem tud semmit *rám*-huzni
but on me NEG able-3sg nothing-ACC PV-1sg-pull-INF
'but he can't pull anything over on me!'

I will leave leave constructions of this type out of consideration in the present paper.

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(30) a fiú mögé-állt az asztal-nak
the boy-NOM PV-stand-PST-3sg the table-DAT
'the boy went and stood behind the table'[34]

(b.) a fiú mögé-m állt
the boy-NOM PV-1sg stand-PST-3sg
the boy went and stood behind me'

(c.) *a fiú mögé-állt nekem
the boy-NOM PV-stand-PST-3sg DAT-1sg

Once again, in these constructions the desired person/number features are expressed by a PX marker on the prefix rather than by a lexically governed DAT personal pronoun.

In the analysis of inflecting postpositions and case-markers it was suggested that the PX markers are incorporated pronouns. We can apply this independently motivated analysis to the use of these markers when postpositions and inflected case-markers are employed as prefixes.

Let's take the verb *bele-szeret* 'fall in love' as an example. In previous discussion we were led to conclude that prefix + verb combinations are morpho-lexical compositions created in the lexicon. Discussion in various subsections of the present section has led us to conclude that PX markers on postpositions and case-markers are incorporated pronouns. In the preceding examples we have seen that certain prefixes exhibit a constraint against the overt appearance of personal pronouns familiar from our earlier discussion of inflecting postpositions. The hypothesis that PX markers on prefixes are incorporated pronouns accords with all the foregoing discussion. First of all, it explains why overt independent personal pronouns cannot co-occur with inflected prefixes while lexical NPs and demonstrative pronouns only co-occur with canonical forms of prefixes. This is the mutual exclusion effect mentioned by Andrews. Second, there is the fact of morphological blocking: inflected prefixes occur when they can and canonical prefixes occur elsewhere. Since prefix + verb combinations are created in the lexicon an inflected form of the prefix

[34] This example is taken from Komlosy (1984).

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within a composite verb form can pre-empt the appearance of the canonical form under same conditions that inflected forms of postpositions pre-empt the canonical form of (related) postpositions.

Returning to the form *bele-szeret* we find that a word formation process creates this composite verb from the simple verb *szeret* 'love'. The subcategorizational frame associated with *bele* assures that it combines with a verb stem while certain generally accepted assumptions about the inheritability of features associated with affixal morphemes assures that the PRED feature associated with this prefix merges with that of the simple verb:

bele PV [_ V] 'into <(OBL)>'
$OBL_{case} = ILL$

szeret V 'love <(SUBJ)(OBJ)>'

bele-szeret V 'fall in love <(SUBJ)(OBL)>'
$OBL_{case} = ILL$

The resultant complex verb form requires an OBL case marked complement for grammatical completion. It can be satsified by a lexical NP in constituent structure or it can be satsified by the presence of a PX marker on the prefix, i.e. the selectional requirement may be satisfied morphologically. In any case, the appearance of a PX precludes the appearance of an overt personal pronoun or lexical NP assigned the same function.

As with inflecting postpositions, the inflected prefix is morphologically more highly specified than the canonical form of the prefix. Since the verb composition process preserves brackets between the prefix and the verb stem, PX markers may attach to prefixes after the prefix and verb stem have combined to form a new predicate. In other words, the prefix can host PX markers and therefore can be morphologically more highly specified than the canonical form of the same prefix. When it does host a PX the result is a partially specified lexical form as in the example below:

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belé-m szeret V' 'fall in love <(SUBJ)(OBL)>'
$OBL_{person} = 1$
$OBL_{number} = sg$

In the preceding entry the incorporated form of the personal pronoun, i.e. the PX morpheme, is suffixed to the prefix. Since this morpheme carries the information that PRED = pro this equation is inherited by the entire morpho-lexical composition. The complex verb, e.g., *bele-szeret* can, consequently, satisfy its OBL argument requirement with an incorporated pronoun expressed as a PX marker.[35] The reader should recall that the prefix *bele* determines the case government requirement for the complex verb *bele-szeret.* As a consequence, we cannot assume that the inflected form *belé-m* is merely an oblique personal pronoun. In fact, the simple verb *szeret* cannot co-occur with a pronominal of this form. This incompatability is indicated by the starred version of sentence (23).[36]

The conclusion that PXs can function as incorporated pronouns is a a familiar one. In the preceding section we motivated a similar analysis for the interpretation of inflecting postpositions in Hungarian. The signal difference between the two analyses appears to consist in the lexical domain in which pronoun incorporation occurs. PXs are

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[35] The interaction between complex verbs and incorporated pronouns in Hungarian finds suggestive parallelism in the behavior of certain constructions in colloquial French. Consider the following examples:

(i) il- mange/court après Jean
he-ate/ran after John
'he ate/ran after John'

(ii) il- mange/ ? court après moi
he- ate / ran after me
'he ate/ ? ran after me'

(iii) il- me - * mange/ court après
he- me - ate / ran after
'he * ate/ ran after me'

It has been observed (Lambrecht p.c.) that whereas sentences such as that in (ii) disprefer the presence of independent pronouns with predicates such as *court* sentences such as that in (iii) do not permit the presence of a clitic pronoun with predicates such as *mange.* It is conceivable that in French a sentence such as (iii) should be reanalyzed as a complex verbal structure. In this case, there would be a clear parallelism with the Hungarian examples cited in the text. In particular, the French verb *court après* could be satisfied in c-structure by a lexical NP as in (i) or by an incorporated pronoun as in (iii).

[36] All of the preceding discussion holds for the example of an inflected case-marker in combination with a verb presented earlier, namely, *neki-megy 'attack.'*

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morphologically suffixed to a postposition or case-marker in both instances, but PXs occur word internally only with complex verbs. In this latter case, the retention of brackets between the prefix and the verb stem permits the suffixation of PXs to prefixes after the derivation of the complex verb.

6. Conclusion

In this chapter I have argued that Hungarian PX markers are functionally ambiguous: they represent agreement within possessive constructions while they function as incorporated pronouns with inflected postpositions. The interpretation of PXs as incorporated pronouns is applicable to the analysis of a subset of Hungarian separable prefixes. This analysis relies on the morpho-lexical status of prefix + verb combinations as well as the ability for pieces of such compositions to participate in further inflectional manipulation. The prefix + verb combination manifests a particular selectional requirement for an OBL argument. This requirement can be satisfied morphologically by means of the suffixation of a PX morpheme to the prefixal preverb. This PX marker functions as an incorporated pronominal.

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Chapter 6: Argumental Preverbs: Incorporation[1]

In the preceding two chapters we have encountered phrasal predicates where the preverbs either evince no synchronic syntactic relation to a verb stem (Chapter 4) or "incorporate" a pronominal which displays a syntactic relation to the verb stem (Chapter 5). The present discussion will focus on a collection of preverbs which bear various syntactic relations to the verb with which they form a unit. These preverbs will be referred to as *argumental preverbs* and the morpholexical process by which they combine with simple verb stems will be referred to as *incorporation*.[2] Like all of the previously discussed Hungarian preverbs the argumental variety are also separable: they separate from the verb stem under, basically, the same conditions as the preverbs examined in Chapter 4 and 5.[3]

The analysis of these construction in terms of incorporation deviates from standard instances of incorporation in much the same manner as the analysis of prefixal preverbs as affixes deviated from standard interpretations of affixal morphology: in both instances there is an absence of the phonological coalescence between the constitutive pieces of these compositions that commonly accompanies derivation by incorporation and affixation. In this connection it bears mentioning that in the same way that separable prefixes have been attested in languages other than the Ugric languages, separable members of incorporated constructions have been attested elsewhere as well. In particular, the phenomenon of incorporation as analyzed in Sapir (1911) and Mithun (1985) exhibits

[1] This chapter presents the descriptive background and conceptual motivation for the theoretical analysis of 'incorporating constructions' presented in Ackerman (1987a.).

[2] In this chapter I focus primarily on instances of incorporation which do not lead to obvious alterations in valence. That is, they are unlike the process of OBJ incorporation in, e.g Samoan (Chung 1978), where one appears to derive an intransitive verb from a transitive one. The constructions encountered in this chapter consist of verbs which maintain their original valence. The verbs contain incorporated entities which in some manner retain their syntactic relevance: the incorporated element can be modified by a constituent in syntactic structure (cf. the discussion of Baker and Sadock below) and/or the incorporated element preserves a marker of its syntactic function, i.e. it displays case-marking appropriate for its relation to the predicate. (Cf. the discussion of Hungarian incorporation.)

[3] Cf. the discussion of PVs and word order in Chapter 3.

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diverse formal realization in the languages of the world.[4] Of the several strategies for incorporating a complement the strategy of *juxtaposition* is the one relevant here: the incorporated argument is, ordinarily, found in apposition to a governing verb and this eventuates in what Meschaninoff refers to as a *verbal group*.[5] Mithun characterizes the strategy of juxtaposition for OBJ incorporation in the following manner.

> A number of languages contain a constructions in which a V and its direct object are simply juxtaposed to form an especially tight bond. The V and N remain separate words phonologically: but as in all compounding, the N loses its syntactic status as an argument of the sentence and the VN unit functions as an intransitive predicate. The semantic effect is the same as in other compounding: the phrase denotes a unitary activity, in which the units lose their individual salience. - 1984:849

As in most instances of argument incorporation the structures created by means of juxtaposition tend to denote complex generic activities, while the incorporated element ceases to be an independent clausal constituent and becomes a member of a verbal group.[6] This verbal group can be understood as the sort of lexical phrase we have encountered several times in the present study. Although the incorporated element, on Mithun's account, is not a phrase structure constituent instantiated by a phrasal category, it may still bear a syntactic relation to the verb with which it combines: this supposition is central to Sapir's analysis of incorporation and to the LFG forumulation of this intuition presented here.

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[4] Cf. Mithun (1986) and Sadock (1986) for a difference of opinion concerning the phenomena correctly considered as exemplary of incorporation. Briefly, Sadock claims that the phenomena investigated by Mithun are better interpreted as instances of 'compounding' and that the term 'incorporation' is more appropriately applied to phenomena such as those found in Greenlandic Eskimo (cf. Sadock 1980). Whatever the final merits of Sadock's criticisms, his appeal to the authority of Sapir (1911) for his interpretation of 'incorporation' is perplexing. Sapir appears to exclude Eskimo from the class of incorporating languages: "Eskimo, a language particularly rich in suffixes that verbify nouns, has been termed polysynthetic, but has not been employed by serious students as a source of examples of noun incorporation." - Sapir (1911:254)

[5] CF. Chapter 1 for discussion.

[6] Cf. Chapter 4 and below for discussion of the difference between clausal constituents vs. portions of verbs which serve to satisfy the selectional requirements of predicates.

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The strategy of juxtaposition is found in Turkish (Nilsson (1986), Chechen/Ingush (Nichols ms.), and Zuni (Miner 1986).[7] I provide examples from Turkish and Ingush below:

Turkish: Ali **hali** da aliyor (Nilsson 1986:113)
Ali carpet also buy-3sg
'Ali is also carpet-buying'

Ingush: **bʔarg** ʔa[8] hažaa (Nichols 1986:20)
eye PART look-CV
'having looked...'

In the preceding constructions, the incorporated element (in boldface) can be separated from the verb stem: in both languages, certain discourse particles can be interposed between the relevant entities.[9]

Observations about the compound-like nature of these constructions accord well with the analysis proposed in this dissertation: like the prefixal preverb + verb combinations examined earlier, the Ugric incorporating constructions are amenable to a dual analysis such as that advanced in Booij and Rubach (1984) and Lehiste (1964).[10] Whereas these structures constitute unitary entities from a morpholexical perspective they still are composed of two phonological words.[11] We have already seen, in Chapter 4, that compounds constitute the quintessential domain for discrepancies between the phonological and grammatical aspects of words.

In the present chapter I will present a brief overview of the general phenomena analyzed under the rubric of incorporation. This will include some recent theoretical proposals to treat these phenomena. In the course of this discussion I will propose my own

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[7] The Zuni phenomena are referred to as 'loose incorporation'.

[8] The particle ʔa is a clause chaining particle which is, generally, interposed between the verbal stem and preverbal elements such as prefixal preverbs and argumental preverbs in this language.

[9] A similar class of discourse elements are the only entities permitted to appear between preverb + verb constructions in Vogul and Ostyak. Cf. Chapter 3 for examples from Vogul.

[10] Cf. Chapter 4 for discussion.

[11] It is a point of pure speculation - engaging nonetheless - that these entities are in diachronic development and that they tend toward fusion.

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treatment: this is, essentially, an extension of the treatment of prefixal preverbs and pronominal incorporation presented in Chapter 5. Finally, I will review some of the types of Ugric argumental preverbs which I believe are candidates for an incorporating analysis. This presentation will follow the structure of earlier discussions: first, I will present the candidate preverb + verb combinations, and then, I will discuss how they interact with derivational processes.

1. Sapir: The Expression of Grammatical Relations

Sapir's classic article on incorporation (1911) presents the basic ingredients and terms of this phenomenon in such detail that most subsequent work has seemed a refinement of details or a repetition of confirming facts. Sapir delineates several different aspects of incorporation. For present purposes, two of these are of central significance:[12] 1. manner of morphological composition, i.e., the nature of the phonological coalescence exhibited by the incorporated element and the verbal stem; 2. a taxonomy of the syntactic relations borne by incorporated elements. These distinctions are embedded in an informing conception of incorporation as an essentially morphological phenomenon. Sapir's view of incorporation can be seen as a generalized version of the definition proposed by Kroeber:

> Noun incorporation is the combination into one word of the noun object and the verb functioning as the predicate of the sentence.

Sapir contends that Kroeber's definition is both contradictory and too narrowly circumscribed. With respect to the first claim, this definition, incorrectly, imputes the

[11] It should be mentioned that while theoretical accounts of these phenomena vary the theoretical contribution to the understanding of this phenomenon has been, arguably, minimal.

[12] He also points to a notional difference between incorporated constructions and their non-incorporated pairs: this is a difference between a "general activity" vs. a "particular application". Incorporated constructions, on this account, denotes generic activities such as 'tree-cutting' where the "incorporated" nominal lacks referentiality. This contrasts with sentence such as 'he is cutting a/the tree' which, allegedly, denotes a particular activity in which the nominal is referential. Distinctions along these lines have been offered by numerous linguists. As we will see, the Ugric incorporated construction comform in large degree to this characterization as well.

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significance of syntactic (Sapir's "logical") relations to morphological processes. Sapir avers that:

> Noun incorporation is either a morphologic or syntactic process: the attempt to put it under two rubrics at the same time necessarily leads to a certain amount of artificiality of treatment. - 1911:255

In apparent neglect of Kroeber's categorial restriction of incorporation to predicates, Sapir remarks on the irrelevance of syntactic criteria for an undisputed instance of a morphological process, namely, *nominal compounding*: the non-head, in such compositions, may display any of a wide variety of syntactic relations to the head.[13] Syntactic relations, consequently, should not be regarded as a constraint on morphological operations.

With respect to his second complaint, Sapir contends that the empirical study of incorporation reveals that Kroeber's interpretation of incorporation is both categorially and functionally too restricted: languages exhibit VV compounds as well as NV compounds while the corpus of syntactic functions borne by non-heads encompasses more than the solitary OBJ relation mentioned by Kroeber. Sapir, consequently, concludes that:

> ... noun incorporation is but a particular case of verb composition, using that term in its widest sense, and objective noun incorporation but a particular use of a larger syntactic process. 1911:265

Both Sapir and Kroeber contend that incorporation is a morphological phenomenon. It is a type of verbal compounding whereby a lexical stem combines with a verb. Sapir observes that the "manner of incorporation" varies according to the following parameters; 1) linear position of the incorporated element within the verb;[14] 2) degree of phonological

[13] This is a peculiar complaint given 1) that , as we will see, Sapir finds a recurrent collection of syntactic relations relevant to incorporation cross-linguistically; and 2) that there is no a priori reason to believe that if syntactic relations are irrelevant for one lexical category then they must be irrelevant for others as well - after all, certain categories tend to function as ATPs while others don't and even within the former class the incorporable elements do not appear to be a random collection of their selected arguments, as we see below.

[14] He employs the fact that incorporated elements appear in positions different than agreement markers, in several of the languages he reviews, as evidence of the basic difference between these entities

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coalescence between the incorporated element and the verbal stem, and; 3) whether the incorporated element bears inflectional morphology. This intuition concerning the diverse strategies for creating incorporated constructions is exemplified by Sapir's characterization of this process in the American Indian language Takelma. He places this language midway between those which employ the extreme strategies of juxtaposition and derivation/composition:[15]

> Incorporation of nouns is in Takelma something more than mere juxtaposition and yet something less than composition or derivation: it may best be described as proclisis of stems, the stem, however, often coinciding with the absolute form of the noun. - 1911:272

In addition to observing the different phonological strategies characteristic of incorporated constructions, Sapir catalogues the syntactic functions borne by incorporated elements that tend to recur in his sample of Amerindian languages. The functions are: SUBJ of certain intransitive verbs, OBJ of certain transitive verbs, subjective/objective predicates (i.e., secondary resultative or depictive predicates which bear predication relations with either the SUBJ or OBJ depending on the transitivity of the main verb stem),[16] verbal complements, directional complements,[17] and possessed elements (most commonly, body parts).[18]

A certain paradox should have become apparent by now with respect to Sapir's first criticism of Kroeber mentioned earlier. Recall that he castigates Kroeber for confusing

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despite the possible historical origins of agreement markers as incorporated pronouns. Cf. the discussion of this phenomenon in Chapter 5. The reader should note that preverbs and argreement markers appear on opposite side of the verb stem in Ugric: before and after, respectively.

[15] In the present work I will not try to to determine whether the juxtaposed preverbs are affected by a process of proclisis. It is sufficient for my purposes to demonstrate that morphologically similar constructions vary with respect to the phonological fusion of their component parts.

[16] In LFG these are instances where the secondary predicates are XCOMP functions and where their control properties follow from a universal characterization of *functional control*.

[17] Cf. Frantz et. al. (1984) for a discussion of these in Tiwa, and Baker (1985) for a discussion of these in the Iroquioan languages.

[18] This sample receives further support in subsequently studied languages where the repertoire of functions played by incorporated elements, essentially, remains constant. The greatest variation seems to be whether languages incorporate the whole display of elements bearing these functions or simply a subset.

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syntax and morphology. However, instead of demonstrating the irrelevance of syntactic considerations for an avowedly morphological process he catalogues a wide range of syntactic functions central to these constructions. Additionally, he is quite explicit about the relevance of syntactic relations for these constructions.

> The main point of psychologic interest here involved is that logical relations that are in many, probably most, languages expressed by syntactic means, are in several American Indian languages expressed, to at least some extent, by morphologic, or, if preferred, compositional processes. "I song-write" is such a replacement of the syntactic "I write songs", but the replacement is logically and psychologically parallel to that of "as white as snow" to "snow-white". In both cases the grammatical expression of a logical relation, in other words a syntactic process, is sacrificed to a compositional process in which the logical relation is only implied." - 1911:257

I will now demonstrate that instead of representing a a paradoxical position, Sapir's speculations constitute an instructive and coherent intuition concerning the differences between several recent theoretical analyses of incorporation.

I interpret Sapir's complaint against Kroeber in the following fashion. Kroeber's view of incorporation, on Sapir's account, appears to imply an ability to identify the syntactic role played by a sentential element antecedent to the application of a morphological rule of incorporation. That is, Kroeber's confusion consists in the assumption that the syntactic role of an entity should be accessible as a condition on the application of a morphological process. Sapir balks at assuming that syntactic relations play a determinative role in morphological processes: in a more recent idiom, syntactic constituents are prohibited from feeding morphological processes.[19] Sapir acknowledges, however, that the logi-

[19] Sadock (1985), consequently, accords Sapir the status of the 'first lexicalist'. In Chapter 4 we saw that Brassai balked at claiming preverb + verb combinations to be morphological creations because of their syntactic separability: in his own way, then, Brassai assumed a sort of lexicalist separation concerning the domains of grammar.

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cal relations conveyed by syntax can be conveyed by elements internal to words. On his account, incorporated elements can be interpreted as *expressing* certain syntactic relations. These relations, however, should not be understood as constituting conditions on the application of a rule of incorporation. Rather, a morphological rule of compounding applies to create a complex lexical entity and the incorporated element is interpretable as expressing a syntactic function which satisfies the argument requirements of the verbal head.[20] On this account, in other words, rules of incorporation are construable as well-formedness conditions on morphological compositions.

The basic difference between these two views centers, then, on how one interprets the rule of incorporation: is it triggered by conditions stating the syntactic status of elements, or does it function as a well-formedness condition on certain types of morphological compositions? I contend that these two views, broadly understood, inform three recent approaches to this sort of phenomenon. In the following paragraphs I will, accordingly, review the main features of the proposals by Baker (1985) and Sadock (1985) and contrast them with an elaboration of the LFG account presented in the previous chapter.[21]

2. Theories of Incorporation: Baker and Sadock

Both Baker's and Sadock's treatments focus on word formation processes which seem sensitive to syntactic relations: these word formation processes involve identifying an entity which performs a certain syntactic role and combining this entity with a simple verb stem (Iroquois, Tiwa) or verb derivational morpheme (Greenlandic Eskimo).

The proposals of Baker and Sadock, though formulated within different frameworks, namely, Government and Binding and Generalized Phrase Structure Grammar, share a foundational intuition: both linguists assume that a word represents the confluence of

[20] The manner in which a lexical element is associated with the appropriate function will be discussed below.

[21] It should become apparent as we proceed that various theoretical assumptions entail certain analyses. In particular, the reader should pay attention to the way in which assumptions about grammatical function (whether they are derived or primitive) and whether argument taking predicates select for category or function, determine the shape of a proposal.

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two independent representations - a syntactic representation and a (morpho)lexical one. Further, the syntactic component and the morpholexical component operate independent of one another although the outputs of each component must be compatible. Compatibility is characterized in different ways. Baker proposes that there is a "procedure" of "item checking": do the elements of syntactic representation correspond appropriately with the elements of morphological representation? Sadock proposes various principles that constrain potential discrepancies between the syntactic and lexical representation of words. In order to see how these proposals actually work I present the relevant aspects of each analysis below.

2.1. Baker on Iroquoian

Baker analyzes the Mohawk incorporated verb form *hra-nuha-nuhwe?-s* 'he house likes' in the following fashion:[22]

D-structure: $[_S$ watesy^ta [INFL hra-s $[_{VP}[_V$ nuhwe?$][_{NP}$nuha$]]]]$
doctor 3sg/m like house

S-structure: $[_S$ watesy^ta [INFL hra-s $[_{VP}[_V$nuha(i)-nuhwe?$][_{NP}$ec(i)$]]]]$

doctor 3sg/m house - like

'the doctor house-likes'

As is evident, the D-structure representation is mapped into the S-structure representation by an application of *affect alpha* which 'moves' the lexical category N into a position within the verb.[23] Since grammatical relations in this theory are defined derivatively from phrase structure positions this analysis appears committed to a representation such as D-structure in order to associate an element with the appropriate syntactic function: the

[22] Cf. Baker (1985:15) ms.

[23] I am not certain why *affect alpha* in this instance operates on lexical rather than phrasal categories. Nor is it apparent to me why a position within a verb is a legitimate landing site for what appears to be an instance of NP movement. In other words, can A bar positions be contained within words? I can only assume that these issues - if important - have been addressed elsewhere. The reader should note that Baker's analysis of nominal incorporation is quite similar to Anderson's proposal for pronominal incorporation. The questions raised during the discussion of Anderson's proposal appear apposite here as well.

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position after the V within the VP is identified as the OBJ. In addition, since argument taking predicates subcategorize for the phrasla category of their complements this analysis is committed to representing the relevant lexical item within an NP in D-structure in order to identify it as an, e.g. OBJ.[24] These as well as several other basic assumptions of GB interact in such a manner as to make Baker's analysis an obvious and reasonable one within this framework.

When we view this proposal from the perspective of the Kroeber/Sapir debate it appears that it reflects a Kroeberian intuition: incorporation (here the application of *affect alpha* to the lexical category N) is keyed to the isolation of a consitutent occupying a D-structure position identifying it as an OBJ. Baker acknowledges that incorporation is a morpholexical process, i.e. it eventuates in a complex verb. He also recognizes that *affect alpha* applies, uncharacteristically, to a lexical rather than phrasal category. He, consequently, argues that this restriction on *affect alpha* is to be expected since morphological processes operate only on lexical and not phrasal categories.

In summary, since the theory he utilizes defines grammatical functions in terms of phrasal categories appearing in certain D-structure configurations, grammatical function bearing elements must be phrasal but because incorporation is, ultimately, a morphological process the incorporated element must be expressed by a lexical category.

This conflict betrays the Kroeberian impulse behind Baker's analysis and is precisely the confusion that disturbed Sapir: compounding is simply a morphological process in which the incorporated elements can be interpreted to *express* particular grammatical functions. One does not need to isolate phrasal constituents in syntactic structures and

[24] I am ignoring here the recent proposal within GB that ATPs select for the semantic role (s-select) of their complements rather than their category. The reader should consider that in another variant of GB - that proposed by Hale - grammatical relations are defined in *lexical structure*. If we permit GFs to be identified at this level of representation we could restrict incorporation to a morpholexical rather than syntactic domain. That is, rather than D-structure representations serving as conditions on morphological processes, a lexical representation might be utilized for this purpose. In some manner, then, the essential morpholexical complexion of incorporation would be conveyed while the necessity to appeal to a syntactic level of representation for a word formation process would be avoided. Finally, the reader should note that Baker commits himself to a reliance on grammatical relations since he demonstrates that a previous thematic account of incorporation proposed by Mithun is inadequate.

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identify them with grammatical functions antecedent to the application of an acknowledged morphological rule. Rather, lexical entities can be composed in the morphology and then GFs can be assigned to the non-head: the well-formedness of these words is determined by conditions of satisfaction contingent on the lexical properties of the verbal head. Lexical categories, rather than phrasal ones, are involved, as Baker (and Sapir) observe, simply because compounding is a morphological process: there is no need to stipulate that *affect alpha* applies here to lexical categories because we are dealing with a morphological process.

There is one final question which arises concerning Baker's proposal. It is frequently attested that resultative secondary complements are common candidates for incorporation: a constituent bearing this function incorporates instead of some co-occurring constituent bearing some other function. In particular, this phenomenon raises the following question. If an incorporating verb contains two internal arguments, for example, an OBJ and a resultative secondary predicate what principle restricts *affect alpha* to apply to the head of the secondary predicate instead of the OBJ? Although Baker does address the issue as to why a lexical category is affected in instances of incorporation it remains unclear on his account why the lexical head of particular syntactic constituents are dislodged. I return to this issue below.

2.2. Sadock on Greenlandic Eskimo

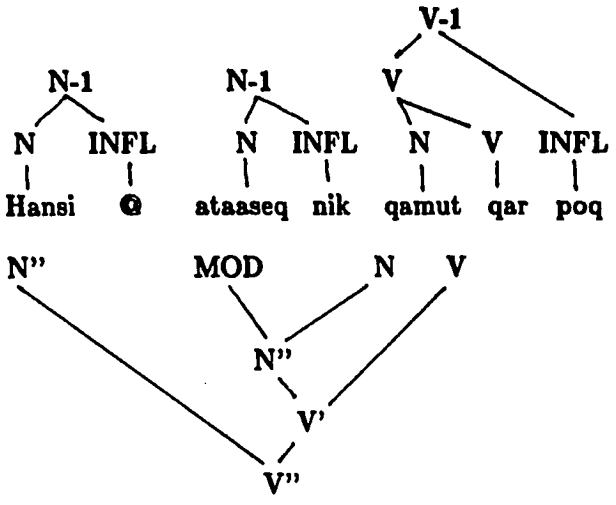
Sadock (1985) proposes the following *autolexical* account of incorporation in Greenlandic Eskimo: (ms:24)[25]

[25] Sadock notes that the INST case marking on the modifier in the following example is the case marking appropriate for this element as the modifier of a syntactic OBJ.

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Hansi ataatsinik qamuteqarpoq
Hansi one-INST/pl sled-have-indic/3s
'Hansi has one sled'

MORPHOLOGY



SYNTAX

As can be seen, a single string of morphemes receives a simultaneous analysis into different morphological and syntactic structures.[26] An assortment of basic principles from Generalized Phrase Structure Grammar (GPSG) constrain the percolation of features that ensure the well-formedness of the syntactic string.[27] It should be evident that there is a discrepancy between the morphological and syntactic constituency of certain elements in this diagram. In particular, whereas *qamut-qar-poq* is the morphological verb, the syntactic verb is *qar* while *qamut* forms a constituent with its modifier *ataaseq-nik* in the syntax.[28]

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[26] The reader should consult a similar proposal for the analysis of Romance auxiliaries in Zubizarreta (1981, 1985) within the Government and Binding framework. Cf. the discussion of analytic predicates in Chapter 7

[27] For details consult Sadock (1985) and the revised version (1986).

[28] It should be observed that a convenient order of constituents is presented in this NP: the modifier immediately precedes and is contiguous with its head. In this way these structures conform to Sadock's desire for there to be no tangled branching in tree structures. Since, however, the modifier in Greenlandic Eskimo need not appear immediately before its head - for example, it may appear discontinuous from and after the verb in the example presented above - it is not clear exactly what the actual force of this syntactic representation is.

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On Sadock's account, the verb *-qar* subcategorizes for an N'' INST complement: this requirement is satisfied in the syntactic representation. The basic assumption here - as in Baker's proposal - is that argument taking predicates select for the category of their complements and that GFs are defined derivatively.[29] Once again, a morphological entity is checked against a syntactic structure. If the incorporated entity is not identifiable in some fashion as playing the role of the appropriate syntactic function then the word is presumably ill-formed.[30] As on Baker's account, Sadock's proposal appears to rely on syntactic structures in order to identify a phrasal category with a syntactic function. The necessity of appealing to *syntactic representations* rather than simply *syntactic terms* is, as in Baker's account, a consequence of the theory employed: acknowledgement of the centrality of syntactic relations to the process of incorporation, in these theories, entails appealing to the structures upon which these relations are defined.

From the perspective of the Sapir-Kroeber debate, both analyses require the construction of a syntactic clause in order to motivate the incorporated verbal form.

2.3. LFG and Incorporation

There is, perhaps, a misleading parallelism between the dual structure analyses proposed above and the proposal advocated in the present work. I have restricted my analysis to the formation of entities produced by morpholexical rules from the perspective of morphology and phonology: the other works examine the (discrepant) relations between words and syntactic structures. The essential difference between these approaches become evident when we reflect on the comments with which Sapir concludes his article:

> In no case, not even in Iroquois, where the process [incorporation -FA] is probably of greater syntactic importance than elsewhere, can the incorporated noun

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[29] In the present instance they are presumably defined in a Montagovian manner: the order of composition of phrasal categories with functors yields derivately defined grammatical relations. Cf. Gazdar et. al. (1986).

[30] It should be mentioned that the actual rules of word formation responsible for the concatenation of morphemes are left obscure in Sadock's account.

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> be considered as the morphological equivalent of a pronominal affix. This does not mean that noun incorporation has no syntactic *value*. The characteristic fact about the process is that certain syntactic relations are expressed by what in varying degrees may be called composition or derivation.

The desire to refer to the syntactic value of elements independent of their expression in syntactic representation has led to a provisional postulation of primitiveness for grammatical functions in frameworks such as Relational Grammar and Lexical Functional Grammar. The relation of the present proposal to syntactic structures is similar to that proposed in the previous chapters for other preverbs: the rule of lexical insertion places the pieces of V' into appropriate c-structure positions. This, in effect, claims that c-structure (more specifically, the positions phrasal categories occupy in phrase structure) and surface configurations, in general, are irrelevant to the formation of lexical phrases. Whether this position is tenable is, obviously, an empirical issue. It may prove false, but for the time being basic assumptions of LFG concerning the primitiveness of GFs, selection for function, and a strict separation of the lexicon and syntax permits an analysis of these constructions which conforms to Sapir's engaging intuition: though the terms of incorporation are syntactic we do not need to assume that syntactic structures map into morphological forms.

Incorporated constructions, as we have seen, are morphological compositions in which a portion of the complex verb expresses a syntactic relation to the verbal head: these constructions can be interpreted as ***functionally complex words***. As mentioned in Chapter 1, there have been several treaments of ***functionally complex words*** advanced over the past few years within the LFG framework. Since the LFG treatment of incorporation has already been presented in the previous chapter I will simply summarize those aspects of this analysis relevant for a comparison with Baker's and Sadock's accounts of this phenomenon.

Perhaps the greatest difference between these accounts arises from the manner in

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which grammatical relations are defined: whereas the former analyses define grammatical relations derivatively over phrasal categories, LFG hypothesizes that these relations are primitives and are not necessarily expressed by phrasal categories. As a consequence of these basic assumptions an LFG account can refer to grammatical functions independent of phrase structure considerations such as phrasal category or position of a phrasal category within a syntactic representation. On an LFG account, incorporation is essentially a morpholexical process: lexical categories are combined by a process of verbal compounding and the non-head element is assigned a GF in much the same manner that GFs are ordinarily assigned to complements in c-structure. The assignment of a GF to a portion of the complex predicate means that the selectional requirement of the head for that GF is satisfied within the lexicon. This is registered in the lexical entry for the complex verb: it provides a PRED feature value specification for the GF associated with the incorporated lexical item. This GF cannot be satisfied in c-structure owing to the well-formedness conditions on f-structure enumerated in Chapter 4.[31]

In summary, incorporation within LFG amounts to the assignment of a governable grammatical function to an element within a morphological composition.

I contend that the present account conforms to Sapir's intuitions since it does not demand that we define syntactic structures as a condition on the application of a morpholexical process: the LFG account claims that incorporation evinces syntactic value - to use Sapir's term - but that this value may be independent of syntactic structure. The previous two accounts, it should be recalled, require the postulation of syntactic representations in order to identify the entities which participate in incorporation.[32]

The LFG proposal can be seen in the following illustrative example for an incorporated construction involving the OBJ function.

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31 Cf. Chapter 5 for an identical claim concerning incorporated pronouns.

32 Given this assumption one can justifiably inquire as to whether uninflected lexical categories ever appear in the syntactic positions defined by these syntactic structures. In those languages where incorporated elements are uninflected how do we explain the absence of inflection if the incorporated elements appear in positions which are ordinarily associated with inflection?

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(1) a fiú fát vágott
the boy wood-ACC cut-PAST-3sg
'the boy was wood-cutting'

fát vág V' 'cut <(SUBJ)(OBJ)>'
OBJ_{pred} = wood

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED} & \text{'boy'}] \\ \text{PRED} & \text{'cut <(SUBJ)(OBJ)>'} & \\ \text{OBJ} & [\text{PRED} & \text{'wood'}] \end{bmatrix}$$

In the present example, the rules of morphology have created a complex verb consisting of the case-marked nominal *fát*[33] and the verb stem *vág*. This composition eventuates in a complex verb meaning 'wood-cut' whose OBJ argument is satisfied by the PRED feature value of the incorporated nominal.[34]

Obviously, I have constrained the grammatical function assignment to the incorporated nominal in a convenient fashion: if I had assigned the SUBJ function to the incorporated nominal I would have created an unacceptable verb form. This is illustrated in the following example.

* fiú vágott a fát
boy cut-PAST-3sg the tree-ACC

fiú vág V' 'cut <(SUBJ)(OBJ)>'
SUBJPRED = boy

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED} & \text{'boy'}] \\ \text{PRED} & \text{'cut <(SUBJ)(OBJ)>'} & \\ \text{OBJ} & [\text{PRED} & \text{'tree'}] \end{bmatrix}$$

[33] The reader should recall that since inflection is accomplished within the lexicon on present assumptions it is not problematic that the ACC case appears on the nominal.

[34] A more precise representation as well as the exact manner in which the lexical semantics of these predicates is derived by combining a verbal stem with a lexical stem must be addressed elsewhere (Ackerman 1987b).

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The preceding sentence is anamolous despite the fact that, strictly speaking, the associated f-structure is well-formed: it contains values for the two functions selected by the PRED feature of the verb. It might be thought there is a general restriction on the incorporation of SUBJ complements in this language and that this would account for the relevant facts. However, as noted in Chapter 3, Simonyi (1902) includes SUBJs in the set of preverbs.[35]

The possibility of generating anamolous verb forms raises a question: how can we assure the correct assignment of functions to incorporated elements? I propose that incorporation is constrained by essentially by three factors: 1) whether the verb (or, verb class) permits incorporation at all; 2) the selectional requirements of the verb stem; 3) an incorporation hierarchy which determines which one among the functions selected by an ATP will be incorporated. A schematic presentation of the hierarchy and the manner in which it operates are provided below:[36]

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[35] This has also been argued to be an incorporable function in Hungarian in Ackerman (1984) and Szabolcsi (1984). Cf. Hankamer, J. & Knecht L. (1976) for speculation about SUBJ incorporation in Turkish.

[36] I have left out of consideration certain manner adverbials which are arguably incorporated. These resemble the subcategorized adverbials mentioned in Jackendoff (1972) for such constructions as 'he worded the letter carefully.' In Hungarian these adverbials exhibit the same syntactic distributions displayed by preverbal elements and presented in Chapter 3. In Hungarian the verb e.g. *bánik* behaves in like fashion while in certain construction the adverbial and verbal stem have assumed an idiomatic sense.

i) a fiú jól bánik a lánnyal
the boy well treats the girl-INST
'the boy treates the girl well'

ii) * a fiú bánik a lánnyal
the boy treats the girl-INST

iii) a fiú jól-lakott
the boy well dwelled
'the boy is sated'

iv) az jól-esett nekem
that well-fell 1sg-DAT
'that pleased me'

In the constructions the verb *bánik* obligatorily selects a manner adverbial while the verbs *lakik* 'dwell' and *esik* 'fall' assume different meanings in combination with the adverbial *jól* 'well'.

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XCOMP[37] > OBJ > SUBJ

If the lexical form of a verb contains an XCOMP and either of the functions SUBJ, OBJ then assign the XCOMP function to the incorporated word,

If the lexical form of a verb contains the two functions SUBJ and OBJ then assign the OBJ function to the incorporated word,

Assign the SUBJ function to the incorporated word if the lexical form of the verb contains the SUBJ function and neither the OBJ nor XCOMP functions.

The hierarchy provides a means for determining which single function selected by an ATP can be satisfied morphologically: the remaining functions must be satisfied either by a clausal constituent or by a discourse referent interpreted pronominally.

If we return to the case of *fát vág* 'wood-cut' discussed above, it now becomes evident why the OBJ function is assigned to the nominal rather than the SUBJ function: the lexical form of *vág* 'cut' contains both a SUBJ and OBJ function and therefore the OBJ function is assigned to the incorporated nominal. Similarly, we can explain the unacceptability of the form *fiú vág* 'boy-cut' where the incorporated element is assigned the SUBJ function: since the verb selects for both a SUBJ and OBJ, the incorporated element should be assigned the OBJ function and the SUBJ function should be satisfied by either a clausal constituent or by a discourse referent interpreted pronominally.

We will see below that this hierarchy is most properly interpreted as a provisional means to characterize the general tendencies exhibited by argumental preverb and verb combinations. In the remainder of this chapter I will examine certain aspects of Hungarian incorporation and I will focus on the role of the hierarchy with respect to these phenomena. The chapter will conclude with some commentary concerning the participation of argumental preverb + verb combinations in derivational processes.

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[37] The XCOMP function here includes both secondary predicates and directional/locational complements.

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3. Incorporation in Hungarian

As stated in Chapter 4, the main difference between prefixal and argumental preverbs consists in the supposition that whereas the former do not evince a determinable syntactic relation to a verbal base, the latter do. Argumental preverbs exhibit a broad scatter of syntactic relations to verbal stems. In general, the set of grammatical functions associable with incorporated elements resembles the set presented by Sapir: there are incorporated SUBJs, OBJs, XCOMPs (secondary predicates instantiated by several categories), XCOMPdirectional/locational complements, and possessed elements (frequently, body parts.)

There are three basic diagnostics for presuming that an element has been incorporated in Hungarian. They are; 1) a prohibition against the presence of a determiner with the lexical element, i.e. the incorporated element cannot be a maximal expansion of a lexical category; 2) the apperance of the lexical element immediately before the verb stem in contextually unmarked clauses and its appearance elsewhere in marked constructions;[38] and; 3) a tendency for the lexical element and verbal stem to participate in derivational processes. We will encounter the first two criteria throughout the ensuing discussion of verbal compounding. Derivational phenomena associated with these verbal compounds will be examined later on.

3.1. Incorporation According to the Hierarchy

The interaction of the hierarchy and morphological compounding processes is most easily exemplified with verbal stems which select XCOMP complements. Before presenting illustrative instances of this phenomenon the reader should consider the following remarks concerning the status of XCOMP complements in LFG:

> The idiosyncratic [XCOMPs - FA] are those XCOMPs selected by a given verb, such as make, or become, or persuade. But some XCOMPs can be added to the

[38] The appropriate positions were enumerated in Chapter 3.

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> lexical entries of verbs by lexical rules. These include the directional complements to verbs of motion, such as *in Gibraltar* in the sentence *I arrived in Gibraltar.* A second type of XCOMP introduced by lexical rule comprises the resultative attributes and depictive attributes, e.g. *She cried her eyes blind* (resultative) and *He ate the meat raw.* - Simpson 1983

In other words, XCOMP functions are selected "idiosyncratically" by simple argument taking predicates or they become part of the lexical form of an ATP as the result of applying a lexical rule to an ATP.[39] Consider the following lexical entries for transitive verbs which select an XCOMP function with resultative or evaluative sense.

(2) változtat V 'change <(SUBJ)(OBJ)(XCOMP)>'

(3) fest V 'paint <(SUBJ)(OBJ)(XCOMP)>'

(4) tart V 'consider <(SUBJ)(OBJ)(XCOMP>'

According to the hierarchy, verbs with lexical forms such as these should assign the XCOMP function to the lexical category which compounds with the verbal stem. The expected effects of this prediction are presented below with *contextually neutral constructions* where the preverb immediately precedes the verb and the sentence is associated with level prosody.[40]

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[39] The reader should note that all of the phenomena described here are analyzable in other terms within other frameworks. In the present instance, the relevant secondary predicates can be regarded as *small clauses* etc. In a small clause analysis we would have instances where the predicate (head) of the *small clause* is incorporated into the matrix predicate.

[40] Cf. the discussion of Hungarian word order in Chapter 3.

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(5a.) a fiú **boszorkánnyá/boszorkányokká változtatta a lányokat**
the boy witch-TRANS/witch-PL-TRANS changed-3sg/DEF the girl-PL-ACC
'the boy changed the girls into witches'

(b.) * a fiú lányokat vatoztatott boszorkánnyá/boszorkányokká
the boy girl-PL-ACC changed-3sg witch-TRANS/witch-PL-TRANS

(6a.) a fiú **feketére** festette a falat
the boy black-SUB painted-3sg/DEF the wall-ACC
'the boy painted the wall black'

(b.) * a fiú falat festett feketére
the boy wall-ACC painted black-SUB

(7a.) a fiú **drágának** tartotta a kalapot[41]
the boy expensive-DAT held-3sg/DET the hat

(b.) * a fiú kalapot tartott drágának
the boy hat-ACC held expensive

In each of the preceding instances the hierarchy operates correctly: it assigns the XCOMP to the incorporated entity immediately preceding the verb as in (5a.), (6a.) and (7a.), while it excludes the assignment of the OBJ function to a preverbal element as in (5b.), (6b.), and (7b.). It should be noted that the SUBJ function cannot be assigned to a preverbal element in these constructions either. This is likewise accounted for by the hierarchy. The resulting complex verbs are *boszorkannyá- változtat* 'witch change', *feketére-fest* 'black paint' and, *drágának-tart* 'expensive consider'.

There are certain other constructions containing a so-called *fake reflexive*[42] where the hierarchy makes the correct prediction. For example, the verb *beszél* 'speak, talk' is generally an intransitive verb. However, with certain XCOMP (resultative) complements

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[41] The reader should note that analytic constructions such as that in sentence (7a.) find analogues in certain synthetic constructions. For example, sentence (7a.) means the same as the following sentence containing a deadjectival verb based on the adjective *drága* 'expensive':

a fiú dragállta a kalapot
the boy considered-expensive-3sg/DEF the hat-ACC
'the boy considered the hat expensive'

In general, derived verbs of this type do not enter into combination with prefixal preverbs.

[42] Cf. Simpson 1983c. for this term.

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it can be used transitively with a REFL(exive) pronominal OBJ. This is exemplified below with the complex verb *rekedtre-beszél* 'hoarse talk'.

(8) a fiú gyakran beszélt a barátjával
the boy frequently spoke the friend-3sg-INST
'the boy freqently spoke with his friend'

(9) a fiú **rekedtre** beszélte magát
the boy hoarse-SUBL talked-3sg-DEF REFL-3sg-ACC
'the boy talked himself hoarse'

In constructions of this type, a verb which does not ordinarily select for an OBJ complement[43] selects for SUBJ, OBJ and XCOMP complements. The lexical element which compounds with the verbal stem is assigned the XCOMP function - in accordance with the hierarchy - and must obey the case-government demands which the verb excercises over this function: the resultative XCOMP must be expressed by an adjective marked in the SUBL case.

The hierarchy also yields acceptable complex verb forms based on intransitive verbs. This is demonstrated with the verbs *valik* 'change' and *bizonyul* 'prove, turn out':

[43] The verb *beszél*, for example, selects for two complements, namely, a SUBJ and an OBL governed for the instrumental case.

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(10a.) szabályszerüvé válik V 'change <(SUBJ)(XCOMP)>'
$XCOMP_{case} = TRANS$

(b.) a hangsúlyozás **szabályszerüvé** vált
the stress rule-like-TRANS became
'stress became regular'

(c.) * hangsúlyozás vált szabályszerüvé
stress became rule-like-TRANS

(11a.) bizonyul V 'prove, turn out <(SUBJ)(XCOMP)>'
$XCOMP_{case} = DAT$

(b.) a feltevés **igaznak** bizonyult
the supposition true-DAT proved
'the supposition proved true'

(c.) * feltevés bizonyult igaznak
supposition proved true-DAT

The incorporable function for verbs such as those in (10a.) and (11a.) should be the XCOMP function according to the hierarchy. Sentences (10b.) and (11b.) indicate that the lexical element immediately before the verb is assigned the XCOMP function: the SUBJ requirement of these verbs is satisfied by a clausal constituent. Sentences (10c.) and (11c.) show that the selectional requirements of these verbs for a SUBJ function cannot be satisfied morphologically.

There are certain transitive and intransitive verbs with directional complements which also appear to incorporate their XCOMP argument. For example, consider the following complex forms based on the transitive verb *tesz* 'put' the intransitive verb *megy* 'go'.

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(12a.) a fiú **helyre**[44] tette a könyvet
the boy place-SUBL put-3sg/DEF the book-ACC
'the boy put the book back'

(b.) * a fiú könyvet tett a helyre
the boy book-ACC put-3sg the place-SUBL

(13a.) a fiú **moziba** ment
the boy movie-ILL went-3sg
'the boy movie-went'

(b.) * fiú ment moziba
boy went-sg movie-ILL

Once again, the bare lexical element immediately before the verb in these contextually neutral sentences is assigned the XCOMP function, while the assignment of OBJ (12b.) or SUBJ (13b.) to such an element results in an unacceptable form.

The next class of verbs which appear to motivate the proposed hierarchy are simple transitive verbs whose OBJ function requirement is satisfied within the complex verb form.[45]

(14a.) a fiú **fát** vág
the boy wood-ACC cut-3sg
'the boy is wood-cutting'

(b.) * fiú vág a fát
boy cut-3sg the wood-ACC

(15a.) a fiú **helyet** foglalt
the boy place-ACC took-3sg
'the boy took a seat'

(b.) * fiú foglalt a helyet
boy took the place-ACC

In the preceding sentences the OBJ function is assigned to the preverbal element as in (14a.) and (15a.), while the SUBJ function cannot be assigned to the preverbal as

[44] The form *helyre* co-occurs with several transitive verbs of transport.

[45] Some verbs in this class are somewhat odd. For example, the verb *áll* 'stand' can be used transitively in certain idioms such as *állja a sarat* 'stand one's ground' as well as in certain OBJ incorporating constructions such as *bosszút-áll* 'avenge'. This phrasal predicate governs the SUP case for its non-SUBJ complement. This is, therefore, an instance where the incorporated element and verb stem arguably constitute a single unit which determines the case-marking of the selected OBL function.

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indicated by the unacceptability of (14b.) and (15b.).

In contrast with the preceding type of OBJ incorporation where an incorporated element simply satisfies a selectional requirement of the simple verb, there is an interesting variety of OBJ incorporation construction in which the incorporated element exercises case-government demands over an OBL complement. This is exemplified by the following construction.

(16) a szünet lehetöséget adott az ivás-ra
the intermission opportunity-ACC gave the drinking-SUBL
'the intermission provided an opportunity to drink'

In (16) the OBJ function selected by the di-transitive verb *ad* 'give' is predictably assigned to the bare accusative nominal before the verb. On the other hand, the nominal *lehetöség* 'opportunity' is itself an ATP which governs the SUBL for its OBL complement. The incorporation of certain elements (specifically, those elements which are themselves ATPs) elicits the same effects as the presence of certain prefixal preverbs with respect to the case-government of verbal complements. In both instances, a preverbal element which combines with a verb stem exhibits a non-contiguous dependency relation with a governed, phrasal complement: this phrasal constituent is, arguably, a complement of the composite verb.[46]

The final type of incorporating construction which obeys the hierarchy is fairly restricted. In this type, a verb selecting a single function, namely, the SUBJ, assigns this function to the non-maximal constituent with which it enters into a compounding relation. The following exemplifies this phenomenon.

(17) **menny**dörög
heaven-thunder-3sg
'it's thundering'

Unlike the previously cited instances of incorporation, (17) represents a case where the

[46] Cf. Komlosy and Ackerman (1983) for discussion.

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nominal serving the SUBJ function is inseparable from the associated verb stem: the nominal, in this instance, is not interpretable as a synchronic preverbal element. There is, however, one construction type in which a constituent arguably functioning as a SUBJ, i.e. the predicate agrees with it in number,[47] functions as the SUBJ is synchronically interpretable as a preverb. The relevant construction involves the clausal expression of possession: in these constructions, the possessed element appears in the NOM case, bears number marking and a PX (possessive) suffix indicating the person/number of the possessor, while the facultative POSS complement is marked in the DAT case when it appears in c-structure. The following sentences illustrate this construction.

(18) (nekem) pénz-em van
(I-DAT) money-1sg is-3sg
'I have money'

(19) (nekem) lehetöség-em volt az ivás-ra
(I-DAT) opportunity-1sg was-3sg the drinking-SUBL
'I had an opportunity to drink'[48]

In sentence (19), we find an analogue to the type of incorporation of an ATP exemplified earlier by OBJ incorporation in (16). In the present instance, a preverbal constituent determines the case-marking for an OBL complement of the presumable complex verb of

[47] The tentativeness evident in declaring this element the SUBJ derives from two sources: 1) it is arguably the case that Hungarian number agreement is not keyed to the SUBJ buth rather to a NOM case-marked constituent which in most instances functions as the SUBJ, 2) there are certain occasions on which a NOM case-marked constituent engenders number agreement while an accompanying DAT case-marked constituent assumes other functions typically associated with a SUBJ, i.e. it can serve as the controller for the SUBJ element of adverbial clauses, as discussed earlier.

[48] It should be noted that the alleged incorporated SUBJ in these constructions cannot be expressed by a maximal phrasal expansion. These possessed elements cannot co-occur with definite determiners in these constructions: they cannot appear, however, as determinerless constituents when the preverb *meg* appears with the copula. Moreover, there is a general requirement that possessed elements appear with definite determiners in all other contexts. Consider the following examples in connection with these constraints on clausal possession constructions:

(i.) * a pénzem volt
the money-1sg was
'I had (the) money'

(ii.) a pénzem meg-volt
the money-1sg PV-was
'I had the money'

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which it is a constitutive member: the selectional requirements of the incorporated ATP become the requirements of the complex verb as a function of percolation in the compounding process that adjoins the relevant lexical items.

In all of the preceding examples the resulting complex verbal forms follow the predictions of the hierarchy. However, there are certain constructions which do not conform to the dicates of the hierarchy. I turn now to a brief examination of these exceptions.

3.2. Exceptions to the Hierarchy

In several instances the SUBJ complement appears to be incorporated despite the presence of an XCOMP function.[49] Consider the following two constructions in this connection:

(20) **kavics** ment a cipömbe
pebble went the shoe-1sg-ILL
'The/A/Some pebbles went into my shoe'

(21) **vĭz** maradt a pohárban
water remained the glass-IN
'Water/some water remained in the glass'

On the basis of the hierarchy one would have expected that the directional and locational complements (both XCOMPs on the present analysis) would have been incorporated rather the SUBJ function.[50]

These exceptional constructions figure in a network of related constructions containing prefixal preverb + verb combinations: in the latter constructions the SUBJ cannot be incorporated. Consider the following examples.

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[49] The conditions on this incorporation require a careful analysis of the lexical semantics of the predicates which participate in this pattern. For an analysis of SUBJ incorporation and the definiteness effect in Hungarian the reader is directed to Szabolcsi (1985).

[50] The reader should observe that this expectation is strengthened by the incorporating behavior of *megy* 'go' in example (13a.) above.

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(22a.) * kavics bele-ment a cipömbe
pebble PV-went the shoe-1sg-ILL

(b.) a kavics bele-ment a cipömbe
the pebble PV-went the shoe-1sg-ILL
'the pebble went into my shoe'

(c.) a cipöm tele[51]-ment kavicsokkal
the shoe-1sg PV-went pebble-PL-INST
'my shoe got full of pebbles'

(23a.) * viz benn[52]-maradt a pohárban
water PV-remained the water-IN

(b.) a viz benn-maradt a pohárban
the water PV-remained the glass-IN
'the water remained in the glass'

As can be seen, clauses containing phrasal predicates consisting of a prefixal preverb and verb stem cannot assign the SUBJ function to a non-maximal constituent, (22a.) and (23a.): both selected functions of these complex predicates must be satisfied by a maximal constituent in the clause or by construal with a discourse referent.

A second type of exception to the hierarchy involves transitive verbs whose SUBJ rather than OBJ argument appears to be incorporated. The following sentences serve to illustrate this.

(24) **rács** védi az ablakot
bar protect-3sg/DEF the window-ACC
'bars protect the window'

(25) **rendőr** nézi a házat
policeman watch-3sg/DEF house-ACC
'police are watching the house'

As with the exceptional intransitive constructions presented previously, the presence of a prefixal preverb with these transitive verbs renders the sentences in (24) and (25) unac-

[51] The quasi-prefixal preverb *tele* means 'full' as mentioned in Chapter 4.
[52] The quasi-prefixal preverb *benn* means 'inside'.

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ceptable: the SUBJ must be instantiated by a phrasal constituent (or construed with a discourse referent if a phrasal constituent is absent from c-structure) when the verb is a phrasal predicate. The following example containing the phrasal verb *meg-véd* 'protect' illustrates this phenomenon.

(26a.) * rács meg-védi az ablakot
bar PV-protect-3sg/DEF the window-ACC

(b.) a rács meg-védi az ablakot
the bar PV -protect-3sg/DEF the window-ACC
'the bar protects the window'

The behavior of incorporated elements in the preceding two types of constructions is quite instructive since it attests to a fairly general (but not exceptionless) constraint associated with incorporation: certain V' constructions, i.e. prefixal preverb + verb combinations, constitute a class of verbs which generally do not participate in incorporation. I will illustrate this constraint with a transitive verb. Consider the following V' construction containing the prefixal preverb *fel* and the verb stem *vág* 'cut':

(27a.) a fiú fel vágta a fát
the boy PV cut-PAST-3sg/DEF the wood-ACC
'the boy cut up the tree'

(b.) * a fiú fel vágott fát
the boy PV cut-PAST-3sg wood-ACC

(c.) * a fiu fát vagott fel[53]
the boy tree cut-PAST-3sg PV

In general, as noted in Komlosy and Ackerman (1983), the argument which exhibits a dependency relation with the prefix - in the preceding instance, the OBJ - must be instantiated by a phrasal category. This requirement can be observed in sentences (22) and (23) as well. In these latter constructions the XCOMP arguments governed by the prefixal

[53] This contruction is frequently judged acceptable by native speakers on the interpretation that the nominal *fát* is given focus interpretation. Focus interpretation confounds the analysis of numerous phenomena: it "saves" numerous otherwise unacceptable constructions. This is surely intriguing but for convenience I have chosen to neglect focus constructions in this study. Cf. Kiss (1981), Horvath (1981) and Farkas (1984, 1986) for views about Focus. Cf. also the descriptive account in Chapter 4.

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preverb must be instantiated by phrasal categories. In fact, the generalization is broader than hinted above: all of the selected arguments of a lexical V' tend to be instantiated by phrasal categories (or, by a discourse referent which can be construed with phrase missing from c-structure). This can be stated in an alternative fashion appropriate to incorporation: the selectional requirements of V' constructions consisting of a prefixal preverb and a verb cannot be satisfied morphologically.[54]

3.3. The Incorporation of Possessed Elements

One of the types of elements which Sapir claims is prone to incorporate is the possessed entity from a possessive phrase. This conforms with the general thesis that incorporable entities are *heads*. In Hungarian, there are numerous phrasal predicates which consist of an incorporated element which is interpretable as the possessed element of a possessive construction. In several instances these possessed elements denote body parts. In general, the possessed element appears in preverbal position and reflects both the PX marking appropriate for its POSS argument and the case marking appropriate to its relation with the verbal stem, i.e. NOM for SUBJ, ACC for OBJ and OBL_{case} for any XCOMP function. The optional POSS argument appears in the DAT case. The DAT case marking of the POSS argument refects the fact that these constructions represent one of the possessive construction variants mentioned previously. In fact, the variant of the possessive construction which permits a NOM POSS is not prohibited with these incorporated possessed elements. Many of these constructions are idiomatic.

Although these constructions obey the hierarchy in the sense that the head of a SUBJ, OBJ or XCOMP is incorporated, they behave somewhat differently than other

[54] One might view this restriction in the following manner. There is a single position immediately before the verb and this position can be occupied by only a single element. When predicate formation uses this position for a prefixal preverb, the position is exhaustively occupied by the prefix and this prohibits the subsequent application of incorporation. This description of the restrictions on the preverbal position within the lexicon is reminiscent of similar restrictions proposed for the preverbal Focus position in c-structure. Cf. Chapter 4. This is not a fortuitious circumstance since, as we will see momentarily, the lexical and syntactic V' have an intimate relation to one another. The reader should also consult Farkas (1986) for an excellant account of the relation between the lexical and syntactic V' constituent in Hungarian.

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incorporation examples we have seen because the 'abandoned' POSS argument arguably assumes its own clausal grammatical function.[55] I will restrict discussion to constructions containing incorporated body parts of the sort expressed below:

(28) agyára megy
brain-PX-SUBL go
'irritate'

(29) eszébe jut
mind-PX-IN come
'occur to, recall'

(30) lelkére köt
spirit-PX-SUBL bind
'oblige, make duty bound'

In these constructions the incorporated possessed element inflects for the person/number features of the POSS argument. For example, consider the following forms in which the possessed entity reflects the person-number features of its POSS argument.

(31a.) (nekem) esz-em-be jutott
(I-DAT) mind-1sg-ILL came-3sg
'it occurred to me'

(b.) (neked) esz-ed-be jutott
(you-DAT) mind-2sg-ILL came-3sg
'it occurred to you'

(c.) (neki) esz-é-be jutott
(s/he-DAT) mind-3sg-ILL came-3sg
'it occurred to him/her'...

In certain expressions of this type it is possible to place a determiner before the possessed argument. The significant point for the present thesis, however, is that, as with other incorporated entities, the incorporated possessed entity can - unlike mere clausal constituents - appear without a determiner. In other words, it need not be expressed by a maximal expansion of N. In general, these constructions are reminiscent of the clausal possession constructions mentioned earlier: they contain a non-maximal constituent inflected

[55] This is reminiscent of so-called *possessor raising* in several languages. I examine constructions of this type in Ackerman (1987b.)

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with the PX marker appropriate to a facultative DAT case-marked POSS. The POSS constituent manifests certain SUBJ properties such as the ability to serve as the controller of missing SUBJ complement in adjunct clauses.[56]

In summary, the existence of incorporation constructions in Hungarian involving the possessed elements of possessive constructions comports with the functional complexion of incorporating constructions delineated by Sapir. In fact, Hungarian appears to contain the full battery of incorporable functions enumerated by Sapir.

3.4. A Syntactic V': Directionality of Branching

There are certain Hungarian verbs which select an XCOMP which is not lexically incorporated, i.e. the selectional requirements of these verbs cannot be satisfied morphologically. However, the maximal constituent expressing this function ordinarily occurs immediately before a simple verb in c-structure, without eliciting the expected focus interpretation.[57] Verbs of this sort are relevant for determining the relation between a syntactic and lexical V' constituent. Consider the following sentence containing the simple verb tesz *'put, place'*.

(32) Mari arra az asztalra tette a poharat (amely a sarokban áll)
Mary that-SUB the table-SUB put-PAST-3sg/DEF the glass-ACC which corner-IN
Mary put the glass on the table (which was in the corner)

It has been noted (Horvath 1981, Kiss 1981) that there are restrictions on modification of this preverbal complement. In (33) we see that a right branching relative is not permitted as a variant of (32) while it is permitted, as (34), if some constituent is focused in immediately preverbal position, i.e. the right-branching relative is not immediately before the verb:

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[56] Cf. Chapter 2 for discussion.

[57] Cf. Chapter 3 for discussion of focus position, focus interpretation and the basic order of constituents in c-structure. The reader should recall that immediately preverbal position in contextually neutral constructions was one of the criteria suggested for determining whether a constituent bearing a GF is incorporated.

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(33) * Mari **arra az asztalra amely a sarokban állt** tette a poharat
Mary that-SUBL the table-SUBL which the corner-IN stood put the glass
'Mary put the glass on the table in the corner'

(34) **Arra az asztalra amely a sarokban allt** *Mari* tette a poharat
that-SUB the table-SUB which the corner-IN stood Mary put the glass
'Onto the table which stood in the corner, MARI put the glass'

In Ackerman (1984) I argued that the proscription against structures such as that in (33) follows from a general prohibition against right branching complementation within essentially left branching constructions in Hungarian. The motivation for this claim is found in the pairs of constructions listed below:

(35a.) a sarkon álló ház mögött
the corner standing house behind
'behind the house standing on the cornerq'

(b.) * a ház amely a sarkon áll mögött
the house which the corner-SUP stand behind

(36a.) a vértöl szennyes köpeny
the blood-AB dirty cloak
'the cloak dirty from blood'

(b.) * a szennyes vértöl köpeny
the dirty blood-AB cloak

(37a.) a sarkon álló fiú köpeny-e
the corner-SUP standing boy cloak-3sg
'the boy who's standing on the corner's cloak'

(b.) a fiú-nak aki a sarkon áll a köpeny-e
the boy-DAT who the corner-SUP stands the cloak-3sg
'the boy who's standing on the corner's cloak'

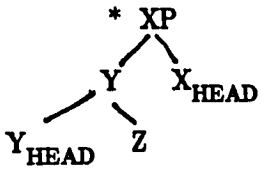
(c.) * a fiú aki a sarkon áll köpeny-e
the boy who the corner-SUP stands cloak-3sg

The unacceptable phrases in (35b.), (36b.) and (37c.) all contain structures in which a constituent intercedes between the head of a PP (35), or an NP (36) and (37), and its modifier: the interposed constituent is a dependent of the modifier. Given this pattern of

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acceptability the following seems a plausible generalization over Hungarian endocentric phrases:

> Complements of heads in endocentic left-branching structures cannot serve as heads of right-branching structures.



The reader should recall that in sentence (34) the right branching relative was permitted when it did not immediately precede the verb, (i.e., it is in the so-called Topic position). This can be reformulated in the following manner so as to conform to the general constraint on branching in endocentric structures: right-branching is permitted in (34) since the relative clause is not contained in an endocentric V' structure headed by the V, while it is proscribed in (33) since the relative clause is located in the preverbal position which is sister to V within the endocentric V' phrase. This analysis makes the following assumptions: 1) the explanation for the grammaticality judgements concerning (33) and (34) follows from a general restriction on branching in endocentric constructions, 2) there is a syntactic V' constituent, 3) a maximal major constituent can occupy the sister position to V within V'.

The presumed relation between the proposed constraint on branching and the existence of a syntactic V' constituent becomes less speculative when we direct our attention to the behavior of the types of possessive constructions exemplified by (37a-c.). Consider the following construction in which the POSS and and the possessor are discontinuous:

(38) a fiú-nak, aki a sarkon áll veres volt a köpeny-e
the boy-DAT who the corner-SUP stands bloody was the cloak-3sg
'the cloak of the boy standing on the corner was bloody'

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Szabolcsi (1983) demonstrates that whereas the possessive construction with a NOM POSS is always a single constituent, the DAT variant is alternatively interpretable as either a single constituent or as two constituents: the latter variant can be expressed by two contiguous phrases or by discontinuous phrases. We can combine this observation with an earlier claim of Szabolcsi's: on her account, only a single constituent can occupy Focus position.[58] The combination of these two claims explains the judgements attested in the following examples.

(39) a lány *a fiunak a köpenyét* csodálta meg
the girl the boy-DAT the cloak-3sg-ACC amazed-3sg/DEF PV
'It was the boy's cloak that the girl was amazed at'

(40) * a lány *a fiúnak aki a sarkon áll a köpenyét* csodálta meg
the girl the boy-DAT who corner-SUP stand the cloak-3sg-ACC marvelled-3sg/DEF PV

Given previous assumptions, the acceptability of (39) suggests that the DAT POSS variant here represents a single constituent: only a single constituent can occupy Focus position. Since the POSS NP is contained in an endocentric possessive phrase, the constraint on branching predicts that it should not serve as the head for a right-branching structure. This prediction is borne out by the unacceptability of sentence (40). A correlative prediction is borne out as well: the DAT POSS should be able to appear within possessive phrase when it serves as the head of a left branching relative. This too is borne out as indicated by the acceptability of (41) below:

(41) a lány *a sarkon álló fiú köpenyét* csodálta meg
the girl the corner-SUP standing boy cloak-3sg-ACC marvelled-3sg/DEF PV
'it was the man standing on the corner's cloak the girl marvelled at'

The preceding discussion testifies to the relevance of endocentricity for constraints on the directionality of branching in Hungarian: a construction with variable constituency countenances different branching behaviors depending on whether it is regarded as a single

[58] Cf. The discussion of Hungarian phrase structure in Chapter 3.

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constituent or as two constituents. The preceding analysis relies on the assumption that the location of a possessive construction in Focus position indicates that it is a single constituent. The question clearly arises as to where, in fact, this Focus position is located.

The Focus position is claimed to be a sister of V within a V' constituent in Horvath (1981, 1986) and Farkas (1986). On present assumptions, a focused constituent, as a member of an endocentric phrase, should not be able to serve as the head of a right-branching construction, whereas it should be able to serve as the head for a left-branching one. This distribution is precisely what is found in the following sentences:

(42a.) * *a fiú aki a sarkon áll* láttam meg
the boy who a corner-SUP stands saw-1sg PV
'It's the boy standing on the corner who I saw'

(b.) *a sarkon álló fiú* láttam meg
the corner-SUP standing boy saw-1sg PV
'It's the boy standing on the corner who I saw'

These differences in acceptability follow from the contraint on branching if the Focus position is contained within an endocentric left-branching construction. This left sister position of V was also postulated as the location for the unfocused XCOMP constituent in (32). The postulation of a syntactic V' constituent is consequently necessary for the explanation of the variable branching behavior exhibited by certain XCOMP complements in contextually neutral constructions as well as by focused constituents.

In conclusion, the following speculation seems plausible: on analogy with the preceding assumption concerning the existence of a V' syntactic constituent, one might claim that the preverbal element of a phrasal predicate occupies the left sister position of the V' syntactic constituent in c-structure. The evidence adduced for this claim cannot be the same sort of evidence presented for the XCOMP and focused constituents: preverbal elements (because they are expressed by sublexical or lexical elements) cannot be modified in the requisite manner in order to reveal the relevant constraints on branching.[59]

[59] Different sorts of evidence, however, are provided in Farkas (1986) to defend the claim that preverbs occupy the the left sister position of V within V'. The complementarity exhibited by preverbs, certain unfocused clausal constituents and focused constituents is one obvious piece of evidence in defense

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In Chapter 4 I suggested that the supposition that prefixal preverbs and verbs represent lexical phrases is corroborated by the fact that they participiate in derivational processes generally considered to be restricted to the lexicon. In the concluding section of this chapter I would like to demonstrate that argumental preverb and verb combinations participate in derivational processes: this evidence similarly suggests a lexical provenance for these entities. I will, for the most part, restrict discussion to nominalization.

4. Derivation

Many of the argumental preverb + verb combinations cited in the previous section occur as nominals. Consider the following representative examples.

(43) fa-vágás 'wood-cutting' < fát-vág[60] 'wood-cut'

(44) moziba-menés 'movie-going' < moziba-megy 'movie go'

(45) szabályszerüvé válás < 'becoming regularized'
szabályszerüvé válik 'become regularized'

In (43), (44), and (45) we find instances where the nominalizing suffix *-ás/és* accompanies a phrasal verb form. During the investigation of nominals derived from prefixal preverb and verb combinations it was claimed that evidence for the nominal status of the derived nouns comes from the structure of NPs in Hungarian. To repeat, since all adjectival modifiers appear to the left of their nominal heads then a demonstration that this ordering obtains when an alleged derivation acts as the head of an NP is a demonstration of its nominal status. The distribution of the elements within an NP is illustrated with the derived nominal *szabályszeüvé válás* 'becoming regularized' below.

---

of the hypothesis that these entities occupy a single position. Cf. Chapter 3 for a brief discussion.

[60] Cf. the following section for speculation concerning the motivation for the loss of ACC case in category changing derivations despite the maintenence of case-marking for incorporated XCOMP complements involving the same derivational processes. The reader should also note that *szabályszerü* in (45) literally means 'law-like' - however, the meaning 'regularized' seems more felicitous in the present context.

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(46) a lassú szabályszerüvé válás
the slow regulular-TRANS becoming
'the slow becoming regularized'

In (46), the nominal modifier *lassú* 'slow' precedes the derived nominal: this distribution of constituents suggests that the word *szabályzserüvé válás* is the head of the NP. If syntactic phrases are prohibited from feeding derivational processes, then the existence of this sort of complex derived nominal suggests that the verbal entity *szabályszerüvé válik* 'become regularized' is a lexical phrase. As a constitutive component of a lexical phrase the governed adjective *szabályszerüve* 'regular' is assigned the XCOMP function: this selectional demand of the simple verb is satisfied morphologically. The claim that *szabályszerüvé* is not a clausal complement of the verb can be corroborated by the manner in which complements are realized within complex possessive NPs. As mentioned in Chapter 4, those complements that are not satisfied morphologically appear as either POSS functions (if formerly SUBJ or OBJ) or to the left of an adjectival modifier *való* in complex possessive NPs. Since *szabályszerüvé válik* has a lexical form of the following sort;

(47) szabályszerüvé válik V' 'become regularized <(SUBJ)(XCOMP)>'
$XCOMP_{case}$ = TRANS
XCOMPPRED = szabály

we would expect that the SUBJ function could play the role of the POSS function in such NPs. Given a sentence such as,

(48) a folyomat lassan szabályszerüvé vált
the process slowly regular-TRANS changed
'the process slowly became regularized'

we can investigate whether this expectation is borne out. Consider the following possessive phrase in this connection.

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(49) a folyomatnak a lassú szabályszerüvé válás-a
the process-DAT the slow regular-TRANS becoming-3sg
'the process' slowly becoming regular'

(50) ?? a folyomatnak a lassú szabályszerüvé való válása
the process-DAT the slow regular-TRANS being becoming-3sg

The phrases in (49) and (50) accord with expectations: the fact that we find (49) rather than (50) indicates that the constituent serving the XCOMP function does not have clausal status. In the earlier discussion of this phenomenon it was demonstrated that clausal constituents assigned OBL and XCOMP functions appear to the left of *való* in similar constructions.

Given the general tendency for OBJ arguments to assume the POSS function in possessive phrases headed by deverbal nominalizations it is instructive to observe what happens when an alleged incorporated OBJ appear in nominalizations. We would naturally predict that the former SUBJ function would play the role of POSS in such constructions: since the element assigned the OBJ function is not a clausal constituent but rather a portion of the predicate it should not be expressed in the same manner as true clausal complements. In (51) the POSS element corresponds to the OBJ function selected by the phrasal predicate *fel-vág* 'cut up': the fact that this function must be associated with a clausal constituent explains why the function correlative with this complement appears as the POSS complement in nominal constructions. In contrast, the phrase in (52) comports with the supposition that the OBJ function for the phrasal predicate *fát vág* 'wood-cut' is not instantiated by a clausal complement.

(51) a fá-nak a szakadtatlan fel-vagás-a
the wood-DAT the uninterrupted PV-cutting-3sg
'the uninterrupted cutting of the wood'

(52) a fiúnak a szakadtatlan favágás-a
the boy-DAT the uninterrupted wood-cutting-3sg
'the boy's uninterrrupted wood-cutting'

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The sole complement of (52) which can be expressed by a POSS complement is the constituent correlative with the SUBJ function selected by the phrasal verb *fát-vág*: the OBJ complement is satisfied morphologically. The location of the nominal modifier further attests to the nominal status of the complex form derived from the phrasal predicate.

In general, the preceding discussion illustrates that phrasal predicates must be regarded as lexical entities in order to explain the existence of derived forms transparently related to them. In addition, evidence from the structure of simple NPs and the expression of clausal complements within complex possessive NPs demonstrate that argumental preverbs have a different status than other constituents which serve to satisfy the selectional demands of predicates: they are legitimately interpreted as portions of morphological compositions.

Before concluding this chapter I would like to look somewhat more closely at an issue raised by the type of incorporation illustrated in (52): What is the nature of the transitivity of Hungarian predicates with incorporated OBJs? Hungarian incorporation does not change valence as has been alleged for instances of incorporation in other languages. As we have seen, the selectional requirements of the transitive verb stem are satisfied in the morphology: this may give the impression that a verb has become, e.g. intransitive but this impression is created because of the well-formedness condition of consistency invoked in Chapter 5. The verb cannot be satisfied by both a c-structure constituent assigned the OBJ function and by a morphological element assigned this function. In order to contextualize this discussion I present some recent speculation concerning the satisfaction of selected arguments within compounds presented in Lieber 1983.

4.1. Lieber on Argument-Linking in Compounds

Lieber (1983) proposes an account of English compounding. On this account the argument structure of ATPs (her Vs and Ps) combine with independently motivated principles of word formation[61] to generate and explain the attested (and imaginable) compound forms in English. The central principle of her proposal is presented below.

[61] The reader should consult Chapter 4 for the principles of morphology presupposed in this analysis.

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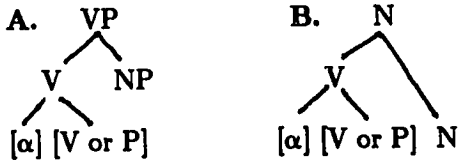
Argument-Linking Principle

a. In the configuration [V or P] [α] or [α] [V or P] where α ranges over all categories, V or P must be able to link all arguments.

b. If a stem [α] is free in a compound which also contains an argument taking stem, α must be interpretable as a semantic argument of the argument taking stem i.e. as a LOC(ative), MAN(ner), AG, INST, or BEN argument.

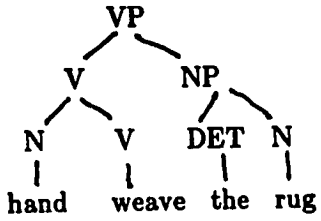
Lieber suggests that *argument* should be understood in the sense of Williams (1980): the difference between ordinary arguments and semantic arguments is, roughly, the difference between internal arguments vs. adjuncts. In particular, the internal arguments are those arguments lexically specified by the ATP with the exception of the SUBJ (which is an external argument). In contrast, semantic arguments are those elements which are not specified by the ATP.

We are offered the following schematic options on Lieber's analysis:

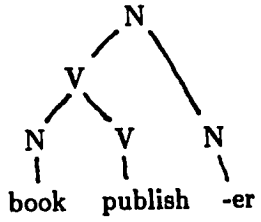


In schema A the argument structure of the ATP is passed up (by feature percolation) to become the argument structure of the VP: the subcategorizational requirements of the ATP must, accordingly, be satisfied outside of the NV compound while the element [α] must be interpreted as a semantic argument of the ATP. This phenomenon is exemplified by a construction such as 'Morris hand-wove the rug' whose VP is presented below.

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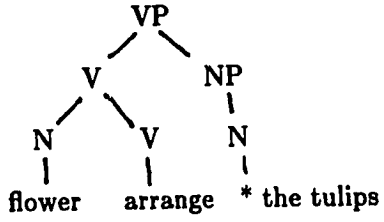


In contrast, constructions with the structure of the sort found in B. prohibit the element α from being a semantic argument of an associated V: the node which dominates the compound, namely N, is categorially distinct from V and therefore the argument structure of the V cannot percolate. As a consequence, the internal argument requirement of this V must be satisfied internal to the compound. This phenomenon is exemplified by the structure of a derived nominal such as ***bookpublisher.***



The category of the preceding compound is determined by the agentive morpheme *-er*: [α] in this instance is only interpretable as an internal argument of the ATP.

For present purposes it is instructive to note that Lieber mentions a small and controversial class of NV compounds which appear to present problems for the simple analysis of linking which she proposes. She cites the example of ***flower-arrange.***



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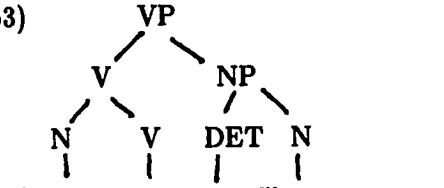
She observes that although a sentence such as 'Morris is flower-arranging' may be marginal a sentence such as 'Morris is flower-arranging the tulips' is thoroughly unacceptable. Lieber comments that 'flower' here cannot be syntactically linked to the verb stem (presumably because it is contained within a verbal compound and all internal arguments of verbal compounds are satisfied within the VP.) The syntactic satisfaction of the V, then, is achieved by a process of 'incorporation' but this proposal is left obscure: 'flower' is somehow incorporated into the V.

Lieber comments that problematic constructions of this type appear productively in other languages. We have seen in this chapter that Hungarian is one such language. I will turn now to a presentation of Hungarian incorporation with Lieber's proposal in view.

As indicated above, Lieber observes that verbal compounds such as *flower-arrange* cannot take additional syntactic complements which satisfy the same syntactic requirement as the nominal which compounds with the V. On her account, we are dealing with an intransitive verb. She claims that speakers who accept verbal compounds of the relevant type do so "if they are used intransitively." (1983:263).

Hungarian verbal compounds with, e.g. incorporated OBJs, exhibit the same constraint as the English examples presented above.[62]

(53)



* fát vágott egy tölgy-et
tree-ACC cut a oak-ACC
'wood-cut * an oak'

Beyond the obvious similarity between the English and Hungarian structures with respect to a prohibition against the appearance of an NP within the VP fulfilling the OBJ

[62] For the sake of comparison I have represented the Hungarian compound verb as being embedded in a VP although there is little evidence to suppose the existence of such a constituent in Hungarian. Cf. Chapter 3 for discussion.

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function there is an additional difference: the nominal stem in the Hungarian compound bears a marker of its syntactic dependency to the verbal head, namely, the ACC case. Lieber comments on the English variants in the following fashion:

> ... some English speakers seem to allow a compounding strategy in which a second stem verb which requires an internal argument but which cannot link it syntactically will incorporate its first stem within the compound.

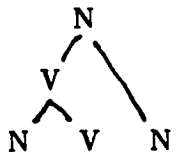
It is not clear from this account; 1) precisely what principles prevent the desired syntactic linking; 2) what the process of incorporation actually is, nor; 3) whether the incorporated element is supposed to be interpreted as satisfying the OBJ function of the verb in some manner. It is consistent with Lieber's remarks about the 'intransitive' nature of this construction mentioned earlier that incorporation, on this account, is interpreted as a valence changing rule: the resultant predicate is intransitive. On this interpetation the reason for the unacceptability of (53) is that the complex verb 'flower-arrange' does not subcategorize for an OBJ. However, given the similarity between the English and Hungarian constructions I would like to propose an alternative interpretation consistent with the analysis of incorporation provided in this chapter.

Although it might be claimed about the Hungarian constructions that they exhibit an intransitive semantics, i.e. they select a single referential argument, it can hardly be maintained that they are syntactically intransitive: the incorporated N bears the case marking appropriate to its function as an OBJ. The verb, in such instances, satisfies its OBJ requirement morphologically: the proscription against an additional OBJ complement in c-structure follows from the well-formedness condition of consistency. Lieber's reference to a verb's inability to syntactically link an internal argument appears to refer to the fact that when a verb's selectional requirement has been appropriately saturated morphologically it cannot be additionally satisfied in syntactic structure: this appears to be another example of the Morphological Elsewhere Condition invoked in Chapter 5. If the morphologically more specified manner of satisfaction is not chosen then satisfaction

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must be forthcoming in syntax. On this sort of analysis there is little difference in terms of transitivity between the marginal constructions of English and the common constructions of Hungarian: they both maintain their transitivity and the maintenance of their original valence explains the prohibition against the appearance of an OBJ in c-structure.

Finally, with respect to derivations based on incorporated OBJ constructions, we find the following with respect to Lieber's system: the element α does, indeed, satisfy the internal argument requirements of the verbal head.



fa vág ás
'wood-cutting'

The nominal sister of the verbal head exhibits the same function here as it does in the phrasal verb, namely, OBJ. The difference between the two constructions consists mainly in the absence of ACC case marking from the incorporated nominal in the derived noun. However, this turns out to be a somewhat trivial difference since; 1) in several derived nouns of this type the ACC is preserved as (54) and; 2) the appropriate case marking is preserved on incorporated nominals fulfilling all other functions in all other derivations based on phrasal predicates as in (55).

(54) (a.) részt-vevö[63] 'participant' < részt-vesz 'participate
part-ACC-taking part-ACC-take

(b.) ellent-mondás 'contradiction' < ellent[64]-mond 'contradict'
against-ACC-speak against-ACC-speak

[63] The phrasal verb *részt-vesz* 'part-take, participate' is probably a loan translation based on the German *teil-nehmen* 'part-take, participate'. The agentive nominal presented in the text is in free variation with a form in which the ACC case is absent - *rész-vevö*.

[64] *The postposition ellen* 'against' infrequently functions as a prefix but when it does it generally governs the DAT of its dependent argument as with the verb *ellent-mond* 'contradict' and *ellenáll* 'resist' (lit. against-stand).

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(c.) hátat-fordítás 'abandonment' < hátat-fordit 'back turn, abandon'
back-ACC-turn back-ACC-turn

(55) (a.) házhoz-szállítás 'home-delivery' < házhoz-szállit 'home deliver'
home-ALL-transporting home-ALL-transport

(b.) moziba-menés 'movie-going' < moziba-megy 'movie-go'
cinema-ILL-go cinema-ILL-go

(c.) semmivé-tétel[65] 'destruction' < semmivé-tesz 'destroy'
nothing-TRANS-putting nothing-TRANS-put

(d.) ott-hagyás 'abandonment' < ott-hagy 'abandon'
there-leaving there-leave

The argumental preverb in the preceding examples preserves the case marking indicative of its syntactic relation to an associated verbal base.

5. Argumental Preverbs: The Morphological Expression of Grammatical Functions

The preceding discussion suggests a provisional account of Hungarian argumental preverbs along the following lines. A morphological rule of compounding combines a fully inflected nominal or adjective and verbal stem to effect a phrasal predicate: the reader should note that the existence of compounds with internally inflected components follows from the conception of the lexicon adopted in LFG.[66] The resultant phrasal predicate retains the brackets between the argumental preverb and verbal stem in the same manner that they were preserved for phrasal predicates derived by the affixation of prefixal preverbs. The well-formedness of argumental preverb and verb combinations is constrained, in the unmarked case, by the function hierarchy proposed previously: the argumental preverb must be interpretable as serving the function prescribed by the hierarchy for the type of predicate participating in the compound.[67] A single, designated function

[65] This word has undergone nominalization by means of suffixation by the restricted morpheme *tel*.

[66] Cf. Chapter 2 for discussion and illustration.

[67] Exceptions can, of course, be simply listed. Closer investigation would, hopefully, reveal a systematicity to these alleged exceptions.

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selected by the verb is, consequently, satisfied within the compound. That is, a selectional requirement of the verb is satisfied within the lexicon.

The observed categorial restriction on argumental preverbs, i.e. they are instantiated by lexical categories,[68] follows straightforwardly on the present account from the assumptions that 1) predicates select for the function rather than the category of their complements and 2) maximal expansions do not participate in productive word-formation processes: the function expressed by the left-member of a verbal compound must be instantiated by a lexical category since the verbal form is the creation of the word formation process compounding. If, however, this function is satisfied by a C-structure constituent it will be instantiated by a maximal expansion as befits syntactic expression. In other words, the categorial encoding, i.e. projection level, of an invariant functional notion, i.e. Subj, Obj, etc., is determined by the domain in which the function is expressed.

Both the principled distinction between function and structure and strict assumptions concerning the scope of lexical vs. syntactic rules align the LFG treatment with the essential Sapirian insights concerning incorporation: syntactic values, in Sapirian terms, are independent of (though possibly not unrelated to) categorial encoding. In the present account, unlike the Kroeberian ones reviewed previously, one need not antecedently identify entities as serving a function via their location in syntactic structures in order to apply a morphological rule of compounding.

Finally, we see how the present proposal operates by considering several phrasal predicates which served as bases for derivation in the preceding section: *fát vág* 'wood-cut', *házhoz szállít* 'home-deliver', *moziba megy* 'movie go', and *semmivé tesz* 'make nothing, destroy'. The lexical entries for the verbal components of these compositions are presented below.[69]

[68] There are certain instances where the argumental preverb appears to be instantiated by a non-maximal rather than lexical category.

[69] The reader should recall that I have included directional complements within the class of XCOMP functions.

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(56 a) vág V 'cut <SUBJ, OBJ>'

(b) szállit V 'transport <SUBJ, OBJ, XCOMP>'

(c) megy V 'go <SUBJ, XCOMP>'

$$\text{XCOMP}_{\text{case}} = \alpha \in \begin{matrix} \text{LOC} \\ +\text{motion} \\ +\text{goal} \end{matrix}$$

(d) tesz V 'make <SUBJ, OBJ, XCOMP>'

$$\text{XCOMP}_{\text{case}} = \text{TRANS}$$

The rule of verbal compounding will combine inflected nominals or adjectives with the verbal stem: the case-marking (more generally, the morphological form) of the adjective or nominal will facilitate the identification of this entity as a potential candidate which can morphologically satisify the selectional requirement of the verb stem. For example, *fát* 'tree-acc', *házhoz* 'house-acc', *moziba* 'theatre-ill', and *semmivé* 'nothing-trans' are all appropriately governed morphological forms for those functions interpreted as incorporated according to the hierarchy. The resultant verbal comounds are:

(57a) *fát vág* V' 'cut <SUBJ, OBJ>'

$$\text{OBJ}_{\text{pred}} = \text{'wood'}$$

(b) *házhoz szállit* V' 'transport <SUBJ, OBJ, XCOMP>'

$$\text{XCOMP}_{\text{pred}} = \text{'house'}$$

(c) *moziba megy* V' 'go <SUBJ, XCOMP>'

$$\text{XCOMP}_{\text{case}} = \alpha \in \begin{matrix} \text{LOC} \\ +\text{motion} \\ +\text{goal} \end{matrix}$$

$$\text{XCOMP}_{\text{pred}} = \text{'theatre'}$$

(d) *semmivé tesz* V' 'make <SUBJ, OBJ, XCOMP>'

$$\text{XCOMP}_{\text{case}} = \text{TRANS}$$

$$\text{XCOMP}_{\text{pred}} = \text{'nothing'}$$

The resultant phrasal predicates can, as shown above, serve as lexical bases for further derivation thus suggesting the lexical provenance of these predicates.

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6. Conclusions

In the present chapter I have introduced the reader to the phenomenon of morphological incorporation and several recent theoretical approaches to this topic. I have also presented a smattering of the Hungarian argumental preverb + verb combinations which I consider to be candidates for an analysis in terms of incorporation. An intriguing aspect of the constructions considered here is the fact that the argumental preverbs display the same functional relations to verbal stems as those enumerated for incorporated elements by Sapir. In other words, the class of relations displayed by this otherwise apparently arbitrary collection of preverbs is precisely the class of relations which recur in incorporating constructions cross-linguistically.

I have, additionally, demonstrated that the lexicalist assumptions adopted in the present study mandate an analysis of argumental preverb + verb combinations as lexical phrases. This is the only conclusion compatible with the derivational behavior of these entities.

We have seen that evidence involving the structure of NPs and the expression of phrasal complements within NPs indicate that argumental preverbs are constitutive members of a morphological composition. We have also speculated that preverbs occupy a particular position in such compositions, namely, the left sister position of V within V' and that they may also occupy this position within a syntactic V' constituent in contextually neutral constructions. In this connection I have presented evidence to suggest that there exists a syntactic V' constituent which corresponds, in numerous instances, with the lexical V' constituent.

In the concluding chapter of this study I turn to the analysis of constructions which, in some measure, resemble the incorporated constructions examined here. These constructions are called *analytic predicates* and they consist of entities which appear to exhibit a syntactic dependency with one another. Although the 'complement' in such structures might be interpreted as a sort of argumental preverb, I will argue that *analytic predicates*

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constitute a sufficently different type of phenomenon - from the perspective of their internal composition - to warrant a separate account.

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Chapter 7: Analytic Predicates

The present chapter continues the analysis of lexical phrases addressed in the previous three chapters.[1] The preceding chapters have focused on instances where morpholexical rules create complex verbs which consist of syntactically separable parts. In particular, I proposed that prefixal preverbs are composed with verb stems to create new predicates with their own lexical forms, the resultant lexical form being, frequently, a simple function of the information contributed by the constitutive pieces of these complex predicates. I also proposed that argumental preverb + verb constructions are lexical units in which certain selected functions of predicates are satisfied morphologically as a result of predicate formation processes involving morphological compounding. Constructions of both sorts were analyzed as manifesting discrepancies between their morphological and phonological structure: the grammatical word was not coterminous with the phonological word. The phenomena discussed in the present chapter represent a variation on this theme. By way of an introduction to these phenomena consider the following constructions:[2]

---

[1] This chapter constitutes the descriptive background and motivation for the theory of analytic predicate proposed in Ackerman (1987c.)

[2] The reader should consult Chapter 2 for additional examples of similar phenomena. In the present examples the verb *meg-beszélni* 'to arrange, agree upon' is based on the simple verb *beszélni* 'speak, the verb *ki-tölt* 'fill out' based on the simple verb *tölt* 'pour, fill, load' and the DAT pronouns in (2) are optional as indicated by parentheses. We will see later in this chapter that the person/number inflectional marking on the infinitives in sentences (2a. and 2b.) is optional if the DAT form of the pronoun is present. Finally, the future auxiliary *fog* 'will' derives historically from the verb *fog* 'hold, grasp' which still exists synchronically with this form and meaning.

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(1a.) meg fogjuk beszélni a találkozás időpontját
PV will-1pl/DEF speak-INF the meeting time-3sg-ACC
'we will arrange the time of the meeting'

(b.) * meg fogunk beszélni a találkozás idopontját
PV will-1pl/INDEF speak-INF the meeting time-3sg-ACC
'we will arrange the time of the meeting'

(c.) nem fogjuk meg-beszélni ...
NEG will-1pl/DEF PV-speak
'we will not arrange the time of the meeting

(2a.) (nekem) ki kellett töltenem a táviráti ürlapot
(1sg-DAT) PV must-PAST fill-1sg a telegram form
'I had to fill out the telegram form'

(b.) (nekem) nem kellett ki-töltenem ...
(1sg-DAT) NEG must-PAST PV-fill-1sg
'I didn't have to fill out the telegram form'

The syntactic distribution of the PV in these constructions parallels its distribution in clauses without AUX elements. In the neutral sentences typified by (1a.), the PV lexically associated with an infinitival form appears immediately to the left of the clausal element which inflects for person/number and tense. The PV appears before the infinitival form, however, when a NEG element appears before the inflecting verbal form (cf. (1c.)).[3] The unacceptability of (1b.) arises from the fact that verbs like *fog* 'will' obligatorily exhibit agreement with the definiteness of the OBJ selected by their (alleged) infinitival complement. In (1a.) the inflecting verb displays DEF agreement while the OBJ of the infinitive is definite:[4] the sentence is, accordingly, acceptable. In (1b.) the inflecting verb displays INDEF agreement while the infinitival OBJ is definite: the sentence is, accordingly, unacceptable. The determination of definite agreement - ordinarily limited to a single clause

[3] Cf. Chapter 3 for a discussion of the distribution of PVs.

[4] The reader is refered to the subsection on agreement in Chapter 2 for discussion of the conditions on OBJ agreement. It bears mentioning that this type of agreement pattern exists in Basque periphrastic verbal constructions as well. In Basque, as in Hungarian, OBJ agreement is claimed to be triggered by the definiteness of the OBJ NP. AUX verbs, in this language, agree with the SUBJ, OBJ, and OBLdat complements of an associated non-finite verb form. The phenomenon is referred to as *penetration* in the Basque literature: the agreement requirements of the non-finite verb form 'penetrate' beyond its immediate environment and are reflected in the form of an accompanying auxiliary. I thank Jon Aske for discussion of this phenomenon in Basque. A representative instance of this type of agreement is presented below with Basque causative verbs.

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nucleus - appears here to extend beyond the single clause.

The sentences in (2) represent a different type of phenomenon. As in the previous constructions, the PV appears discontinuous from the infinitival form with which it constitutes a grammatical word. However, in the present instances the element which appears to function as the verb for purposes of PV placement inflects for tense while the infinitival element (optionally) inflects for the appropriate person/number feature of the (DAT) SUBJ.[5] The inflectional properties ordinarily associated with a single verb form, i.e. person/number agreement and tense, appear here to be distributed among the members of a complex predicate.

Constructions of these sorts will be referred to as *analytic predicates.* They resemble the previously analyzed lexical phrases in that, on the present account, they are interpreted as entities created by morpholexical rules which manifest a discrepancy between their morphological and phonological structure: in the present instance as in earlier ones the morpholexical composition consists of syntactically independent elements. There is, however, one signal difference between the previously analyzed lexical phrases and analytic predicates: a portion of the analytic predicate, specifically the AUX element, functions as a constituent structure verb, i.e. it is the *categorial* or *structural head* of the lexical composition, while the infinitival or predicate adjective/noun contributes the lexical meaning of the derived grammatical word, i.e. it serves as the *functional* head. The assumption that the structural and functional head of a lexical entity can be expressed by different elements introduces a new type of discrepancy: we are confronted here with a conflict between the conventional assumptions of X bar theory and the structures created by morpholexical rule. On usual assumptions the entity created by morpholexical rule indivisibly encodes a structural and functional head: this entity occupies a single slot under the appropriate categorial node in c-structure. Given these assumptions, the relation between an auxiliary element and an infinitive is generally interpreted as one of

[5] In fact, auxiliary elements like *kell* 'must' also inflect for mood. This will be discussed below.

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syntactic dependency: the AUX is interpreted as the head of a clause and the infinitive is a syntactic complement. In the constructions provided above the AUX elements *fog* and *kell* are accordingly interpretable as matrix verbs which select for infinitival complements. The analysis of such constructions as analytic predicates, in contrast, assumes that the AUX is a portion of a complex predicate (the structural head) while the infinitive constitutes another portion of this lexical phrase. The types of information contributed by the AUX - like information typically contributed by affixes and minor categories - will be interpreted as *grammatical meanings* and will be regarded as properties of clauses: the AUX elements are exponents of grammatical meaning. The head of the clause nucleus to which auxiliaries contribute properties is the PRED feature contributed by the non-finite verbal form: that is, the functional head of the clause nucleus is the entity which contibutes lexical meaning. The suppposition that AUX elements in analytic predicates do not head their own clause nuclei presents the possibility that the constructions under consideration should be analyzed without appealing to (vacuous) control relations: the alleged SUBJ of the AUX does not serve as the controller of an XCOMP's SUBJ but rather, the lexical unit consisting of separable structural and functional head selects for a single SUBJ complement. In other words, morpholexical rules produce a grammatical word with discrete structural and functional heads and this analytic composition is associated with a lexical form: the apparent control relation is simply a consequence of satisfying the SUBJ selection requirement of the single lexical form jointly associated with these separate elements.

The organization of the present chapter is as follows. First, I present some general observations concerning the nature and cross-linguistic complexion of structures interpretable as analytic predicates. This will involve a brief discussion of the opposition between grammatical and lexical meaning. We will see that there is a striking cross-linguistic convergence with respect to the grammatical notions expressed by structural heads. The conception of analytic predicate proposed to address cross-linguistic phenomena of this type

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represents a distillation of opinions concerning this category found primarily in Soviet linguistic literature. Second, I present some examples of analytic predicates from the Ugric languages: 1) (definite) OBJ agreement across alleged clause nuclei; I will also present here some familiar phenomena from the domain of derivation which comport with the hypothesis that the elements representing the structural and functional heads in these constructions constitute a single lexical unit, and, 2) Hungarian inflecting infinitival constructions.[6]

1. Analytic Predicates: A Descriptive View

In Chapter 2 I suggested that Sapir's typological interests centered on isolating the corpus of grammatical notions which tend to recur cross-linguistically. Sapir, like other typologists, attended to the manner in which these grammatical notions were encoded but he acknowledged that the division into analytic vs. synthetic expression is not particularly instructive. For present concerns this point is nicely illustrated in the excellent descriptive study of Hungarian auxiliaries by Kálmán et. al. (1984). Consider the follow set of sentences in this connection: (from Kálmán et. al.)

[6] A third type of analytic predicate is examined in Ackerman (1987c.). Ostyak contains a passive construction in which the passive morphology appears on the structural head (the auxiliary element). These constructions are significant since the passive morphology which reassigns grammatical functions does not appear on the entity whose lexical form is directly affected but rather on the auxiliary associated with that form. (If the lexical verb is not accompanied by a AUX, then the passive morphology appears on the lexical verb.) This type of phenomenon can be taken as evidence for the lexical unity of the auxiliary and the infinitive: the passive morpheme appears on the structural head of the analytic predicate. This analysis provides a uniform account of passive formation: a morpholexical rule places the passive morpheme on the simple verb stem or on the structural head of an analytic predicate.

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(3a.) a holló énekel egy dalt a rókának
the raven sing-3sg a song-ACC the fox-DAT
'the raven sings a song to the fox'

(b.) a holló énekel-het egy dalt a rókának
the raven sing-CAN-3sg a song-ACC the fox-DAT
'the raven can sing a song to the fox'

(c.) a holló énekelni fog egy dalt a rókának
the raven sing-INF will-3sg a song-ACC the fox-DAT
'the raven will sing a song to the fox'

(d.) a holló énekelni akar egy dalt a rókának
the raven sing-INF want-3sg a song-ACC the fox-DAT
'the raven wants to sing a song to the fox'

(e.) a hollónak énekelnie kell egy dalt a rókának
the raven-DAT sing-INF-3sg must a song-ACC the fox-DAT
'the raven must sing a song to the fox"

There is a certain amount of invariance evident in the preceding sentences: the array of grammatical functions associated with NPs in these sentences remains constant. We find a SUBJ, an OBJ and an OBL_{ben}. The verbal element, in contrast, undergoes various changes: the most relevant change concerns the fact that it appears in both synthetic (3a. & 3b.) and analytic (3c.,3d.,3e.) variants. Kálmán et. al. suggest that these surface differences with respect to the encoding of various notions associated with the verb should not obscure the fact that we are dealing in all instances with a unitary phenomenon: we are dealing with a verb which is sometimes describable as a *verbal group.*[7] This insight, as will be demonstrated, is the informing intuition behind the notion of analytic predicates presented in this chapter.

2. The Category AUX

The category AUX has been, perhaps, the most extensively examined category in generative linguistics from a cross-linguistic perspective.[8] On the basis of these investiga-

[7] Cf. Chapters 2 and 6 for discussion of verbal groups. The intuitions behind this notion will be discussed below as well.

[8] Cf. Steele et. al. 1981.

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tions a small collection of meanings have been found to be expressed by AUX elements; tense, aspect, negation, modality, assertability conditions, interrogativity, emphasis.[9] Carlson (1983) observes that:

> In a sense, we are confronted with a rather constant relationship between certain meanings and certain forms, and in the end we will have to elucidate some principled connection between linguistic form and linguistic meaning. This runs counter to much in modern linguistics which emphasizes the arbitrary nature of language, both in terms of sound-meaning relations as well as whatever semantic content syntactic categories might hold. But, in the case of auxiliaries at least, there does appear to be semantic content to the category AUX, for not just anything is expressible as an AUX.

Although Carlson focuses here primarily on the expression of certain meanings by the AUX category he suggests that this distribution should be interpreted more broadly: in particular, it should be interpreted in terms of a traditional distinction between *grammatical* or *functional meaning* vs. *lexical meaning* and the types of morphemes that these meanings map into. For instance, the sorts of grammatical meanings enumerated earlier commonly map into AUX elements (major and minor categories) or are carried by affixal morphemes. This small collection of notions, in other words, receives synthetic or analytic encoding.

One criterial difference between grammatical vs. lexical meaning on Carlson's account is that:

> ...in general, meanings associated with function morphemes should not be assigned to the morphemes themselves, but instead to the structures in which the morphemes appear. Lexical morphemes, on the other hand, do have meanings directly assigned to them, and do not associate themselves with a meaning

[9] This list is based on Carlson (1983).

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by virtue of the structures in which they are found.

For present purposes it is important to observe that grammatical meanings are meanings assigned to structures: later in this chapter this will be reinterpreted as indicating that grammatical meanings are identified as properties of clause nuclei.

Finally, Carlson suggests that there is a correlation between grammatical meaning and inflectional morphemes:

> I take it that derivational morphemes are added in the lexicon, and the subsequent change of meaning becomes a part of the word's meaning. Inflectional morphemes. though added like derivational morphemes in the lexicon, make no contribution to the meaning; hence a word with an inflectional ending means the same as that word without it.

The reader should note that this conception of wordhood resembles the hypothesis of a *lexical molecule* adapted from Bally: a fully formed lexical entity consists of a *lexeme* (a carrier of lexical meaning) and an array of grammatical meanings encoded by bound or free morphemes associated with that lexeme.[10] The strategy which employs bound morphemes is generally called synthetic while the strategy that employs free morphemes is called analytic. We will see shortly that several Soviet linguists have employed these terms to refer to the synthetic vs. analytic forms of grammatical words.[11]

We can limit Bally's contribution in this discussion to the hypothesis that a gram-

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10 The reader should consult Chapter 4 for discussion of this conception of wordhood in connection with the observations of Matthews and Lyons.

11 Cf. Tauli (1945-49) for a discussion of Bally's conception of wordhood applied to analytic constructions in Estonian. He notes that Bally's conception of analyticity departs from the conventional interpretation of this notion in the following fashion: whereas Bally focuses on the transparency of meaning-to-form mapping as criterial, the typological literature ordinarily focuses on the manner in which morphemes agglomerate with stems. If the manner of agglomeration eventuates in phonological integrity then the structure is synthetic, while the absence of phonological integrity indicates an analytic strategy. Tauli recognizes that Bally's notions of synthetic/analytic occasionally conflict with current conceptions of this distinction. This conflict becomes apparent during Tauli's enumeration of criteria serviceable for determining the analytic vs. synthetic complexion of flexional forms of words. Tauli contends that the separability of elements constituting a single inflected word is an indication of greater analyticity. On his interpetation, periphrastic tense constructions in Estonian are more analytic than postpositional phrases since elements can be interposed between members of the former construction but not between members of the latter.

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matical word is comprised of a lexeme and a collection of grammatical meanings expressed by a variety of morphological exponents. The analytic/synthetic distinction proposed by typologists can be viewed as a taxonomy of the manner in which morphemes bearing grammatical and lexical meaning combine into words. The most straighforward instances of the association of grammatical meanings with lexical meaning are synthetic encodings where one can identify particular morphemes in their paradigmatic alteration with other morphemes. This can be illustrated by the Vogul tense paradigm presented in Chapter 2: the past tense affixal morpheme -s- contrasts with the present tense affixal morpheme -γ-. When a free morpheme conveys a grammatical meaning such as tense, we are less inclined to believe that its combination with a free morpheme bearing lexical meaning constitutes a variant of single word. That is, the task is of delimiting the word as a morpholexical unit becomes more difficult when we are dealing with what several Soviet linguists refer to as *analytic predicates*.[12] In the following section I will focus on the conception of analytic predicate one is able to distill from the works of several Soviet linguists.

3. The Soviet Tradition

For the sake of brevity I will rely primarily on the speculations of Meščaninov (1948), Smirnitskij (1956) and Jartseva (1963) for a representative perspective on analytic predicates.[13] These linguists, by and large, agree with Sapir that the synthetic/analytic distinction is a useful classificatory device: it facilitates the description of the manner in which linguistic notions are expressed. On their account, the manner of encoding cannot be employed to determine the status of an entity as a grammatical word. Their conception of wordhood resembles that advanced by Bally. This view permits them to refer to the synthetic and analytic form of words. The essential features of analytic word forms are succintly stated by Jartseva:

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12 Cf. the references to Kálmán et. al. in the previous section.

13 For greater elaboration and discussion the reader is advised to consult the collection of articles contained in, The Morphological Structure of Words in Languages of Various Types, ed. Zhirmunskij and Sunik (1963).

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> The specific property of analytic forms is that lexical and grammatical meanings are transmitted disjointly and that the degree of coalescence between the elements of analytic word forms varies according to the historical development manifest in a given language. -1963:53

She explicitly recognizes the diachronic aspect of these forms: diachrony may account for the disjoint realization of information borne by a single word but the fact of disjoint realization, on this account, in no way impugns the supposition that syntactically discrete elements jointly constitute a single word. She contends that analytic forms may not only appear in discrete units but that the surface position of these units need not be fixed.

> The constitutive components of analytic forms, although representing a single lexical unit, are capable of altering their linear relations to one another and of permitting the interposition of elements between them. - 1963:59

The type of analytic form which figures most prominently in the present chapter is the analytic predicate. The composition of these predicates generally consists of an auxiliary element (or elements) and a non-finite verb form. In the remainder of this work these component portions of analytic predicates will be referred to as the structural and functional heads of this verb form. Meščaninov presents the following characterization of analytic predicates employing the Russian periphrastic future construction:

> In the construction *ja budu smotret'* 'I will look' the lexically meaningful element is the infinitive while the syntactically active element is the copula. The lexical content and syntactic form which are ordinarily combined in a single verbal form appear in the present instance diassociated from one another. The copula in this dissociation functions as an exponent of the syntactic side of this construction ...

The analytic verb form *budu smotret'* contains a copula inflected for person/number of the SUBJ (*budu* COP-1sg), and the infinitival form of the imperfective verb *smotret'* 'to look'. Meščninov offers another illustration of analytic predicates from the Turkic

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language Oirot:

> In Oirot the verb *kör* 'look' in concatenation with another verb conveys the sense of attempted completion of the activity designated by the latter verb: *bičip kör* 'try to describe'. The verb [*kör*]... is deprived of its former lexical content, becomes an auxiliary word and functions as a syntactic marker conveying, in the given instance, a modal nuance. -1948:158

It is a simple matter to supplement such examples with similar constructions from other languages. Consider the following Basque periphrastic causative construction in this connection: (from Aske (forthcoming))

(4a.) Miren dend-eta-ra joan da
Miren-ABS store-PL-TO go-PERF A3s-AUX
'Miren has gone shopping'

(b.) Jon-ek Miren dend-eta-ra joan-erazi du
Jon-ERG Miren-ABS store-PL-TO go-CAUS A3s-AUX-E3s
'Jon has made Miren go shopping'

Sentence (4a.) contains a periphrastic intransitive verb form consisting of a participial verbal element and an AUX registering agreement with the ABS(olutive) complement in the clause. In (4b.) we find the causativized variant of the periphrastic intransitive of (4a.): the causativizing morpheme is suffixed to the verbal participle and the consequent change in valence is reflected in the agreement pattern displayed by the AUX, i.e. it agrees with both the ABS and the ERG(ative) complements.[14]

[14] Two brief remarks about Basque periphrastic constructions are in order. First, the component portions of these constructions are separable in constituent structure. Second, Basque, like Hungarian, utilizes immediately preverbal position for focused constituents. Given this, it is instructive to observe that preverbal position is interpreted as the position before the participial element and not before the AUX. This seems to suggest that the AUX and participial act in tandem as verbal unit: the AUX functions as a structural verb for purposes of agreement, etc., while the participial functions as the lexical head and provides the environment for focusing. The following neutral (i) and focused (ii) constructions illustrate the importance of preverbal position in Basque:

(i) Jon-ek Miren-i liburu-a eman dio
Jon-ERG Miren-DAT book-A-DEF give-PERF A-AUX-D-E
'Jon has given the/a book to Miren'

(ii) Miren-i, Jon-ek eman dio liburu-a
Miren-DAT Jon-ERG give-PERF A-AUX-D-E book-A-DEF

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All of the preceding examples illustrate a common cross-linguistic property of analytic predicates: a verb with lexical meaning and the ability to function as an independent matrix verb gradually loses these properties and assumes a new meaning and syntactic role in combination with a non-finite verbal element. An arresting aspect of this transformation is the fact that these formerly independent verbs show a striking cross-linguistic convergence with respect to the notions they encode: they encode *grammatical meanings*. The reader should also note that the relevant transformation occurs over time and that, consequently, one expects to encounter a certain amount of indeterminacy with respect to constructions such as these. This issue will be addressed below.

Given phenomena of this sort Meščaninov generalizes about the nature of analytic predicates:

> Having become a linking verb, the verb loses one of its obligatory meanings - lexical semantics - and preserves another meaning... - syntactic meaning.[15] A verb exists only in the union of both [meanings].a- 1948:158

A crucial aspect of analytic predicates on this account is the claim that information generally contained in a single form can be parcelled out among several independent forms and that the co-presence of all such information is criterial for the production of verbal forms. In this enterprise a central task of determining the wordhood status of an entity is the demonstration that certain grammatical meanings combine with lexical meanings: to this purpose, the use of paradigms is enormously important. The role of paradigms will become evident as I review Smirnitskij's speculations about analytic predicates.

On Smirnitskij's account Russian and German periphrastic future constructions such as *bud'et rabotat'* 'will work' and *wird arbeiten* 'will work' are *analytic* forms of the verbs *rabotat'* and *arbeiten*. He acknowledges that these forms constitute phrases but reminds

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'to Miren, it is Jon who gave the/a book'

15 Meščaninov's reference to 'syntactic meaning' is interpreted in the present context as equivalent to 'grammatical meaning'.

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the reader that the attribution of phrasal status in no manner precludes the possibility that they are lexical entities; after all, idiomatic (phrasal) expressions are contained in the lexicon. The criterial differences between analytic forms and idiomatic phrases are as follows; 1) analytic forms are compositional whereas fixed phrases generally are not; 2) analytic forms are productive, i.e. one can always create novel forms utilizing the pattern provided by the template consisting of a future auxiliary and an infinitival verb form, whereas idiomatic phrases do not participate in similarly productive patterns; and 3) analytic forms participate in inflectional or grammatical paradigms. The last criterion serves not only to distinguish analytic forms from idiomatic phrases and ordinary syntactic phrases but additionally serves to identify analytic forms with the synthetic forms of words.

> ..in essence, analytic forms are distinguished from simple, free syntactic phrases by the fact that they do not resemble [the juxtaposition of - FA] words but rather the separate grammatical form of words. Analytic forms are characterized by this resemblance to the forms of single words despite the fact that they are realized as phrases and moreover free phrases as special whole units - as equivalents of words (but not of words in the entirety of their forms but of only in certain known, separate forms.) The question consists, consequently, in determing the conditions under which certain phrases are determined to be grammatical forms of the basic stems which enter into their composition (that is, for example, the phrase ***bud'et rabotat*** 'will work' is - like the forms ***rabotaet*** 'he/she is working' and ***rabotal*** 'he worked' - a variant of the word ***rabotat'*** 'to work' - 1956:44

As we have seen, it is common for Soviet linguists to characterize the internal composition of analytic forms as consisting of the:

> ... combination of some basic word (in a determinate form) with some auxiliary word (or complex of auxiliary words... - 1956:43

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The auxiliary word in these phrases generally assumes the characteristics of a matrix verb, i.e. it bears the inflectional morphology ordinarily borne by verbs, and serves as an exponent for the grammatical meanings which enter into paradigmatic opposition with one another. This aspect of analytic predicates is described by Iartseva:

> ...it is necessary to mention that in the transformation of a notional verb [a verb bearing lexical meaning - FA] into an analytic verb participating in an analytic form none of of its verbal features are lost: the change affects only lexical meaning and other functional uses. All of the grammatical markers which occurred with the verb in its original fully meaningful state remain with the verb thorugh its transformation into an auxiliary verb. 1963:56

The "basic word", in contrast, contributes invariant lexical meaning to these phrases: as indicated earlier the lexical meaning of, e.g. the verb *rabotat'* is unaffected by its participation in different tense paradigms.

> If the phrase appearing as an analytic form is characterized by functioning as the grammatical form of the word which acts as its base, this means that such a phrase belongs to one of the grammatical categories characterizing the word. In other words, it represents a known categorial form, entering into that category into which other categories enter which are characteristic for that base word. So, for example, the analytic form *bud'et rabotat'* represents the categorial form of future tense which together with the forms for present and past tense belong to the category of tense in general. - Serebrenikoff 1956:45

In the preceding passage Serebrenikoff focuses on the array of paradigmatic grammatical notions associated with a single lexeme. Jartseva, in the following passage, highlights the role of the lexeme in these paradigms:

> With respect to the paradigms of the analytic type [of word] the notional or lexical elements remain invariant. In this way the sole invariant element in the paradigmatic aspect of the analytic strategy of language is the lexical element:

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> this [invariance] facilitates a comparison with the basic synthetic forms from a functional perspective.

In summary, the operant notion of analytic predicate assumed by numerous Soviet linguists utilizes several phenomena we have previously encountered: lexical vs. grammatical meaning, the inadequacy of employing phonological intergrity as a criterion of wordhood, and the significance of diachronic considerations for the analysis of complex predicates. Most crucially, it reflects a conception of wordhood which is not restricted by a simpleminded reliance on phonological integrity as a cardinal criterion of wordhood. It, thereby, concurs with Bally's main insight that the conception of word derived from much Indo-European scholarship is seriously flawed. The Soviet tradition in Finno-Ugric linguistics assumes the concept of analytic forms of words as a basic ingredient of its descriptive arsenal. In the following section I present some straightforward exemplifications of the use of this notion within the Finno-Ugric literature. In particular, I present some uses to which this notion is put by Tereschenko in her description of the Samoyedic languages.

3.1. Analytic Predicates in the Samoyedic Languages

Teresčenko (1973) observes that the Samoyedic languages contain analytic predicates. These are constructions comprised of two verbs (V2 V1) in which V2 is invariant and contributes lexical meaning while V1 occupies the neutral clausal position for finite verb forms, i.e. clause final position, and inflects for all the categories appropriate to its presence in a particular clause. The auxiliary verb (V1) in the Samoyedic languages - as elsewhere - frequently occurs on its own as a matrix verb conveying its original meaning. When acting as an auxiliary verb V1 is generally confined to expressing aspectual and modal notions:

> ...auxiliary verbs are capable of expressing different stages in the course of an activity; its beginning stage, repetition, habitualness, completion, etc. In these instances auxiliary verbs act as if they were replacements of the corresponding

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aspectual markers. -1973:146

Various nuances of modality are conveyed by means of analytic predicates; possibility, impossibility, obligation, desire, etc. - 1973:147

Terešvčenko observes that aspectual and modal modifications of lexical meaning in the Samoyedic languages are expressed by both analytic and synthetic means: for example, sometimes the same grammatical meaning is expressed by alternate strategies in the same language and sometimes the same meaning is expressed by different strategies in different languages. These two alternatives become evident in evidential constructions and constructions of desire.

Samoyedic contains constructions in which a speaker indicates that the information he conveys does not derive from his own experience: these are referred to as *evidential constructions.* Whereas evidentiality is conveyed by a verbal suffix in Nenets, it is alternately conveyed by a verbal suffix or auxiliary verb in Nganasan.

The manner in which one expresses a desire to engage in an activity differs in, e.g. Nganasan and Nenets: in the former, this notion is expressed by utilizing a verbal suffix -nVntV as in (5), while the latter language employs an analytic construction consisting of the verb *xarva(s')* 'to want' - inflected for person/number - and the LAT case-marked form of a verbal element as in (6). These alternatives are presented below:[16]

[16] These examples are taken from Terešvčenko 1973:151.

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Nganasan:

(5) mny nilynandytym
here live-DES-1sg
'I want to live here'

Nenets:

(6) tjukona ilevan' xarvadm'
here live-LAT want-1sg
'I want to live here'

AS we have seen, descriptive works in Finno-Ugric linguistics employ the analytic/synthetic opposition as a means of classifying the manner in which various notions are encoded: this opposition is not employed as a criterion for determining whether the element under investigation is a word. Terešvčenko follows this tradition. It is possible in this tradition to attribute the status of analytic word form to verbal constructions such as that in found in (6). On the other hand, it should be said, that it is not necessary to make claims about wordhood in this tradition; straightforward description suffices. The absence of explicit theoretical considerations in this tradition makes it difficult, in fact, to assume a position concerning the lexical status of these elements. Perhaps more to the point, it is not evident what consequences - if any - might follow from making such a commitment. As a result of this different conception of the linguistic enterprise, a linguist working in a generative framework can only evaluate whether the intuitions embedded in these descriptive accounts of analytic predicates merit attention and more rigorous formulation. I turn in the following section to a discussion of this issue and a presentation of two generative formulations of the relevant phenomena.

4. Linguistic Theory and Analytic Predicates

These descriptive accounts of analytic predicates are certainly intriguing from a theoretical perspective, suggesting as they do a certain uniformity in auxiliary systems from a notional, structural, and diachronic perspective. What is missing from this account, however, is some explicit criterion or set of criteria on the basis of which one can

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determine whether it is justified to view an auxiliary element as heading its own clause nucleus or as simply serving to contribute information to a clause nucleus headed by the non-finite element. As it stands the Soviet tradition appears to say very little concerning the syntactic ramifications of analytic predicates. In the following sections I will make some general remarks about the syntactic nature of analytic predicates and introduce two recent generative attempts to address the issue of analytic forms. There will be a discussion of Zubizarreta (1981) on *adjunct predicates* formulated within the Government and Binding framework. This GB approach will be contrasted with an LFG analysis of phenomenally similar problems as developed in Bresnan (1982) and Simpson (1983).

5. The Syntax of Analytic Predicates

The reader has seen from the foregoing that all instances of analytic or periphrastic encoding of grammatical and lexical meaning are in varying stages of diachronic development. Whereas it may be simplest to view all constructions which meet the descriptive profile of analytic predicates in the same fashion empirical investigation reveals that these constructions do not always display the same syntactic effects in all languages. The functional synchronic status of a given construction becomes evident from language particular evidence: in general, there is either evidence that the AUX and attendant lexical head constitute a single clause nucleus or there are indications that these elements occupy different clause nuclei.[17] In this domain (and in others, as we shall see) surface structure is, evidently, insufficient to determine the functional structures of the relevant entities. The basic point can be illustrated by comparing the periphrastic future in Russian with periphrastic tense in Finnish.

Panfilov (1954) cautions that although the notion of analytic predicate seems appropriate for the Russian analytic future construction (COPULA + imperfective infinitival form of the verb) there is evidence to suggest that the future AUX heads its

[17] The reader familiar with Relational Grammar will recognize that this discussion refers to the presence or absence in a language of so-called *clause union effects*.

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own clause: the evidence derives from a Baltic areal feature involving the so-called *genitive of negation*. The basic contrast is illustrated below:[18]

(7) ja čital etu stat'ju
I read-PAST that-ACC article-ACC
'I read that article'

(8) ja ne čital etoj stat'ii/ * etu stat'ju
I NEG read-PAST that-GEN article-GEN/ * that-ACC article-ACC
'I didn't read that article'

Essentially, a verb that governs the ACC case of its OBJ in positive sentences, as in (7), obligatorily appears with the GEN form of the OBJ in negative contexts, as in (8). In general, this appears to be a clause-bound phenomenon: the case governing effect of NEG appears to operate within a single clause. Consider the following analytic future constructions in this connection;[19]

(9a.) ja ne budu čitat' etu statju
I NEG will-1sg read-INF that-ACC article-ACC
'I will not read that article'

(b.)? ja ne budu čitat' etoj statii
I NEG will-1sg read-INF that-GEN article-GEN
'I will not read that article'

(10a.) ja ne xoču čitat' etu statju
I NEG want-1sg read-INF that-ACC article-ACC
'I don't want to read that article'

(b.) * ja ne xoču čitat' etoj statii
I NEG want-1sg read-INF that-GEN article-GEN
'I don't want to read that article'

Panfilov speculates that if the future AUX is merely a morphological marker, the grammaticality judgements for (9) are surprising: as a mere exponent of tense there is no reason that the AUX should block the government of GEN case for the OBJ of the infinitive.

[18] Cf. Timberlake (1975) for a discussion of case-marking and negation in Russian.

[19] Russian speakers vary in their grammaticality judgements concerning these constructions. Panfilov appears to be particularly extreme in his judgments since for most speakers examples with future AUXs and genitive OBJs, (9b.), are acceptable in certain contexts. This variability, however, is relevant to the point being illustrated: the syntactic vs. lexical status of AUX elements (represented here by the future AUX *budu*) is far from clear.

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The preferred appearance of the ACC case, as in (9a.), suggests that the OBJ complement is not in the same clause nucleus as the AUX: the AUX appears to head its own clause nucleus. If an AUX heads its own clause and if genitive of negation is clause bounded, then we have an explanation for why the judgements in (9) accord with those clauses containing the matrix verb verb 'want' in (10): in both instances we are confronted with constructions containing two clause nuclei.

In other words, the mere presence of an analytic construction with the right semantic properties is not sufficent to determine whether the AUX heads its own clause nucleus. The fact that the Russian future AUX appears to prefer blocking GEN case assignment suggests that it is analyzable as heading its own clause nucleus, while the possibility that GEN can appear on the OBJ of its apparent complement seems to indicate that - unlike a verb such as 'want' - this free morpheme can function affixally.

Polarity determined choice of OBJ case marking is manifest in Finnish as well. In this language, however, the alternation is between ACC and PART(itive) case marking. In Finnish, as far as I know, there is no evidence that AUX elements define clause nuclei within which PART case marking is trapped. Consider the following sentences.[20]

(11a.) Silja joi maidon
Silja drank-3sg milk-ACC
'Silja drank the milk'

(b.) Silja ei juonut maitoa /* maidon
Silja not-3sg drank milk-PART/ * milk-ACC
'Silja did not drink the milk'

(c.) Silja ei ole juonut maitoa / * maidon
Silja not-3sg COP drank milk-PART /* milk-ACC
'Silja has not drunk the milk'

Whereas the OBJ of the verb *jouda* 'drink' is ACC in positive contexts, (11a.) - ignoring aspectual considerations - it is obligatorily PART in negative contexts, (11b.) and (11c.).

[20] I have oversimplified the alternation between ACC and PART for the sake of illustration. Interested readers should consult Karlsson 1983 for a detailed description of this alternation. The examples in the text are based on those found in Karlsson.

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The negative verb (a prevalent feature of Uralic) arguably constitutes an analytic predicate in conjunction with a lexically meaningful participial verb form: the negative verb and the participial together constitute the negative past tense form of the verb while the negative perfect consists of the negative verb, a particular form of the copula and the participial form of the lexical verb.[21]

In contrast to the Russian verb forms, the Finnish verb forms seem to behave uniformly as instances of single clause nuclei. It should be evident that surface expression alone is not an adequate guide for determining the relation between elements in c-structure: in both languages we are confronted with analytic encoding. It might be argued, however, that the evidence from Finnish argues more strongly in favor of the existence of a morpholexical rule which creates an analytic verb form whose PRED feature heads a single clause nucleus.[22] In any event, the general point should be clear: appeal to various sorts of syntactic phenomena should facilitate the differentiation between analytic predicates and syntactic dependencies.

6. Dual Structures

The intuition that auxiliary elements in several languages occupy an ambiguous region of grammar has been addressed recently within the Government and Binding framework by Zubizarreta (1981). She proposes that Romance auxiliaries should be analyzed as participating in double structures where each structural representation correlates with a different functional status for the combination of a matrix verb bearing aspectual or modal meaning and an infinitival verb form: in one configuration the aspectual/modal verb is a matrix verb which selects a sentential complement (this is the

[21] Cf. Chapter 2 for an example of the distribution of grammatical features in the negative verb constructions of Finnish and Cheremis.

[22] The reader should note that I have utilized these examples involving negative scope effects for illustrative purposes. Even if on closer investigation it turns out that such effects are not limited to single clause nuclei the basic point remains unaffected; there should be criteria which can be appealed to in order to decide at what state of the diachronic process we have encountered a particular construction. In other words, is there evidence that a given auxiliary still heads its own nucleus or, on the contrary, is there evidence that despite maintaining its syntactic separability the auxiliary has merged into a single functional unit with an element bearing lexical meaning?

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bi-clausal analysis) while in the alternative configuration the aspectual/modal verb functions as an affix and the infinitive serves as the matrix verb of the single clause (this is the mono-clausal analysis).[23] On her interpretation, certain verbs (and many optional adverbials) in various languages are interpretable as *adjunct predicates*: they are elements which assign *adjunct theta roles* to constituents which may also receive theta assignments from a matrix verb. The supposition that certain elements assign a special type of theta role prevents a possible violation of the theta criterion for those constituents accomodating two theta assignments: the theta role assigned by the main predicate is alleged to conform to the theta criterion while it is stipulated that the theta role assigned by an adjunct predicate is not constrained by the theta criterion.

Zubizarreta comments as follows on the semantic complexion of matrix verbs that behave as adjunct predicates:

> Only a small class of verbs that includes modals and aspectuals may function, in certain languages, as adjunct predicates.

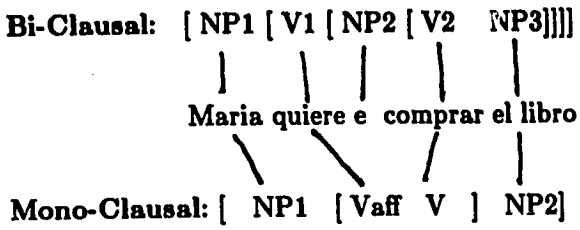
The semantic profile of this class is reminiscent of the semantic notions typically expressed by auxiliaries (cf. discussion of Carlson earlier) and the descriptive observations on the part of several Soviet linguists concerning the function of certain verbs as mere grammatical-meaning bearing elements or elements that take on certain meanings in construction with other elements.

Zubizarreta presents the following representation of the Spanish sentence 'Maria wants to buy the book' in order to display the dual nature of certain verbal elements:

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[23] The reader should note how clearly the relation between the modal aspectual verb and the infinitive on the mono-clausal analysis recalls the Soviet description of the association of grammatical meaning borne by an auxiliary with the lexical meaning borne by a non-finite verb.

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In the mono-stratal representation the modal-aspectual verb functions as a quasi-affix which combines with the infinitive which functions here as the verb of the clause. The justification for proposing a mono-clausal level of representation derives from syntactic evidence concerning the variable placement of pronominal clitics: clitic elements which appear to belong syntactically to the infinitival verb can occur as enclitics to the finite verb form. Let's assume that clitics must appear in the same clause as the verb with which they show a a syntactic dependency. The mono-clausal representation permits clitics to occur to the left of the finite verb in comformity with this asumption: since the finite verb is a quasi affix which combines with the infinitive to form a single verb, the clitics appearing before the finite verb appear, in effect, within the clause headed by the infinitival form. The distribution of clitics, then, serves as a motivation for assuming a mono-clausal structure despite the surface indication of a bi-clausal structure suggested by the presence of a finite verb form and an apparent syntactic dependent, i.e. an infinitival clause.

The dual structure hypothesis is proposed for classic instances of apparent two clause structures which evince certain mon-clausal properties. It is for structures of this sort that the Soviets proposed a disjoint realization of the grammatical (syntactic) and lexical (notional) properties ordinarly encoded in a single, phonologically integrated verbal form. The dual structure analysis of this intuition developed by Zubizarreta comports with a general assumption of the Government and Binding framework: discernable functional differences correlate with different structural representations. There are, however, other principled ways to speak about the variable functional relations exhibited by consti-

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tuents without attributing such differences to underlying (sometimes, phantom) structural representations. As with previous instances of GB analyses we have encountered, Zubizarreta's proposal is a theoretical formulation of widespread descriptive intuitions. The essential elements of these intuitions have been addressed in Lexical Functional Grammar as well. I turn now to a presentation of this problem from the perspective of LFG.

7. Structural and Functional Heads

Simpson (1983b) differentiates between what she refers to as the *ARG* (argument relator) and *ATP* (argument taking predicate) uses of adpositions and case-markers. The basic differences can be illustrated by considering the following prepositional phrases from English.

(12) Cupid and Campaspe played *at cards.*

(13) They were sitting *at a very large oak table.*

Whereas the preposition in (12) can be interpreted as merely relating the verb to one of its arguments, the same preposition in (13) is interpretable as a fully meaningful element (an element with a PRED feature value) which takes an NP as its argument. In LFG - unlike in GB - functional distinctions are not correlated isomorphically with structural representations: in the present instance, a single structure is associated with two distinct functions. Bresnan (1982) observes the following with respect to constructions in which function is underdetermined by structure:

> ... it is assumed that in structures of the form $[_{pp}$ P NP], either P is the head and NP is an OBJ (yielding the endocentric, predicative PP[24]), or else P is a minor category and NP is the head (yielding the exocentric, oblique PP).

[24] The reader is advised to consult Bresnan 1982:302-4 for a discussion of the feature [+/- PRED] and, more generally, for the manner in which the proposal presented in the text follows from basic assumptions of LFG.

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In general, LFG postulates that functional considerations do not correlate neatly with the manner in which constituents are encoded in c-structure: functional distinctions are not straightforwardly correlative with the analytic (adpositional) vs. synthetic (case-marking) strategy evident for particular constructions. In other words, an analytic element such as a P can be interpreted as either a (obligatory) grammatical marker associated with a head or as an argument taking predicate serving simultaneously as the structural and functional head of a phrase: a synthetic element such as a case-marking affix can also exhibit these alternative functions.[25]

Simpson describes the differential use of adpositions and case-markers in the following way:

> The distinction between the ARG and the ATP uses is twofold: in the ATP use, the *functional head* is the preposition, which provides the PRED feature, and the whole nominal has the function ADJUNCT or XCOMP; in ther ARG use the *functional head* is the is the nominal, and the whole nominal has some function such as OBLIQUE.

The functional differences associated with adpositions and case-markers derive, in LFG, from the type of annotation assigned to the particular entity: these annotations reflect the functional status of the constitutive elements in the relevant constructions. This use of annotations is exemplified below with prepositions:

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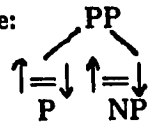
[25] Cf. Simpson (1983b) Chapter 3 for examples of case-markers in Walpiri which alternately exhibit ATP and ARG functions. The reader should also refer to the discussion of Case in Chapter 2 of the present dissertation for indications that although certain phonological phenomena facilitate the identification of postpositional phrases vs. case-marked nominals from a structural perspective each of these structures can exhibit the functional distinctions described in the text. It is, perhaps, important to note a methodological difference between GB and LFG in domain. On the LFG account empirical evidence is employed to differentiate two structures from one another; in particular, postpositional phrases from case-marked nominals. Functional considerations are distinct from empirically demonstrable structure. On the GB account, in contrast, demonstrated functional differences require the imputation of an (underlying) structure servicable for such a distinction. A particular structure is assumed because functions are necessarily explained, in this framework, in terms of structural configurations.

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ATP use:



ARG use:

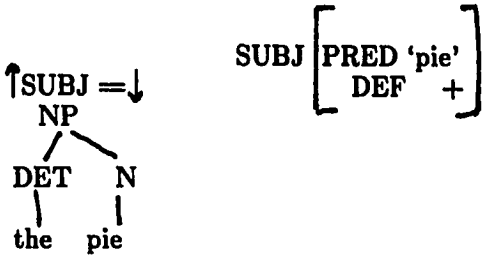


A crucial aspect of this proposal is the interpretation conventionally given to the equation ↑=↓. This equation is generally associated with the typical X bar head of a phrase: this entity is simultaneously the structural and functional head of a phrase. In the ATP use presented above this equation is associated with the P. This element represents both the structural and functional head of the PP: the P determines the category of the phrase and the P is associated with a PRED feature value. Although the typical c-structure head must be annotated with ↑=↓ there are other elements which can also associated with this equation. The ARG use of prepositions illustrates this option. There is a strict constraint placed on the use of this equation within a single phrase: there can be, at most, a single constituent annotated with this equation which bears a PRED feature. Thus, in the AGR example presented above although two elements are associated with ↑=↓ the N contained in the NP is interpreted as supplying the single allowable PRED feature while the P is assumed to be devoid of a PRED feature and simply contributes grammatical meaning (in the form of features) to the construction. The NP is the functional head of the construction while the P acts as the structural head determining the categoriality of the phrase and contributing grammatical meaning. Simpson describes the use of ↑=↓ as follows:

> Several elements within a category may be assigned the equation ↑=↓ (although only one of them may have a PRED equation). It is quite possible, then for phrase structure rules to accord a special status (by means of the ↑=↓ annotation) to an element which is not the functional head, creating in effect a phrase structure head. - 1983:217

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The conventions for employing $\uparrow = \downarrow$ naturally, extend to all context in which one must identify heads. It is possible to illustrate this procedure with another example from the domain of NPs. A simple SUBJ NP consisting of a DET(erminer) and an N receives the following annotated c-structure and f-structure representations:



On this analysis the N is the structural and functional head while the information associated with the DET is assumed to be grammatical information which becomes a property of the f-structure associated with the SUBJ function.[26]

The hypothesis within LFG that the structural and functional head of a single entity can be expressed by discrete syntactic elements will be applied in the concluding section of this chapter to the analysis of analytic predicates.

8. Analytic Predicates in Ugric

In this section I will focus on two verbal constructions which appear to function as a single clause nucleus despite the fact that the constitutive members are discrete and separable entities in c-structure. These constructions are: 1) AUX elements in Hungarian, Vogul and Ostyak with OBJ agreement morphemes, and; 2) inflecting infinitives in Hungarian.

8.1. AUX and OBJ Agreement

We have seen on several occasions that certain finite verbal elements in the Ugric languages bear agreement morphology which reflects properties associated with the OBJ

[26] The reader should note that the grammatical feature DEF(initeness) has been attested to occur analytically as in English or synthetically (as a nominal affix) in, e.g. Swedish and Romanian.

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of their infinitival complements.[27] The basic phenomena are illustrated below with aspectual verbs meaning 'begin':[28]

Hungarian:

(14) meg kezdtelek győzni
PV begin-PAST-1/2 convince
'I began to convince you'

Ostyak:

(15) wetp st ta wūj nt ta pits te
hunt-INF take-INF begin-PAST-3sg/sg
'he began to take me to hunt'

Vogul:

(16) takwi jote alisangkwe wingkwe pat ste
him (emph.) with-3sg kill-INF take-INF begin-PAST-3sg/sg
'he began to take me to hunt with him'

In all of these instances, the matrix verbal element ('begin') obligatorily bears an OBJ agreement marker reflecting grammatical features associated with the OBJ argument of one of its infinitival complements: in Hungarian, the marker reflects the definiteness of this OBJ, while the number of the OBJ is indicated in Vogul and Ostyak. Since OBJ agreement is - excepting these sorts of constructions - a clause bounded phenomenon in these languages the question arises as to what is the most appropriate manner to analyze this phenomenon. I will limit subsequent discussion to Hungarian since this language is more accessible than Vogul and Ostyak: the analysis I will propose, however, appears amenable to the facts of these latter two languages as I presently understand them.

The inventory of verbal elements in Hungarian which participate in the relevant constructions consists of elements with a semantic profile familiar from the discussion in previous sections; these verbal elements convey notions of aspect, tense, modality, etc. A

[27] The reader is referred to Chapter 2 for a discussion of the OBJ properties which figure in the agreement paradigms for each language.

[28] The Vogul and Ostyak examples are taken from my class notes. The source of the examples is a children's story which appears in both a Vogul and Ostyak version. The 1st sing. OBJ pronominal interpretation given for these sentences is provided by the context.

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representative collection of these elements is presented below:[29]

1. akar 'want'
2. bír 'able'
3. tud 'able'
4. fog 'will'
5. szeretne 'would like'
6. kezd 'begin'
7. mer 'dare'
8. probál 'try'
9. szokott 'used to (habitually)'...

Several of these verbs only assume the senses proposed above when they are in construction with infinitives. For example, the verb *fog* can mean 'hold, grasp' when used on its own but only designates futurity in construction with an infinitive, while the verb *bír* can mean either 'possess' or 'endure, bear' when used on its own but generally designates ability in construction with infinitives. This semantic blanching of AUX elements is considered a typical property of analytic predicates by Soviet linguists: it may also be exemplary of the hypothesis presented by Carlson that grammatical meanings inhere in structures.

In concatenation with an infinitive each of the verbs listed above displays OBJ agreement marking reflecting the definiteness status of the infinitive's OBJ: naturally, if there is no OBJ the verb exhibits the indefinite conjugation.[30] These verbs can be appear in coordinate constructions:

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[29] It should be observed that with respect to word order simple infinitival verb forms, i.e. infintival verb forms that are not lexically composed with a PV, typically appear to the left of the AUX in contextually unmarked constructions. The following sentence exemplifies this phenomenon:

i) Arpád uszni akar
Arpad swim-INF want-3sg
'Arpad wants to swim'

In other words, the infinitival verb form behaves like a PV for purposes of word order. In fact, it is also postposed to a position after the verb in those marked constructions in which PV are posptposed. It should also be noted - as discussed in Komlosy (1984) - that the neutral position of infinitival forms appears to depend on the particular AUX present in the clause: for some AUX elements thee infinitive appears before the AUX element while the infinitive appears after other AUX elements.

[30] Cf. Chapter 2 for a presentation of the SUBJECTIVE/OBJECTIVE (INDEF/DEF) paradigms.

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(17) Arpád meg tudta és merte nevezni a hibákat
Arpad PV able-PAST-3sg/DEF and dare-PAST-3sg/DEF specify the msitakes-ACC
'Arpad was able and dared to specify the mistakes'

In this construction the prefixal PV lexically associated with the infinitive appears to the left of the first AUX element. It should be recalled (cf. Chapter 2 and discussion of derivation below) that the explicit appearance of a syntactic marker of conjunction is not sufficient to argue against the hypothesis that all of the elements in a phrasal predicate are brought together by morpholexical rule: in Chapter 2 we saw that sister elements of compounds can be conjoined in this fashion and that in so-called *twin words* both members of the compound inflect for all the categories appropriate to the phrase in which this lexical unit appears.

As observed in Kálmán et. al., multiple AUX elements can be present in the same sentence: (from Kálmán et. al. 1984:5)

(18) részt fog akarni venni a kiállitáson
part-ACC will-3sg want-INF take-INF the exhibition-SUP
'he will want to participate in the exhibition'

In this construction the argumental PV lexically associated with the infinitive 'take' appears to the left of the tense AUX 'will'. This AUX exhibits SUBJECTIVE agreement since there is no definite OBJ in the construction. The case-marking on the nominal 'exhibition' is governed by the phrasal verb *részt-vesz* 'participate'.

Before investigating the theoretical ramifications of this sort of agreement the reader should note that Hungarian constructions of the preceding type should be distinguished from constructions in which a matrix verb simply agrees with its own OBJ and this object acts as the controller of an infinitival SUBJ.[31] Consider the following sentence in this connection: (from Kálmán et. al. 1984:18)

[31] I have stated the relation between an OBJ and infinitival SUBJ as one of syntactic control here but this relation could be interpeted semantically in the manner proposed by Chierchia (1985).

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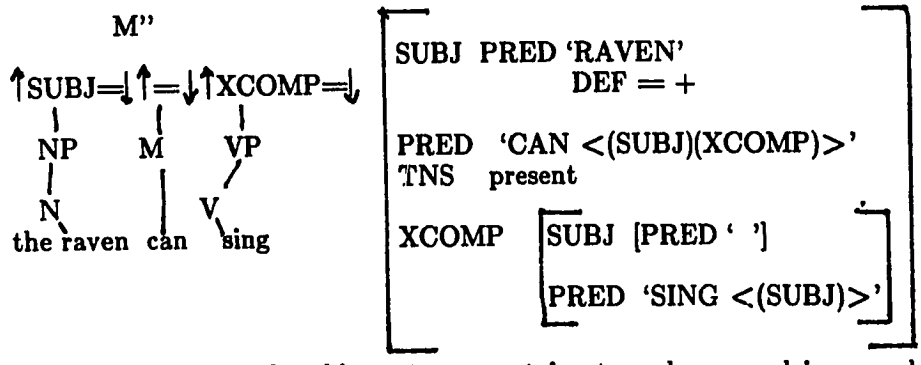
(19) a főnök dinnyét enni küldte a fiukat
the boss melon-ACC eat-INF send-PST-3sg/DEF the boys-ACC
'the boss sent the boys to melon-eat'

In the preceding construction the OBJ of the matrix verb, i.e. 'the boys', is interpreted as referentially identical to the SUBJ of the infinitival complement represented by the phrasal predicate *dinnyét-eszik* 'melon eat'.

The question arises as to how to theoretically represent the fact that AUX elements agree with the OBJ of their complements. In particular, I am interested in the manner in which this phenomenon can be treated in LFG.[32] In order to address this issue I turn to a summary of Falk's treatment of AUX within LFG.

8.2. An LFG Treatment of AUX

Falk (1984) assumes that AUX elements in English are control predicates which select for infinitives assigned the XCOMP function. A sentence is regarded as the maximal projection of the category M(odal): this, presumably, accords with the intuition mentioned earlier that information carried by auxiliaries is a property of sentences. Consider the c-structure and f-structure representation of the sentence 'the raven can sing':



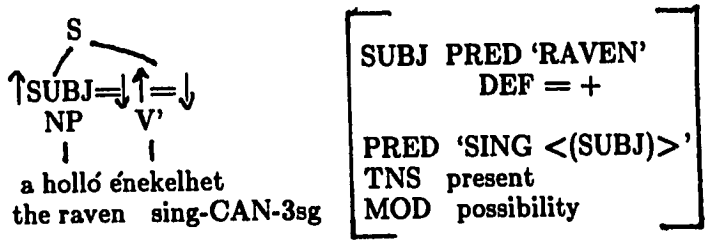
As can be seen, the f-structure for this sentence contains two clause nuclei: one clause nucleus is headed by the PRED feature of the modal 'can', the other by the PRED feature

[32] Cf. Farkas (1984) for an analysis of such constructions in terms of feature passing between clauses within GPSG. Also Szabolcsi (198?) treats similar phenomena from the perspective of GB and Montague Grammar.

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of the verb 'sing'. On this account, structural and functional headedness converge: the c-structure head also heads its own clause nucleus in f-structure.

Compare the preceding English sentence with the Hungarian equivalent presented earlier:[33]



In Hungarian the relevant modal information is contributed in this instance by a verbal affix.[34] Since the modal element is not realized as a c-structure verb and since LFG - unlike GB - does not assume that S is a projection of some abstract INFL category, it would be difficult to motivate an f-structure for Hungarian which resembles the one proposed for English. The f-structure of the Hungarian sentence consists of a single clause nucleus in which modality is represented - like tense - as a feature associated with the clause.

In general, it is claimed in LFG that c-structure encodings do not determine the manner in which semantically relevant information is represented in f-structures. In other words, the fact that modality is encoded in English by an independent verbal element does not entail that this element heads a clause nucleus in the f-structure induced from an English sentence containing a modal. Likewise the absence of an independent modal c-structure constituent does not entail that modality cannot head a clause nucleus in the f-structure induced from such a sentence. In the sentences presented above this alleged independence of c-structure and f-structure seems to be called into question: when the c-

[33] The affix *hat/het* conveys 'possibility' while the AUX *tud* conveys 'ability, know how'. Both can be translated by the English modal 'can'.

[34] This affix is alleged to derive from the verb *hat* which exists synchronically as an independent verb meaning 'to influence'.

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structure - as in English - contains an independent modal element the f-structure contains two clause nuclei and when an independent c-structure modal element is absent - as in Hungarian - the f-structure contains a single clause nucleus. In the following discussion I will argue that these constructions present an erroneous impression of the relation between c-structure and f-structure: the original hypothesis concerning their independence is, in fact, correct.

Consider, once again, some constructions containing AUX elements:

(20) a fiú meg tudta győzni a lányt
the boy PV able-PAST-3sg/DEF convince the girl-ACC
'the boy was able to convince the girl'

(21) föbe akarod löni magad
head-IN want-2sg/DEF shoot-INF RFLX-2sg
'you want to shoot yourself'

In these constructions both the prefixal (20) and argumental (21) PV precede the AUX element. If structure was sufficient to determine the functional relations in this sentence we could adopt Falk's AUX proposal: *tud* and *akar* would be interpreted as control predicates which select for an infintival clause with the XCOMP function. The f-structure representation of these sentences would, accordingly, contain two clause nuclei. We would then postulate some mechanism - such as the feature passing convention assumed by Farkas (1984) - to insure the correct agreement facts. This mechanism would be employed for passing the OBJ features of complements of certain specified verbs: a preferable account would explain why feature passing of this sort is restricted to just the environments examined here.

Falk's proposal reflects the hypothesis that function is isomorphic with structure. However, this is not the hypothesis assumed in LFG. This theory permits an alternative analysis in which the independent modal element does not head its own clause nucleus. The f-structure for the English modal sentence might, in this manner, be interpreted as resembling the f-structure proposed for the sentence containing *énekelhet* earlier: both f-

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structures might contain a single clause nucleus headed by the PRED feature of the infinitive while the grammatical information contributed by the inflecting verbal element would consist of tense and modality.[35]

It should be obvious at this juncture that the notion of analytic predicate becomes relevant. The assumption here is that the c-structure head represented by the AUX (the inflecting element) diverges from the f-structure head, i.e. the PRED feature of the infinitive serves as the head of the clause nucleus. On the present interpretation the verbal element with lexical content, i.e. which contains a PRED feature, morpholexically combines with an element containing feature values for grammatical meaning and which serves as the categorial head of the lexical phrase. This morpholexical entity defines a single clause nucleus. The agreement facts follow straightforwardly from the assumption that we are dealing with a single lexical entity whose constitutive pieces are realized discretely in c-structure. The AUX does not display agreement with the OBJ of its complement but rather with its own OBJ: the present cases of agreement are clause bounded like all other other instances of OBJ agreement in Hungarian. The hypothesis that portions of lexical compositions can be realized separately in c-structure is certainly not surprising: I have presented evidence for this claim with respect to different sorts of predicates earlier in this work.

All of the characteristics cited previously concerning the semantic and structural complexion of analytic predicates apply in the case of Hungarian AUX + infinitive constructions. The general conception of a word as a *lexical molecule* is relevant for these constructions: they consist of a single lexeme plus an array of elements which contribute grammatical meaning to the composition. This general view concerning the the composition of Hungarian analytic predicates is expressed by Majtinskaja (1960):

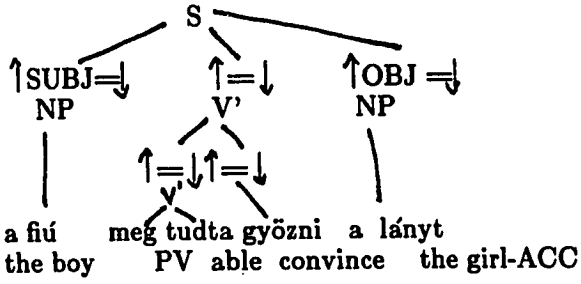
> The tight connection between the components of these compositions [AUX +

[35] Obviously, one would require evidence in order to sustain the claim that English constructions with AUXs are functionally mono-clausal like their Hungarian translations.

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> infinitives FA] ... is explained by the greater or lesser diminution of lexical content for the independent [AUX - FA] element; in every instance the independent element manifests diminished lexical content in phrases when it, in some measure, approximates an exponent of verbal inflection or aspect. Therefore, in the given instances, the independent element is able to be regarded as the governing word only from the structural side of the concatenation (it changes according to person, number, number, tense and mood) while from the perspective of lexical meaning the verb in the form of the infinitive must be regarded as the governing word. - 1960:79

The representational conventions of LFG proposed for expressing discrepencies between structural and functional heads are appropriate here as well. In particular, the sentence 'the boy was able to convince the girl' receives the following c-structure representation:



The V' constituent in this instance as in other instances designates a lexical phrase: the PV appears within the V' constituent and immediately precedes its structural head.[36] The

[36] Evidence for the syntactic and semantic constituency of the PV and AUX is reflected in the type of replies to yes/no questions mentioned in Chapter 4. The reader should recall that repetition of the verb constitutes an appropriate response to such a question. If the verb contains a preverbs, then the preverb can be used alone as an affirmative response. If the AUX is accompanied by a non-finite form of a phrasal predicate then either the preverb can be used alone or the preverb and the AUX can be used in order to convey an affirmative response. This phenomenon is illustrated below:

(i) Q: meg tudtad győzni a lányt?
PV able-2sf convince-INF the girl-ACC
'Were you able to convince the girl?

(ii) A: meg!

(iii) A: meg tudtam!

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interpretation of the multiple $\uparrow = \downarrow$ equations within V' is restricted by the conventions presented previously: only the infinitival portion of the verb contributes a PRED feature, while the the other element annotated with equation, namely, the AUX, contributes properties to the clause in the form of features. We have seen the effects of this in the f-structure of this sentence proposed earlier: the grammatical meaning of the AUX is expressed by the feature MOD.[37]

In summary, the analysis of Hungarian AUX + infinitive constructions as analytic predicates represents an extension of the well-attested tendency for pieces of lexical compositions to appear as independent elements in c-structure. In addition, the semantic and structural complexion of the Hungarian constructions treated as analytic predicates significantly resembles those constructions in other languages that have led to a widespread intuition that there is something more than simple syntactic dependency manifest in the relation between many so-called AUX elements and non-finite verbal forms.

8.3. Periphrastic Permissive Constructions vs. Synthetic Causatives

There is a marginal phenomenon in Hungarian which relates to the discrepancy between c-structure and f-structure in the manner illustrated above. These constructions involve the verb of permission *hagy* 'let'[38] and transitive infinitives: the verb *hagy* has begun to be assimilated to the class of AUX elements with respect to the placement of PVs: *hagy* can be interposed between a PV and its lexical stem. Consider the following alternative constructions:

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[37] Further details of the lexical analysis of these phrasal verbs is presented in Ackerman (1987c.).

[38] This verb exists synchronically as an independent verb meaning 'leave'.

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(22a.) hagytam Arpádot el-vonszolni
let-PAST-1sg Arpad PV-drag-INF

(b.) el hagytam Arpádot vonszolni[39]
PV let-PAST-1sg Arpad drag-INF

'I let Arpad be dragged away'

An intriguing aspect of these constructions is the interpretation which they elicit. The constructions do not mean 'I let Arpad drag (somebody)' as might be expected by the presence of the transitive verb *el-vonszolni* and the prevalence of OBJ pro-drop in this language: the ACC NP is not interpreted as referentially identical to SUBJ of the infinitive. Instead, the ACC NP is interpreted as the OBJ of the infinitive. The agent of the activity designated by the infinitive can be expressed with a postpositional phrase:

(23) hagytam Arpádot el-vonszolni János által
let-PAST-1sg Arpad PV-drag John by
'I let Arpad be dragged away by John'[40]

In other words, it appears that these constructions have undergone some operation which has realigned the GF assignments to the thematic arguments of the infinitive. We have seen elsewhere that all such alterations of lexical forms necessarily imply the operation of lexical rules in LFG. In the present case, a lexical rule appears to have applied to an analytic construction. The assumption that a lexical rule has, indeed, applied here explains why this construction resembles in all relevant respects a sentence containing the morphological causative form of *el-vonszol*:[41]

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[39] This variant is not accepted by all native speakers.

[40] This can also be expressed by employing two ACC arguments:

hagytam Jánost Arpádot el-vonszolni
let-PAST-1sg John-ACC Arpad-ACC PV-drag
'I let John drag Arpad away'

[41] It should be noted that the causative verb form is preferred by many speakers over the simple transitive form in constructions such as () above.

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(24) el-vonszoltatta Arpádot Jánossal/János által
PV-drag-CAUS-PAST-3sg/DEF Arpad John-INST/ John by
'I made John drag Arpad away'

I would like to suggest that a lexical rule accounts for the alteration of lexical structure exhibited by both the simple transitive and causative (or alternatively, analytic and synthetic) forms of these verbs: a lexical rule of causativization preserves the assignment of the OBJ function to the 'patient' of simple verb and assigns the OBL function to the 'agent' of that verb. As a consequence, the resulting complex verb selects for three functions, namely, SUBJ, OBJ and OBL. A rule of this type can create a morphological causative or an analytic predicate.

If a morpholexical rule of causativization has applied to create this analytic form we now have an explanation for the interpretation of sentences such as (22). Moreover we have an explanation for why control relations do not obtain between the ACC NP and the SUBJ of the infinitive although they are expected if *hagy* is regarded as a matrix verb which selects an XCOMP complement.

These suspicions concerning the mono-clausal nature of *hagy* constructions are further corroborated by the behavior of reflexives. Consider the following sentences containing RFLX (reflexive anaphors):

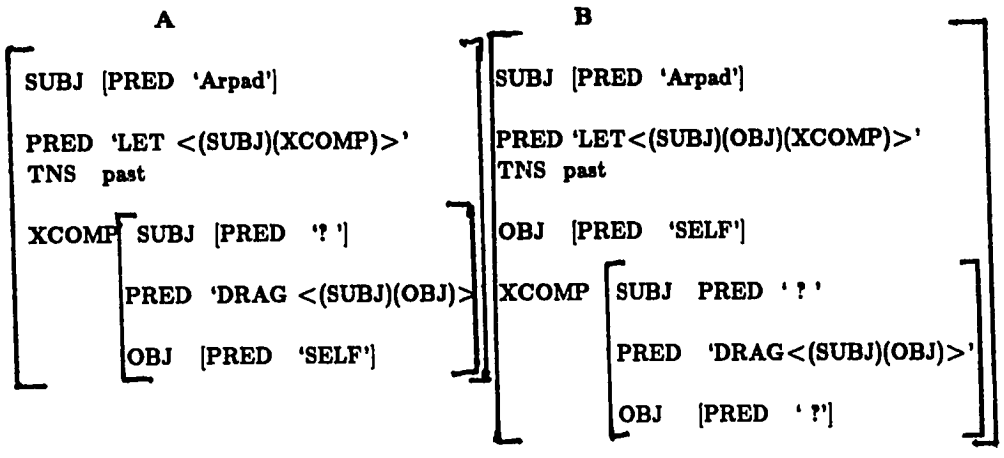
(25a.) Arpád hagyta magát el-vonszolni
Arpad let-PAST-3sg/DEF himself PV-pull-INF
'Arpad(j) let somebody drag him(j) away

(b.) Arpád el-vonzsoltatta magát
Arpad PV-drag-CAUS-PAST-3sg/DEF himself
'Arpad(j) made somebody drag him(j) away'

The indices in (25) indicate that the reflexive pronoun is anaphorically bound to the surface SUBJ in these sentences. Assuming that Hungarian reflexives are bound by SUBJs and that this binding is generally restricted to operate within a single clause nucleus, let's consider the consequences of assuming that *hagy* is a control predicate in the manner of

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Falk (1984). Depending on the lexical form associated with *hagy* we would be confronted with either of the following f-structures for sentence (25a.):



Each of these options is problematic in different ways. Utilization of option A presents a problem with respect to the clause boundedness of reflexives: the RFLX element is not located in the same nucleus as the constituent with which it is referentially bound nor can it be bound to that element via the SUBJ of its own clause nucleus since the SUBJ of the matrix verb does not serve as the controller for this complement. This f-structure, additionally, violates *completeness* since the SUBJ function is not satisfied.[42] Utilization of option B avoids the problem presented by the clause boundedness restriction on reflexive binding but introduces a different problem: by what means is the OBJ of the matrix verb interpreted as referentially identical to the OBJ of the verb contained in the XCOMP? This appears to be an instance where a matrix complement controls an OBJ rather than a SUBJ. Naturally, appeal to a conventional source of explanation is to be favored over postulating an ad hoc mechanism: we will presently see that a conventional source of explanation already does exist. It remains only to be added with respect to B that a previous problem remains here as well: the SUBJ function is not satisfied although an agen-

[42] This does not mean that there is not an understood agentive argument: it simply means that the agentive argument is not the SUBJ of this clause. In fact, as shown earlier this agentive argument appears in the canonical form for OBL agentives, namely, marked with the INST case or with the postposition *által* 'by'.

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tive interpretation obtains for the verb in the XCOMP.

It should be obvious that all of the problems enumerated above would arise, as well, if we analyzed morphological causatives in Hungarian as consisting of a matrix CAUSAL predicate and a subordinate infinitival complement. This, however, is not the analysis proposed in LFG. Since the morphological causative displays a different assignment of GFs than the simple variant of the same verb the former must have been created by morpholexical rule owing to the Principle of Direct Syntactic Encoding.[43] The assumption that a morphological rule can create a phonologically integrated complex verb is hardly provocative. We arrive at the recurrent theme of the present work when we see that the basic assumptions that lead us to conclude that morphological causatives are created by morpholexical rule, also lead us to conclude that an analytic construction, i.e. *hagy* + INF, is created by the same means. On this analysis the appropriate f-structure for sentence (25a.) would be:

$$\begin{bmatrix} \text{SUBJ} & [\text{PRED} \quad \text{'Arpad'}] \\ \text{PRED} & \text{'permit - pull away } <(\text{SUBJ})(\text{OBJ})(\text{OBL})>\text{'} \\ \text{OBJ} & [\text{PRED} \quad \text{'SELF'}] \\ \text{OBL} & [\text{PRED} \quad \text{'pro'}] \end{bmatrix}$$

As can be seen, this f-structure representation avoids all of the problems encountered by the previous alternatives. Moreover, it explictly locates the source of similarity evident between morphological causatives and periphrastic permissives: though they exhibit different c-structure expressions they both participate in f-structures containing a single clause nucleus.

The assumption that the analytic constructions examined here should be treated as analytic predicates may additionally explain why there is a tendency for *hagy* to be assimilated to the class of verbal elements which can be interposed between a PV and its

[43] Cf. Chapter 4 for a discussion of this principle and its consequences.

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lexically associated infinitival stem. Like the previously examined analytic predicates, constructions with *hagy* can be interpreted as defining a single clause nucleus. One might tentatively argue that on this basis *hagy* has begun to exhibit some of the word order properties common to analytic constructions having a single clause nucleus. Since PVs precede the class of analytic predicates examined in the previous section, they have begun, by analogy, to precede the phenomenally similar construction discussed in the present section.

In conclusion, we are compelled by the basic assumptions of LFG to provide a lexical account of the construction *hagy* + INF: the fact that the constitutive members of this lexical entity are separable in c-structure is a phenomenon we have encountered countless times with phrasal predicates.

8.4. Derivation

One type of evidence offered in previous chapters to support the thesis that the combination of a preverb (either prefixal or argumental) and verb constitutes a lexical unit was the fact that these constructions participate in derivational processes: the PV + V combination, for example, can serve as a base for the creation of a derived nominal. In the present chapter I have argued that AUX + INF constructions should similarly be interpreted as lexical phrases. One might expect that as lexical entities these constructions could feed derivational processes in the same fashion that other lexical phrases do. In fact, there is some indication in the grammar of Hungarian that this expectation is borne out.

Consider the following neutral sentences containing a simple verb and an analytic predicate:

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(26) Arpád uszik
Arpad swim-3sg
'Arpad is swimming'

(27) Arpád uszni akar
Arpad swim-INF want-3sg
'Arpad wants to swim'

The verb form can be nominalized in both instances. We can see the derived nominal in the possessive constructions presented below:

(28) Arpádnak a gyors uszása
Arpad-DAT the fast swimming-3sg
'Arpad's fast swimming'

(29) Arpádnak az állandó uszni akarása
Arpad the continual swim-INF wanting-3sg
'Arpad's continual wanting to swim'

The assumption that *uszni akarás* in (29) is a nominal is consistent with previous remarks concerning the structure of NPs in Hungarian: attributive adjectives immediately precede the head noun in Hungarian NPs. As can be seen from the two deverbal nouns presented above, the position of the attributive adjective in these constructions is before *uszás* in (28) and before *uszni akarás* in (29). This leads to the conclusion that both of these derived forms are nominals. If we accept the general thesis that syntactic phrases do not enter into derivational processes, then we are left with the assumption that analytic predicates are lexical phrases: I have argued in previous chapters that lexical phrases do participate in lexical derivational processes.

There is another phenomenon worth mentioning in connection with deverbal nominals derived from AUX + INF constructions. In Chapter 2 I mentioned that compounds may contain markers of syntactic coordination. In particular, I provided examples where two left members of a compound are related by a marker of syntactic coordination and appear to share a single right member. Derivations based on analytic predicates appear able to participate in these complex compounds. The following construction exemplifies

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this phenomenon:

(30) az irni és olvasni tudás el-terjedtség-e
the write-INF and read-INF ability PV-expansion-3sg
'the expansion of the ability to read and write'

Finally with respect to derivation it bears mentioning that there are indications that infinitival forms can appear with AUX elements in complex adjectives. For example, consider the following construction:

(31) goromba, szünni nem akaró hahotázás-a
boorish, cease-INF NEG wanting laughter-3sg
'his boorish, not-wanting-to stop laughter'

We have already seen in Chapter 4 that the NEG element can be interposed between a PV and a verbal stem in certain derivational processes. As a consequence, the interposition of this element in the preceding adjectival form has precedents in the grammar of Hungarian. Even in default of a thoroughgoing theory of adjective formation in Hungarian we can, I believe, tentatively employ complex adjectives of the preceding type to bolster the claim that the AUX and infinitive constitute a lexical phrase: this lexical phrase, like lexical phrases elsewhere in the grammar of this language, can serve as a base for derivational processes.

In conclusion, the limited evidence of derivation in this domain comports with the evidence concerning the lexical status of AUX + INF presented in the previous sections.

8.5. AUX and Inflecting Infinitives

The second phenomenon in Hungarian which seems amenable to an interpretation in terms of analytic predicates concerns constructions consisting of an AUX element (or one of a small collection of adjectives)) and an infinitival verb form: in these constructions the AUX (or tense bearing element accompanying adjectives) does not bear morphology reflecting the person/number features of SUBJ complements while the infinitive can bear

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such morphology in the form of the possessive suffixes (PXs) described in Chapter 5. These constructions, consequently, manifest a certain sort of complementarity with respect to the marking generally associated with a single verb form: the grammatical distinctions generally encoded by a single verb form, i.e. tense, mood, agreement, etc., are distributed over the component portions of the analytic predicate. When the structural head does not inflect for person/number marking of the SUBJ, then the functional head (played, once again, by the infinitive) can. [44] I present below a representative collection of AUX elements which participate in these constructions.

Verbs		Adjectives	
kell	'must'	szabad	'permitted'
lehet	'possible'	szükségés	'necessary'
illik	'suitable, proper'	nehéz	'hard'
sikerül	'succeed'	felesleges	'superfluous'
fáj	'hurts'	tilos	'forbidden'
		hasznos	'useful'....

Examples (32), (33), and (34) illustrate this type of analytic predicate for clauses containing auxiliary verbs.[45]

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[44] In general, the infinitival form in these constructions does not bear PX morphology in two contexts. First, when the constructions are impersonal: these constructions imply a non-specific SUBJ which can be conveyed by the English 'one'. The following sentence exemplfies this use:

i.) innen mindent jól lehet látni
from here everything well possible see-INF
'from here one can see everything well'

The second ocassion when the PX marker optionally occurs is when an otherwise optional (DAT) SUBJ pronoun appears indicating some discourse emphasis associated with this complement. This is exemplified below:

ii) nekem kellett el-menni/el-menn-em
1sg-DAT must-PAST PV-go-INF/PV-go-INF-1sg
'It was me who had to go away'

The illustrations in the text primarily represent this second variant of these constructions. However, in most cases the SUBJ pronoun has been omitted.

[45] Inflected infinitives, as mentioned previously, also occur with certain adjectives. A representative construction of this type follows:

i) felesleges volt aggodnom
superfluous was-3sg worry-INF-1sg
'it was superfluous (for me) to worry'

ii) felesleges lett volna aggodnom

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(32) át kellett valamelyest gondolnia a dolgot
PV must-PAST somewhat think-INF-3sg the matter-ACC
'he had to think through the matter somewhat'

(33) át kellene/kéne valamelyest gondolnia a dolgot
PV must-COND/must-COND somewhat think-INF-3sg the matter-ACC
'he should think over the matter'

(34) meg kellett volna sértödnöm a kérdés
PV must-PAST COND offended-INF-1sg the question
'I should have been offended at the shamelessness of

szemtelenségén
shamelessness-3sg-SUP
the question.

The PV associated with the inflected infinitive appears immediately to the left of the AUX element in contextually unmarked constructions: this is the same distribution of PVs seen in the previous section with respect to inflecting AUX elements. The AUX element in the present instances invariably supplies information with respect to tense. Information concerning COND(itionality), however, is alternately conveyed by a suffix on the AUX element in the present tense, (33), or by the appearance of an invariant conditional form of the copula, *volna*, in the past tense (34). The person/number features of the optional DAT-marked SUBJ are conveyed by the PX suffix appearing on the non-finite verb form.

I would like to concentrate for a moment on the distribution of PVs in these constructions. As mentioned previously, they appear immediately before the finite AUX form in contextually neutral sentences. In marked constructions, such as focus constructions, the PV appears immediately to the left of the infinitival verb form with which it is lexically composed. This distribution, attested with AUX verbs, is the same distribution as that which is attested in clauses without AUX elements. This similarity between clause types is exemplified below:

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superfluous was-3sg COND worry-INF-1sg
'it would have been superfluous (for me) to worry'

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(35) a kérdés szemtelenségén kellett volna
the question shamelessness-3sg-SUP must-PAST COND
'it was the shamelessness of the question I should

meg-sértödnöm
PV-offended-INF-1sg
have been offended by'

(36) a kérdés szemetelenségén sértödtem meg
the question shamelessness-3sg-SUP offend-PAST-1sg PV
'it was the shameless of the question I was offended by'

In both of the preceding constructions the focused constituent immediately precedes the finite verb form and the PV appears after this form: in (35) the PV appears after the grammatical meaning bearing portions of the analytic verb, namely, ***kellett volna***, while in (36) the PV appears after the simple finite verb form.

Let's assume for the moment that the AUX elements in question select for a sentential complement containing an infinitival verb form. On such an interpretation we would presumably be confronted with a bi-clausal structure: one clause nucleus would be headed by the AUX and the other would be headed by the infinitive. This proposal is the obvious alternative to an interpretation of these constructions as analytic predicates defining a single clause nucleus.

On the two clause analysis the following question arises: since in sentence (35) a complement of the presumed lower clause appears in the focus position of the matrix clause we must inquire as to the possible constraints on this type of phenomenon. In particular, can any complement from any lower clause occupy the focus position of a higher clause? The ability for constituents from lower clauses to be interspered among constituents from higher clauses is known traditionally in Hungarian grammar as *sentence intertwining*. A full description of this phenomenon is beyond the scope of this study. However, there are certain aspects of sentence intertwining which seem relevant to the analysis of the constructions presently under investigation.

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There are certain verbs which appear to permit elements from lower clauses to appear in an embedding clause. These verbs are called *bridge verbs* by E. Kiss. The relevant constructions are exemplified below:[46]

(37) János *Marikát* akarja, hogy meg-hivjuk
John Marika want-3sg/DEF, that PV-invite-1pl/DEF
'it's Marika that John wants us to invite'

(38) János *Péterhez* mondta, hogy el-viszi a könyvet
John Peter-ALL said-3sg/DEF, that PV-take-3sg/DEF the book-ACC
'it is to Peter that John said he is taking the book'

In both of the preceding sentences a constituent from an embedded clause occupies a position in an embedding clause and receives focus interpretation.[47] It turns out that there is an important constraint on the type of element which can be displaced in this fashion. PVs do not behave like other sentential elements with respect to bridge verbs: PVs cannot occupy a position in an embedding clause. Consider the following constructions in this connection:[48]

(39) * Péter le mondta, hogy ül
Peter PV said-3sg/DEF that sit-3sg
'Peter said that he will sit down'

(40) Péter azt mondta, le-ül
Peter it-ACC said-3sg/DEF that PV-sit-3sg
'Peter said that he will sit down'

This behaviorial difference between PVs and clausal constituents confirms the hypothesis suggested several times in the present study: PVs do not have the same clausal status as other constituents in c-structure.[49] Sentence (39) seems to suggest that PVs cannot occupy a clausal position outside of the clause nucleus which it heads (in conjunction with a verbal stem).[50]

[46] These examples are from Komlosy (1984). Italics indicate focus interpretation.

[47] There are other sorts of sentence intertwining in which the 'displaced' constituent receives a Topic interpretation.

[48] This example is taken from Komlosy (1984).

[49] Cf. Chapter 6 on incorportion.

[50] There is one construction, however, in which the PV does indeed seem to appear outside of its own

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In earlier discussion we saw that a PV is discontinuous from its verbal stem and occupies a position immediately to the left of the inflecting AUX element in contextually neutral constructions. The agreement facts associated with these constructions suggested that we were dealing with a single clause nucleus. The position of the PV, accordingly, was unremarkable: the PV appears in the clause nucleus of the analytic predicate of which it is a constitutive element. This follows if we assume that PVs are generally constrained to appear in the clause nucleus they share in heading. Now, if we turn to constructions containing inflecting infinitives we observe the same distribution as we encountered with constructions containing inflecting AUX elements: the PV immediately precedes the (tensed) AUX element. If we impute a single clause nucleus to the former constructions, the observed distribution of PV follows here too: the PV appears in the clause which it jointly heads with other portions of the analytic predicate. The present proposal, consequently, unifies the account of PV behavior in simple clauses, clauses with inflecting AUX elements, and clauses with inflecting infinitives. In particular, it explains why PVs behave similarly in contextually unmarked and marked contexts: in all instances we are dealing with functionally mono-clausal constructions.

9. Conclusions

The speculations of various descriptive and theoretical linguists appear to converge on an alternative analysis concerning the relation between certain auxiliaries and non-finite verbal forms. Instead of viewing this relation as one of control in which a function from a matrix clause acts as controller for the SUBJ function of a lower clause it is

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clause nucleus. This is illustrated by the following example;

(i.) el kellett hogy menjek
PV must-PAST that go-SUB-1sg
'I had to go away'

In constructions of this sort the PV appears before the finite AUX without necessarily receiving focus stress or focus interpretation. The curious aspect of such constructions is that preverbs appear before the tensed AUX despite the clear presence of a clause boundary signalled by the complementizer *hogy*. In conclusion, these constructions seem to exhibit surface evidence of bi-clausality, i.e. the presence of *hogy*, and distributional evidence of mono-clausality, i.e. the location of PVs.

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possible to consider the auxiliary and dependent element as (potentially) discontinuous portions of a single grammatical word. Evidence from OBJ agreement across apparent clauses and inflecting infinitives are two phenomena for which the analytic predicate proposal appears to be an appropriate proposal. In fact, given the basic lexicalist assumptions accepted in the present work this analysis is arguably the most appropriate proposal.

Finally, analytic predicates exemplify a type of predicate seen several times throughout this study: a predicate whose component pieces receive disjoint syntactic realization. We saw in Chapter 4 that certain such predicates are reminiscent of verbal derivation via affixation while others, as discussed in Chapter 6, recall word-formation via compounding. In both of these previous instances indisputable morpholexical processes eventuated in predicates with separable pieces. In the present instance too we find that more speculative word formation processes yield familiar predicates, namely phrasal predicates. As a consequence, the syntactic independence evinced by pieces of analytic predicates cannot be employed as an argument against their lexical provenance.

In sum, we have moved throughout this study from the analysis of fairly indisputable lexical formations to more and more speculative lexical formations: all such compositions exhibit the same syntactic separability with respect to their component parts while they evince, to varying degrees, properties attributed only to lexical entities according to lexicalist theories of grammar.

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