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UNIVERSITY OF CALIFORNIA

Los Angeles

Aspects of Hungarian Syntax and the Theory of Grammar

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

Julia Horvath

1981
The dissertation of Julia Horvath is approved.

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University of California, Los Angeles

1981
To the memory of my mother

Zsussa Horvath

and to my father

Dr. Arnold Horvath
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PUBLICATIONS


ABSTRACT OF THE DISSERTATION

Aspects of Hungarian Syntax and
the Theory of Grammar

by

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Professor Stephen R. Anderson, Co-Chair
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This dissertation presents an in-depth investigation of a particular complex of phenomena central to the syntax of Hungarian, a hitherto scarcely studied non-Indo-European language, and considers them with respect to their implications for the theory of Universal Grammar (UG). The study is conducted within the general framework of the "Revised Extended Standard Theory" (REST) of generative grammar, and it compares and assesses particular versions of this general theoretical framework, based on the analyses constructed. The fundamental issue addressed is how the superficially wide and arbitrary range of differences between the empirical phenomena observed in Hungarian and
those familiar from analyses of the well-studied Indo-European languages can be reduced to the effects of a minimal number of parameters left open in UG. The results of this study support the conception of UG as a modular system, made up of a number of autonomous sub-components of rules and sub-systems of principles, and provide empirical evidence for a highly restrictive formulation of several sub-components of UG.

Chapter 1 provides a basic sketch of Hungarian phrase structure, arguing for a configurational, "SVO"-type structure. A core of empirical phenomena, to be dealt with in subsequent chapters, is introduced and analyzed, including some movement and interpretive rules. The chapter provides a detailed analysis of Wh-movement in Hungarian, contrasting the process in Wh-question and Relative Clause constructions. Crucially, it is argued that the landing sites of Wh-phrases in interrogative vs. in relative constructions are systematically distinct. Special attention is paid in the chapter to processes involving a particular phrase-structure position of Hungarian, referred to as the "pre-V" node.

Chapter 2 constitutes a study of the syntax of FOCUS. A mechanism of "FOCUS-assignment," applying at the level of S-structure, is proposed and motivated, which in conjunction with the interpretive rule of FOCUS, gives rise to operator-variable structures in LF. The chapter investigates the syntactic constraints on FOCUS-interpretation observable in Hungarian, and discusses some strikingly similar cases of "structurally restricted" FOCUS-interpretation from other languages, namely, from
Basque and Aghem. A parametrized version of FOCUS-assignment in UG is developed, making use of the notion "government," that successfully accounts for the observed range of language-particular variation with respect to the distribution of FOCUS, while maintaining the autonomous status and highly restrictive form of the syntactic as well as the LF-components. The chapter also proposes an independently motivated universal constraint on the Wh-Q operator, which is shown to provide an explanatory account of the distinct landing sites of interrogative vs. relative Wh-phrases observed in Chapter 1, with no language-particular stipulation needed, and also makes some interesting cross-linguistic predictions.

Chapters 3 and 4 investigate the nature of the movement processes involved in the Wh-question and FOCUS construction of Hungarian. Adopting the notion of trace and conditions on trace-binding as traditionally conceived of in the EST framework, Chapter 3 proposes the hypothesis that the relevant movement operation is a "Stylistic Rule," applying in the PF-component of core grammar. The consequences of this theory are discussed with respect to a wide range of empirical phenomena.

Making crucial use of some assumptions of the Government-Binding theory, Chapter 4 develops an analysis arguably superior to the one in Chapter 3, based on the hypothesis that the movement involved is an instance of the canonical syntactic transformation 'Move α'. The case is shown to have interesting implications with respect to the choice of
an adequate theory of Binding and the status of "trace" in it, with respect to the hypothesis of phonologically "invisible" movements in the LF-component, and with respect to the theory of Bounding.
INTRODUCTION

The primary goal of the theory of generative grammar is to discover and specify the nature and general structure of a hypothesized "mental organ" unique to the human species, the human language faculty, so that the remarkable facts of language acquisition can be explained. (A discussion of the philosophical foundations of generative grammar and its place and role in the study of cognition in general is presented in works such as Chomsky (1965, Chapter 1; 1975; 1980b) and Piattelli-Palmarini (1980)). The endeavors to construct a restrictive theory of Universal Grammar (UG), evident throughout the generative literature, represent the commitment to the above goal. The most informative and at the same time still feasible research strategy for validating hypothesized formal principles of UG and setting appropriate limits to it consists of the in-depth, theory-bound study of a variety of particular languages. This dissertation constitutes a contribution to linguistic theory of precisely this sort. It undertakes a detailed investigation of a particular complex of problems in the syntax of a non-Indo-European language, Hungarian, and considers them with respect to their implications for the theory of grammar in general.
The study is conducted in the general framework of the "Revised Extended Standard Theory" (REST) of generative grammar as developed in Chomsky and Lasnik (1977), Chomsky (1980a; 1981), and related work. It is assumed that UG consists of a restrictive and highly structured system of autonomous subcomponents of rules and principles, with some specific open parameters to allow for language-particular variation. The fixing of these parameters, which must take place on the basis of a limited amount of experience, yields a "core grammar." The general structure and organization of the model of core grammar presupposed in this study (based on Chomsky and Lasnik (1977) and Chomsky (1980a; 1981)), are shown below:

\[(1)\]

\[
\begin{align*}
\text{D-structure [generated by the Base]} \\
\quad \downarrow \text{'}Move \alpha' \\
\quad \downarrow \text{S-structure} \\
\quad \downarrow \text{PF = "Phonetic Form"} \\
\quad \downarrow \text{LF = "Logical Form"} \\
\text{(= Surface Structure)}
\end{align*}
\]

Thus, we assume a Base component, constrained by the X-bar theory, that gives rise to D-structures. Transformational operations of the form 'Move \(\alpha\)', applying to D-structures, generate S-structures. Taking the strongest, most restrictive hypothesis, we can assume that \(\alpha\) in the rule schema 'Move \(\alpha\)' is an arbitrary category, and all rules of the syntax (i.e., base rules and transformations) are optional and
unordered. S-structures are subject to mapping onto "Phonetic Form" (PF) on the one hand and onto "Logical Form" (LF) on the other. These two types of mappings are assumed to be totally independent, i.e., the rules deriving LF and those deriving PF are orthogonal to each other. PF-representations are derived from S-structures by Deletion rules, Filters, Stylistic Rules, and the rules of Phonology. The LF-component contains movement rules such as, e.g., Quantifier Raising (QR)—motivated originally in May (1977)—, rules assigning "thematic roles" (θ-roles) to arguments, rules of Control, assigning antecedents to PROs, and well-formedness conditions such as, e.g., the θ-criterion (cf. Chomsky (1981)) and the Binding Conditions (cf. Chomsky (1980a; 1981)).

It goes without saying that the appropriateness of each of the above claims is to be considered an empirical issue. Things could be conceived of in an entirely different way, and the particular model outlined above is "justified" only to the extent that it covers and predicts a wider range of interesting empirical facts than previous alternative theories did, generates new fruitful directions for research, and leads to important new insights. (On the evaluation of scientific research programs, see, e.g., Lakatos (1970).)

Given the goals of generative grammar, the most useful research strategy is to postulate a maximally restrictive theory of UG and then to "correct" it, if necessary, in order to achieve descriptive adequacy for grammars of particular languages. Thus, the superficial diversity of languages presents a constant challenge to hypothesized principles
of UG. To come to grips with this kind of challenge is the most criti-
cal condition for making progress in the enterprise of uncovering the
nature of UG. Accordingly, the present study deals with precisely
those aspects of Hungarian syntax that seem the most striking, "exotic,"
and out of the ordinary from the point of view of what we know about
the structure of the better-studied Indo-European languages, such as
some of the Germanic and Romance languages.

To be more specific, consider, for instance, the following three
major phenomena exhibited by Hungarian (as argued in this study), none
of which has been discussed in the generative literature because the
languages analyzed in any detail in this framework happen not to mani-
fest such phenomena. The first fact is that although Hungarian
exhibits Wh-movement both in its Wh-questions and in its relative
clauses, the landing sites of this movement operation in the two con-
structions are distinct. The landing site of Wh-phrases in the Relative
Clause construction is the COMP node, as it is in the case of Wh-
movements in English; the landing site of Wh-movement in Wh-questions,
however, is an S-internal and, in fact, VP-internal position. Second,
the distribution of FOCUS-ed constituents is strictly limited to a
single structural position in the phrase-structure of Hungarian.
Outside of this particular phrase-structure position, no FOCUS inter-
pretation is available. Third, Hungarian exhibits "downgrading" move-
ment operations, resulting in configurations in which the moved element
fails to c-command its trace. The above three apparently highly
unusual properties of Hungarian and the relation among them will be 
investigated in the course of the discussion in this study, and will 
be shown to be reducible essentially to the effect of a single parame-
ter of UG, in terms of which Hungarian differs from languages such as 
English, namely, a parameter involving the assignment of the feature 
FOCUS at the level of S-structure, referred to in this work as the 
"FOCUS-Assignment Parameter."

This dissertation is obviously not meant to be a "grammar of 
Hungarian," and not even meant to give an exhaustive description of any 
particular construction types (in the sense of traditional grammar or 
early versions of generative grammar). Instead, it deals with sets of 
phenomena as dictated by the specific theoretical issues we are pursu-
ing. These theoretically significant sets of phenomena often fail to 
coincide with the classification of linguistic phenomena familiar from 
traditional or early generative grammars.

Up to now, Hungarian syntax has not been subject to extensive 
study in the framework of generative grammar. Some works in this area 
that should be mentioned, however, are Kiefer's (1967) study of Hun-
garian word order and its relation to "emphatic stress," which essen-
tially adopts the Standard Theory of generative grammar (as outlined by 
Chomsky (1965)), some papers by M. Szamosi and R. Hetzron (e.g., 
Szamosi (1974; 1976), Hetzron (1975)), and several more recent studies 
by K. É. Kiss (1978; 1981), A. Szabocsi (1980), and some of my own 
works (Horvath (1976; 1978a; 1978b; 1980)).
The present study is organized as follows. Chapter 1 provides a basic sketch of Hungarian phrase structure and introduces a core of empirical phenomena to be dealt with in subsequent chapters, including some movement and interpretive rules. In particular, the chapter examines and contrasts the processes of Wh-question formation and relativization and argues that although both of these constructions involve Wh-movement in Hungarian, the landing sites for interrogative Wh-phrases and relative Wh-phrases in this language are systematically distinct. On the basis of detailed argumentation, we establish exactly what these two landing sites of Wh-phrases are. Special attention is paid in the chapter to processes involving a particular phrase-structure position of Hungarian, namely, a left sister node to V, dominated by a "small VP" (V'). This position, referred to throughout this study as the "pre-V" node, is claimed to be a position where various verbs take one of their subcategorized complements; in addition, this node is shown to be the landing site of Wh-movement in interrogative constructions.

Chapter 2 presents a study of the syntax of FOCUS. It proposes and motivates a mechanism of FOCUS-assignment applying at the level of S-structure, in addition to the interpretive rule of FOCUS, giving rise to an operator-variable structure in LF (cf. Chomsky (1976)). The chapter investigates the syntactic constraints on FOCUS-interpretation observable in Hungarian, discusses some strikingly similar cases of "structurally restricted" FOCUS-interpretation from other languages.
(namely, Basque and Aghem), and develops a proposal, based on a parameterized version of FOCUS-assignment in UG, that can successfully account for the observed range of language-particular variation with respect to the distribution of FOCUS while maintaining the syntax in a highly restrictive form. On the basis of an independently motivated universal constraint on the Wh-Q operator postulated in this chapter, we will provide an explanatory account of the distinct landing sites of interrogative vs. relative Wh-phrases in Hungarian observed in Chapter 1, without resort to any language-particular stipulation, and will make some interesting cross-linguistic predictions.

Chapters 3 and 4 deal with the nature of the movement processes involved in the Wh-question and FOCUS construction of Hungarian. In Chapter 3, adopting the notion of trace and conditions on trace-binding as traditionally conceived of in the EST framework, we propose and discuss the hypothesis that the relevant movement operation is not an instance of the syntactic transformation 'Move α', but rather a "Stylistic Rule" (in the sense of Chomsky and Lasnik (1977) and Rochemont (1978)), applying in the PF-component of core grammar. The chapter examines and evaluates the consequences of this theory with respect to conditions on binding, the semantic interpretation of Wh-questions and FOCUS-constructions, "unbounded" extractions of Wh-Q and FOCUS phrases, and the application of some template-like interpretive rules. The conclusion from the discussion is that in spite of some apparent arguments in favor of it, this stylistic rule analysis does not constitute
an adequate account of the range of empirical phenomena we are concerned with.

Making crucial use of some assumptions of the Government-Binding (GB) theory (cf. Chomsky (1981)), Chapter 4 constructs an analysis based on the hypothesis that the movement involved in Hungarian Wh-questions and FOCUS-constructions in fact is an instance of the syntactic transformation schema 'Move α'. This hypothesis will be elaborated and extended to all the empirical phenomena discussed in the previous chapters, including the scope of the Wh-Q operator, the interaction of Wh-Q/FOCUS movement with the interpretive templates for IMPERATIVE and PROGRESSIVE/PERFECTIVE ASPECT interpretation, the application of FOCUS-assignment, and the pattern of "island" effects observed. The case will be shown to have interesting implications with respect to the choice of an adequate theory of Binding and the status of "trace" in it, with respect to the hypothesis of phonologically "invisible" movement operations, taking place in the LF-component, as well as with respect to the formulation of Subjacency in UG.
INTRODUCTION: NOTE

1It is possible that the transformational rule 'Move α' itself represents a particular realization of a parameter of UG. This idea is suggested in Chomsky (1981, section 2.8) in the course of a discussion of configurational vs. non-configurational languages, the latter of which seem to lack movement transformations.
CHAPTER 1

THE LANDING SITES OF WH-MOVEMENT AND A PRE-V NODE IN THE VERB PHRASE

This chapter will outline some of the core of the empirical phenomena we will be dealing with. After providing a basic sketch of Hungarian phrase structure and "word order," we will proceed to examine and contrast the processes of Wh-question formation and relativization. It will be argued that even though both cases involve a movement transformation, namely "Wh-Movement," the target positions for interrogative Wh-phrases and relative Wh-phrases in Hungarian—in contrast to other languages studied—are systematically distinct. It will be shown that whereas relative Wh-phrases move into the COMP node, similarly to Wh-phrases in English, the landing site of interrogative Wh-phrases is a position inside of S. In sections 1.5 and 1.6, we will establish what exactly the landing site of Wh-question phrases is in S-structure, and propose a substitution analysis. Crucially, it will be argued that the node in question is a left sister to V and forms a constituent (V') with it. In section 1.7, we will motivate a local transformative and some interpretive rules relating to this pre-V phrase node. The last section of the chapter will examine the predictions that our analysis of Wh-movement makes with respect to Wh-Island phenomena.
1.1. "Word Order" and the Base

One basic, uncontroversial fact about Hungarian phrase structure is that it is right-branching, i.e., that all recursion occurs to the right of heads of phrases. Apart from this, however, impressionistically, Hungarian word order—or to be more precise, phrase order—is relatively free. In fact, as has often been noted, in a simple sentence, any permutation of the major constituents gives an acceptable sentence (cf. Kiefer (1967, 167), Kiss (1981)).

The "classic" examples of free-word-order languages discussed in the literature, such as, e.g., Walbiri, Dyirbal, and to a lesser extent Japanese, have been argued to be of a non-configurational type, i.e., to lack the depth of hierarchical X-bar structure familiar from English, for example. In addition, they are claimed to have maximally uniform, categorically undifferentiated phrase structure rules, i.e., PS rules that generalize over the full range of the X-bar system, without any category distinctions. A discussion of these types of languages and a proposal of a "free insertion" model for them are presented in Hale (1978; 1980) and Farmer (1980). The essence of such a "free insertion" analysis is that different word order possibilities are ascribed directly to the base rather than being the product of movement rules.¹

The freedom of Hungarian word order, however, turns out on closer examination to be of a different origin. First, Hungarian can by no means be claimed to be a non-configurational language. It has a rich, multileveled hierarchical phrase structure similar to that of English.
(For arguments showing this with respect to the structure of VP and S, cf. Horvath (1978a) as well as the discussion to be given in the present chapter.) Furthermore, it does have some category-specific phrase structure rules. For instance, whereas the category V takes its object-NP as a right sister, the object-NP of the category P is a left sister node, i.e., Hungarian has postpositional phrases rather than prepositional phrases. Clearly, the grammar of Hungarian must have either separate PS-rules or some other mechanism for distinguishing VPs and PPs. Also, we will establish later on that Hungarian phrase structure has a category VP (i.e., $V^{\text{max}}$ in the X-bar notation) distinct from the category S, and it has a configurational subject position.

Given that the Hungarian base is typologically different from that of the "truly" free word order languages discussed in the literature, the question arises: what are then the processes producing the freedom of phrase order observable? Because the issue of word order per se is not one of the concerns of this study, I will touch upon this question only insofar as it is either relevant to the substance of the forthcoming discussion or helps to put the Hungarian examples used in the course of the discussion into a more realistic perspective.

The apparent general freedom of Hungarian word order does not represent one unified phenomenon; rather, it can be attributed to several different processes. One aspect of the phenomenon is the total freedom of order among the post-head complements in all the phrasal categories. The permutation of these post-head phrases results in no
semantic, pragmatic, or any other change. This aspect of "free word order" could be accounted for by assuming a unique order in D-structure, just as in "fixed word order" languages, and, in addition, a "scrambling" rule applying on the left-hand side (PF) of the grammatical model outlined in the Introduction, i.e., in the component that provides no input to the LF component. This scrambling rule would interchange adjacent major phrasal constituents. An alternative approach to the free ordering of post-head complements is to assume that PS rules specify no left-to-right order and also that lexical insertion and the assignment of grammatical functions and case are random in D-structure with respect to linear order. Under this theory, all surface orderings of complement phrases would be generated directly by the application of the PS rule and lexical insertion. (A version of this latter type of account is adopted implicitly in Kiss's (1981) analysis of Hungarian.)

Because the choice between these two conceptions of the free post-head complement order observable in Hungarian has no consequences for the claims and analyses in this study, I will not try here to decide between them. Instead, I will simply assume, for the sake of concreteness, the latter, more "current" analysis. The example sentences used will be presented with a uniform surface order between post-head complement phrases in order to avoid confusion, but one must keep in mind that there always exist other versions of the same sentence, with a different linear order of post-head complements. Having said this, we
can turn to some of the more substantive issues of Hungarian phrase structure.

1.2. **On the Position of Subject NPs:**

A Configurational, "SVO"-Type Phrase Structure

In addition to the phenomenon of free order among post-head complements in phrases of the X-bar system discussed above, there are some other important processes contributing to the often noted freedom of major constituents in Hungarian sentences.

One issue that will be relevant to the discussion to follow is: what is the status and position of subjects in the phrase structure of Hungarian?

Considering simply the possible linear orderings of phrases in Hungarian sentences, the first impression is that the syntactic distribution of subject NPs is identical to that of phrasal complements of the verb, such as the direct object, indirect object, and various complement PPs. Thus, consider the possible orderings of phrases in the Hungarian counterpart of the sentence *John refuted the professor's arguments.*

(1) **SVO Order**

a. János megcáfolta a professzor érveit.

John refuted-3sg. the professor argument-3sg. poss.-pl.-acc.

**OVS Order**

b. A professzor érveit megcáfolta János.

the professor argument-3sg. poss.-pl.-acc. refuted-3sg. John
V-final Orders

c. János a professzor érveit megcáfolta.
   John the professor argument-3sg. poss.-pl.-acc. refuted-3sg.

d. A professzor érveit János megcáfolta.
   the professor argument-3sg. poss.-pl.-acc. John refuted-3sg.

V-initial Orders

e. Megcáfolta a professzor érveit János.
   refuted-3sg. the professor argument-3sg. poss.-pl.-acc. John

f. Megcáfolta János a professzor érveit.
   refuted-3sg. John the professor argument-3sg. poss.-pl.-acc.

It is this apparently complete parallelism between the syntactic distribution of subject-NPs and arguments of the verb shown above that has led to the hypothesis, developed most clearly in Kiss (1981), that Hungarian Ss are V-initial in the base, and it is only due to the application of a movement rule, namely "Topicalization," that any one of, and any number of these post-verbal phrases can appear in front of the verb in S-structure. What we will show here is that this kind of approach, namely one that fails to differentiate subject-NPs from the arguments of V on a structural basis in D-structure, runs into some severe problems.

First of all, even though all sentences in (1) are acceptable, a closer examination reveals a crucial difference between the interpretation of pre-verbal subject-NPs and that of pre-verbal object NPs, or of any other type of V-arguments. While a sentence like (1a), with the subject in S-initial position and the rest of the argument phrases in post-V position, is a "neutral" sentence in terms of its possible
discourse context—similarly to its English counterpart "John refuted the professor's arguments"—in a sentence like (1b), with an OVS order, the sentence-initial V-argument systematically has a "left-dislocation" interpretation, i.e., its most precise English translation would be: "(As for) the professor's arguments, John refuted them." Thus, given a question like, e.g., "What happened while I was not paying attention?" sentence (1a) would be an appropriate response. However, sentence (1b), and similarly all the other sentences with a V-complement phrase in a pre-verbal position, would constitute inappropriate answers to this question. Any approach, like that of Kiss (1981), that derives sentences like (1a) the same way as it derives (1b) and (1c, d)—namely, by a rule of "Topicalization" applying uniformly to subject-NPs and complements of the verb—would have no non-ad hoc way of accounting for the above difference in interpretation. The inadequacy of such an analysis can be demonstrated not only by appealing to the ill- vs. well-formedness of pieces of discourse but rather simply on the basis of the consideration of the acceptability of single sentences.

As has been established by Emonds (1970; 1976), to reach conclusions about deep structure "word order" on the basis of matrix clauses is often very misleading. Inferences can be drawn much more safely on the basis of the exploration of word order in various dependent clauses. In the case at hand, the consideration of sentences (1a-d) embedded as adverbial subordinate clauses yields interesting results. Notice the following acceptability judgments:
Irrespective of what particular analysis one proposes to account for the more "basic" status of dependent clauses, the conclusion relevant for our purposes is clear. The superficial similarity of distribution between subjects and non-subjects observable in root sentences (as well as certain complement clauses) breaks down immediately when we look at a range of subordinate clauses like the ones above. The asymmetries between subject-NPs in pre-verbal position and other arguments in pre-verbal position pointed out above receive a natural explanation if we assume that in contrast to the complements of V, subject-NPs are generated in a pre-verbal position by the base. In other words, Hungarian must be claimed to have—using traditional terminology—an "SVO"-type base. Under this hypothesis, all instances of pre-verbal
non-subject phrases would have to be assumed to be derived by the application of a movement transformation, call it "Topicalization," whereas in the case of subjects this would not be the case. If one conceives of "Topicalization" as a rule moving a major phrase to a non-argument position external to S that necessarily leaves in the original position of the moved phrase an operator-bound trace, i.e., a bound variable in Logical Form, yielding eventually a TOPIC interpretation, the SVO hypothesis automatically predicts the difference in interpretation observed. Notice that the fact that sentence (1a) could be interpreted as a Topicalized sentence constitutes no refutation of our hypothesis. It is merely a case of ambiguity at the level of surface structure, between an S-structure phrase-marker where the subject-NP appears in initial position inside of S (the non-topicalized reading) and an S-structure phrase-marker where the subject-NP appears in an S-external position, to the left of S (the topicalized reading). In fact, the structural difference seems to be manifested in a slight difference in the intonation pattern of the two sentences. If we accept the SVO hypothesis and also make the well-supported assumption that the domain of topicalization (either that of the rule itself or of its interpretation) is limited to particular types of clauses—namely, to "root" and "root-like" clauses (cf. Emonds (1976), Hooper and Thompson (1973), Grimshaw (1979)), the facts in (2) follow automatically. The adverbial clause does not permit "topicalization"; hence sentences (2b-d) are judged "strange" or unacceptable. Sentence (2a) is acceptable because
the S-initial subject-NP in its adverbial clause is not a result of topicalization, but has been base-generated there.

The existence of V-final orders in Hungarian with an unlimited number of phrases preceding (cf. sentence (1c)) can be attributed to the multiple application of Topicalization. The possibility of an arbitrary number of topicalized phrases in a sentence, incidentally, may be construed as support for viewing Topicalization—at least in the languages exhibiting this phenomenon—as an adjunction to S, in contrast to the analysis proposed in Chomsky (1977) based on English, which derives topicalized sentences through Wh-movement (cf. Baltin (1978) for a proposal of adjunction to S even for English).  

Under the SVO-base hypothesis, the occurrence of V-initial orders such as in (1e-f) requires in addition the postulation of a subject-postposing rule. This, however, is not an unlikely claim, taking into account the fact that subject postposing has been proposed—based on the study of the Romance languages—to occur freely in languages having "subject pronoun drop"—i.e., more neutrally, in languages permitting null subjects. Hungarian is a "null subject" language, as shown by the grammaticality of sentences like:

(3) a. Megérkeztünk.
   arrived-1pl.agr.
   'We (have) arrived.'

   b. Eladták az autójukat.
   away-gave-3pl.agr. the car-3pl. poss.-acc.
   'They (have) sold their car.'
Thus, as in languages like Spanish and Italian, one in fact would expect Hungarian to have free subject postposing.

A typical and presumably universal fact about languages with a base SVO-type order is that the verb and its complements constitute a constituent, traditionally called VP, and the subject NP is outside of this constituent in the phrase structure. The fact that Hungarian conforms to this typical pattern of SVO languages can be seen when we consider the distribution of S-adverbs (using the terminology of Jackendoff (1972)). So consider, e.g., the following versions of sentence (2a). (We are using adverbial embedded clauses for our test to exclude the possibility that the subject-NP is in a topicalized position.)

(4) a. Mindenki megépődött mikor János, minden várakozás ellenére, megcáfolta a professzor érveit. everybody surprised-got when John all expectation contrary-to refuted-3sg. the professor argument-3poss.-pl.-acc.

'Everybody was surprised when, contrary to all expectations, John refuted the professor's arguments.'

b. *Mindenki megépődött mikor János megcáfolta minden várakozás ellenére a professzor érveit. contrary-to the professor argument-3poss.-pl.-acc.

The above difference is immediately accounted for if we combine the independently established assumption that S-adverbs must be immediately dominated by S with the hypothesis that Hungarian has a VP and a hierarchically higher position—a left-sister to VP, dominated by S—for subject-NPs.
1.3. "Weak Crossover" as a Test for Configurationality of Phrase Structure

In addition to the arguments cited in the previous section, the phenomenon of "weak crossover" (cf. Wasow (1972), Chomsky (1976) for discussion) can be shown to provide some very striking empirical evidence in favor of the claim that subject-NPs—in contrast to other arguments—are base-generated to the left of the verb in Hungarian phrase structure, just as they are in, e.g., English. This is contrary to the a priori rather plausible alternative hypothesis developed in Kiss (1981), according to which Hungarian is a non-configurational, V-initial language. Crucially, under Kiss's analysis, all argument-types, i.e., subject-NPs as well as all other kinds of arguments, get to their preverbal surface position invariably by the application of a movement rule, namely, by Topicalization. (I am disregarding here the case of arguments that get interpreted as the (contrastive) FOCUS of their clause, because those are irrelevant for the point to be made below.)

Our argument is based on the fact that "weak crossover" is a phenomenon on the basis of which the presence and location of a variable in the LF representation of sentences can be detected, and on the fact that Topicalization is a rule that "leaves behind" a variable in the original position of the moved phrase (cf. Chomsky (1976; 1981)). To be more concrete, Chomsky (1976) establishes the following generalization regarding cases of "weak crossover":

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(5) A variable cannot be the antecedent of a pronoun to its left.
(cf. Chomsky (1976, 342))

Given this universal principle of anaphora, consider the following two pairs of sentences.

(6) a. A fiúk akiknek (7) matematikát tanított, nem szerették a professzort.
   the boys who-to hei mathematics-acc. taught not liked
   a professzorti. 'The boys whom hei taught mathematics
   the professori-acc. didn't like the professori.'

   b. *A fiúk akiknek (7) matematikát tanított, a professzorti
   the boys who-to hei mathematics-acc. taught the professori-acc.
   nem szerették.
   not liked ('The professori, the boys whom hei taught
   mathematics didn't like.')

(7) a. A professzort akitől (ok) matematikát tanultak, nem szerették a fiúk.
   the professor-acc. who-from theyi mathematics-acc. learnt
   not liked the boysi 'The professor who theyi took
   mathematics from, the boysi didn't like.'

   b. A professzort akitől (ok) matematikát tanultak, a fiúk, nem szerették.
   the professor-acc. who-from theyi mathematics-acc. learnt
   the boysi not liked 'The professor who theyi took
   mathematics from, the boysi didn't like.'

Sentence (6a) exhibits an interpretation in which a relation of anaphora holds between the pronoun in the relative clause and the NP coindexed with it, namely, the object-NP. In the corresponding sentence (6b), however, no such interpretation is available. The pronoun in this sentence cannot be "proximate," only "obviative," i.e., it can be interpreted only as referring to someone whose identity is established
elsewhere. The only difference between (6a) and (6b) is that in (6b) the object-NP appears to the left of the main verb, whereas in (6a) it is in a post-verbal position. The most reasonable proposal is to say that in (6b), the object-NP has been Topicalized, and thus in its original post-V position, we have a variable in LF-representation.

Given now that the pronoun in question would be to the left of the variable left by the preposed object-NP, by "weak crossover" (cf. generalization (5)), we get the non-coreference fact observed. Thus, what the contrast between (6a) and (6b) establishes is that object-NPs in Hungarian are generated only in post-V position by the base.

Notice that this state of affairs is still consistent both with Kiss's (1981) hypothesis regarding the phrase structure of Hungarian and with the hypothesis argued for above, because under both conceptions, pre-V object-NPs would be generated in post-verbal position, and would get to their S-structure position by the application of a movement rule "leaving behind" a variable.

The crucial test-case bringing out the difference in empirical consequences between two hypotheses is provided by sentences (7). These sentences are structurally parallel to sentences (6), with one important difference: in sentences (7a) and (7b), it is the subject-NP rather than the object-NP that we are testing for being a possible antecedent to the pronoun in the relative clause. Under Kiss's analysis, which posits a non-configurational V-initial phrase structure for Hungarian, subject-NPs would be base-generated uniformly in post-V position, and
any instance of a (non-focused) subject-NP occurring to the left of V (such as in (7b)) would be claimed to have undergone Topicalization, just like pre-verbal non-subjects. Thus, Kiss's hypothesis about Hungarian phrase structure would clearly predict that sentence (7b)—in contrast to (7a)—will exhibit the application of "weak crossover," precisely as sentence (6b) does, and would have no interpretation under which the allegedly preposed subject-NP is anaphoric to the pronoun in the relative clause. What we see from the data, however, is that sentence (7b) can in fact have an interpretation under which the pronoun is proximate and its antecedent is the subject-NP. Under Kiss's theory, the absence of "weak crossover" effects in sentences like (7b) is an unexpected anomaly. In contrast, the hypothesis of base-generating subjects in a configurational pre-V subject position that we have proposed in the previous section predicts the contrast observed between the options for the interpretation of (6b) and (7b) without any further stipulations. The asymmetry between pre-V object-NPs (as in (6b)) and pre-V subject-NPs (as in (7b)) with respect to triggering "weak crossover" effects follows simply from the assumption that whereas pre-V object-NPs have necessarily undergone Topicalization, and hence have a variable in their D-structure position in LF, pre-V subject-NPs are base-generated in their surface position rather than being moved there by Topicalization. Consequently, there is no variable in post-V position corresponding to subject-NPs, and so "weak crossover" (i.e., principle (5)) has no chance to apply in these cases.
Beyond showing that Hungarian is a configurational language with an SVO-type phrase structure, the above discussion has some broader theoretical implications too. In the recent linguistic literature, languages tend to be declared "non-configurational" simply on the basis of the observation that all, or at least a large majority of logically possible linear orderings of their constituents give well-formed sentences. The case of Hungarian underscores the fact that an apparent "total freedom of word order" in itself is not sufficient justification for postulating a non-configurational base for a language. In order to establish whether a particular language is configurational or non-configurational, a theoretically deeper analysis is called for. The phenomenon of "weak crossover," applied in the way shown above, provides such a "deeper" test, separating truly non-configurational languages from languages in which freedom of "word order" results from other properties of the grammar. Notice also that the existence of such a dichotomy between superficially "free word order" languages is completely consistent with the conception of UG as a modular system.

1.4. Wh-Movement

After having established that Hungarian has a configurational SVO-type phrase structure—or, more correctly, an SVX-type phrase structure (with X ranging over an arbitrary sequence of complement phrases), we can turn to the exploration of some movement processes that will be of theoretical interest.
According to a commonly proposed universal, SVO languages with a clause initial complementizer, such as Hungarian, typically exhibit "COMP-attraction" rules, i.e., a class of movement rules substituting or, according to an alternative rule, adjoining constituents to the COMP node, which is, arguably, a left sister to S (dominated by 3).

(On COMP and "COMP-attraction" rules, cf. Bresnan (1970; 1972), Emonds (1976), Baltin (1978)). Relativization in Hungarian exhibits precisely the properties expected. Consider the following relative clause constructions:

(8) a. A gyerek akik  a tanár kiküldött  a szobából the child who acc. the teacher out-sent-3sg. the room-from elkezdett  sírni. began-3sg. cry-Inf. 'The child whom the teacher had sent out of the room began to cry.'

b. Találtam egy házat amiben Mari imádna found-1sg. a house-acc. Mary love-conditional-3sg. lakni  live-Inf. 'I found a house that Mary would love to live in.'

c. Ez az a hely ahol Attila elveszette az óráját this that the place where Attila lost-3sg. the watch-3sg. 'This is the place where Attila lost his watch.'

d. János találkozott a lánnal akiktől az öccse John met-3sg. the girl-with from the brother-3sg. poss. kölcsönkért 20 dollárt borrowed-3sg. 20 dollar-acc. 'John met the girl from whom his brother had borrowed 20 dollars.'

The relative pronouns of Hungarian are morphologically distinct from the regular personal or demonstrative pronouns of the language,
just as they are in English. Furthermore, the form of relative pronouns is basically identical to the form of the set of interrogative pronouns, again as in English, the only difference being that (at least in standard, colloquial Hungarian) relative pronouns, but not interrogative pronouns, contain a prefix a- attached to them. This morpheme a- is the phonologically reduced bound form of the demonstrative pronoun az 'that', or more precisely—as we will argue later in this section—of the complementizer that developed from this demonstrative pronoun. 9

E.g.:

(9) ki 'who?' aki 'who (Rel.)'
    mi 'what?' ami 'what (Rel.)'
    melyik 'which?' amelyik 'which (Rel.)'
    hol 'where?' ahol 'where (Rel.)'

Because of these basic similarities with the set of relative pronouns in English, I will refer to relative pronouns in Hungarian also by the form "Wh-words."

What will be shown first below is that relative clause formation in Hungarian involves Wh-movement (in the same sense as it does in English). In other words, we can assume that there exists in Hungarian a transformation that moves Wh-phrases into COMP-position, the same way as in English. This conclusion is based on the type of criteria for Wh-movement that is outlined in Chomsky (1977). More concretely, consider the following facts about the possible "distance" between relative Wh-pronouns and the "gaps," i.e., their D-structure positions, to be
associated with them:

(10) a. A férfi akinek\textsubscript{1} hallottam hogy Mari végre bemutatta the man whom-to\textsubscript{1} heard-1sg. that Mary finally introduced-3sg. a húgodat \textsubscript{t\textordmasculine{i}} eltűnt. the sister-2sg. poss.-acc. \textsubscript{t\textordmasculine{i}} disappeared-3sg.

'The man who I heard that Mary finally introduced your sister to disappeared.'

b. *A férfi akinek\textsubscript{1} hallottam a hírt hogy Mari végre the man whom-to\textsubscript{1} heard-1sg. the news that Mary finally bemutatta a húgodat \textsubscript{t\textordmasculine{i}} eltűnt. introduced-3sg. the sister-2sg. poss.-acc. \textsubscript{t\textordmasculine{i}} disappeared-3sg.

('The man whom I heard the news that Mary finally introduced your sister to disappeared.')

c. Ez az a lány akitől\textsubscript{1}; János azt hitte hogy this that the girl whom-from\textsubscript{1} John it-acc. believed-3sg. that mindenki tudta hogy az öccse everybody knew-3sg. that the brother-3sg. poss. borrowed-3sg. 20 dollárt \textsubscript{t\textordmasculine{i}}. 20 dollars-acc. \textsubscript{t\textordmasculine{i}} 'This is the girl from whom John thought everybody knew that his brother had borrowed 20 dollars.'

d. *Ez az a lány akitől\textsubscript{1}; János azt hitte hogy this that the girl whom-from\textsubscript{1} John it-acc. believed-3sg. that mindenki tudta a ténnyt hogy az öccse everybody knew-3sg. the fact-acc. that the brother-3sg. poss. kölcsönkért 20 dollárt \textsubscript{t\textordmasculine{i}}. borrowed-3sg. 20 dollars-acc. \textsubscript{t\textordmasculine{i}} ('This is the girl from whom John thought that everybody knew the fact that his brother had borrowed 20 dollars.')

Examples (10a) and (10c) show that relativization in Hungarian involves an "unbounded" process, in the sense that it seems to apply over an arbitrary number of clauses, in apparent violation of the opacity conditions, i.e., the Specified Subject Condition (SSC) and the Nominative
Island Condition (NIC), and Subjacency (cf. Chomsky (1977; 1980a)). At the same time, the operation clearly observes the Complex-NP Constraint (Ross (1967)) as demonstrated by the unacceptability of sentences (10b) and (10d). These properties are precisely the ones noted by Chomsky (1977) as the set of identifying criteria for the rule of Wh-movement in English. Because the criterion regarding the application of the "Wh-Island Constraint" (cf. Ross (1967)) is not testable on the basis of Relativization alone, we will return to this issue after our discussion of Wh-question formation. Notice that non-movement rules such as rules of "construal," associating anaphors and their antecedents by co-indexing (e.g., reciprocal interpretation, etc.) do not exhibit the "unboundedness" of the operation involved in sentences (10a) and (10c).

Although other types of interpretive rules, such as the ones involved in associating resumptive pronouns with their antecedents in relative clauses in languages like, e.g., Modern Hebrew (cf. Borer (1978)), or the one interpreting "left dislocated" phrases in English, are unbounded, in contrast to Hungarian relativization and other (alleged) movement rules, they violate the Complex-NP Constraint too. (For a discussion of the properties of "construal" rules, "rules of predication" and "movement" rules, cf. Chomsky (1976; 1977).) In the next section we will establish what the landing site of this Wh-movement rule is in Hungarian.
1.4.1. COMP: The Landing Site of Relativization

Our claim is that the landing site of Wh-movement applying in the Hungarian relative clause construction is the COMP node, as it is in its English counterpart. This claim is based on the following three observations.

a. The relative pronoun (i.e., the Wh-word) must appear in absolute initial position in the relative clause. Even though topicalization can apply in relative clauses in Hungarian, all topicalized phrases must follow the relative pronoun. Considering topicalization as a process adjoining maximal phrasal categories to the left boundary of S (as proposed in Baltin (1978) and suggested also in section 1.2 above, based on the facts of Hungarian), this strict ordering restriction between relative Wh-phrases and topicalized phrases would immediately follow from the assumption that the landing site of Wh-movement is the COMP node.

b. The general complementizer introducing tensed embedded clauses in Hungarian—corresponding to that in English—is the morpheme hogy, as shown, e.g., by a sentence like:

(11) A ténny hogy Attila becsapta Marit meglepett.
the fact that Attila cheated Mary-acc. surprised-3sg.-1sg. obj.
'The fact that Attila had cheated Mary surprised me.'

We are assuming that the complementizer hogy occurs in the COMP-node.

Notice now that the application of relativization precludes the occurrence of this "neutral," general complementizer. Consider, e.g., the
following versions of (8a) and (10a) respectively:

(12) a. *A gyerek \( \{ \text{hogy akik} \} \) a tanár kiküldött a szobából the child \( \{ \text{akit hogy} \} \) the teacher out-sent-3sg. the room-from that who-acc. who-acc. that elkezdett sírni. began-3sg. cry-Inf.

b. *A férfi \( \{ \text{hogy akinek} \} \) hallottam hogy \( \text{Mari végre} \) the man \( \{ \text{akinek hogy} \} \) heard-1sg. that Mary finally that who-to who-to that bemutatta a húgodat introduced-3sg.-def. obj. the sister-2sg. poss.-acc. eltünt. disappeared-3sg.

If we assume that the landing site of Wh-movement is the COMP-node, this phenomenon can be accounted for in a straightforward way by an independently motivated local filter needed in a large number of languages, namely by the "doubly filled COMP" filter proposed in Chomsky and Lasnik (1977). Chomsky and Lasnik formulate the filter (filter (53)) as follows:

\[
(13) *[\text{COMP} \text{ Wh-phrase } \Phi], \Phi \neq e
\]

As will become clear from the discussion following in point (c) below, it seems that, contrary to the tentative claim made in Chomsky and Lasnik (1977) to the effect that Wh-movement (at least in English) is a left adjunction to COMP, in Hungarian there is indication that the landing site of the Wh-movement rule established above is to the right of the complementizer. The claim of right rather than left adjunction
for Wh-movement is made also with respect to Spanish by Jaeggli (1980a). In order to leave open the possibility of language-particular variation with respect to the position of Wh-phrases in COMP relative to the complementizer and at the same time still be able to capture the non-cooccurrence of Wh-phrases and complementizers in COMP in a unified way, we propose the following revised version of Chomsky and Lasnik’s filter (53):

\[(14) \quad \ast_{\text{COMP}} \phi \text{ Wh-phrase } \psi], \quad \phi \neq e \text{ or } \psi \neq e\]

c. The third piece of evidence arguing for COMP as the landing site of Wh-phrases in Hungarian relative clauses has to do with the analysis of the morpheme \(\text{a-}\) attached to all Wh-words in the relative construction. As pointed out above, \(\text{a-}\) comes from the morpheme \(\text{az}\), which is identical to, or at least is a homophone of, the third person inanimate pronoun \(\text{az} \ 'it'\), the demonstrative pronoun \(\text{az} \ 'that'\), and the definite article \(\text{az} \ 'the'\). The obvious question to ask is what is the status of this morpheme \(\text{az}\) appearing in the relative construction, i.e., what category it belongs to, where it is generated in D-structure, and how it gets to its obligatorily clause-initial position in S-structure. Two plausible hypotheses suggest themselves.

i. \(\text{az}\) is a complementizer, base generated in the COMP position, just as \(\text{hogy} \ 'that'\) is.

ii. \(\text{az}\) is generated in the specifier of the NP along with the Wh-morpheme. It gets moved to clause-initial position together
with the rest of the phrase by the Wh-movement rule.

At first glance, hypothesis (ii) may seem to be the more attractive alternative, for in a sense it represents the null hypothesis. It implies that the \textit{az} in relative clauses is identical to the regular definite determiner occurring in non-Wh noun phrases. No complementizer \textit{az} would need to be postulated. Considering, however, the actual facts of Hungarian, hypothesis (ii) turns out to be empirically inadequate.

Hungarian verbs, in addition to bearing morphological agreement with the subject-NP of their clause, agree through inflection also with their direct objects. The crucial feature on which this agreement process is based is the definiteness of the direct object-NP. To be more specific, verbs in Hungarian have traditionally been described as having two conjugations, namely, a definite (or "objective") conjugation and an indefinite (or "subjective") conjugation (cf. Tompa (1961), Vago (1980, Chapter 3), and Szamosi (1974)). The verb appears in the definite conjugation when it has a definite direct object (i.e., the object-NP has a definite article or a demonstrative, is a proper noun, or a genitive expression). In all other cases the verb appears in the indefinite conjugation. The fact crucial for our present argument is illustrated by the following contrasts:

(15) a. A tanár kiküldte a gyereket a szobából.
the teacher out-sent- the child-acc. the room-from
3sg. subj.- 3rd def. d.o.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
'The teacher sent the child out of the room.'

b. *A tanár kiküldött a gyereket a szobából.
   the teacher out-sent- the child-acc. the room-from
   3sg. subj.-
   indef. conj.

(16) a. A tanár kiküldött egy gyereket a szobából.
   the teacher out-sent- a child-acc. the room-from
   3sg. subj.-
   indef. conj.

'The teacher sent a child out of the room'

b. *A tanár kiküldte egy gyereket a szobából.
   the teacher out-sent- a child-acc. the room-from
   3sg. subj.-
   3rd def. d.o.

Given the above facts, let us examine the verb agreement exhibited when the direct object is relativized.

(17) a. *A gyerek akit; a tanár kiküldte tis a
   the child who-acc. i the teacher out-sent- tis the
   3sg. subj.-
   3rd def. d.o.
   szobából ...
   room-from ...
   'The child whom the teacher sent out of the room ...'

b. A gyerek akit; a tanár kiküldött tis a
   the child who-acc. i the teacher out-sent- tis the
   3sg. subj.-
   indef. conj.
   szobából ...
   room-from ...

The examples in (17) manifest the general phenomenon that relativized direct objects occur with indefinite agreement; the definite conjugation with a relativized direct object yields ungrammatical results. 11 This state of affairs lends itself to two alternative
explanations.

a. One can assume that contrary to hypothesis (ii), relativized Wh-phrases do not contain the definite article *az* in their specifier in D-structure, but rather, like Wh-phrases in general, are indefinite. (On the indefinite nature of interrogative Wh-phrases, cf. Chomsky (1964), Bach (1971).) Hence the obligatorily indefinite agreement on the verb in (17).

b. Alternatively, we can maintain hypothesis (ii), i.e., continue considering relative Wh-phrases as definite, and claim that the fact that relativized definite direct objects fail to trigger definite agreement is due to their being moved out of their D-structure position. More precisely, making the reasonable assumption that the agreement rule applies at S-structure, it may be claimed that traces do not "inherit" the definiteness feature, or more generally, any feature of the moved phrase. Thus, because the trace of the relativized object-NP is invisible to the agreement rule, the verb appears in the indefinite conjugation, just as if it had not had a direct object at all.

Although there is no *a priori* reason to exclude either of these explanations, it can be argued, based on the interaction of object agreement with other movement rules, that alternative (b) is not a viable account for the indefinite agreement in sentences like (17b). Consider, for instance, the interaction of object agreement and the topicalization rule mentioned in section 1.2.:
(18) a. A gyereket, a tanár \{ \texttt{kiküldte} \} \text{t}_i \text{a} \text{the child'acc.} \text{the teacher} \{ \texttt{out-sent-3sg. subj.-} \text{3rd def. d.o.} \} \text{t}_i \text{the} \text{szobából.} \text{room-from} 'The child, the teacher sent out of the room.'

b. Egy gyereket a tanár \{ \texttt{kiküldött} \} \text{t}_i \text{a} \text{a child'acc.} \text{the teacher} \{ \texttt{out-sent-3sg. subj.-} \text{indef. conj.} \} \text{t}_i \text{the} \text{szobából.} \text{room-from}

As shown by examples (18), the direct object moved by Topicalization triggers object agreement, just as if it were in its D-structure position. The same point can be made with respect to other movement rules too, such as, e.g., the FOCUS-movement rule, to be introduced later in this study. Thus, unless we want to say that the Wh-movement rule involved in relativization has some mysterious special status manifested in the failure to trigger object agreement, as opposed to all other movement rules, we must abandon explanation (b) for the facts shown in (17) and claim that Wh-objects (and Wh-phrases in general) are [-Definite] in their D-structure position in the relative construction (cf. explanation (a) above). This makes hypothesis (ii) regarding the source of the morpheme \textit{a-} in relative clauses—namely, the hypothesis that it is generated as a definite article on the Wh-NP—untenable.
The above line of argument leads us to accept the only other plausible alternative: hypothesis (i). Recall that hypothesis (i) states that ad is generated as a complementizer in the COMP node, and implies that it gets attached to the Wh-phrase, i.e., undergoes a contraction rule resulting eventually in the surface form a-, after the application of Wh-movement. This conclusion in turn provides us with our third argument for the claim that the landing site of Wh-phrases in Hungarian relative clauses is the COMP node. The rule of z-deletion before a consonant applies, obligatorily, to the morpheme ad uniformly, i.e., irrespective of what syntactic category it belongs to. Crucially for our argument, there is one general constraint on the application of this rule. It applies only between elements that are constituents of the same minimal major category. This generalization is necessary to account for the following facts:

(19) z-Deletion applies:

a. \([\text{NP}_\text{Det} \text{az}]_\text{N} \text{ház}] \rightarrow \text{a ház} \quad \text{(cf. *az ház 'the house' but az agy 'the brain')}

b. \([\text{pp}_\text{NP} \text{az}]_\text{p} \text{mögött}] \rightarrow \text{amögött} \quad \text{(cf. *azmögött 'behind it/that' but azelőtt 'before it/that')}

(20) z-Deletion does not apply:

a. \([\text{S}_\text{NP} \text{az}]_\text{VP} \text{ülyed}] \rightarrow \text{Az ülyed.} \quad \text{(cf. *A ülyed.)}

\quad \text{it/that sink-3sg. 'It/that is sinking.'}

b. \([\text{NP}_\text{N} \text{az}]_\text{S} \text{hogy \text{S} \text{Mari sőr}] \rightarrow \text{Az hogy Mari sőr ...} \quad \text{(cf. *A hogy Mari sőr ...)}

\quad \text{it that Mary cry-3sg. 'That Mary is crying ...}
Now the fact that the complementizer az does undergo z-deletion in relative clauses, due to the initial consonant of the Wh-word, together with this "locality" constraint on the application of z-Deletion, provides very strong empirical evidence for the claim that relative Wh-phrases move to the COMP position, rather than, say, to a position inside of S or Chomsky-adjoined to S.

1.4.2. Wh-Question Formation and Its Landing Site

Having established in the previous sections that Hungarian has a Wh-movement rule operating in relative clause constructions, it is not surprising that Wh-question Formation also seems to involve the transformational movement of a Wh-phrase. Consider first the following Wh-questions, appearing in a variety of structural positions:

(21) a. Mari kinek, vett egy könyvet t₁ ajándékba?
    Mary who-tó bought-3sg. a book-acc. t₁ present-into
    'Who did Mary buy a book as a present?'

    or:

    b. Kinek, vett Mari egy könyvet t₁ ajándékba?
       who-tó bought-3sg. Mary a book-acc. t₁ present-into

(22) a. Nem emlékszem hogy Attila mennyi pénzt₁ vett
    not remember-1sg. that Attila how much money-acc.₁ took-3sg.
    ki t₁ a pénztárcámból.
    out t₁ the wallet-1sg. poss.-from
    'I don't remember how much money Attila took out of my wallet.'

    or:

    b. Nem emlékszem hogy mennyi pénzt₁ vett ki
    not remember-1sg. that how much money-acc.₁ took-3sg. out
    Attila t₁ a pénztárcámból.
    Attila t₁ the wallet-1sg. poss.-from
(23) a. A kérdés hogy János mivel dicsekedett t₁ nem the question that John what-with bragged not érdekel.

interest-3sg.-1sg. obj. 'The question of what John bragged about does not interest me.'

or:

b. A kérdés hogy mivel dicsekedett János t₁ nem the question that what-with bragged John t₁ not érdekel.

interest-3sg.-1sg. obj.

Similarly to the case of relativization, the rule involved in Wh-question formation in Hungarian exhibits the properties characteristic of instances of the rule of Wh-movement (cf. Chomsky (1977)).

(24) a. Kinek hallottad hogy Mari vett egy könyvet t₁ who-to₁ heard-2sg. that Mary bought-3sg. a book-acc. t₁ ajándékba?
present-into 'Who did you hear Mary bought a book as a present?'

b. Mennyi pénzt gondolod hogy Mari mondott hogy how much money-acc.₁ think-2sg. that Mary said-3sg. that Attila kivett a pénztárcából?
Attila out-took-3sg. t₁ the wallet-1sg.-poss.-from

'How much money do you think Mary said Attila had taken from my wallet?'

It leaves a gap, and it can apply over an apparently unbounded domain, seemingly violating the Opacity Condition and Subjacency. It does, however, observe the Complex-NP Constraint, as shown by the example below:

(25) *Kinek hallottad a hírt hogy Mari vett egy who-to₁ heard-2sg. the news-acc. that Mary bought-3sg. a
könyvet\textsubscript{1} ajándékba? 
book-acc.\textsubscript{1} present-into ('Who did you hear the news that Mary bought a book as a present?')

Thus, by the same argument that we relied upon in the case of relativization, the rule for Wh-question formation too must be considered an instance of the Wh-movement transformation.

This seems to represent a rather common state of affairs in languages: both Relativization and Wh-question formation involve essentially the same set of special pronominal forms, namely "Wh-words," and in both constructions these Wh-words undergo a movement transformation. There is one fact, however, that makes the case of Hungarian markedly different from the familiar English-type pattern: it can be argued that the landing sites of moved Wh-phrases are systematically distinct in the phrase structure of Hungarian depending on whether the construction in question is a Relative Clause or a Wh-question. Before we turn to the actual argumentation, consider first the general theoretical significance of such a situation.

Since Bresnan's (1970) COMP Substitution Universal, it has been tacitly assumed in the generative literature that if a language has Wh-morphemes, a clause-initial COMP node, and a movement rule applying to the Wh-phrases, then the landing site for this movement is invariably the left sister-node to S dominated by S', namely, the COMP node. This assumption certainly seems justified, for instance, in the case of English, because the claim that Wh-phrases in relative clauses and

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Wh-phrases in questions move into the same structural position is crucial for the explanation of a range of major empirical phenomena (such as the Wh-Island effects). The fact that Wh-phrases appear in the same syntactic position in S-structure irrespective of the particular construction type involved provides rather nice confirmation of the thesis of the autonomy of syntax. By the same token, a language—as Hungarian will be argued to be—in which Wh-question and Wh-relative phrases occur in systematically different positions in surface structure would seem to constitute counter-evidence to the autonomy of syntax thesis. Notice, however, that in order to construe such a case as a "refutation" of the autonomy thesis, one crucially must show first that the observed distribution of Relative Wh-phrases vs. Question Wh-phrases does not follow from any independently motivated principle of the grammar, such as, e.g., constraints on interpretation, but rather it indeed must be stipulated in the movement rules themselves. What we will argue later, in the next chapter, is that there does in fact exist in the grammar of Hungarian an independently motivated principle (namely, a structural constraint on FOCUS assignment) that—given some reasonable additional assumptions—will make the difference observed between the landing sites of Wh-Relative and Wh-Question phrases fall out automatically, thus rendering this potential counter-example consistent with the autonomy of syntax thesis in an interesting way.

Looking at the phenomenon of the two systematically distinct landing sites for Wh-movement from a slightly different angle, we must
note that although this state of affairs is highly unlikely under a
theory in which the landing site of movements had to be specified in
the Structural Change of the individual transformations, in the frame-
work of the Extended Standard Theory (as outlined in works such as
Chomsky (1976; 1977), Chomsky and Lasnik (1977)), with radically
impoverished syntactic transformations, such as 'Move Wh' and 'Move NP,'
and with interpretive rules applying to S-structures to derive repre-
sentations in LF, there is in fact no a priori reason to expect that
any particular rule (in this case Wh-Movement) will necessarily move
phrases into one single structural position. In a Standard Theory-type
framework, the fact that relative Wh's and interrogative Wh's appear in
different positions in S-structure would have necessitated the postula-
tion of two separate Wh-Movement rules. On the other hand, in a theory
that can dispense with the specification of target nodes in the state-
ment of particular movement rules, the unitary nature of Wh-movement
can in principle be maintained even in such cases. In fact, the lack
of a consistent one-to-one correspondence between particular movement
rules and particular landing sites—exemplified by Wh-movement in
Hungarian—is anticipated in the EST framework.

Given this perspective, let us turn now to the actual evidence
indicating that the target node of Wh-question movement in Hungarian is
indeed distinct from the target node of Relative-Wh movement, i.e., that
the target node of Wh-Q phrases is not the COMP node.
Compare the following near "minimal pair" of a Relative Clause and an embedded Wh-question:

(26) a. A gyerek akit, a tanár kiküldött a szobából the child who-acc.i the teacher out-sent the room-from elkezdett sígni. began-3sg. cry-Inf. 'The child whom the teacher (had) sent out of the room began to cry.'

b. A kérdés hogy a tanár kit, küldött ki a the question that the teacher who-acc.i sent out the szobából nem érdekel. room-from not interest-3sg. subj. 'The question of who the lsg. obj. teacher (had) sent out of the room doesn't interest me.'

A number of major differences are observable between the embedded clauses of (26a) and (26b). First, notice the position of the subject-NP (a tanár 'the teacher') with respect to the Wh-phrase. Whereas relative Wh-phrases—as we pointed out earlier—must precede the subject, and in fact must always be clause-initial, interrogative Wh-phrases (as in (26b)) appear after the subject-NP. Even though interrogative Wh-phrases can also occur in clause-initial position (as we saw in examples (21b), (22b), and (23b)), the point we are making here is that they do not have to occur there (cf. (21a), (22a), and (23a)). (In fact, the only time when an interrogative Wh-phrase can appear in clause-initial position is when it gets fronted together with the V of its clause. An alternative analysis for Ss like (21b), (22b), and (23b) would be to attribute the post-V position of the subject simply to the subject-postposing rule applying freely in any S. The choice
between these two alternatives is clearly an empirical issue, but I will not try to resolve it here, because for our present argument it is not crucial in any way.)

The second relevant observation about sentences (26a) and (26b) has to do with the general complementizer høgy 'that'. As we have shown previously (cf. examples (12a) and (12b)), Wh-phrases in Relative Clauses cannot co-occur with høgy. We proposed to account for the obligatory absence of this complementizer in Relative Clauses by the "doubly filled COMP" filter (formulated as filter (14)). The surprising fact about embedded Wh-questions is that they exhibit absolutely no limitation on the occurrence of the complementizer høgy, as shown, e.g., by (26b). The complementizer høgy in embedded Wh-questions has precisely the same distribution as it does in embedded declaratives. This holds true even in Wh-questions in which the Wh-phrase is clearly clause-initial in linear order, as shown, e.g., by the occurrence of høgy in the embedded questions of (22b) and (23b). Obviously, the "doubly filled COMP" filter (filter 14) has no effect in the case of fronted Wh-question phrases.

The above two superficially unrelated differences between Relative Clauses and embedded Wh-questions (cf. (26a) vs. (27b)) both follow automatically if we assume that while Wh-phrases in Relative Clauses are moved into COMP, as we have argued in detail previously, Wh-phrases in questions get moved to a position outside of COMP. Such a hypothesis would obviously be able to accommodate the difference observed in the
position of the Wh-phrase with respect to the subject-NP in the two
types of Wh-constructions. At the same time, given the "doubly filled
COMP" filter (as formulated in (14)), this hypothesis would also account
for the free co-occurrence of Wh-question phrases with the complementi-
zzer hogy simply by virtue of the fact that the Structural Description
of the filter would never be met in embedded questions, as opposed to
Relative Clauses, so that it would never have a chance to apply to
Question-Wh phrases. Notice that under the assumption that Relative
and Interrogative Wh-phrases have the same landing site in Hungarian,
namely the COMP node in both cases, the above facts relating to the
complementizer hogy would necessitate the addition of an ad hoc
"unless-condition" to filter (14), and would require that the filter
distinguish somehow between relative Wh-phrases vs. interrogative ones.

The hypothesis argued for above—namely, that Wh-phrases in
relative clauses move into the COMP node, whereas Wh-phrases in ques-
tions move into a position inside of S—can be further tested on the
basis of sentences involving topicalization. Considering topicalization
to be an adjunction to the left boundary of S, as argued in Baltin
(1978) and also in section 1.2 above, our hypothesis about the landing
sites of Wh-movement in Hungarian predicts that (a) any topicalized
phrase in a relative clause will necessarily follow the relative Wh-
phrase in linear order, and (b) any topicalized phrase in a Wh-question
will necessarily precede the interrogative Wh-phrase. These predictions
are clearly borne out by the data:
(27) Relative Clauses

a. A gyerek akit, a szobából a tanár kiküldött
   the child who-acc. the room-from, the teacher out-sent
   \[ T_i \ T_i \ \ldots \]
   \[ T_i \ T_j \ \ldots \ ('The child whom from the room the teacher sent out ...') \]

but:

b. *A gyerek a szobából akit, a tanár kiküldött
   the child the room-from, who-acc. the teacher out-sent
   \[ T_i \ T_i \ \ldots \]
   \[ T_i \ T_j \ \ldots \]

(28) Wh-Questions

a. A szobából a tanár kit, küldött ki a tanár
   the room-from, the teacher who-acc. sent out the teacher
   \[ T_i \ T_i \]
   \[ T_i \ T_j \]
   ('From the room, whom did the teacher send out?')

or:

b. A szobából kit, küldött ki a tanár
   the room-from, who-acc. sent out the teacher
   \[ T_i \ T_i \]
   \[ T_i \ T_j \]

but:

c. *A tanár kit, a szobából küldött ki kiküldött
   the teacher who-acc. the room-from. sent out out-sent
   \[ T_i \ T_i \]
   \[ T_i \ T_j \]

d. *Kit, a szobából küldött ki a tanár
   who-acc. the room-from. sent out the teacher
   \[ T_i \ T_i \]
   \[ T_i \ T_j \]

The obvious question to ask at this point, of course, is the following. If the landing site of interrogative Wh-phrases is not the COMP node—as it is for relative Wh-phrases in Hungarian and for both relative and interrogative Wh-phrases in languages like English—then what is it?

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There is an additional, rather striking difference between relative clauses and Wh-questions in Hungarian, observable in our examples (26a, b), which we have not referred to yet. This phenomenon, which involves the distribution of a particular subset of V-complements, will help us determine what the precise position of interrogative Wh-phrases is in surface structure.

Notice first that in sentence (26a), the verb in the relative clause has a directional particle (ki 'out') preceding it. In the corresponding embedded question in (26b), however, the same particle appears in post-verbal position. This difference between relative clauses and Wh-questions is not random; rather, it represents part of a systematic pattern. The basic descriptive generalization is that in Wh-questions, verb-particles consistently appear in post-verbal position, even though in the corresponding relative clause, they occupy the immediate pre-verbal position. An additional instance of this phenomenon is given in (29)-(30) below:

(29) a. Az edények amiket\textsubscript{\text{which-pl.-acc.}}\textsubscript{1} Mari levett\textsubscript{1} a polc\textsubscript{t}\textsubscript{1}ról\textsubscript{1} the dishes\textsubscript{1} Mary down-took\textsubscript{1} the shelf-from\textsubscript{1}  
...\textquoteleft The dishes that Mary took off from the shelf ...'  

b. *Az edények amiket\textsubscript{\text{which-pl.-acc.}}\textsubscript{1} Mari vett le\textsubscript{1} a polc\textsubscript{t}\textsubscript{1}ról\textsubscript{1} the dishes\textsubscript{1} Mary took down\textsubscript{1} the shelf-from\textsubscript{1}  
...\textquoteleft  

vs.

(30) a. Mari mit\textsubscript{\text{what-acc.}}\textsubscript{1} vett le\textsubscript{1} a polc\textsubscript{t}\textsubscript{1}ról?\textsubscript{1} Mary took down\textsubscript{1} the shelf-from

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'What did Mary take off from the shelf?'

b. *Mari mit\textsuperscript{1} levett \textsubscript{T} a polcröl?
Mary what-acc\textsubscript{1} down-took \textsubscript{T} the shelf-from

In the next section, we will examine the set of elements exhibiting the behavior exemplified by the particle ki 'out' in sentences (26) and the particle le 'down' in sentences (29)-(30) above, and argue for a particular assumption about the phrase structure of VP in Hungarian. This in turn will be shown to be of crucial relevance for the determination of the surface position of interrogative Wh-phrases.

1.5. A "Pre-V" Node in VP and the Constituent V'

Hungarian has a set of verb-particles, referred to in traditional grammars of the language as "verbal prefixes" or "preverbs." Some examples of them are: be 'into'; ki 'out'; le 'down'; fel 'up'; el 'away'; etc. In terms of their semantic functions, these morphemes are very similar to verb-particles in English or German. Their most productive functions are directional adverbial functions, such as, e.g.,

\begin{align*}
\text{in: } & \text{behoz 'bring in'; kimegy 'go out'; felmászik 'climb up'. In addition, they perform a large number of meaning modifications on verbs that are idiosyncratic to various degrees, including some completely idiomatic, unpredictable meaning modifications. Some examples of this latter extreme are: räjön 'realize'; elad 'sell'; kiad 'rent out'; felad 'give up'; bemutat 'introduce'. (For more discussion and}
\end{align*}

\text{up-give into-show}
examples, cf. Tompa (1961, 261-267).)

In Horvath (1978b), I have provided detailed argumentation to the effect that "verbal prefixes" should not constitute a separate syntactic category, but rather should be assigned to the category P. My claim that "verbal prefixes" are in fact intransitive postpositions in Hungarian, i.e., that they are generated in the structure $[\text{pp}_{[p\ldots]}]$, is based primarily on a variety of distributional phenomena in terms of which "verbal prefixes" manifest complete parallelism with some (transitive) postpositional phrases. Here, we will restrict ourselves to what is relevant to the subsequent discussion, namely, to demonstrating that the phenomenon we pointed out at the end of the previous section regarding the "verbal prefix" ki 'out' in sentences (26a, b) extends to a much larger set of elements than just the class of "verbal prefixes."

Consider the following pairs of relative clauses and Wh-questions.

(All sentences are under neutral, normal intonation here.)

(31) Relative Clause

a. Az edények amiket, Mari az asztalra tett t₁ ...  
the dishes which-pl.-acc. Mary the table-onto put t₁ ...  
'The dishes that Mary put on the table ...'

b. *Az edények amiket, Mari tett az asztalra t₁ ...  
the dishes which-pl.-acc. Mary put the table-onto t₁ ...  
vs.

(32) Wh-Question

a. Mari mit, tett az asztalra t₁?  
Mary what-acc. put the table-onto t₁  
'What did Mary put on the table?'

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Mary what-acc.1 the table-onto put ti

(33) Relative Clause

a. A királyfi akiti a boszorkány egy csúf békává
the prince who-acc.1 the witch an ugly frog-translat.case
változtatott ti ... changed ti ... 'The prince whom the witch changed into
an ugly frog ...'

b. *A királyfi akiti a boszorkány változtatott egy csúf
the prince who-acc.1 the witch changed an ugly
békává ti ... frog-translat. case ti ...

vs.

(34) Wh-Question

a. A boszorkány kiti változtatott egy csúf békává
the witch who-acc.1 changed an ugly frog-translat. case

   ti ?
   ti  'Whom did the witch change into an ugly frog?'

b. *A boszorkány kiti egy csúf békává
the witch who-acc.1 an ugly frog-translat. case
változtatott ti ?
changed ti 

(35) Relative Clause

a. A díj amirii a gyerekek nagyon büszkék voltak
the prize which-onto1 the children very proud-pl. were

   ti ...
   ti ... 'The prize that the children were very proud of ...'

b. *A díj amirii a gyerekek voltak nagyon büszkék
the prize which-onto1 the children were very proud-pl.

   ti ...
   ti ...

vs.
What we see in the above examples (31)-(36) is that in addition to the difference in the position of the moved Wh-phrases, discussed in the previous section, there is a systematic variation also in the position of one of the (non-Wh) V-complement phrases with respect to the verb, apparently depending on whether the clause involved is a relative clause or a Wh-question. None of these V-complements involved in sentences (31)-(36) is a member of the set of "verbal prefixes," yet they manifest the same behavior. In (31)-(32), the phrase exhibiting the distributional variation we have observed first with respect to "verbal prefixes" is a transitive postpositional phrase (az asztalra 'on the table'), in (33)-(34), it is a predicate nominal (egy csúf békává 'an ugly frog (Translat. case)'), and in sentences (35)-(36), it is a predicate adjective phrase (nagyon büszkék 'very proud'). Notice that Topicalization cannot account for the pre-verbal position of these complements in the above relative clauses because none of the phrases involved has a topicalized interpretation. Thus, given the fact that Hungarian is an SVO language, the appearance of V-complements preceding the verb in the relative clauses (26a), (29), (31), (33), and (35) constitutes a rather curious phenomenon. It may suggest that something
special is happening in these relative clauses as a result of the application of Wh-movement into COMP. However, if we look at the simple declarative versions of the same relative clauses, we must realize that it is not the relative clauses, but rather the corresponding Wh-questions (i.e., (26b), (30), (32), (34), and (36)) that exhibit the application of a special process affecting these particular V-complements. Consider, e.g., the simple declarative versions of sentences (31)-(32), (33)-(34), and (35)-(36), which obviously involve no Wh-movement whatsoever. (The relevant complement phrases are underlined.)

(37) a. Mari az asztalra tette az éényeket.
Mary the table-onto put the dishes-acc.
'Mary put the dishes on the table.'

b. *Mari tette az asztalra az éényeket.
Mary put the table-onto the dishes-acc.

(38) a. A boszorkány egy csúf békává változtatta a királyfit.
the witch an ugly frog-Translat. case changed the prince
'The witch changed the prince into an ugly frog.'

b. *A boszorkány változtatta egy csúf békává a királyfit.
the witch changed an ugly frog-Translat. case the prince-acc.

(39) a. A gyerekek nagyon bőszkék voltak a díjra.
the children very proud-pl. were the prize-onto
'The children were very proud of the prize'

b. *A gyerekek voltak nagyon bőszkék a díjra.
the children were very proud-pl. the prize-onto

Examples (37), (38), and (39) represent a subset of sentences in Hungarian in which, in spite of the general SVO-type phrase structure of
the language, one particular complement phrase subcategorized by the verb has to appear in pre-verbal rather than in post-verbal position. This phenomenon has been analyzed in the first chapter of Horvath (1978b). It has been argued there in detail that although Hungarian is an SVO language, its phrase structure differs from that of, say, English in one crucial respect: it has a (single) phrase node as a left-sister to V. This "pre-V" node is a regular argument position in Hungarian, and particular verbs must be strictly subcategorized to take (or not to take) one of their complement phrases in this node. Any major category type can occur in the "pre-V" position. Even though sub-regularities do exist, the occurrence of pre-V complements with particular verbs is largely idiosyncratic, motivating a lexical account, namely, one based on lexical subcategorization features. (For a detailed discussion of the "base analysis" as opposed to a transformational analysis of pre-V complements, cf. section 1.5 of Horvath (1978b).)

In order to approach the question of where in the PS of Hungarian these "pre-V" complement phrases appear, I will first summarize briefly the crucial arguments given in Horvath (1978b), showing that these pre-V phrases, such as the ones in sentences (37)-(39), are indeed inside of the VP—in particular are sisters to V—, rather than occupying some hierarchically higher position in the phrase structure.

(i) The "VP-Deletion" Test

One major type of evidence arguing for the VP-constituency of the
pre-V phrases under discussion comes from the consideration of a process of VP-anaphora, informally referred to in Horvath (1978a) as "VP-Deletion." This process is the Hungarian analogue of the "VP Rule" discussed in detail in Williams (1977) with respect to English. The VP Rule is a rule of discourse grammar interpreting empty VPs. The first observation crucial to us is that even though the VP Rule could never "reconstruct" an element that is **outside** of VP—such as parentheticals or sentence adverbs—, the pre-V phrases of Hungarian obviously can be reconstructed by it, as shown by examples such as (40) below (the "pre-V" phrase is underlined):

(40) Mari az asztalra tett néhány tányért, és Attila ugyancsak (az asztalra tett néhány tányért).
   likewise (the table-onto put a-couple-of plates-acc.)
   'Mary put a couple of plates on the table, and Attila did too.'

Furthermore, consider the ungrammaticality of sentences like (41):

(41) *Mari az asztalra tett néhány tányért, és Attila ugyancsak a polcra.
   likewise the shelf-onto

Given that it can be clearly established (as it actually is in Horvath (1978a)) that the interpretive rule relevant for ugyancsak 'likewise'-constructions cannot "reconstruct" less than a complete VP (e.g., it cannot interpret a transitive verb without also reconstructing its object-NP), the ungrammaticality of (41) will automatically follow if we assume that the "pre-V" phrases involved are **dominated** by the
(lowest) VP node, and consequently, the verb and the direct object do not form a constituent (namely, a VP) in sentences like (41).

A possible objection to construing the above type of facts involving the VP Rule as evidence determining the position of "pre-V" complements in the phrase structure of Hungarian could be to point out that because the "VP Rule" applies in the interpretive component rather than in the syntactic component proper (for arguments and a concrete proposal, cf. Williams (1977)), the fact that at that level "pre-V" phrases appear to "belong" to the VP does not necessarily imply that they must be dominated by VP in syntactic representations too. Empirical evidence for this claim could be provided by "non-configurational" languages, i.e., languages that lack a constituent VP in their syntactic phrase structure, if they still turned out to exhibit interpretive rules of the above type referring to "VP." It is, in fact, conceivable that in the LF component there is a rule "creating" VPs, say, on the basis of the subcategorization properties of Vs, which in turn provide input to the VP Rule. Fortunately, however, Hungarian provides other, uncontroversially syntactic evidence too, indicating the correctness of the conclusion we arrived at above, thus eliminating the force of this potential objection in this particular case.

(ii) Evidence from the Distribution of Sentence-Adverbs

As has been established in Jackendoff (1972), sentence-adverbs must be immediately dominated by S. Consequently, their distribution
provides a good test for syntactic VP constituency. Consider now the following contrast:

(42) a. A boszorkány { nyilvánvalóan } 
    { látszólag } 
    { kétségkívül } 
    { evidently } 
    { apparently } 
    { doubtlessly } 
    egy csúf békává

    the witch an ugly frog-Translat. case

    változtatta a királyfit. 'The witch { evidently } 
    { apparently } 
    { doubtlessly } 
    changed the prince into an ugly frog.'

    changed the prince-acc. 'The witch { evidently } 
    { apparently } 
    { doubtlessly } 

b. *A boszorkány egy csúf békává { nyilvánvalóan } 
    { látszólag } 
    { kétségkívül } 
    változtatta

    the witch an ugly frog- 
    Translat. case { evidently } 
    { apparently } 
    { doubtlessly } 
    changed

    a királyfit. 
    the prince-acc.

Example (42) is representative of the behavior of the whole class of "pre-V" complements with respect to S adverbs: an S adverb can pre- 
cede a "pre-V" phrase, but, crucially, it cannot intervene between the "pre-V" phrase and the verb. Because S adverbs otherwise can appear freely wherever they can be immediately dominated by S, the above fact suggests that "pre-V" complements are indeed not immediately dominated 
by S, but rather are constituents of the VP, as we have claimed before.

(iii) Evidence from a Restriction
on Surface Recursion

Emonds (1976) points out an interesting restriction on the
recursion properties of phrases appearing on left branches in basically right-branching phrases of the X-bar system. He tentatively proposes to state the constraint as a constraint on surface structures.

(43) **Surface Recursion Restriction**: Given a surface configuration of the form \([H_i, \ldots A \ldots H_i \ldots]\), if the base rules permit right sisters \(H_{k'}^i\) to \(H_i\), then \(A \neq X S Y\), \(A \neq X PP Y\), where PP dominates a lexical preposition, and \(A \neq W A Z\), where \(W\) and \(Z \neq \emptyset\). In such cases we say that \(A\) does not exhibit free recursion. (Emonds (1976, 19))

The above constraint—in which \(H\) stands for the lexical categories \(N, V, P, A\)—was originally meant to restrict the free right-branching recursion of adjective phrases in prenominal position, of preadjectival and prepositional measure phrases, of preverbal adverbial phrases, etc. in English. In earlier work (Horvath, UCLA seminar lecture (Spring 1978)), I have proposed a slightly revised version of this constraint, based on the consideration of some additional data:

(44) **Revised Surface Recursion Restriction**: Given a surface configuration of the form \([H_i, \ldots A \ldots H_i \ldots]\), if the base rules permit right sisters \(H_{k'}^i\) to \(H_i\), then \(A \neq S\), and \(A \neq Y\) \(H_i Z\), where \(H_i\) is the head of \(A\), and \(Z \neq \emptyset\). In such cases we say that \(A\) does not exhibit free recursion.14 (Horvath (Spring 1978))

Disregarding now the question of what the best way of incorporating the above phenomenon into the grammar might be, the descriptive generalization that is crucial for us here, as expressed by (44), is
simply the following: If there is a phrase to the left of the head in a basically right-branching major phrasal category, then that left-branch phrase must be head-final, i.e., it cannot have any post-head complements. This generalization—originally arrived at on the basis of the recursion properties of left-branch modifiers of a variety of phrase types—obviously constitutes a test relevant for determining the phrase structure position of our "pre-V" phrases.

Principle (44) in conjunction with our hypothesis that "pre-V" phrases in Hungarian are dominated by VP and are left sisters to V makes the prediction that "pre-V" phrases will necessarily exhibit no right-branching recursion, i.e., will have no post-head complements. This prediction is borne out in a striking manner. Consider, for instance, a version of sentence (37a) in which the "pre-V" phrase contains a relative clause:

\[(45) \text{\#} \underset{\text{Mary}}{\text{Mari az asztalra, ami az \text{\textcolor{red}{erkélyen}}} \text{\underline{állt}}} \text{ tette az} \text{\textcolor{red}{adényeket}}.\]
\[
\text{Mary \textcolor{red}{put} the dishes \textcolor{red}{on} the table \textcolor{red}{that} \textcolor{red}{stood on} the balcony.}'

Notice in contrast that in any other position, such as, e.g., in subject position, or in a topicalized position, the same NP modified by the relative clause is perfectly acceptable.

\[(46) \text{\textcolor{red}{a.} Az asztal, ami az \text{\textcolor{red}{erkélyen}}} \text{\underline{állt}} \text{\textcolor{red}{beiszkőlodott}.} \text{\textcolor{red}{The table \textcolor{red}{that} \textcolor{red}{stood} on the balcony \textcolor{red}{got} dirty.}']
b. Az asztalra, ami az erkélyen állt, Mari nem tett
the table—onto which the balcony—on stood Mary not put
semmit.
nothing 'On the table that stood on the balcony, Mary
didn't put anything.'

The ungrammaticality of (45) represents the general fact that "pre-V" phrases can have no complements to the right of their head, precisely as predicted by the Surface Recursion Restriction (cf. (44)) and our hypothesis regarding the phrase structure position of the "pre-V" node. In contrast, under the assumption that these "pre-V" phrases are outside of the VP, the ungrammaticality of sentences like (45) would be an unexplained anomaly.

The above three types of evidence establishing the relevant constituent structure, together with the fact—referred to previously—that whether or not a given verb will take a particular complement phrase in a "pre-V" position is basically an idiosyncratic property of the particular verb involved, and hence cannot be specified by any productive, non-lexical mechanism, lead us to conclude that the particular V-complements we have been discussing must be generated by the base rules of Hungarian as left sisters to V.

The above conclusion might strike one as highly unusual. In particular, what makes our claim appear so peculiar is that it assigns a phrase structure to Hungarian VPs that seems to violate a highly intuitive universal, tacitly assumed of the structure of phrases of the X-bar system. Even though it has never been formally incorporated into
the theory of the base, the intuitive content of this universal is that all complements to the head of a phrase are generated either uniformly on the right side or uniformly on the left side of the head. It is this insight that seems to have motivated the postulation of the abbreviations \( \text{Spec}_X \) at the \( X'' \) level of projection and \( \text{Comp} \) at the \( X' \) level of projection in the original formulation of the \( X \)-bar schema in Chomsky's "Remarks on Nominalization" (Chomsky (1970)).

To make this observation more precise, assume the following additional restriction imposed on the base rule schema in UG:

(47) **Head Peripherality Condition:**

Given the general PS rule schema of the form

\[
H^n \rightarrow (C_1) \ldots (C_j) - H^{n-1} - (C_{j+1}) \ldots (C_k),
\]

in any given instantiation of the rule schema, either \((C_1) \ldots (C_j)\) or \((C_{j+1}) \ldots (C_k)\) must be \(\emptyset\).

Which particular side of the head is non-null will constitute a parameter of UG, the different values of which will account for "word order" variations across languages (e.g., "V-initial" vs. "V-final" languages), as well as potential differences between various phrases internal to a language. Instead of condition (47), one could propose an alternative, somewhat more explanatory account—with slightly different empirical content—based on the claim that government by lexical categories, and hence subcategorization, is a linearly unidirectional process, i.e., that lexical categories govern either only to the right or only to the left, and so complements occur only on one side of the
head by which they are subcategorized. (On the notion "government," cf. Chomsky (1981).) We will return to this proposal, providing further motivation for it, in Chapter 2. For our present purposes, however, the only important point is that the above restriction makes the strong, and at the same time empirically well-supported, claim that any head of phrase occupies a peripheral position at its own level of projection. Given the above restrictive principle, it becomes clear what exactly seems to be "wrong" about the case of Hungarian VPs. It is the fact that although in general Hungarian VPs have their complements to the right of the verb (just as in other "SVO" languages), we have been claiming that a significant number of verbs are subcategorized to take one particular member of their set of complements as left sisters. In other words, our claim about the status of "pre-V" phrases in Hungarian phrase structure assigns a medial position to V among its complements, which seems at first glance to be in direct contradiction to the universal constraint on phrase structure rules expressed by the "Head Peripherality Condition" (principle (47)).

On close examination, however, one can notice that the violation in fact does not necessarily follow from the claim that "pre-V" phrases are base-generated as left sisters to V.

Consider the following two alternative phrase structure configurations, both of which are consistent with the claim made above regarding the phrase structure position for "pre-V" complements in Hungarian:  

15
(48) a. \[
\begin{array}{c}
\text{VP} \\
\text{X}^{\text{max}} \\
\text{V} \\
\text{NP} \\
\ldots
\end{array}
\]

b. \[
\begin{array}{c}
\text{V'} \\
\text{VP} \\
\text{NP} \\
\ldots
\end{array}
\]

Structure (48a) does indeed violate the "Head Peripherality Condition" (47); however, structure (48b), in which the "pre-V" phrase is dominated by V'—a "small VP"—, conforms to the universal phrase structure schema. In the following discussion, we will assume (48b), rather than (48a), to be the representation for the structure of VP in Hungarian. (All complement nodes are of course optional, consistent with the universal base rule schema, as presented, e.g., in Jackendoff (1977) and Emonds (1976).)

The above choice is first of all justified purely on grounds of restrictiveness (cf. the foregoing discussion). But in addition to being consistent with the restrictive universal principle (47), structure (48b) also has some other, more directly empirical advantages over structure (48a). There are at least two processes in the syntax of Hungarian that seem to indicate the existence of a constituent V' as shown in diagram (48b), consisting of the "pre-V" node and V, but excluding the rest of the VP complements.

One argument for V' has to do with the distribution of a certain class of adverbs modifying VPs. In Hungarian, adverbs like gyorsan 'quickly', hirtelen 'suddenly' can appear freely at any major constituent break, including positions dominated by VP, such as the one between the V and the direct object-NP, the direct object and a PP complement.
following it, etc. Thus, for instance, the sentences below are perfectly acceptable:

(49) a. Kati elpirult, és a háta mögé dugta a gyorsan hirtelen a Cathy blushed and the back-her behind hid quickly suddenly the kezeit. hands-her-acc. 'Cathy blushed, and quickly suddenly put her hands behind her back.'

or:

b. Kati elpirult, és (gyorsan hirtelen) a háta mögé dugta a Cathy blushed and quickly suddenly the back-her behind hid the kezeit. hands-her-acc.

The only place where these adverbs cannot occur is the position between a "pre-V" complement and the verb. Consider, e.g., the striking ungrammaticality of the relevant version of sentences (49):

(50) *Kati elpirult, és a háta mögé (gyorsan hirtelen) dugta a Cathy blushed and the back-her behind quickly suddenly hid the kezeit. hands-her-acc.

Assuming phrase structure (48a), there seems to be no obvious explanation for the above facts. Structure (48b), on the other hand, permits a rather straightforward account of the distribution of these adverbs. A plausible claim would be to say that the type of adverbs involved can be dominated only by a major phrasal category. Because
only "VP" but not "V'" is a major phrasal category—i.e., a maximal projection of the lexical category V—, under the hypothesis represented by (48b), it would automatically follow that the adverbs can occur between any two constituents of the VP, except for the position dominated by V', namely the one between the "pre-V" node and V.

Another argument supporting the postulation of a constituent V' comes from the consideration of a fronting rule that applies (optionally) in yes-no questions. Consider, e.g., the following pairs of declarative sentences and their yes-no question versions:

(51) a. Attila számított a győzelemre.  
Attila counted the victory-on

'Attila expected the victory.'

b. Számított Attila a győzelemre?  
counted Attila the victory-on

'Did Attila expect the victory?'

(52) a. Az asszony adott egy pofont a szomszéd gyerekének.  
the woman gave a slap-in-the-face-acc. the neighbor kid-his-to  'The woman gave the neighbor's kid a slap in the face.'

b. Adott az asszony egy pofont a szomszéd gyerekének?  
gave the woman a slap-in-the-face-acc. the neighbor kid-his-to  'Did the woman give the neighbor's kid a slap in the face?'

The V-initial order in the (b) sentences suggests that a rule preposing the verb has applied. Notice that the above V-initial orders cannot be attributed to the application of "Subject Postposing," which can most
plausibly be formulated as an adjunction to VP, because in sentences like (51b) and (52b), the subject winds up, in linear order, between the V and some subcategorized complement of the VP. Thus, so far, one could reasonably postulate a rule that preposes the constituent V (say, adjoining it to COMP).

But consider now some yes-no questions involving verbs with "pre-V" complements (the "pre-V" complement is underlined):

(53) a. Az asztalra tette Mari az edényeket?
   the table-onto put Mary the dishes-acc.
   'Did Mary put the dishes on the table?'

   b. *Tette Mari az asztalra az edényeket?
      put Mary the table-onto the dishes-acc.

(54) a. A háta mögé dugta Kati a kezeit?
   the back-her behind hid Cathy the hands-her-acc.
   'Did Cathy put her hands behind her back?'

   b. *Dugta Kati a háta mögé a kezeit?
      hid Cathy the back-her behind the hands-her-acc.

What we see in sentences (53)-(54) is that whenever a verb that had a "pre-V" complement is preposed, that "pre-V" complement must be preposed too, together with the verb.

Assuming the phrase structure represented in (48a), there is no plausible way to account for the fact that these two elements move together, because they do not form a constituent. In contrast, the phrase structure represented in (48b) makes it possible to postulate a rule of V'-Preposing instead of V-Preposing applying in yes-no questions, and by this all the above facts receive a simple, natural
explanation.

Thus, based on the considerations outlined in this section, let us adopt structure (48b) as the representation of the phrase structure of VP in Hungarian. To recapitulate, I repeat here the relevant structure, as it appears in the phrase structure of a Hungarian S'. (The complements of lexical heads appearing in the phrase marker (55) below are of course all optional.)

(55)

```
S'
  COMP
    S
       NP
       INFL
       VP
          V'
             NP
               ...
         X_{max}
             V
```

The most crucial aspect of this structure for our discussion is the existence and position of the "pre-V" node. Given this, in the following section we will return to the problem of establishing the landing site of interrogative Wh-phrases. Recall that it was this problem that had led us to a discussion of "pre-V" complements and their phrase structure position in the first place (cf. end of section 1.4.2).

Before doing this, however, one point must be made in connection with the matter of subcategorization in the Hungarian VP. Given structure (55), the question arises what the direct object, and other complements appearing as sisters to V', are subcategorized by. One
possibility is that it is the category V that subcategorizes these VP-complements. Notice that this case would be an instance of subcategorization that is not "strictly local." Alternatively, one might claim that VP-complements are subcategorized for by V' rather than V in Hungarian, i.e., that in a sense, not only V but also V' is a lexical category in this language. There exists, in fact, some interesting empirical evidence directly bearing on the choice between the above two alternatives. The evidence has to do with verbs that exhibit different subcategorization requirements regarding their VP-complements, depending on whether or not they occur with a "pre-V" complement and on what their particular "pre-V" complement is. To take just one example of such a case, consider the verb alszik 'sleep'. This verb can optionally take the intransitive PP át 'through' as its "pre-V" complement. The observation crucial for our point here is that when alszik 'sleep' appears without a "pre-V" complement, it is an intransitive verb, i.e., it cannot take a direct object, and in fact no other VP-complement either. In contrast, when the same verb occurs with the "pre-V" complement át 'through', it must take a direct object NP, in the position represented in (55).

(56) a. János alszik.
   John  sleeps
   'John is sleeping.'/'John sleeps.'

   b. *János átalszik.
      John through-sleeps

(57) a. *János alszik minden előadást.
John sleeps every lecture-acc.

b. János átalszik minden előadást.
John through-sleeps every lecture-acc.

'John sleeps through every lecture.'

What examples (56) and (57) show is that subcategorization at the VP level is not determined by the verb alone, but rather depends on the combination of the verb and its particular V'-complement. The most direct way to incorporate this observation into our analysis is to adopt the second alternative mentioned above, and claim that what subcategorizes complements at the VP-level in Hungarian is not V, but rather the category V'.

1.6. Wh-Question Formation: Substitution into the "Pre-V" Node

In section 1.4.2, and at the beginning of section 1.5, we have noted a systematic difference between relative clauses and Wh-questions, involving the position of a class of V-complements. We have subsequently argued that these complements are generated in the "pre-V" node dominated by V' in the phrase structure of Hungarian (cf. structure (55) above). The relevant examples of relative clause and Wh-question pairs are (26a) vs. (26b), (29) vs. (30), (31) vs. (32), (33) vs. (34), and (35) vs. (36).

What we can observe in the above examples is that although in relative clauses "pre-V" complements of the verb exhibit the same order with respect to V as they do in any other declarative sentence—namely,
they appear in pre-V position—, in Wh-questions, "pre-V" complements must appear in a postverbal position.

Before we proceed to propose an analysis attributing the above phenomenon to a property of the process of Wh-question formation in Hungarian, we must consider an a priori possible alternative way of looking at the same facts. On the basis of the data given so far, one could reasonably suggest that the variation observed in the relative position of "pre-V" complements and V's has nothing to do with "interrogative" vs. "relative" Wh-movement, but rather is simply due to a difference between main clauses vs. embedded clauses. In particular, one might propose that the process yielding the inverted order of "pre-V" complements and V's observed in Wh-questions is a "root phenomenon"—in fact, rather similar to "Subject-Aux Inversion" in English—and accordingly the difference we found between relative clauses and Wh-questions is to be attributed to the fact that relative clauses are, by definition, embedded rather than matrix. The possibility of such a claim, however, is eliminated immediately when we consider the position of "pre-V" complements in various embedded Wh-questions, such as, e.g., the following (the "pre-V" complements are underlined):

(58) a. A kérdés hogy a gyerekek mire voltak nagyon büszkék nem érdekel.
the question that the children what-on were very proud-pl. not interests-me 'The question of what the children were very proud of doesn't interest me.'

69
b. *A kérdés hogy a gyerek {mire nagyon büszkék}
{mire nagyon büszkék
{what-on very proud-pl.
{very proud-pl. what-on

the question that the children

voltak nem érdekel.
were not interests-me

not knew-lpl. that Mary what-acc. put the table-onto

'We didn't know what Mary had put on the table.'

b. *Nem tudtuk hogy Mari {mit az asztalra
{az asztalra mit

not knew-lpl. that Mary {what-acc. the table-onto
{the table-onto what-acc.

Clearly, the process involved in Wh-questions in Hungarian resulting in
an inverted order between "pre-V" complements and verbs is fundamentally
different from the Subject-Aux inversion phenomenon observable in ques-
tions in English, for it is manifested uniformly by the full range of
Wh-questions, embedded as well as matrix. Given the data in (58)-(59),
the fact that the "inversion" phenomenon under discussion is observable
in Wh-questions but not in Wh relative clauses suggests that the process
is to be attributed to some property specific to Wh-questions.

In sum, the relevant descriptive generalization is that whenever
an interrogative Wh-phrase gets preposed, if the verb of the clause has
had a "pre-V" complement in V', that complement must appear in post-V
position (cf. the ungrammaticality of examples (58b) and (59b)). This
systematic strict complementary distribution between base-generated
"pre-V" complements and preposed interrogative Wh-phrases in preverbal
position receives its most straightforward account under a substitution analysis for Wh-Q movement, namely, under the hypothesis that it is the "pre-V" node (represented in (48b) and (55)) that serves as the landing site of interrogative Wh-phrase in Hungarian. Notice that this claim is consistent with all the observations we have made regarding the possible landing site of Wh-phrases earlier, in section 1.4.2. In particular, the assumption of substitution into the "pre-V" node would obviously account for the fact that the fronted Wh-phrases impose no limitation on the occurrence of complementizers, that they systematically follow, rather than precede, any topicalized phrase, and that they appear in a position following the subject-NP in linear order.

These facts of course would be compatible also with certain adjunction analyses. For instance, a left-adjunction to VP, to V', or to V would all be perfectly conceivable hypotheses. However, the phenomenon of strict complementarity between Wh-Q phrases and base-generated "pre-V" complements discussed above would in that case necessitate a more elaborate descriptive apparatus. More specifically, under the adjunction analysis, there is no particular reason provided by the theory why "pre-V" complements must be removed from their D-structure position in case Wh-Q movement has taken place, and consequently, in order to exclude the co-occurrence of the two in preverbal position, we would need an additional, ad hoc device, such as a language-specific surface filter, or the mechanism of obligatory rule application combined with a rather unconstrained theory of structural descriptions for
transformations. In contrast, under the substitution hypothesis, the fact that the "pre-V" complement—in case there has been one at D-
structure—must be moved out of the "pre-V" node when Wh-Q movement applies follows simply from the principle of the "recoverability of deletion." 19

The substitution hypothesis for Wh-Q movement proposed above makes the prediction that interrogative Wh-phrases will exhibit the properties that base-generated "pre-V" complements have by virtue of their occupying the "pre-V" node. Such properties, pointed out in section 1.5 in connection with "pre-V" complements, are: (a) no right-branching recursion for phrases in the "pre-V" node (cf. "Revised Surface Recursion Restriction" (44)); (b) no adverbs intervening between a "pre-V" phrase and the verb. Both of these generalizations hold for Wh-Q phrases too. 20 Thus, notice for instance the ungrammaticality of the following example, which obviously is due to a violation of the "Surface Recursion Restriction" (the offending post-head complement of the Wh-
phrase is underlined):

(60) a. *Attila melyik lányt az osztályából szereti legjobban?
   Attila which girl-acq. the class-his-from likes best

   'Which girl from his class does Attila like most?'

   but:

   b. Attila melyik lányt szereti legjobban az osztályából?
   Attila which girl-acq. likes best the class-his-from

The unacceptability of adverbs intervening between Wh-Q phrases and the verb is shown in the following example:
(61) *Mari mit hirtelen valószínűleg tett az asztalra? (sudden)
    (probably accidentally)

Mary what-acc. (subject) put the table-onto

What did Mary suddenly probably accidentally put on the table?

So far, we have been referring to Wh-Q movement in Hungarian as a "preposing" rule. Given our conclusion, however, that the actual landing site of Wh-Q phrases is the "pre-V" node under V', i.e., a position following the subject position in the phrase structure of Hungarian, the question arises what actually happens when a subject-NP is questioned.

Because subject-NPs are generated in a linearly preverbal position, it is somewhat harder to tell whether they actually undergo Wh-Q movement than it is in the case of other types of Wh-phrases. An obvious test-case is provided, however, by sentences in which the verb has a base-generated "pre-V" complement. So consider, e.g., the following sentences (the base-generated "pre-V" complement is underlined):

(62) a. Ki tette az asztalra az edényeket?
    who put the table-onto the dishes-acc.
    'Who put the dishes on the table?'

b. *Ki az asztalra tette az edényeket?
    who the table-onto put the dishes-acc.

The above example shows that questioned subjects also "trigger" the postposing of base-generated "pre-V" phrases, just as any other Wh-Q
phrase does, and thus strongly suggests that a substitution into the "pre-V" node takes place in the case of subject-NPs too. This claim is further confirmed by sentences that have an adverb intervening between a Wh-Q subject and the verb, such as, e.g.:

(63) *Ki
    | hirtelen
    | valószínűleg
    | véletlenül
who  | suddenly
    | probably
    | accidentally
'tWho put the dishes | suddenly
  | probably
  | accidentally
on the table?'

As shown by example (63), an adverb intervening between a questioned subject and the verb is just as unacceptable as it is in the case of other Wh-questioned phrases (cf., e.g., example (61)). The assumption that questioned subject-NPs get substituted into the "pre-V" node—similarly to all other Wh-Q phrases—also predicts that they will be subject to the Surface Recursion Restriction (cf. (44)). This prediction is borne out by the data. Consider, e.g., the following contrast:

(64) a. *Melyik gyerek a szomszéd házból volt a leghangosabb?
    which kid the neighboring house-from was the loudest?
    'Which kid from the house next door was the loudest?'
    vs.

    b. Melyik gyerek volt a leghangosabb a szomszéd házból?
    which kid was the loudest the neighboring house-from

Thus, on the basis of these arguments, we can conclude that Wh-Q formation in Hungarian involves a substitution into the "pre-V" node
under V', no matter whether the Wh-Q phrase has preceded or followed the landing site of the movement.

It is worth noting here that in a "classical" theory of transformations (cf., e.g., Chomsky (1965)), in which the structural description of transformations specifies the original position of the moved element as well as its landing site, Wh-Q movement in Hungarian would essentially have to be broken up into two separate operations: a leftward movement (for VP constituents, i.e., for elements following the "pre-V" node), and a rightward movement (for subject-NPs). This clearly is a counterintuitive account that necessarily misses the generalization that Wh-Q formation is one unitary process. This way, the phenomenon of Hungarian Wh-Q movement constitutes empirical motivation for the adoption of a maximally restrictive formalism for transformations, the one embodied in the rule schema 'Move α,' which refers only to the moved category, without specifying any context nodes or landing sites. In this extremely restrictive framework, all the information missing from the specification of individual transformations ideally follows from the interaction of general principles of UG and the properties of the particular structure that the transformation happens to apply to.

1.7. "Local Postposing" and Some Interpretive Templates

One of the most significant steps toward restricting the expressive power of transformations—and through this substantially increasing the explanatory adequacy of grammatical theory—involves prohibiting the
compounding of elementary transformational operations in a single rule, and a further major step is to eliminate the possibility of stipulating dependencies among transformations.

Let us examine now, in the light of these restrictions, the application of the Wh-Q movement rule of Hungarian in sentences where the verb has had a "pre-V" complement occupying the "pre-V" node in D-structure (cf., e.g., examples (30), (32), (34), (36)). The above restrictive and hence methodologically highly desirable theory implies that we should formulate the two movement operations involved, namely, (a) the movement of Wh-Q phrases into the "pre-V" node, and (b) the movement of the base-generated "pre-V" complement to post-verbal position, as two separate transformations, operating freely, i.e., independently of each other. In other words, in this theory, an analysis accounting for the connection between these two processes by stating them as sub-parts of the same transformation is excluded in principle.

In the previous section, we have already motivated considering the rule moving Wh-phrases in questions as a substitution into the "pre-V" node. The process postposing base-generated "pre-V" complements to post-verbal position clearly is an adjunction rule. Given that postposed "pre-V" complements appear in linear order immediately following the verb, rather than, say, after all VP-constituents, we can reasonably assume the operation to be an adjunction to the right bracket of V', as shown by the diagram below:
Because the rule deriving structures like (65b) from ones like (65a) is a "local transformation" in the sense of Emonds (1976, ch. 1), we will refer to it from now on as "Local Postposing."

Now we can turn to the question of whether in the face of the apparent interdependence between the process of Wh-Q movement and Local Postposing, we can maintain this maximally restrictive formulation of the rules without having to resort to some ad hoc and equally powerful other devices (such as complicated structural descriptions for the transformations, or otherwise unmotivated, language-specific surface filters) in order to prevent overgeneration.

The apparent dependency relation between the application of these two movements involves the fact—observed in section 1.6—that whenever Wh-Q movement applies in a structure that has the "pre-V" node filled by a base-generated complement, that complement must get postponed. But notice that this connection between the rules causes no problem for the proposed separate and independent specification of the two processes.
As we pointed out in the previous section, given the assumption that Wh-Q movement is a substitution rather than an adjunction operation, the observed implicational relation between the application of Wh-Q movement and "pre-V" complement postposing (i.e., Local Postposing) falls out straightforwardly from the principle of the recoverability of deletion, without any further stipulations: namely, it follows from the "recoverability of deletion" principle that elements can be substituted only into empty nodes. Thus, the fact that Local Postposing must apply if Wh-Q movement does follows directly from the interaction of a general principle of UG with the restrictive formulation of the two processes proposed.

But there is an additionally logically possible implicational relation that might hold between Wh-Q movement and Local Postposing: the "only if" relation. If it does turn out to hold, namely, if it is the case that Local Postposing applies only if Wh-Q movement applies, our restrictive theory may well be in trouble. Notice that this state of affairs would not follow from any general principle of UG. In fact, the situation that Local Postposing could not apply unless Wh-Q movement took place in the clause would force one either to write an elaborate structural description for the postposing rule that would stipulate the necessary presence of a Wh-Q phrase as a "triggering" context term (unaffected by the transformation), or to resort to the comparably undesirable device of an ad hoc surface filter, excluding postposed "pre-V" complements in the absence of a phrase in the "pre-V" node.

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Thus, a restrictive theory of UG clearly implies that the unmarked case is for Local Postposing not to depend on whether a Wh-phrase moves into the "pre-V" node. Remarkably, this in fact turns out to be what happens.

Consider first the following imperative and negative versions of a declarative sentence having a "pre-V" complement, such as for instance our example (37a) (the "pre-V" complement is underlined):

(66) **Sentence-Negation**

Mari nem tette az asztalra az edényeket.
Mary not put the table-onto the dishes-acc.
'Mary didn't put the dishes on the table.'

(67) **Imperative/Subjunctive**

a. Todd az asztalra az edényeket!
    put-Imp./Subjunct. the table-onto the dishes-acc.
    'Put the dishes on the table!'

b. Mari tegye az asztalra az edényeket!
    Mary put-Imp./Subjunct. the table-onto the dishes-acc.
    'Mary (should) put the dishes on the table!'

So, as we can see, "pre-V" complements may get postposed, i.e., Local Postposing applies, not only in Wh-questions, but also in negative and imperative sentences. This in itself, however, still leaves the case of affirmative declarative sentences as a potential problem for an analysis that lets Local Postposing apply freely, i.e., without any construction-particular restriction, such as, e.g., specification of a set of "triggering" elements. Notice that we have actually marked sentences like (37b), (38b), and (39b), i.e., affirmative declarative
sentences with a V'-complement (i.e., a "pre-V" complement) occupying a post-verbal position, as unacceptable.

On closer examination, however, it turns out that the judgment that sentences such as (37b), (38b), and (39b) are unacceptable is in fact due only to a lack of appropriate context and to semantic factors, rather than to any syntactic violation. Consider, for instance, the following two examples containing sentences (37b) and (38b), respectively, embedded in them:

(68) Mari (éppen) tette az asztalra az edényeket, mikor Attila belépette. 'Mary was (just) putting the dishes on the table when Attila entered.'

(69) Mialatt a boszorkány változtatta egy csúcs békkává a királyfit, hirtelen sötét lett. 'While the witch was changing the prince into an ugly frog, it suddenly became dark.'

The above sentences are perfectly acceptable, even though their (underlined) embedded clauses are identical to sentences (37b) and (38b), both of which seemed unacceptable in isolation. What this implies is that affirmative declarative clauses with a V'-complement (i.e., a "pre-V" complement) appearing in post-verbal position are in fact acceptable, given appropriate context. In particular, this context is one requiring, or at least reinforcing the probability of a clause with a non-perfective, that is, progressive, interpretation. On the basis of
examples such as (68) and (69), we can conclude that affirmative declarative sentences also can freely undergo Local Postposing. What crucially happens, however, is that the resulting S-structure will necessarily get interpreted as having PROGRESSIVE ASPECT. The reason why speakers of Hungarian tend to reject sentences like (37b) and (38b) when given in isolation appears to be simply that in the absence of context, the non-progressive interpretation is the more natural and dominant one; a progressive interpretation out of context seems unmotivated pragmatically, and gives the impression of an incomplete, unfinished sentence. Consequently, it simply does not occur to speakers to consider this latter interpretation when presented with the sentence. Because the sentences involved are indeed impossible to interpret as non-progressives, they are judged to be unacceptable. There are some sentences with postposed V'-complements that are not acceptable even when provided with a context reinforcing progressive aspect interpretation. For instance, our example (39b) would not "become" acceptable even when embedded in a sentence like, say, (68) above. This fact, however, does not imply that we need to block the generation of sentences like (39b) by the syntactic component. In fact, it is simply attributable to the fact that the predicate of (39b), nagyon büszkék voltak a dijra 'were very proud of the prize', is a stative predicate, and stative predicates universally fail to exhibit the progressive/perfective aspect opposition. Example (39b) and similar sentences in Hungarian are ill-formed for the same reason as English sentences like
The children were being very proud of the prize are. So the systematic unacceptability of sentences like (39b), which have stative predicates, instead of contradicting our claim, in fact is completely consistent with it. 23

We have shown above that the postposing of V'-complements actually applies in the full range of clauses, without specification of utterance-type, or any other limitation imposed on the rule. Thus, "Local Postposing" can be maintained in its simplest, most restrictive form. Even more remarkably, notice that precisely this formulation of the movement, which we adopted originally purely on the basis of the methodological principle of restrictiveness, is the one that turns out to provide the only descriptively adequate account of the phenomena reviewed above. The other alternatives considered, making use of a less constrained theory—such as the formulation of the postposing operation as part of the Wh-Q Formation transformation, or the formulation where construction-particular "triggers" (e.g., Wh, NEG, IMP) are referred to in the structural description—would all result in a loss of generalization, because they necessarily fail to capture the fact that all of the above utterance-types involve the same basic operation, namely, the movement of a V'-complement from the "pre-V" node to an immediately post-verbal position. 24 Insofar as the remarkable "overlap" observed above is not merely an "accident" in the grammar of Hungarian, the case of V'-complement postposing must be construed as very strong empirical evidence in favor of the highly constrained theory of transformations
assumed in our discussion, and—by implication—against any less restrictive versions.

Let us turn now to the actual analysis of the fact we have observed regarding the interpretation of ASPECT in sentences like the underlined embedded clauses of (68) and (69).

The grammar of Hungarian has no systematic, fully productive way of marking the distinction between PROGRESSIVE and PERFECTIVE aspect, as languages like English do. Typically, Hungarian sentences are vague with respect to progressive vs. perfective aspect, the actual interpretation depending on the context. The only kinds of sentences that are unambiguous with respect to ASPECT are clauses with a complement phrase in the V' constituent, i.e., clauses having verbs that are subcategorized for taking a "pre-V" complement. To demonstrate the generalization involved, consider the following sentences:

(70) **Ambiguous between PROGRESSIVE and PERFECTIVE ASPECT**

Mari [\(\text{VP}_{\text{Vp}}\), rágta] a körmét].

Mary bit the nail-hers-acc.

'Mary bit/used to bite her nails.'

or:

'Mary was biting her nails.'

(71) **Only PERFECTIVE interpretation**

Mari [\(\text{VP}_{\text{V}}, \text{az asztalra rakta}\)] az edényeket].

Mary the table-onto piled the dishes-acc.

'Mary (has) piled the dishes on the table.'

(72) **Only PROGRESSIVE interpretation**

Mari [\(\text{VP}_{\text{V}}, \text{rakta az asztalra}\)] az edényeket].
Mary piled the table-onto the dishes-acc.
'Mary was piling the dishes on the table.'

The descriptive generalization emerging from these and similar cases is the following: clauses with a complement occurring in the "pre-V" node are interpreted, obligatorily, as having PERFECTIVE ASPECT (cf. example (71)), whereas clauses in which a V'-complement has been postposed, i.e., in which Local Postposing has applied (as, e.g., (72)), are interpreted as having PROGRESSIVE ASPECT exclusively. In all other cases—such as, e.g., (70), having a non-branching V' node—the interpretation is vague with respect to ASPECT.

This state of affairs can be accounted for straightforwardly by postulating the following set of template-like interpretive rules for the specification of ASPECT in Hungarian:

(73) **Interpretive templates for ASPECT**

   a. $[@V, x^{max}, V] \rightarrow$ PERFECTIVE
   b. $[@V, V, x^{max}] \rightarrow$ PROGRESSIVE
   c. Elsewhere $\rightarrow$ VAGUE

These rules would have to be language particular. However, notice that they can be written with an extremely limited descriptive apparatus. In fact, the formalism required is at least as restrictive as the one proposed for surface filters in Chomsky and Lasnik (1977). More specifically, notice that our templates are strictly local in the sense that they apply to two sister constituents, and they involve no
internal variables.

The place where this set of interpretive templates applies in the grammar must be the LF component, because the rules involved have to do with semantic interpretation relevant for sentence grammar. Consistent with this conclusion is the fact that this set of interpretive rules crucially applies to the output of syntactic transformations, such as Local Postposing, the rule that is responsible for the surface difference between sentence (71) and (72).

Given the templates in (73), the phenomena exemplified in (70), (71), and (72) are all accounted for. In (70) neither the (a) nor the (b) part of rule (73) is applicable, so by the "elsewhere" case of the rule (part (c)), it gets marked as "VAGUE" with respect to ASPECT, and hence it is appropriate both for contexts requiring PROGRESSIVE and for ones requiring PERFECTIVE ASPECT. Sentence (71) will be assigned PERFECTIVE ASPECT by rule (73a), and sentence (72) will be assigned PROGRESSIVE ASPECT by rule (73b).  

We will return to the discussion of ASPECT interpretation later on (in Chapters 3 and 4) to examine some striking facts and their theoretical implications having to do with the interaction of Wh-movement type rules and our interpretive templates for ASPECT.

1.8. On the Wh-Island Phenomenon

It has often been observed in the generative literature (cf. Chomsky (1964) for the first reference) that Wh-clauses in English—
i.e., both relative clauses and embedded questions—are "islands" for extraction rules. To account for these facts, a constraint similar to Ross's (1967) "island" constraints, called the "Wh-Island Constraint," has been proposed, stipulating that a Wh-clause is a structural configuration that universally blocks the application of extraction transformations.

A more explanatory account for the Wh-island phenomenon has been suggested in the framework of the Extended Standard Theory (starting with Chomsky (1973)) and its more recent versions. This explanation is based on more general, independently motivated properties of the grammar. In particular, the Wh-island effect is claimed to follow from universal constraints on rule application, namely, the Subjacency Condition and the Strict Cyclicity Condition (for a statement of these, cf., e.g., Chomsky (1973)), and from the additional assumption that the COMP node—which is assumed to be the landing site of Wh-phrases in the languages analyzed—can contain no more than one single Wh-phrase. So for instance, the reason why relativization out of embedded clauses is unacceptable in English, as shown, e.g., by

(74) *the boy [$_{S}$, to whom$_{j}$ [$_{S}$ nobody knows [$_{S}$, what$_{i}$ [$_{S}$ I gave t$_{i}$

\[t_{j}] outside]]]]

is the following:

a. The relative Wh-pronoun cannot move to its S-structure position directly from its D-structure position because it would have to
cross more than one bounding node (taking S to be a bounding node in English), thus necessarily violating the Subjacency Condition.

b. It cannot move through the lowest COMP node, because that is filled by the Wh-Q phrase.

c. Neither can it move into the lowest COMP and then farther up to its S-structure position before the Wh-Q phrase gets to occupy that COMP, because this derivation would violate Strict Cyclicity.

Notice now that Wh-movement in Hungarian, as characterized in this chapter, can provide a unique empirical test to distinguish between the EST account of the Wh-island phenomenon outlined above and an account that simply stipulates the fact that Wh-clauses are "islands."

Crucially, recall that we have established in sections 1.4.1, 1.4.2, and 1.6 that in Hungarian, the landing site of Wh-movement in Relative Clause constructions is distinct from the landing site of Wh-movement in questions. In accordance with our previous conclusions, the S-structure positions of moved Wh-phrases in Relative Clauses and in Wh-questions are exemplified in (75a) and (75b), respectively:

(75) a. Relative Clause

```
S'  
/   
\    
  COMP
     
    NP   VP
   a-Wh-phrase
       PP  V NP
            V ti
```

b. Wh-question

```
S'  
/   
\   
  COMP
     
    NP   VP
   hogy 'that'
       V NP
            V ti
```

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The above properties of Wh-movement in Hungarian, when combined with the EST explanation for the Wh-island effect, give rise to a very interesting prediction. They imply that if indeed the EST account is the correct one, Hungarian will differ from English, and from any other language in which COMP is the unique landing site both for relative Wh-movement and for interrogative Wh-movement, in one important way: Hungarian will freely admit relativization out of Wh-questions. This is a case that would be ruled out uniformly, for Hungarian just as well as for English, by an account that merely stipulates Wh-clauses as "islands" and, more interestingly, by any account that attributes the Wh-island effects to semantic or functional rather than structural properties of questions. So, insofar as Hungarian indeed turns out to be different from English in permitting this particular "violation" of the Wh-island constraint, we have very strong confirmation for the EST account, as opposed to other a priori conceivable analyses.

Now let us look at some relevant data.

(76) a. Ez az a fiú, [S' akinek \_i [S senki nem tudta \_j thing that nobody not knew \_i
[S Kati mit. \_i vett \_j \_i ajándékba.]])
Cathy what-acc. \_j bought \_j \_i present-into

("*This is the boy for whom nobody knew what Cathy had bought as a present.")

b. Ez az a fiú, [S' akinek \_i [S kiváncsi vagyok \_j thing that curious am \_i
[S \_j \_i tudja \_j how \_j \_i knows \_i
[S Kati mit. \_k vett \_k \_i
Cathy what-acc. \_k bought \_k \_i

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present-into  (*'This is the boy for whom I wonder who
 knows what Cathy bought as a present.'*)

As shown by the grammaticality of the above representative examples,
Hungarian embedded questions—in contrast to their English counterparts
—indeed fail to block relativization; in other words, they are not
"islands," at least not with respect to relativization. 28

This apparent "violation" of the "Wh-island constraint" in Hun-
garian can clearly be attributed to the fact that interrogative Wh-
phrases in Hungarian occupy not the COMP node, as they do in English,
but rather a distinct structural position, shown in diagram (75b).
Thus, the COMP positions of embedded questions are free of Wh-phrases,
and hence available for the successive cyclic extraction of the rela-
tive Wh-pronoun. In this way, a Wh-phrase can move through an unlimited
number of embedded interrogative clauses, without any violation of
Subjacency.

Notice that this latter fact is in sharp contrast to the case of
Wh-island violations in Italian discussed by Rizzi (1978), even though
superficially some of the Italian facts are reminiscent of the Hungarian
data. In Italian too, one can relativize out of an embedded question,
such as in sentences corresponding to our example (76a) (cf. Rizzi's
examples (6a-c)). However, crucially, Italian does not permit extrac-
tion from more than one single embedded Wh-clause. Thus, sentences like
the Italian counterpart of our example (76b) would be ungrammatical, as
shown by Rizzi's (1978) examples (13b), (14b), and (15b). The parameter
distinguishing the Wh-island phenomena in Italian from those in English
does indeed seem to be that S', rather than S, functions as a bounding
node in this language, as argued at length in Rizzi (1978). This
hypothesis would explain why extraction from one embedded Wh-clause is
acceptable (because such a movement would cross only one S' boundary),
and it would also account for the fact that extraction from any more
embedded Wh-clauses results in ungrammaticality (because the extracted
phrase in this case would necessarily have to cross more than one S'
boundary, thus violating Subjacency).

The fact that Hungarian, in contrast to Italian, permits relativization out of an unlimited number of embedded Wh-questions shows that
the Wh-island violations exhibited by this language could not be attribut-
ted to the choice of S' instead of S as a bounding node, as in the
case of Italian. Neither can one say that in Hungarian only NP is a
bounding node for Subjacency, because this would wrongly predict that
Hungarian permits extractions from Complex NPs too. Rather, as the
configuration of data observed indicates, the crucial factor at work in
the case of Hungarian Wh-island violations is the fact that the COMP
position in Hungarian Wh-questions remains unfilled, because—as we have
argued in this chapter—the target node of interrogative Wh-phrases is
not COMP but the "pre-V" node in Hungarian phrase structure.
CHAPTER 1: NOTES

1 It is at least conceivable that the "rigidity" of phrase order and the asymmetries between the structure of different phrase-types of the X-bar system characteristic of the English-type languages, in fact, should not be stipulated in the base component of the particular grammar, but rather could follow from independently motivated parameters in other subtheories, such as, e.g., Case-theory, the theory of Government, and the theory of θ-roles. (For a discussion of these, cf. Chomsky (1981).)

2 I am disregarding here "stylistic" differences between various post-head phrase orders, such as, e.g., the one having to do with the preference for "heavier" phrases to appear in final position.

3 Scrambling would have to be constrained so that it would not apply across $X^{\max}$ boundaries, where $X^{\max}$ stands for the maximal projection of categories of the X-bar system, including NP, VP, AP, PP, and S'. (An exposition of the X-bar theory is given, e.g., in Chomsky (1970) and Jackendoff (1977).)

4 I am considering here only "neutral" sentences, that is, sentences in which none of the major phrases is contrastively stressed, or FOCUS-ed (in the sense of Jackendoff (1972)). We will turn to the discussion of FOCUS and its syntactic "realization" in Hungarian in Chapter 2.

5 Hungarian has a rich morphological case-system. Because the Nominative case has no overt marking, the subject NPs that are unmarked for case in the glosses bear in fact Nominative case. The only other class of NPs unmarked for case are "possessor" NPs, i.e., NPs occurring in the "subject position" of noun phrases. The head N exhibits morphological person agreement with its "subject-NP," the same way as the inflection on verbs exhibits agreement with the subject of the clause. So, interestingly, we may say that the parallelism between Ss and NPs in Hungarian is complete even with respect to the process of Nominative case assignment to subjects by an agreement element. (On (abstract) Nominative Case assignment, cf. Chomsky (1980a; 1981) and Rouveret and Vergnaud (1980).)

In addition, it must be pointed out that Hungarian verb inflections represent—in addition to Tense—not only the Person and Number of

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the subject, but also the Definiteness and (partially) the Person of the direct object. (On the direct object agreement paradigm, cf. Tompa (1961).) I will not specify this direct object agreement in glossing verbs unless it is crucial for the discussion.

6 Notice that V-initial orders—as in sentences (1e) and (1f)—in the embedded clause of sentence (2) would not give fully acceptable results either. But the contrast between (2a) and (2b–d) is sufficient to establish our point here.

7 An interesting way to account for the language-specific differences with respect to the existence of "multiple" vs. "single-phrase" topicalization in languages (cf. Hungarian vs. English) would be to try to attribute the variation to an independently motivated parameter of UG proposed in Rizzi (1978), namely, to whether or not S is a bounding node for Subjacency in the particular language. Notice that Topicalization being a Chomsky-adjunction to S, once it has applied in a language in which S is a bounding node, a second application would necessarily violate Subjacency, because the topicalized element would have to "cross" more than one S boundary. Further investigation of Subjacency facts in various languages of both types would be necessary to justify this potentially interesting explanation.


9 The rule "attaching" the morpheme az to words following it, producing the reduced form a-, is a general process in Hungarian, evidenced not only in the case of relative pronouns, but also with respect to other elements, such as, e.g., postpositions:

\[
\begin{align*}
\text{azután} & \text{ 'after that, then'} & \text{amögött} & \text{ 'behind that'} \\
\text{that-after} & \text{that-behind} \\
\text{azalatt} & \text{ 'under that'} & \text{afölött} & \text{ 'above that'} \\
\text{that-under} & \text{that-above}
\end{align*}
\]

More will be said later in this section on this morpholexical rule of z-deletion and its domain of application.

10 Notice also that hypothesis (ii) would immediately account for their identical phonological behavior, namely, for the fact that both the morpheme az appearing in the COMP position in S-structure and the NP-specifier az turn out to undergo phonological reduction to a-.

11 There is one relative pronoun, namely amelyik 'which', that
triggers definite rather than indefinite agreement. This, however,
does not affect the general claim regarding the interaction of object
agreement and relativization to be presented below, for it can be shown
that the definiteness in this case is an intrinsic property of the par-
ticular Wh-pronoun melyik 'which', rather than a product of the morpheme
attached to its relative pronoun version. The crucial evidence for
this is that also in the relevant Wh-questions, i.e., in cases where
no a- appears at all, a direct object with melyik 'which?' as its spe-
cifier triggers definite agreement on the verb. Consider, e.g.:

(1) A tanár melyik gyereket_i küldte / *küldött_ ki t_3
the teacher which kid-acc_i sent- / sent- out t_3
3sg. subj- 3sg. subj- 3rd def. d.o. 3rd indef. d.o.

'Which kid did the teacher send out?'

12 Homophony between complementizers and members of other cate-
gories is rather common in languages (note, e.g., that and for in En-
lish), which is probably due to the role of reanalysis in the develop-
ment of complementizers.

The analysis proposed in the text would require, in addition,
the postulation of a filter of the form *\(_{COMP} az \phi\_\), where \( \phi = \emptyset \), in
order to rule out the occurrence of az as an independent complementizer.

Finally, notice that the fact that under our analysis, both the
complementizer az and the moved Wh-phrase occur in COMP (in relative
clauses) does not necessarily imply a violation of the "doubly filled
COMP" filter (cf. our filter (14)). The reason for this is that because
of the application of the phonological contraction rule, the word bound-
daries between az and the Wh-phrase get erased, so that in the "phono-
logical" component—which is the place where filters apply (cf. Chomsky
and Lasnik (1977))—there is in fact a representation available in
which the COMP is no longer filled by two separate elements. Given
this, all we need to assume is that filters apply after phonological
(or at least morpholexical) rules proper. This seems to be an inter-
esting, and empirically testable, hypothesis.

13 In section 1.7, we will see that these sentences with a com-
plement in pre-verbal position do (at least potentially) have a counterpart
in which the "pre-verbal" complement appears in immediately post-verbal
position. However, this order systematically implies a special inter-
pretation, namely that of PROGRESSIVE ASPECT. An account for these
facts will be provided in section 1.7. What is important here is that
the above sentence-type must clearly be distinguished from sentences
in which all V-complements must follow the verb, without implying PRO-
GRESSIVE ASPECT interpretation.

14 In fact, the specification that A ≠ S could perhaps be
eliminated from this constraint, because given the assumption that INFL is the head of S, the VP would constitute a "post-head complement," and so the case of sentences occurring on left branches would already be covered by the specification that $A \neq Y \exists H_j Z$, where $H_j$ is the head of $A$, and $Z \neq \emptyset$.

There is an additional structure that may be claimed to be possible for the Hungarian VP based on what we have established so far:

(i) $X_{\text{max}} \xrightarrow{VP} V' \xrightarrow{V} \xrightarrow{NP} \ldots$

However, notice that all the empirical arguments to be presented below showing that the "pre-V" complement and $V$ form a constituent ($V'$), which excludes all the rest of the VP-complements (cf. (48b)), eliminate the above structure just as well as they eliminate structure (48a).

The same rule seems to be applicable also in emphatic declarative sentences, such as (emphatic) answers to yes-no questions.


The existence of a $V'$ constituent containing a left sister to $V$ in the phrase structure of an "SVO" language is not at all unique to Hungarian. This is the phrase structure configuration in which clitics in Spanish are commonly assumed to be generated (cf. Rivas (1977) and Jaeggli (1980a)), and this is the structure argued for by Emonds (1978) for the "verbal complex" in French.

A potential problem with the proposed substitution analysis is that it seems to involve a violation of the "$\theta$-criterion," a constraint on the assignment of thematic roles to arguments (for a discussion, cf. Chomsky (1981)). We will return to this matter both in Chapter 3 and in Chapter 4, and will show that even though our analysis involves the movement of an argument into the D-structure position of another argument, it represents a strictly limited range of such cases that actually "escape" the $\theta$-criterion.

These facts in themselves do not uniquely choose the substitution analysis proposed. They would in fact be consistent with the particular adjunction hypotheses mentioned above, too.

Notice that the same adverbs, when placed after a declarative, i.e., non-Wh-Q subject, give perfectly grammatical results. Consider, e.g., the declarative version of our example (63):

94
(i) Mari { hirtelen
valószínűleg } az asztalra tette az edényeket.
véletlenül

Mary { suddenly
probably } the table-onto put the dishes-acq.
accidentally

'Mary { suddenly
probably } put the dishes on the table.'

22. It must be noted here that because Local Postposing—like all transformations in this framework—applies optionally, we predict that both Imperative and Negative sentences will occur also with a "pre-V" complement staying in the "pre-V" node in S-structure. This turns out to be true. So, for instance, the sentence

(i) Az asztalra tedd az edényeket!
the table-onto put-Imp.2sg. the dishes-acq.

'Put the dishes ON THE TABLE!' is perfectly acceptable. The remarkable fact about it, however, is that the "pre-V" complement in this case necessarily gets interpreted as the (contrastive) FOCUS of the sentence, and bears heavier than normal stress. We will return to this so far mysterious phenomenon and provide an interesting explanation for it in Chapter 4.

23. Given that, as it turns out, $V'$-complements—i.e., the special class of "pre-V" complements we have been discussing—give (potentially) acceptable results in immediately post-verbal position as well as in pre-verbal position (even though with a different interpretation), one may wonder why we are assuming a "Local Postposing" rule, rather than generating these complements in post-V position (still under $V'$) and assume a "Local Preposing" rule. One reason why this latter analysis seems problematic is that it would make it extremely difficult to maintain that in addition to the post-V complements in $V'$, there is also another node generated, as a left sister to $V$, which is always empty at D-structure, and whose only function is to serve as the target node for preposed $V'$-complements and for Wh-Q phrases. If, however, we do not have this base-generated "pre-V" node, we no longer have a natural account for the non-cooccurrence of $V'$-complements and Wh-Q phrases in pre-verbal position (namely, the substitution analysis). Notice that the generation of this systematically empty, "COMP-like" node in pre-V position under $V'$ would violate the restrictive—and empirically rather plausible—assumption that no projection of a major lexical category can contain base-generated positions that are never filled lexically at D-structure. A proposal similar to this is made in Emonds (1976,
Chapter 1). This restriction would also follow from the requirement inherent in the framework of Chomsky (1981) that all positions subcategorized for by a lexical category must receive a ż-role.

24 This case, and its theoretical significance, is reminiscent of the case of Subject-Aux inversion in English. In the case of Subject-Aux inversion too, one syntactic operation is associated with several different utterance-types.

25 This block of interpretive rules should apply disjunctively, in a way similar to that proposed by Anderson (1977) for rules of inflectional morphology.

26 The reason why we need rule (c), specifying "VAGUE," instead of just leaving the cases where neither (a) nor (b) could apply unmarked for ASPECT, will become clear when we consider the interaction of Wh-Q movement (and "FOCUS movement") with ASPECT interpretation, in Chapter 4.

27 It must be noted here that Imperative sentences with a postposed V'-complement (such as examples (67), even though they would meet the structural description of (73b)), turn out to be VAGUE with respect to ASPECT, rather than exhibiting exclusively PROGRESSIVE ASPECT. A direct way to remedy this situation would be to add to the specification of V in rules (73) the feature [-IMP]. A potentially more interesting solution would be to assume the independently needed interpretive template for Imperatives, \([v^\prime, V+\text{Imp.} (X^{\text{max}})] \rightarrow \text{IMPERATIVE}\), to be part of the disjunctively ordered block (73), and to precede rule (73b). Some residual problems with this latter proposal would necessitate some additional assumptions. I will not pursue the matter any further here.

28 The interesting issue of Wh-Q phrase extraction out of embedded Wh-questions will be discussed in parts of Chapters 3 and 4. Notice also that otherwise Hungarian does exhibit "island" effects. It obeys, e.g., Ross's (1967) Complex-NP Constraint, and even more interestingly—as we will see later in Chapters 3 and 4—it also manifests certain Wh-island effects. Thus one cannot trivially account for the facts in (76) by saying that Hungarian simply is not subject to Subjacency (or whatever constraint one might propose to replace it, for explaining "island" phenomena).
CHAPTER 2

THE SYNTAX OF FOCUS

In the previous chapter we have established that even though both relativization and Wh-question formation involve the movement of a Wh-phrase in Hungarian, just as their English counterparts do, there still is an important difference between the case of Hungarian and that of languages like English. Whereas the surface position of relative Wh-phrases seems to be the COMP node in both languages, the position of interrogative Wh-phrases in the surface structure of Hungarian is not COMP, but rather a node that is left sister to V and is dominated by V', a node referred to in Chapter 1 as the "pre-V" node. The two distinct surface positions occupied by moved relative Wh-phrases and moved interrogative Wh-phrases in the phrase structure of Hungarian have been represented in diagrams (75a) and (75b), respectively. In this chapter, we will consider a set of phenomena involving the notion of FOCUS, which—in addition to deserving serious attention in their own right—will shed some light on this otherwise mysterious property of Hungarian grammar.

The syntactic phenomena relating to FOCUS interpretation probably represent the most salient and distinctive, as well as the most
extensively discussed aspect of the syntax of Hungarian. (Cf. early works such as Brassai (1885) and recent ones such as Kiefer (1967), Horvath (1976), Kiss (1981), and Szabolcsi (1980).) In the following discussion, it will be shown that in Hungarian—in contrast to English—the interpretation of a constituent as the FOCUS of its clause is strictly limited to a particular structural position in phrase markers. We will develop a specific analysis of this phenomenon and embed it in a more general theory of FOCUS. This structurally conditioned FOCUS interpretation will in turn be argued to provide an explanation for the fact that in Hungarian, interrogative Wh-phrases (but not relative Wh-phrases) appear in a position distinct from COMP, namely, in the "pre-V" node. In section 2.3, we will develop a formalization of the familiar informal observation that there is an essential parallelism between Wh-questions and FOCUS sentences. Our proposal will involve a universal constraint on the Wh-Q operator. It will enable us to give a unified definition to the notion (discourse) presupposition, and thus will facilitate the formal statement of the discourse constraint on questions and their "appropriate" answers. The proposal will make a strong claim about the distribution of Wh-Q phrases and FOCUS phrases in the S-structure of particular languages. The relevant empirical consequences will be explored in light of some cross-linguistic evidence. In section 2.4, we will discuss how language-specific differences with respect to FOCUS assignment can be characterized in UG in a restrictive but still sufficiently flexible way, based on the notion of "government."
analyses presented in this chapter will maintain the conception that core grammar is a system made up of autonomous sub-components (or "modules"), an assumption central for the REST research program.

2.1. "FOCUS Movement"

As we have pointed out in section 1.4.2, the fact that Wh-movement in Hungarian has systematically different landing sites depending on whether the construction in which it applies is a Relative Clause or a Wh-question might lead one to the conclusion that, at least in this language, "Wh-movement" must be broken up into two separate construction-specific rules, namely, a "Relative Wh-Movement" rule and an "Interrogative Wh-Movement" rule. Notice that such an analysis would imply a significant weakening of the autonomy of syntax thesis, for the two different types of Wh-phrases could not be distinguished in terms of any independently motivated purely syntactic category. However, as we will see below, this conclusion is premature, i.e., it in fact does not follow necessarily from the configuration of data under consideration. The way to avoid it involves showing that we need not stipulate the observed difference in the target positions of Wh-movement by distinguishing two different types of Wh-phrases—namely, relative and interrogative Wh-phrases—anywhere in the syntactic component.

What will be argued in the following discussion is that the grammar of Hungarian manifests a particular property, motivated by phenomena totally independent of Wh-movement, from which—given reasonable
assumptions—the fact follows straightforwardly, without any special
stipulation, that the surface position of interrogative Wh-phrases is
not the COMP node, as it is for relative Wh-phrases, but rather the
"pre-V" node.

Consider first the following contrasts (the accent mark ' indicates
the place of primary stress in the sentence):

(1) a. Attila félt a földrengéstől.
Attila feared the earthquake—from
'Attila was afraid of the earthquake.'

b. Attila A FÖLDRÉNGÉSTŐL félt.
Attila THE EARTHQUAKE-FROM feared
'Attila was afraid OF THE EARTHQUAKE.'
or: 'It was THE EARTHQUAKE that Attila was afraid of.'

(2) a. Mari az asztalra tette az edényeket.
Mary the table-onto put the dishes-acc.
'Mary put the dishes on the table.'

b. Mari AZ ÉDÉNYEKET tette az asztalra.
Mary THE DISHES-ACC. put the table-onto
'Mary put THE DISHES on the table.'
or: 'It was THE DISHES that Mary put on the table.'

In the above set of examples, the (a) sentences represent a well-formed
sentence under normal intonation. These sentences are "neutral" or
"unmarked" in terms of their possible discourse contexts. For instance,
they could serve as the opening sentence of a narrative, or some other
piece of discourse. We can say that these sentences contain no "pre-
supposed" material; instead, the whole sentence, or at least the whole
VP, functions as "focus" (in the sense of Jackendoff (1972)). In
contrast, the corresponding (b) sentences are acceptable only if the capitalized phrase in them is interpreted as the only possible FOCUS of the sentence, with the rest being taken as (discourse-related) PRE-SUPPOSITION, i.e., as containing information that the speaker assumes is shared with the hearer. Notice that the phrases necessarily interpreted as FOCUS in examples (1b) and (2b) appear immediately preceding the verb in linear order.

The above facts represent part of a striking systematic pattern, traditionally noted in all analyses of Hungarian (e.g., Kiefer (1967), Horvath (1976), Kiss (1981), and Szabolcsi (1980)). The relevant descriptive generalization can be stated as follows:

A constituent (other than V or a projection of V) can be interpreted as the FOCUS of its clause in Hungarian if, and only if, it itself occupies an immediately pre-verbal position, or is contained in a phrase that does so.²

Thus, consider for instance the following versions of sentences (1a) and (2a):

(3) *Attila fált a FŐLDRENGÉSTŐL.
   Attila feared THE EARTHQUAKE-FROM
   'Attila was afraid OF THE EARTHQUAKE.'
   or: 'It was THE EARTHQUAKE that Attila was afraid of'

(4) *Mari az asztalra tette AZ ÉDÉNYEKET.
   Mary the table-onto put THE DISHES-ACC.
   'Mary put THE DISHES on the table.'
   or: 'It was THE DISHES that Mary put on the table.'
(5) *MÁRI az asztalra tette az edényeket.
    MARY the table-onto put the dishes-acc.
    'MARY put the dishes on the table.'
    or: 'It was MARY who put the dishes on the table.'

These sentences, each exhibiting an emphatically stressed phrase in its original D-structure position, rather than in "immediately pre-verbal" position, are ill-formed in the intended sense. They are interpretable only as fulfilling a metalinguistic function, namely, as corrections of a mispronunciation of the capitalized phrase by another speaker, or replies to echo-questions. In this respect they are parallel to English (as well as the corresponding Hungarian) sentences containing a non-moved Wh-Q phrase, such as, e.g., "John saw what?" This sentence too is ill-formed unless used in a metalinguistic function, namely, as an echo question, requesting the repetition of some part of a previous utterance missed by the speaker.

Before we turn to the actual analysis of the above type of phenomena in Hungarian, we should make it more precise what we mean by the notions "FOCUS" and "PRESUPPOSITION" in the present discussion.

It has been noted early in the generative literature that the interpretation assigned to sentences may be divided into two basic discourse-relevant units: "Focus" and "Presupposition." Some initial illustration of these notions is given in Jackendoff (1972, Ch. 6), based on the discussion of Chomsky (1971). Chomsky (1971) and Jackendoff (1972) point out as an example the relation between yes-no
questions and their "natural" responses. Following them, consider a sentence like (6) below (the capitalized word represents where the main stress and highest pitch fall in this sentence, using normal stress and intonation):

(6) Is it JOHN who writes poetry?

Notice now the marked difference in the status of the following two sentences as potential responses to the question in (6).

(7) No, it is BILL who writes poetry.

(8) No, it is JOHN who writes short stories.

Sentence (7) represents a "natural" response to question (6), whereas sentence (8) is an "inappropriate," "unnatural" response to this question. In other words, there is a sense in which a discourse-fragment consisting of sentences (6) and (7) is well formed, but one consisting of (6) and (8) is not. To capture intuitions like the above, the notions FOCUS and PRESUPPOSITION were introduced. As a working definition for these notions, Jackendoff (1972, 230) uses the following: the "focus of a sentence" is "the information in the sentence that is assumed by the speaker not to be shared by him and the hearer," and the "presupposition of a sentence" is defined as "the information in the sentence that is assumed by the speaker to be shared by him and the hearer." As pointed out by Jackendoff, we can intuitively speak of a discourse as "natural" if "successive sentences share presuppositions, that is, if the two speakers implicitly agree on what information they
have in common." In the case of sentence (6), the presupposition is that "someone writes poetry" and the focus was JOHN. Notice that sentence (7), which is felt intuitively to be a "natural" response to (6), also has "someone writes poetry" as its presupposition, whereas its focus, i.e., the "new information" it introduces, is BILL. Because the two sentences have identical presuppositions, they constitute a "natural" discourse. In contrast, the presupposition of sentence (8) is "someone writes short stories" (its focus is JOHN), i.e., it has a presupposition distinct from that of (6). The discourse resulting from (6) and (8) is felt to be "unnatural" because of the discrepancy in the presupposition of the question and the response.

Even though FOCUS and PRESUPPOSITION are clearly discourse-related notions in that rules of "discourse grammar" refer to them and make use of them, the identification of the potential range of FOCUS constituents (and PRESUPPOSITIONS associated with them) in individual sentences falls within the domain of sentence grammar. 3

Informally speaking, the grammar of languages like English appears to have two basic "strategies" for marking particular constituents as the FOCUS of their sentence. The first one we can call syntactic (or constructional) FOCUS-marking. Typical examples of syntactic FOCUS-marking are the cleft and pseudo-cleft constructions. In addition to occupying a specific "focus"-position in these constructions, the constituent in focus also bears the main stress and highest pitch in these sentence types. The other common type of FOCUS-marking is a
purely phonological one, i.e., one where the syntactic structure is identical to that of non-focused sentences.\(^4\) This latter, phonological FOCUS-marking, involving only stress and intonation, can be seen when we consider the contrast in FOCUS-interpretation between the following sentences:

(9) Mary hit JÔHN.  
Presupposition: Mary hit someone  
Focus: JOHN

(10) MÁRY hit John.\(^5\)  
Presupposition: someone hit John  
Focus: MARY

Crucially, notice that the basic difference between FOCUS in Hungarian and FOCUS in languages like English is that Hungarian exhibits no "purely phonological" FOCUS assignment. Stress and intonation alone do not suffice in this language to render a particular constituent FOCUS (unless it is a projection of V). Instead, FOCUS interpretation seems crucially tied to a particular structural position in Hungarian sentences, as shown, e.g., by the contrast between examples (1b), (2b) vs. (3), (4), and (5) above. The question of what parameter in UG might be responsible for this language-specific variation will be discussed later in this chapter.

Regarding the important question of what syntactic representation is the appropriate domain of FOCUS assignment, strong empirical evidence has been presented in the literature—particularly in Chomsky (1971) and Jackendoff (1972)—that the relevant level of representation is the output of the transformational component, namely, the level of
surface structure.$^6$

Chomsky (1971, 91) proposes that FOCUS should be identified as a constituent containing the "intonation center" of the clause in surface structure, and the corresponding PRESUPPOSITION is determined by replacement of the FOCUS constituent by a variable.$^7$ (We will return to this latter point later in this chapter.)

Notice, however, that Chomsky's (1971) theory of FOCUS assignment, taken literally, would be inconsistent with the model of core grammar developed in the Revised Extended Standard Theory (REST) framework, repeated below for convenience.

(11)

\[
\begin{array}{c}
\text{D-structure} \\
\downarrow \\
\text{'Move } \alpha' \\
\downarrow \\
\text{S-structure} \\
\downarrow \\
\text{PF ("Phonetic Form" or "Surface Structure")} \\
\downarrow \\
\text{LF ("Logical Form")}
\end{array}
\]

As we can see, in this model the phonological (or PF) component is not directly accessible for rules of the interpretive (or LF) component, and consequently, assuming this system, FOCUS interpretation cannot be directly triggered by stress and intonation phenomena. In the following, we will sketch a minimally modified version of Chomsky's proposal, which avoids this conflict. Of course it must be noted here that whether the PF and LF components should indeed be totally independent of each other, as the organization of grammar assumed in the
REST framework suggests, is an empirical issue. At this point, however, there seems to be no compelling evidence to abandon or weaken this claim of the REST model.8

There are at least two fundamental facts that an adequate theory of FOCUS must incorporate: (a) that the representation relevant for FOCUS interpretation is the output of the transformational component, rather than D-structure (as argued by Chomsky (1971) and Jackendoff (1972)), and (b) that FOCUS-constituents must be identifiable both in the LF component (in order to get the right interpretation) and in the PF component (for appropriate stress assignment). Given the REST model of core grammar presented in the Introduction and repeated above in (11), there is only one level of representation that follows all transformational operations and at the same time provides input both to the LF and to the PF components. This representation is the level of S-structure (cf. diagram (11)). Thus, let us assume that it is at this level that constituents get identified as foci.

More specifically, let us postulate a purely formal syntactic feature "FOCUS" in UG, which gets assigned to constituents precisely at the level of S-structure. (In this respect, it is similar to (abstract) Case-features in the Government-Binding framework (cf. Chomsky (1981).) We will refer to the process associating the feature "FOCUS" with particular constituents as "FOCUS Assignment."

After having been assigned to an S-structure constituent, "FOCUS" enters both the PF and the LF components as a consequence of the
organization of grammar given in (11). In PF it "triggers" primary stress and intonation peak assignment. The matter is of course more complex than this, and its details crucially depend on one's particular theory of stress and intonation. I will not pursue here the characterization of the process associating constituents marked as FOCUS with primary stress, but clearly, it seems to be a feasible task.

Regarding the role of "FOCUS" in LF, we can claim, on the basis of strong empirical evidence to be presented below, that it functions as a quantifier-like operator, i.e., it binds a variable. In this sense, it is similar to the Wh-operator, which also acts as a "quasi-quantifier" in LF. In fact, under the present proposal, the only difference between the two is that the Wh-operator "enters" the grammar as an actual morpheme inserted at the level of D-structure, whereas "FOCUS" gets assigned to constituents only at S-structure. Consistent with this distinction is the additional fact that "Wh" can be associated only with a limited range of constituent types (namely, with NPs and APs in languages like English or Hungarian), and furthermore, it seems to exhibit some language-particular variation as to what categories it can appear on, whereas "FOCUS"—a non-lexical entity, assigned at the level of S-structure—is more uniform in its distribution, appearing freely on any constituent type.

Some actual empirical evidence for our claim that the feature "FOCUS" acts as an operator binding a variable in LF comes from the phenomenon of "weak crossover," referred to in another context in
section 1.3 of Chapter 1. As pointed out in Chomsky (1976), there is a particular principle of anaphora that crucially distinguishes between variables and all other kinds of NPs in LF. The essence of the generalization involved is that a variable cannot be construed as the antecedent of a pronoun that occurs to its left. Chomsky proposes to state this generalization as part of a rule replacing a pronoun by a variable in the LF component: "... a pronoun $P$ within the scope of a quantifier may be rewritten as the variable bound by this quantifier unless $P$ is to the left of an occurrence of a variable already bound by this quantifier" (Chomsky (1976, 343)). Examples of the application of this condition on anaphora, involving variables bound by a quantifier and by a Wh-operator, respectively, are given below:

(12) The woman $\underline{he}_1$ loved betrayed $\underline{John}_1$.

vs.

(13) a. *The woman $\underline{he}_1$ loved betrayed $\underline{someone}_1$.

b. *Who$_1$ did the woman $\underline{he}_1$ loved betray $\underline{r}_1$?

Even though in sentence (12) the pronoun can have the lexical NP "John" as its antecedent, in sentences (13a) and (13b), which differ from (12) only in that in their LF representation in the position where "John" occurs in (12) they have an operator-bound variable instead of a name, the coreferential interpretation is not available. In other words, the pronoun in sentences (13a, b) must refer to someone whose identity is established elsewhere. The condition on anaphora proposed
in Chomsky (1976) correctly rules out the coreferential readings in (13a) and (13b), because both of these sentences have an LF representation in which the pronoun occurs to the left of the bound variable.\textsuperscript{10}

Consider now the example crucial for our purposes (pointed out originally in Chomsky (1976)):

(14) *The woman he\textsubscript{1} loved betrayed John\textsubscript{1}.

This sentence is different from sentence (12) in only one respect. The NP "John" is focused in (14) but not in (12). As we can see above, sentence (14), in contrast to (12), fails to exhibit a reading in which this NP is construed as coreferential to the pronoun he, i.e., its behavior with respect to anaphora is parallel to that of sentences (13a, b). This fact would immediately be accounted for if we assumed an LF representation for "focused" sentences in which there is a variable (bound by the "FOCUS"-operator) in the position of the FOCUS-constituent, i.e., to be more specific, in the case of (14), a representation like:

(15) John = the x such that [the woman he loved betrayed x]

Given the above LF representation, the condition on anaphora discussed above will apply (because the pronoun occurs to the left of the variable bound by FOCUS), and will block the coreferential reading.

In order to get representations as in (15), we are assuming here that a movement rule applying in the LF component—similar to May's (1977) QR—moves the phrase marked as "FOCUS" in S-structure out of its
clause, and adjoins it to a higher node, which I will assume here to be S, just as in the case of QR. 11 (Notice that this way, QR and FOCUS interpretation can be collapsed into one movement operation.) In addition, the feature "FOCUS" gets converted into its LF representation by the following rule:

(16) Given a representation of the form:

\[ \alpha \quad [FOCUS] \quad S \ldots x \ldots ] \]

where x is in the position of the FOCUS-marked constituent, and \( \alpha \) stands for an arbitrary category, rewrite it as:

\( \alpha = \text{the } x \text{ such that } [S \ldots x \ldots ] \)

If, on the other hand, we postulate no bound variable in the LF representation of sentences with FOCUS-ed constituents, the phenomena relating to anaphora pointed out in the above discussion remain unexplained.

Finally, we are assuming that LF representations in turn feed the component of "Discourse Grammar," and that it is in this component where sentences with FOCUS-ed constituents get further interpreted, in particular with respect to their appropriateness to particular discourse contexts. For an interesting discussion and actual formal statements of some of these processes, see Culicover and Rochemont (1981, sec. 3).

After having outlined our basic assumptions about the analysis of FOCUS in general, we can turn now to a more detailed and precise discussion of the peculiar facts of FOCUS in Hungarian noted previously on
the basis of examples like (1b), (2b) vs. (3), (4), and (5). As we have observed, in Hungarian, in contrast to English, constituents can be interpreted as FOCUS only if they appear in a particular syntactic position. We have already stated the rough descriptive generalization about where this position is in Hungarian sentences. In the following two sub-sections, we will establish what kind of process is involved in getting FOCUS constituents into the position in which they appear in surface structure, and also specify precisely what the "FOCUS-position" is in the phrase structure of Hungarian.

2.1.1. Evidence for a Movement Analysis

In examples (1a, b) and (2a, b) above, we have seen that a complement phrase that appears in a post-verbal position in the "neutral," non-focused version of the sentence (cf. (1a) and (2a)) can also appear in immediately pre-verbal position, but in this case it obligatorily gets interpreted as the FOCUS of the sentence (cf. (1b) and (2b)). (Recall also that, as we noted above on the basis of examples (3), (4), and (5), FOCUS interpretation is not available in any other position in the sentence in Hungarian.)

The question arising here is: what kind of process is responsible for the immediately pre-verbal position of FOCUS-ed phrases? Two basic types of analyses come to mind. (a) The process involved could be a movement rule, i.e., an instance of the canonical transformation 'Move α,' or (b) it could be a manifestation of Hungarian "free word order,"
i.e., a result of "scrambling" or—depending on one's particular theory of "free word order"—a product of free base generation. I am disregarding for the moment the problem of how to guarantee that these preverbal phrases necessarily get interpreted as FOCUS, for this is an issue that seems orthogonal to the choice between the above two alternative analyses.

The crucial evidence in cases like this, typically, may come from the consideration of the domain of application of the process in question. So let us examine the behavior of FOCUS-phrases in complex sentences such as the following:

(17) a. A gyerekek mondták, hogy Attila félt a földrengéstől.
    the kids said that Attila feared the earthquake—from
    'The kids said that Attila had been afraid of the earthquake.'

    b. A gyerekek mondták, hogy Attila A FÖLDRENGÉSTŐL félt.
    the kids said that Attila THE EARTHQUAKE—FROM feared
    'The kids said that Attila had been afraid of THE EARTHQUAKE.'
    or:
    'The kids said that it was THE EARTHQUAKE that Attila had been afraid of.'

    c. A gyerekek A FÖLDRENGÉSTŐL mondták, hogy Attila félt.
    the kids THE EARTHQUAKE—FROM said that Attila feared
    'It's THE EARTHQUAKE that the kids said Attila had been afraid of.'

(18) a. Kati gondolta, hogy a szomszédok látták, hogy János megcsókolta Marit.
    Cathy thought that the neighbors saw that John kissed Mary.
    Perf. prt.—kissed Mary-acc. 'Cathy thought that the neighbors had seen that John kissed Mary.'

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b. Kati gondolta, hogy a szomszédok látták hogy János MARIT
Cathy thought that the neighbors saw that John MARY-ACC.
csókolta meg.
kissed Perf. prt. 'Cathy thought that the neighbors had
seen that John kissed MARY.'
or:
'Cathy thought that the neighbors had seen that it was MÁRY
whom John kissed.'

c. Kati MÁRIT gondolta, hogy a szomszédok látták, hogy János
Cathy MARY-ACC. thought that the neighbors saw that John
megcsókolta.
Perf. prt.-kissed 'It's MÁRY who Cathy thought the neighbors
had seen that John kissed.'

The (a) sentences in the above sets of examples are "neutral" sentences,
i.e., ones with no argument focused. In the (b) versions, a post-V
complement in the embedded clause is FOCUS-ed, and—as we have seen
earlier with respect to simple sentences—appears in an immediately pre-
verbal position in its clause. The crucial cases for our argument,
however, are the (c) sentences. What we see in examples (17c) and (18c)
is that a FOCUS-ed complement originating in the most deeply embedded
clause need not appear in surface structure in its own clause, but
instead may appear in an immediately pre-verbal position, in the matrix
clause. 12

The application of the transformational rule 'Move α' may typi-
cally—although not in all languages—yield such "extraction" phenomena.
We have already seen earlier that Wh movimiento in Hungarian can apply
over an apparently "unbounded" domain. Thus, alternative (a), i.e., a
movement account for the distribution of FOCUS-ed phrases, can naturally
accommodate the phenomenon illustrated by (17c) and (18c) above. Alternative (b), on the other hand, would clearly run into serious difficulties. First, one of the characteristic properties of "free word order" phenomena is that they are clause-bound. But even if this was not so universally, it can still be shown that Hungarian in particular does not permit "scrambling"—or its base-generated analog—to apply across clause boundaries. If it did, we would expect to find not only sentences like (17c) but also sentences like (19) below, for instance:

(19) *A gyerekek mondták a földrengéstől hogy Attila félt. the kids said the earthquake—from that Attila feared

Because example (19) and similar sentences in which one of the complement phrases of the embedded clause—in (19) the phrase marked by underlining—is "scrambled out" of that clause manifest an extreme degree of ungrammaticality, we can conclude that at least Hungarian has no "free word order" phenomena that could account for "unbounded dependencies" like the ones exhibited by (17c) and (18c). Thus alternative (b) is impossible to maintain, and we are left with the conclusion that FOCUS-constituents in Hungarian must get to the position they occupy in surface structure by the application of the rule 'Move α.'

The movement nature of the process under discussion is further borne out by the observation that—like Wh-movement—it leaves a gap, and even though it potentially applies over an "unbounded" domain, it still observes the Complex-NP Constraint, as shown by the example below:
(20) a. Kati hallotta a hírt hogy Attila A FÖLDRENGÉSTŐL. Cathy heard the news-acc. that Attila THE EARTHQUAKE-FROM felt t₁. feared t₁. 'Cathy heard the news that Attila had been afraid of THE EARTHQUAKE.'

or: 'Cathy heard the news that it was THE EARTHQUAKE that Attila had been afraid of.'

vs.

b. *Kati A FÖLDRENGÉSTŐL hallotta a hírt hogy Attila Cathy THE EARTHQUAKE-FROM. heard the news-acc. that Attila felt t₁. feared t₁.

In the following sub-section, we will establish precisely what the landing site of this "FOCUS-movement" rule is in the phrase structure of Hungarian.

2.1.2. The "FOCUS-Position"

To make the specification of the position for FOCUS-ed constituents in Hungarian syntax more precise, let us consider first the effect of FOCUS-ing an argument in sentences having a base-generated V'-complement, i.e., a complement occupying the "pre-V" node under V' in D-structure (cf. our discussion of the "pre-V" node in section 1.5 of Chapter 1). The base-generated "pre-V" phrase is underlined in the following examples:

(21) a. Mari az asztalra tette az edényeket. Mary the table-onto put the dishes-acc.
'Mary put the dishes on the table.'

b. Mari AZ EDÉNYEKET₁ tette az asztalra t₁. Mary THE DISHES-ACC₁ put the table-onto t₁
'Mary put THE DISHES on the table.'

or:

'It's THE DISHES that Mary put on the table.'

c. *Mari AZ EDÉNYEKET, az asztalra tette ti.
Mary THE DISHES-ACC, the table-onto put ti

(22) a. A házigazda bemutatta Jánost a Katinak.
the host in-showed John-acc. Cathy-to
'The host introduced John to Cathy.'

b. A házigazda KATINAK; mutatta be Jánost ti.
the host CATHY-TÔ showed in John-acc. ti
'The host introduced John TO CATHY.'

or:

'It's CATHY whom the host introduced John to.'

c. *A házigazda KATINAK; bemutatta Jánost ti.
the host CATHY-TÔ in-showed John-acc. ti

What the above examples show is that in case a constituent of the sentence is focused and moves to the pre-verbal "FOCUS-position," a base-generated "pre-V" complement—if there is any in the particular clause involved—must be postposed. Notice that this postposing is another instance of the application of the "Local Postposing" rule that we proposed in section 1.7 of Chapter 1. (The application of this rule is illustrated in diagrams (65a, b).)

Recall now the analysis we have given in section 1.6 (Chapter 1) for the landing site of Wh-Q phrases in Hungarian. The facts shown by examples (21)-(22) bear a striking resemblance to the phenomena presented in Chapter 1 regarding Wh-question formation in sentences with base-generated V' complements, namely, both Wh-Q phrases and FOCUS phrases turn out to exclude the occurrence of "pre-V" complements in
the position the latter would otherwise occupy. To capture this basic similarity, let us hypothesize that the surface position of moved FOCUS phrases is identical to that of interrogative Wh-phrases in Hungarian, namely, in both cases it is the "pre-V" node, generated under V' (cf. structure (55) in Chapter 1). Under this hypothesis, then, the explanation for the behavior of base-generated "pre-V" phrases in sentences with FOCUS-ed phrases (shown by examples (21)-(22)) is the same as it is in our analysis of Wh-Q movement, namely, the fact that—given the principle of the recoverability of deletion—substitution into the "pre-V" node is possible only if it is free of lexical material.

In section 1.6 of Chapter 1, we have noted some empirical phenomena bearing out the hypothesis that Wh-Q phrases appear in the "pre-V" node in the surface structure of Hungarian. Let us examine now how FOCUS-ed phrases behave with respect to the same generalizations.

(i) Adverb Distribution

(23) a. Mari \{véletlenül\} valószinűleg hirtelen EGY KANÁL SÓT tett a kávéjába.

Mary \{accidentally\} probably suddenly A SPOON SÁLT-ACC. put the coffee-her into

'Mary \{accidentally\} probably suddenly put A SPOONFUL OF SÁLT into her coffee.'

or:

b. Mari EGY KANÁL SÓT tett \{véletlenül\} valószinűleg hirtelen a kávéjába.

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Mary A SPOON SALT-ACC. put { accidentally probably suddenly } the coffee-hers-
into

but:
c. *Mari EGY KANÁL SÓT { véletlenül valószínűleg hirtelen } tett a kávéjába.

Mary A SPOON SALT-ACC. { accidentally probably suddenly } put the coffee-
hers-
into

The type of adverbs exemplified in the above sentences have the property
of occurring between any major categories dominated by a maximal pro-
jection (cf. examples (23a) and (23b) above, as well as examples (49a),
(49b), and (50) of section 1.5 in Chapter 1). Given this, the fact
that sentences like (23c) are unacceptable constitutes evidence for the
claim that the FOCUS-ed phrase and the verb make up a constituent of
their own, which is not a maximal projection. This result is precisely
what we would expect under the assumption that the position in which
FOCUS phrases appear in the phrase structure of Hungarian is the "pre-
V" node, dominated by V'. (The relevant structure is shown by diagram
(55) in Chapter 1.)

Another prediction of our hypothesis regarding the "FOCUS-posi-
tion" in the S-structure of Hungarian is that FOCUS-ed phrases will
exhibit no free right-branching recursion, just as base-generated V'-
complements and interrogative Wh-phrases were shown to do (in sections
1.5 and 1.6, respectively). The principle governing the phenomenon we
are referring to here, namely, the "Revised Surface Recursion

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Restriction," is stated in (44) of Chapter 1. As shown by the example below, this prediction is borne out.

(24) a. *A tanár ázt A GYEREKET AKI TÚL SOKAT BESZÉLT
the teacher THAT-ACC. THE KID-ACC. WHO TOO MUCH TALKED
küldte ki a szobából.
sent out the room-from 'The teacher sent THE KID WHO
TALKED TOO MUCH out of the room.'

b. A tanár ázt A GYEREKET küldte ki a szobából
the teacher THAT-ACC. THE KID-ACC. sent out the room-from
AKI TÚL SOKAT BESZÉLT. \(^{14}\)
WHO TOO MUCH TALKED

So far we have used only examples with FOCUS-ed phrases that
originated as post-verbal complements in D-structure. The fact is,
however, that subject-NPs too can be interpreted as FOCUS only if they
get substituted into the "pre-V" node. Recall here the unacceptability
of sentences like our example (5) pointed out at the beginning of this
chapter. The FOCUS-ing of the subject in a sentence like (5) is accept-
able only if the base-generated "pre-V" complement in it (marked by
underlining here) gets postposed—as shown below—just as we have seen
both in the case of interrogative Wh-subjects and in the case of Wh-Q
phrases and FOCUS phrases originating in a post-V position in D-
structure.

(25) tₐ. MÁRI, tette az asztalra az édényeket.
\(t_i\) MARY\(^i\) put the table-onto the dishes-acc.

'MÁRY put the dishes on the table.'

The phenomena of adverb distribution and of the Surface Recursion
Restriction referred to above also turn out to be consistent with the claim that FOCUS-ed **subject-NPs** as well appear in the "pre-V" node in surface structure. Consider, for instance, the following examples:

(26) *MARI {véletlenül} tette az asztalra az edényeket.

\[\text{accidentally}\]

MARY \{probably\} \{suddenly\} put the table-onto the dishes-acc.

'It's MARY who \{probably\} \{suddenly\} put the dishes on the table.'

(27) a. Az a lány akit bemutattam neked tegnap that the girl who-acc. in-showed-1sg. to-you yesterday hazament.

home-went 'The girl that I introduced to you yesterday went home.'

b. *ÁZ A LÁNY AKIT BEMUTATTAM NEKED TEGNAP THAT THE GIRL WHO-ACC. IN-SHOWED-1sg. TO-YOU YESTERDAY ment haza.

went home 'THE GIRL WHOM I INTRODUCED TO YOU YESTERDAY went home.'

c. ÁZ A LÁNY ment haza AKIT BEMUTATTAM NEKED THAT THE GIRL went home WHO-ACC. IN-SHOWED-1sg. TO-YOU TEGNAP.

YESTERDAY

To summarize, we have seen that phrases can be interpreted as FOCUS in Hungarian only if they appear in the "pre-V" node. In order to be interpreted as FOCUS, all phrases, other than those base-generated in the "pre-V" node (cf. the discussion of "pre-V" complements in section 1.5 of Chapter 1), must undergo a movement rule substituting them
into this particular structural position under V'. The nature of this movement rule and its implications for the theory will be discussed in Chapters 3 and 4. It follows from our claim about the "FOCUS-position" that base-generated "pre-V" phrases should, optionally, be available for FOCUS interpretation freely, without any change in the syntax of their clause, and this is indeed what happens.

Let us henceforth informally refer to this movement substituting a (non-Wh) major phrasal category into the "pre-V" node that eventually gets interpreted as FOCUS, as "FOCUS-movement," without necessarily claiming any particular theoretical status for the rule. Before we address the issue of what parameter of UG might be involved in yielding the severely restricted options for FOCUS interpretation described above in connection with Hungarian, in contrast to the freedom of "phonologically specified" FOCUS found in languages like English, we must briefly review an alternative proposal regarding the position of FOCUS-ed phrases in the phrase structure of Hungarian.

In a recent paper by K. É. Kiss (Kiss (1981)), the following structure is postulated for Hungarian sentences: 15

(28) Example (49) of Kiss (1981) 'It annoyed John that he was fined'
The node T (the "topic" node), under Kiss's hypothesis, can dominate an arbitrary number of empty positions and the node F (the "focus" node) dominates one single empty node. These empty positions are claimed to be filled by the application of the optional substitution transformations "Topicalization" and "Focusing," respectively, from among the lexically filled nodes of S^0. Thus, concentrating now on the F node in structure (28), we can see that in Kiss's analysis the position of the FOCUS node in the hierarchical structure of Hungarian is significantly different from the phrase structure position we have established for FOCUS phrases in the course of the preceding discussion. Kiss offers one argument in support of the structure she proposes. At first glance, the phenomenon on which this argument is based appears to be inconsistent with the proposal for the position of FOCUS that we have developed in the present study. In the following, however, we will argue that this in fact is not the case, and motivate a different type of account
for the phenomena involved that is consistent with our proposal, and that seems superior to Kiss's analysis of the same data on independent grounds.

Kiss's argument is based on her claim that (a) Hungarian has clausal extrapolation from NP to the left as well as to the right, and (b) that a pronominal head, az 'it'/ 'that', of the NP containing the sentential complement is left behind under extrapolation. (She refers to the movement of the sentential complement out of the NP as "extraction" in the paper instead of the more standard term "extraposition" that we will use in this discussion.) The finding that Kiss (1981) presents as the crucial evidence in support of the position of FOCUS (and also for the position of TOPIC, which we are not concerned with here) in structures like (28) is the following: Extraposition of a clause out of NP to the right is acceptable from the TOPIC (T) and the FOCUS (F) positions, as well as from any $S^0$ internal (i.e., post-verbal) position, as illustrated by Kiss's examples (50b), (52b), and (54b). Extraposition to the left, however, is claimed to be permitted only from TOPIC and FOCUS positions, but not from inside of $S^0$. I repeat here her crucial examples for this latter claim:

(29) **Leftward Extraposition from T** (Kiss (1981, ex. (50c)))

\[
\begin{align*}
\text{Hogy megbüntették,} & \quad [_{T}\text{ az e}] \quad [_{F}\text{ föl}] \text{ bosszantotta} \\
\text{that Perf. prt.-fined-him-3pl.} & \quad [_{T}\text{ it}/\text{that e}] \quad [_{F}\text{ up}] \text{ annoyed} \\
\text{Jánost.} & \quad \text{John-acc.16} \quad \text{'That he was fined annoyed John.'}
\end{align*}
\]
(30) **Leftward Extraposition from F** (Kiss (1981, ex. (52c)))

Hogy megbüntették, [T Jánost] [F az e] bosszantotta föl.
'What annoyed John was that he was fined.'

d vs.

(31) **Leftward Extraposition from S** (Kiss (1981, ex. (54c)))

*Hogy megbüntették, [T e] [F föl] bosszantotta [az e] Jánost.
'It annoyed John that he was fined.'

The way Kiss proposes to account for the asymmetry observed between the possible sources of extraposition to the right and extraposition to the left is by making the claim that in Hungarian S'' and S are both bounding nodes for subjacency, but S' is not. Given this assumption, consider the facts pointed out above as summarized in the following diagram taken from Kiss (1981, ex. (56)):

(32) X [S',[T ... S2 ... [S,[F ... S2][S0 ... S2 ... ]]]]

Under Kiss's analysis, rightward extraposition will be possible from all of the three types of positions represented in (32), because the moved clause can get into a sentence-final position without necessarily having to cross both an S0 and an S'' boundary, i.e., without violating subjacency (cf. the diagram above). In the leftward extraposition case, on the other hand, Kiss assumes that the clause must necessarily move to a position outside of S''. We can infer that the reason for this assumption is her impression that left-extraposed clauses

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always precede all topicalized elements in linear order. Let us assume for the time being that this is indeed correct. Given the analysis sketched above, Kiss can now explain the unacceptability of sentences like (31)—her example (54c)—by appealing to the subjacency condition: namely, she claims that leftward extrapolation out of $S^0$ yields unacceptability because this movement, in contrast to the rest of the movements represented in diagram (32), would necessarily involve crossing two bounding nodes ($S''$ and $S^0$), i.e., a violation of subjacency.

If the subjacency explanation for these phenomena indeed turns out to be correct, the proposal we have developed in the present study, having the FOCUS position in the "pre-$V$" node under $V'$, i.e., inside of the minimal S node, will not be able to make the appropriate distinction that Kiss's hypothesis makes between the acceptability of left-extrapolation from the FOCUS node (as in (30)) and the unacceptability of left-extrapolation from a post-verbal position (as in (31)). If, however, it is not subjacency that is involved in producing the above configuration of data, then these facts no longer constitute evidence in favor of Kiss's hypothesis as opposed to our proposal regarding the phrase structure position of FOCUS phrases. What we will argue below is that "leftward extrapolation"—in contrast to "rightward extrapolation"—is not in fact a movement process and, more crucially, that the distribution of pronouns corresponding to "left extraposed" clauses cannot possibly be attributed to the subjacency condition.
As observed by Baltin (1978), extraposition rules exhibit a curious asymmetry with respect to the direction of the movement: they all tend to be rightward rather than leftward movements. Baltin (1978) incorporates this claim directly into his "construal schema" associating displaced complements with their heads. Of course, Hungarian could in principle be an exception to the above generalization in having a leftward extraposition rule, along with a rightward one. However, there turns out to be some interesting empirical evidence indicating that the alleged "leftward extraposition" rule of Hungarian is in fact a fundamentally different process from its rightward "counterpart."

Compare first the following sentences in which the "head pronoun" az meaning 'it'/'that' construed with the extraposed clause has been replaced by ez, a demonstrative pronoun meaning 'this':

(33) a. "Leftward Extraposition" (parallel to our previous example (29))

_Hogy megbízották_ ez fölbosszantotta Jánost. 18
\textit{that Perf. prt.-fined-him-3pl. this up-annoyed} John-acc.

('That he was fined, this annoyed John.')

b. \underline{Non-extraposed Version} (parallel to Kiss's (50a))

*_Ez_ högy megbízották fölbosszantotta Jánost.
\textit{this that Perf. prt.-fined-him-3pl. up-annoyed} John-acc.

c. \underline{Rightward Extraposition} (parallel to Kiss's (50b))

*_Ez_ fölbosszantotta Jánost högy megbízották.
\textit{this up-annoyed} John-acc. \textit{that Perf. prt.-fined-him-3pl.}

The ungrammaticality of (33b) and (33c) clearly indicates that only the pronoun az but not the pronoun ez can serve as a head-pronoun
taking a sentential complement in an NP. Sentence (33a), which looks exactly like the sentences having alleged leftward extraposition, does permit the displaced clause to be construed with ez. Because this case cannot be considered an instance of Extraposition (for that would wrongly predict that also (33b)—as well as (33c)—will be acceptable), we obviously need to postulate another, distinct process associating a sentence-initial complement clause with a (demonstrative) pronoun in the sentence. Let us assume then that structures like (33a) are basically instances of "left-dislocation" constructions, except that in these cases, the constituent generated in left-dislocated position happens to be a clause. The pronoun in the sentence is not the head of the NP of which the displaced clause is a complement; it is simply a freely generated pronominal filling an NP position, which gets interpreted, by means of the general rules of anaphora, as anaphoric to the left-dislocated clause. This analysis can obviously explain the asymmetry between sentences (33a) vs. (33b) and (33c). (33b) and (33c) are ungrammatical because (a) the pronoun ez (in contrast to az) cannot function as the head-pronoun of the NP-complement clause, and (b) the pronoun ez taken to be an independent NP—as it is in sentence (33a)—cannot be anaphoric to the clause in question because both in (33b) and in (33c) it c-commands the clause (cf. Reinhart (1976) for conditions on pronominal anaphora).

Given this, we can now hypothesize that the cases that superficially looked like cases of leftward extraposition, because of the
presence of a sentence-initial complement clause and a corresponding pronoun az in the sentence, are also instances of (base-generated) left-dislocation constructions, similar to example (33a) discussed above, rather than being due to Extraposition. Let us return now to the crucial observation that the pronoun az corresponding to a sentence-initial complement clause had to be TOPIC or FOCUS, and could not be, in Kiss's terminology, "inside of S^0" (cf. examples (29), (30), and (31)). Our claim about the source of "left-extraposed" sentences predicts that the same array of acceptability judgments will hold when ez occurs in the place of az. This prediction is clearly borne out by the data:

(34) (parallel to (29))

\[ \text{Hogy megbüntették, } \text[f, ez] \text{ fölbosszantotta Jánost.} \]
\[ \text{that Perf. prt.-fined-him-3pl. } [f, \text{this}] \text{ up-annoyed John-acc.} \]
'\text{That he was fined annoyed John}'

(35) (parallel to (30))

\[ \text{Hogy megbüntették, } \text{Jánost } [f, \text{ez}] \text{ bosszantotta} \]
\[ \text{that Perf. prt.-fined-him-3pl. John-acc. } [f, \text{this}] \text{ annoyed föl.} \]
\[ \text{up } \text{ 'What annoyed John was that he was fined.'} \]

(36) (parallel to (31))

\[ \text{*Hogy megbüntették, } \text{fölbosszantotta ez Jánost.} \]
\[ \text{that Perf. prt.-fined-him-3pl. up-annoyed this John-acc.} \]

What we can conclude from this is that whatever the restriction on the possible positions of the pronoun to be construed with the dislocated clause is, it has nothing to do with constraints on
Extrapolation. Hence Kiss's (1981) explanation of these facts, based crucially on the subjacency condition limiting the application of Extrapolation, becomes hard to maintain. 19

However, to eliminate the argument for the S0-external position of the FOCUS-node in an even more definitive way, we must show that the constraint giving rise to the difference in the acceptability of the demonstrative pronouns az/ez in the TOPIC and the FOCUS position vs. their occurrence in any other position indeed cannot possibly be sub-

jacency, or any other similar "locality principle." This in fact turns out to be a feasible task.

As we have noted earlier, Kiss assumes that "left extrapolated" clauses necessarily precede all Topicalized elements (cf. her examples reproduced previously as (29), (30); and (31)). It is probably this assumption that leads her to postulate a position outside of S' for "left extrapolated" clauses (as shown in diagram (32)—her diagram (56)). Notice, however, that some additional data, not considered in Kiss's paper, reveal that "left extrapolated" clauses in fact need not precede all Topicalized constituents. Sentences such as (37), in which the dislocated complement clause appears following some or all Topicalized phrases, are perfectly grammatical.

(37) Jánost, hogy megbüntették, az fölbosszantotta.
John-acc. that Perf. prt.-fined-him-3pl. it/that up-annoyed

'That he was fined annoyed John.'

In view of these observations, we must conclude that "left extrapolated"
complement clauses in fact occur inside of Kiss's S'', occupying one of the TOPIC positions, dominated by the T node in Kiss's structure (cf. diagram (28)). Let us examine now whether sentences like (37), i.e., examples in which the "left extraposed" clause definitely appears in an S''-internal position, still exhibit the restriction with respect to the possible position of the pronoun anaphoric to the clause, as we observed in sentences (29), (30), and (31). We have already seen, in sentence (37), that the pronoun az could occur in TOPIC position. Compare now the following two crucial examples:

(38) \( [S', [T \text{ Jánost, hogy megbüntették,}] [T \text{ John-acc. that Perf. prt.-fined-him-3pl.}] [S, [F \text{ az}] [F \text{ it/that}]
[S_0 \text{ bosszantotta föl.}]]\]
annoyed up

(39) *\( [S', [T \text{ Jánost, hogy megbüntették,}] [T \text{ John-acc. that Perf. prt.-fined-him-3pl.}] [S, [F \text{ föl}] [F \text{ up}]
[S_0 \text{ bosszantotta [az.]}]]\]
annoyed \([\text{it/that}\]

What we can see in (38)-(39) is that the crucial difference in acceptability pointed out by Kiss between sentences with the pronoun az in FOCUS position vs. sentences with the pronoun az in a post-verbal position holds in these sentences too. Thus, in order to maintain Kiss's hypothesis to the effect that it is the application of the sub-jacency condition that accounts for the observed distribution of az in "left extraposed" constructions, one would have to claim that sentence (39) also is ungrammatical because the pronoun az is "too far" from its dislocated clausal antecedent, i.e., that the relation between them
violates subadjacency. To say this would first imply a change in what we assume to be bounding nodes for subadjacency in Hungarian. But notice now that this claim leads us to an absurd conclusion, no matter how we choose our bounding nodes. In sentence (39), as well as in sentences (37) and (38), in addition to the "left extraposed" clause, there is also another constituent in TOPIC position, namely, the Topicalized direct object, Jánost, which has been moved into its surface position from a post-verbal D-structure position, i.e., from inside S⁰. Given now that this NP also must get "associated" with the trace that it leaves behind, the subadjacency account of the distribution of az in "left extraposed" constructions would force us to the untenable position that the association of a clause in TOPIC position with its pronominal counterpart is governed by subadjacency, but the association of a Topicalized phrase (occupying a TOPIC position) with its trace is not.

This paradoxical result makes it clear that whatever the principle that governs the possible positions of demonstrative pronouns (az/ez) referring to left-dislocated complement clauses in Hungarian, it cannot be the subjacency condition, or any other "locality principle." Hence the argument for a structure in which the FOCUS node is outside of the smallest S-domain (cf. Kiss's structure (49) given in our (28)) based on the subjacency account for these phenomena is eliminated.

Thus our claim, argued for in this sub-section, to the effect that the surface position of FOCUS-ed constituents is the "pre-V" node dominated by V', can in fact be maintained.
2.2. The FOCUS-Assignment Parameter

In the previous section, we have established that FOCUS-ed phrases in Hungarian must appear in a particular position in the phrase structure, namely, in the "pre-V" node under V', represented in structure (55) of Chapter 1. This constitutes a curious discrepancy from the way languages like English work in this respect. In the latter type of languages, FOCUS interpretation can be given to phrases in any position in the sentence (cf. our discussion of "phonologically specified" FOCUS, in section 2.1). The question arises now as to what is the best way to incorporate this typological difference between Hungarian and the English-type languages into the theory of UG.

Given our conception of the representation of FOCUS in the grammatical model, as outlined at the beginning of section 2.1, we have, in principle, three possible choices as to where to locate the source of the variation: (a) we could say that Hungarian and English differ in terms of the mechanism, or conditions on the mechanism, assigning the feature FOCUS at the level of S-structure; (b) we could claim that the difference lies in the conditions on the semantic interpretation of FOCUS at LF; or (c) the variation could be attributed to a difference in the possibilities of emphatic stress placement, in the phonological component. In the following discussion, we will adopt alternative (a), i.e., we will claim that the process that is subject to parametric variation is the rule of FOCUS-assignment, applying at S-structure.
Before presenting the actual hypothesis, we will motivate the elimination of the other two hypotheses ((b) and (c)) from consideration. The reason why alternative (c) cannot be the right hypothesis has to do with the simple observation that Hungarian, just as well as English, does permit emphatic stress freely, on any constituent in a sentence. The difference between the two languages manifests itself not in the output of the phonological component, but rather in the fact that in Hungarian—unlike the case in English—the interpretation resulting from an emphatically stressed constituent appearing in any position other than the "pre-V" node can only be a "metalinguistic" one, i.e., one involving a correction of the mispronunciation of a constituent, or even of an arbitrary sub-part of a constituent, by another speaker. (Because these "metalinguistic" interpretations do not derive presuppositions, and can apply also to fragments of constituents, we are assuming that they do not result from the process of FOCUS-interpretation, but rather are assigned optionally at a level beyond LF, presumably in the component of Discourse Grammar.)

Regarding alternative (b), it would have to make one of the following two claims in order to make the right distinction: (1) it could state that the LF representation of FOCUS in Hungarian must have the FOCUS-marked constituent, i.e., the FOCUS operator, not outside of S (as in rule (16)) but rather in the "pre-V" node; or (2) it could assert that although the movement in LF extracting a constituent marked by "FOCUS" from its S can apply freely in English, it can apply only to
a constituent occupying the "pre-V" node in Hungarian. Claim (1) is impossible to maintain, however, because given the phrase structure position of the "pre-V" node, the FOCUS operator would never c-command the variable it is supposed to bind. This would violate the well-motivated general principle of operator-binding, which requires that operators c-command their variables in hierarchical constituent structure. As for claim (2), this account would be in conflict with the working hypothesis commonly assumed in the REST framework that languages do not differ with respect to major rules of interpretation. (This practice is motivated by the assumption that because the effect of rules of LF is "inaudible," i.e., in a sense less tangible than the application of other kinds of processes, they would be the hardest to deduce from data in the course of language acquisition.) More significantly, notice that under hypothesis (b2), the FOCUS-raising rule in the LF component of Hungarian would have to specify the context term V in its structural description, and thus it would not conform to a restrictive formalism for movement rules such as the principle of "Minimal Factorization" proposed in Chomsky (1976), and a fortiori, the even more restrictive rule schema 'Move α.' Looking at the same issue from a more empirical point of view, this claim would imply that other LF movement rules, such as, e.g., Quantifier Raising (cf. May (1977)), could also exhibit similar language-specific restrictions as to the positions to which they could apply. To the best of my knowledge, no such cases have been reported in the literature. (This of course still
remains a question open to further empirical investigation.) Notice in addition that because the FOCUS-raising rule and the QR rule are otherwise so similar in nature—applying in LF, they both raise categories out of their clause and adjoin them to an S node, and they both result in configurations with a bound variable in the position of that category—one might well expect that if FOCUS-raising is limited, for some reason specific to the grammar of Hungarian, to apply only to categories in the "pre-V" node, so would QR be. This is not the case, however. The distribution of quantified NPs in Hungarian shows no comparable restriction. In contrast, under the assumption that the FOCUS-raising rule in the LF component of Hungarian grammar operates freely, i.e., without any specification of the position of the category it can apply to, this rule could be collapsed with QR, thus capturing their basic similarities. In fact, the LF-rule involved would reduce to the schema 'Adjoin α to S.' The apparent overgeneration of this rule would pose no problem, for structures resulting from the application of the rule to a non-FOCUS and non-quantified category would automatically be eliminated by the fact that in these representations, there would be no operator available to bind the variable in the position of the moved category, and so an open sentence would result. On the basis of these considerations, we will discard alternative (b). Thus, we are left with alternative (a) to account for the difference between Hungarian and the English-type languages regarding FOCUS, namely, with the hypothesis that what is parametrized in UG is the rule assigning the feature "FOCUS" at
the level of syntactic S-structure.

We have pointed out in our discussion of the proper treatment of FOCUS at the beginning of section 2.1 that focused constituents must be identified as such at the level of S-structure, for otherwise—given the structure of the model of core grammar assumed here, and in the REST framework in general—main sentence-stress assignment, applying in PF, and FOCUS-interpretation, applying in LF, would not necessarily converge on the same constituent. This problem is solved if we posit a feature "FOCUS" in UG, assigned at S-structure, as we proposed earlier in section 2.1. Notice, incidentally, that "FOCUS" is not always an "abstract" or "vacuous" feature in the syntactic component. Although in English, Hungarian, and many other languages it has no "visible" morphological correlate, in some other languages it does. For instance, FOCUS constituents appear with a special particle attached to them in languages like Aghem (cf. Watters (1979)), Hausa, and Yoruba. The latter two examples have been provided to me by P. Schachter.)

The case of "FOCUS" in this respect is reminiscent of that of abstract Case features, which (a) also are assumed to be assigned at S-structure, and (b) may, but need not necessarily, be morphologically "realized" (on Case, cf. Chomsky (1980a; 1981), Rouveret and Vergnaud (1980)). Assuming then that there is a rule in UG assigning the feature "FOCUS"—i.e., the element that acts as an operator binding a variable at LF and that triggers primary or emphatic stress assignment at PF—we can proceed to specify more precisely the nature and possible form of
this rule.

In languages like English, "FOCUS Assignment" can have a maximally restrictive formulation, namely, it can apply completely freely, i.e., with no context or any other restriction specified in its statement, similarly to the way indexing is assumed to operate in the Government-Binding framework (on "free indexing," cf. Chomsky (1981)). Let us hypothesize now that free FOCUS-assignment, namely, the rule "Assign FOCUS to α" is only one of the possible forms this process can take in the grammars of particular languages. More specifically, assume that FOCUS-assignment can, in some languages, take a slightly different—presumably somewhat more marked form—, namely, the form of a contextually conditioned but still strictly local rule. (I use the term "strictly local rule" in the sense of Emonds (1976, Chapter 6).) Thus, we can say that Hungarian differs from English in that the assignment of the feature "FOCUS" at S-structure is of the form "Assign FOCUS to α" in English, but is a contextually constrained, strictly local operation in Hungarian. The particular FOCUS-assignment rule relevant for Hungarian can be stated as follows:

\[(40) \quad \text{FOCUS Assignment}^{22} \quad [V', x^{\text{max}} - V] \rightarrow 1 - 2 \quad \text{FOCUS} \]

Later on, in section 2.4, we will examine the question of whether this rule indeed needs to be specified as a language-particular statement in its present form, and—after the consideration of similar
phenomena from other languages—we will propose to revise this analysis, making use of the notion of government (on this notion, cf. Chomsky (1981, Chapter 3)).

Two additional points must be noted here in connection with the FOCUS Assignment rule of Hungarian (rule (40)). First, this rule obviously fails to account for sentences in which the verb or a projection of it is interpreted as FOCUS. We could postulate for these cases a separate "V-FOCUS-assignment" rule, applying to constituents of the category \( V^n \). However, our proposal for a reanalysis of "FOCUS-assignment" to be developed in section 2.4 will suggest a more interesting solution to this problem, one that avoids the stipulation of two separate FOCUS-assignment rules.

Finally, we must address the important issue of whether the application of the rule of FOCUS Assignment (rule (40)) is optional or obligatory. Here, it seems, we are facing a paradoxical situation. In the case of base-generated "pre-V" complements occupying the "pre-V" node, the application of FOCUS Assignment is obviously optional; this type of complement (exemplified, e.g., in sentences (37), (38), and (39) of Chapter 1) may, but need not be interpreted as the focus of its clause. On the other hand, as we pointed out previously, when any other kind of phrase, i.e., any constituent that is not base-generated in the "pre-V" position, appears in this position in S-structure, it necessarily gets interpreted as the FOCUS of its clause. So the relevant descriptive generalization seems to be a highly unusual one: Rule (40)
applies optionally to base-generated "pre-V" phrases, but obligatorily
to all constituents that get to their "pre-V" surface position by a
movement rule. This curious generalization should obviously not be
directly stipulated in this form. At this point, however, we will just
note this as a problem to be solved. An explanation for the phenomenon
will be provided by our analysis of "FOCUS Movement," to be presented in
the following chapters, in particular in Chapter 4.

2.3. A Universal Constraint on the
Wh-Q Operator

Having established the basic generalizations about FOCUS, we are
now in a position to undertake the task of providing an explanatory
account for the curious phenomenon observed in Chapter 1 with respect
to the landing site of Wh-movement in Hungarian.

As we pointed out at the beginning of the present chapter, Hun-
garian—in contrast to languages like English—exhibits two distinct
landing sites for Wh-movement. Wh-pronouns in Relative Clause con-
structions appear in the COMP-node (just as all Wh-phrases do in Eng-
lish), but interrogative Wh-phrases in Hungarian must appear not in
COMP, but rather in the "pre-V" node under V'. Some obvious questions
that arise in connection with this phenomenon are: (a) why Hungarian
but not a language like English has two distinct landing sites for Wh-
movement in relative clauses vs. Wh-movement in questions; (b) why it
is the interrogative, rather than the relative, Wh-phrases of Hungarian
that differ in terms of their landing site from their English
counterparts; and (c) why it is the "pre-V" node rather than some other position that serves as the landing site of interrogative Wh-phrases in Hungarian. Below, we will propose and motivate an analysis that will answer all of the above questions. It will make the observed difference between English and Hungarian with respect to the landing site of Wh-movement follow automatically from independently established properties of the grammar of Hungarian, interacting with some relevant principles of UG. Thus, the analysis to be proposed will eliminate the need for a construction-sensitive—and hence necessarily unrestrictive—statement of Wh-movement in Hungarian, and will enable us to account for all the relevant facts of Hungarian Wh-constructions, while maintaining a unitary and maximally restrictive formulation of the rule of Wh-movement, namely, one conforming to the general 'Move α' schema.

It has commonly been observed, and stated informally in the linguistic literature, that Wh-questions and FOCUS constructions seem to be parallel in many respects. In particular, this claim has usually been based on observations having to do with syntactic, distributional similarities between interrogative Wh-phrases and FOCUS constituents in various languages, as well as on the intuition that in discourse, the Wh-phrase of a question gets "replaced" by a FOCUS constituent in the response, while the presuppositions of the question and of its natural response remain constant. To formalize this long-standing observation, let us assume the following principle to hold in UG:

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(41) The FOCUS Constraint on the Wh-Q Operator

A non-echo question interpretation can be derived only if the Wh-Q operator bears the feature FOCUS at LF.

This principle need not be stated separately, as in (41) above, but can instead be directly incorporated into the Wh-Q interpretation rule. Taking, for instance, the formulation of this interpretive rule given in Chomsky (1977), we need only to add the feature FOCUS to the structural description of the rule to express the requirement stated in (41). Thus, our version of the Wh-Q interpretation rule, based on Chomsky (1977, 84) looks like the following:

(42) Given an \( \bar{S} \) of the form:

\[
[\text{COMP} - [\text{wh} - \bar{N}] - [+\text{WH}]] [\_ \ldots \_ \text{FOCUS} \ldots \_]
\]

where \( \_ \) is the trace of \([\text{wh} - \bar{N}]\), rewrite it as:

\[
[\text{COMP} \text{ for which } x, x \text{ an } \bar{N}], [\_ \ldots [-x-] \ldots ]
\]

The addition of the feature FOCUS to Chomsky's (1977) original rule guarantees that Wh-phrases that fail to be assigned "FOCUS" at S-structure will not undergo interpretive rule (42), and hence will not give rise to a well-formed representation for a question in LF. Thus, structures with Wh-phrases not marked as FOCUS either will end up as relative clauses—if they happen to satisfy the conditions required for Relative Clause interpretation—or otherwise will get interpreted later, in Discourse Grammar, as echo questions.
Given now that FOCUS Assignment in Hungarian (rule (40)) is limited to apply only to the "pre-V" node, it follows that a well-formed non-echo Wh-question interpretation can result in this language only if the Wh-phrase has at some point in the derivation—namely, at or beyond the level of S-structure—occupied the "pre-V" position. Thus, if the requirement stated in (41) and incorporated into rule (42) indeed turns out to be well motivated, it will explain why interrogative Wh-phrases in Hungarian must appear in the "pre-V" node, in contrast to relative Wh-phrases, which appear in the COMP node, just as all phrases moved by Wh-movement do in the English-type languages. The above proposal itself has additional advantages, completely independent of the fact that it provides an explanation for the "split" landing sites of Wh-movement in Hungarian and thus makes any stipulation of the particular landing site of interrogative Wh-phrases unnecessary.

Notice first that given a maximally general formulation of the independently needed FOCUS Assignment rule (rule (40)), Wh-Q phrases would automatically receive the feature FOCUS anyway, just as non-Wh-phrases occupying the "pre-V" node do. The hypothesis that (non-echo) Wh-Q phrases must always be marked as "FOCUS" has an interesting consequence with respect to the statement of a discourse constraint on questions and their natural responses. As we noted in section 2.1, in a "natural" discourse, successive utterances maintain the same presupposition. To state this more precisely, a response is felt to be "unnatural" or "inappropriate" if it has a presupposition distinct from
the presupposition of the previous statement or question to which it is a response. To be able to formalize this principle of Discourse Grammar, one needs first to define the relevant notion of "presupposition" and, crucially, to define it such that it will apply to Wh-questions as well as to their responses, i.e., to declarative sentences.

As we pointed out previously, following Chomsky (1971; 1976) and Jackendoff (1972), "presupposition" can be best conceived of as an "open sentence," i.e., a sentence containing a variable. Notice now that not all open sentences in LF representation are interpreted as "presupposed" in the relevant sense. So, for instance, in a sentence like

(43) Every man kissed Mary.

having an LF representation with an open sentence shown below

(44) For all x, x a man [x kissed Mary]

the open sentence does not correspond to any (discourse) presupposition, i.e., sentence (43) does not presuppose that "someone kissed Mary," the way a sentence like JOHN kissed Mary does. The same is true for the case of relative clause constructions, exemplified by (45) below:

(45) I saw a man who kissed Mary.

Even though the LF representation of this sentence too contains the open sentence x kissed Mary, the sentence still does not exhibit the presupposition that "someone kissed her." What these facts mean is that the definition of (discourse) presupposition should be somewhat more specific. Let us try the following formulation:
(46) **Discourse Presupposition:** An open sentence in which the variable is bound by the operator "FOCUS."

Consider now the empirical fact that Wh-questions, in contrast to the sentence-types represented above in (43) and (45), do seem to derive a presupposition. For instance, the question

(47) Who kissed Mary?

manifests the presupposition on the part of the speaker that "someone kissed Mary." Given our definition of presupposition (cf. (46)), the only way to describe this fact, i.e., the difference between the interpretation of the open sentence in cases like (43) and (45) vs. in a case like (47), is to consider the Wh-Q operator as necessarily marked by the feature "FOCUS." This would guarantee that in LF, the open sentence in which the variable is bound by this FOCUS-marked Wh-operator will indeed get interpreted as presupposed.

Compare now the following two discourse fragments:

(48) A. Who kissed Mary?

A natural response: B. JOHN \{kissed Mary \} \{did \}.

(49) A. Who kissed Mary?

An unnatural response: B. \{John \} \{Someone \} kissed CATHY.

The difference between the above discourses (48) vs. (49) is that in (48), both Speaker A and Speaker B have the presupposition that "someone kissed Mary." In (49), however, the question (i.e., Speaker A)
presupposes that "someone kissed Mary," whereas the answer (Speaker B) has a presupposition distinct from this, namely, that "John/someone kissed someone," hence discourse (49) is felt to be "unnatural" or to involve a "surprise" answer. Given our hypothesis, which gives us a formal, unitary way of defining presuppositions on Wh-questions too, the same way as on declarative sentences with a FOCUS-ed constituent, the commonly noted discourse constraint on questions and their "natural answers" (demonstrated above) involving the non-distinctness of their presuppositions can be stated with no difficulty.

On the other hand, without the assumption that Wh-Q phrases necessarily bear the feature "FOCUS," and hence act as FOCUS-operators in LF—i.e., derive presuppositions—, the generalization involved in the contrast between question and answer pairs like (48) vs. (49) would be hard to make explicit. One would have to say, in fact, that in a "natural discourse" an utterance with an open sentence R in its LF representation in which the variable is bound by a Wh-Q operator can be responded to only by a sentence whose presupposition, as represented in LF, is non-distinct from the open sentence R of the question. Such a statement would clearly miss the important generalization that essentially the same discourse constraint holds for pairs of utterances in which no Wh-question is involved, such as, e.g., for assertions and their "appropriate denials."

Of course, the fact that Wh-questions involve presuppositions the same way as FOCUS constructions do, whereas other constructions having
an operator-variable structure do not, would not in itself constitute significant evidence in favor of our proposal, namely, in favor of the claim that the Wh-Q operator must be marked as "FOCUS." If our hypothesis made no further empirical predictions, it would be just as much of an ad hoc stipulation as a direct statement to the effect that the Wh-Q operator has the special property of deriving presuppositions would be. However, this is not the case. Our proposal, namely the FOCUS constraint on the Wh-Q operator, constitutes a much stronger theory than the direct statement given above, for it makes some additional, logically independent and clearly falsifiable empirical claims that the alternative account does not make.

We have pointed out already, as our basic motivation for postulating the FOCUS constraint on the WH-Q operator on the first place, that it would provide an explanatory account for the otherwise mysterious distribution of interrogative Wh-phrases vs. relative Wh-phrases in the surface structure of Hungarian. Notice now that the proposed constraint makes an interesting general cross-linguistic prediction regarding the distribution of interrogative Wh-phrases in the surface structure of languages. The claim made by our proposal can be stated as follows:

\[(50)\] The syntactic position(s) in which non-echo interrogative Wh-phrases can appear in a language L will be identical to or be a proper subset of the positions in which FOCUS-constituents can appear in language L.
The case of a language like English, in which FOCUS constituents can occur freely in any position, even though consistent with the above claim, provides no interesting confirmation for it. (Notice, incidentally, that English demonstrates the fact that principle (50) specifies a necessary, but not a sufficient condition for determining the possible surface positions of Wh-Q phrases.)

The prediction stated in (50) can crucially be tested on languages in which the syntactic distribution of FOCUS constituents is limited in some specific way in surface structure. We will briefly examine below the case of two interesting and superficially widely different languages, both exhibiting the above property.

2.3.1. The Case of Basque

In an interesting study of the syntax of Basque, De Rijk (1978) outlines some phenomena that deserve some special attention in the present context. Basque, as argued convincingly by De Rijk (1978), is an SOV language, exhibiting all the properties identified by Greenberg (1963) as characteristic of this language type. De Rijk, furthermore, argues that SOV should be postulated as the unique underlying order in this language. The phenomenon that we are concerned with here is the mechanism of FOCUS-ing in Basque.

De Rijk (1978) proposes the following descriptive generalization, based on the distribution of FOCUS phrases in Basque sentences:

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(51) "Whatever constituent is focus must immediately precede the verb." (De Rijk (1978, 103))

Surprisingly, this is the same generalization that we found when we started to look at the positions where FOCUS-ed constituents could occur in Hungarian sentences. Of course, the generalization stated in (51) involves only linear order. However, the parallelism between the FOCUS position of Basque and that of Hungarian apparently goes beyond this. De Rijk (1978) proceeds to establish what the position of FOCUS-ed constituents is in the hierarchical structure of Basque. On the basis of some empirical evidence, such as the prohibition against any element intervening between the FOCUS constituent and the verb, and facts of intonation, he concludes: "There is a syntactic constituent X in surface structure that consists of the nominal focus and the verb" (De Rijk (1978, 107)). (Later, he hypothesizes that the category label "X" is, in fact, VP; this choice, however, is immaterial for the point we are concerned with here.) He postulates a "Focus Positioning" rule that gives rise to the following types of derived structures (adapted from De Rijk (1978, 109)):

\[
\begin{align*}
(52) \text{a. Before Focus Positioning} & \quad \text{b. After Focus Positioning} \\
S & \quad S \\
\text{NP} & \quad \text{NP} \\
\text{NP} & \quad \text{NP} \\
\text{NP} & \quad \text{NP} \\
\text{NP} & \quad \text{VP} \\
\text{V} & \quad \text{V} \\
\text{Aux} & \quad \text{Aux} \\
\end{align*}
\]
Beyond this striking similarity between the syntax of FOCUS in Basque and in Hungarian, we have primarily looked at Basque in order to test on it the claim stated in (50). Given the properties of Basque sketched above, (50) would predict that Wh-Q phrases in this language will occur exclusively in the immediately pre-verbal position, represented in diagram (52b), i.e., in the FOCUS position. This prediction is clearly confirmed. After stating the generalization about the position of FOCUS-ed phrases, De Rijk (1978, 103) points out the following: "The same rule also applies to interrogative words (wh-items) in questions. They too must immediately precede the verb."

2.3.2. The Case of Aghem

The prediction of the FOCUS constraint on the Wh-Q operator (cf. (50)) can be further tested, and confirmed in a perhaps even more striking way, on another, typologically rather different language, namely, on the Western Grassfields Bantu language, Aghem, spoken in Cameroon. According to a careful description by Watters (1979), this language has a rather rigid SVO order. In fact, in subordinate clauses, this is the only word-order variant available. The language is not a "null subject language"; whenever the subject-NP appears in a position other than the pre-verbal subject-position, this position gets filled by a dummy pronoun (corresponding to 'it' in English). In the above respects, Aghem is far more similar to English than to languages like either Hungarian or Basque. However, this language too turns out to

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manifest a strict limitation on the syntactic distribution of FOCUS-ed phrases. 27

Watters (1979) identifies the unique FOCUS position of Aghem to be the position immediately following the verb. He refers to it in the paper as the "immediate after verb" or IAV position. His claim is based on the following type of striking data. 28 (I mark FOCUS-ed phrases by underlining.)

(53) a. **Unmarked for FOCUS**
    êná? mɔ̀ ńáng nô
    Inah P2 run FOC
    'Inah ran.'

b. **Subject-NP FOCUS-ed**
    à mɔ̀ ńáng êná?
    DS P2 run Inah
    'INAH ran.'

(54) a. **Unmarked for FOCUS**
    fùl ì mɔ̀ zì kí-bè
    friends SM P2 eat fufu
    'The friends ate fufu.'

b. **Subject-NP FOCUS-ed**
    à mɔ̀ zì á-fìn bè-'kò
    DS P2 eat friends fufu
    'THE FRIENDS ate the fufu.'

(55) a. **Unmarked for FOCUS**
    fùl ì mɔ̀ zì kí-bè án 'sóm
    friends SM P2 eat fufu in farm
    'The friends ate fufu in the farm.'
b. Locative Phrase FOCUS-ed

\[
\text{fíl á mò zì án 'sóm bě-'kó}
\]
friends SM P₂ eat in farm fufu

'The friends ate fufu IN THE F́ARM.'

(56) a. Unmarked for FOCUS

\[
\text{fíl á mò zì kī-bě á'zóó}
\]
friends SM P₂ eat fufu yesterday

'The friends ate fufu yesterday.'

b. Time Adverbial FOCUS-ed

\[
\text{fíl á mò zì á'zóó bě-'kó}
\]
friends SM P₂ eat yesterday fufu

'The friends ate fufu YÉSTERDAY.'

The generalization about FOCUS in Aghem is then that a phrase can be interpreted as FOCUS only if it occupies a particular syntactic position in surface structure. This position in Aghem—unlike in Hungarian or Basque—turns out to be the immediately post-verbal position, as shown by the above set of representative examples. Furthermore, sentences like (54b), (55b), and (56b) indicate that the FOCUS phrase must be a sister to V in derived constituent structure, i.e., it must be dominated by VP. Notice that in spite of the difference between the FOCUS position in Aghem and the FOCUS position in Hungarian and Basque in terms of linear order, all these three cases of syntactically restricted FOCUS share some striking properties: in all the three languages we have examined, the FOCUS position is a sister to V and is adjacent to it. We will return to this potentially significant observation in the next section.
Regarding now the facts of Wh-question formation in Aghem, consider the following data, taken from Watters (1979), and notice their crucial parallelism with corresponding FOCUS-ed sentences:

(57) a. *ndúghó mő ŋ₁ pornografia (nɔ̞)
    who P₂ run FOC
    'Who ran?'

vs.

b. à mő ŋ₁ ndúghó
    DS P₂ run who
    'Who ran?' (parallel to (53b))

(58) à mő zè ndúghó bē-‘kó
    DS P₂ eat who fufu
    'Who ate the fufu?' (parallel to (54b))

(59) f̱l à mő zè g̀hә bē-‘kó
    friends SM P₂ eat where fufu
    'Where did the friends eat fufu?' (parallel to (55b))

(60) f̱l à mő zè zän bē-‘kó
    friends SM P₂ eat when fufu
    'When did the friends eat fufu?' (parallel to (56b))

Clearly, Wh-Q phrases in Aghem can appear only in the immediately post-V position, i.e., in the FOCUS position (cf. Watters (1979) for a more detailed description and discussion). Thus, prediction (50), implied by the FOCUS constraint on the Wh-Q operator (cf. our (41) and (42)), motivated in the present section, is further confirmed.

2.4. FOCUS and V-Government: A Revision of the FOCUS-Assignment Parameter

In section 2.2, we proposed that Hungarian differs from languages like English in terms of its FOCUS-assignment rule. We hypothesized
that the parameter of UG distinguishing these two types of languages is whether the statement of FOCUS Assignment is context-free, i.e., is of the form 'Assign "FOCUS" to α' (as in English), or is subject to some strictly local contextual condition (such as rule (40), which we proposed for Hungarian). However, having looked at the case of some other languages with syntactically restricted FOCUS-assignment, one gets the impression that in fact, a tighter, more restrictive hypothesis could be proposed.

In particular, as we have noted in the previous section, in the three genetically unrelated and typologically rather different languages that we examined—Hungarian, Basque, and Aghem—the FOCUS position "happens" to be, uniformly, a sister to the verb and adjacent to it. This, of course, could simply be a coincidence. However, I will take the methodologically preferable step of considering first the possibility that there in fact is a significant generalization involved here. (Needless to say, analyses of additional languages of the relevant kind will crucially bear on whether this assumption is valid.) So, in the absence of counter-examples at this point, we will assume here that the similarity in the position of FOCUS observed in these languages is not accidental, but rather follows from some (hitherto unknown) property of UG.

Notice that the hypothesis that the FOCUS-assignment process in languages exhibiting a syntactically limited distribution of FOCUS-ed constituents is formally equivalent to a strictly local transformational
operation—in contrast to the contextually completely unrestricted application of this process in the English-type languages—would allow for a much larger variety of FOCUS positions in various languages than we actually seem to find. Clearly, the assumption that UG permits FOCUS-assignment to be any locally storable operation (as proposed in our discussion in section 2.2) provides no explanation for the generalization we have pointed out above regarding the position of FOCUS in the random set of languages we have considered. In this section, we will tentatively propose a modification of the FOCUS-assignment parameter of UG (postulated in section 2.2) that does capture the generalization observed, and that is more restrictive and hence richer in specific empirical consequences than our previous proposal was.

When we suggested the hypothesis that a feature "FOCUS" be assigned to constituents at the level of S-structure, we loosely compared this process to the conception of the process of (abstract) Case assignment in the Government-Binding theory (cf., e.g., Chomsky (1980a; 1981), Rouveert and Vergnaud (1980), and related work), because that process too involves the assignment of a particular feature to some phrase at the level of S-structure. Let us now try to carry this superficial analogy observed between the nature of these two formal operations somewhat further, even though it must be granted that the substantive contents of the two types of features involved are rather different ("Case" is rather intimately tied to subcategorization, whereas the notion "FOCUS" has nothing to do with it).
Abstract Case assignment is crucially based on the notion of "government," a notion underlying several of the sub-theories of core grammar, as conceived of in the Government-Binding framework. (For the most complete exposition of the Government-Binding theory, cf. Chomsky (1981).) Typically, Case is assigned to an NP by a category that "governs" it, i.e., by a category that is in a particular structural relation called "government" with it. The categories that can govern are N, V, A, P, i.e., the categories defined by the features $\{\pm N, \pm V\}$, and, in addition, the complex of agreement features in INFL, abbreviated as AGR. Informally speaking, the notion of government is best characterized by pointing out that the basic, canonical case of government is the relation that a head of phrase category bears to its complements (e.g., V governs its complements in VP, etc.).

Even though several competing definitions of government are proposed in the recent literature, for our present purposes the differences between these formulations are immaterial. We will adopt here, for concreteness, the original definition of government that Chomsky proposed in his "Pisa Lectures" (Chomsky (1979)).

\[(61) \ \alpha \text{ governs } \beta \text{ if } \alpha \text{ minimally c-commands } \beta.\]

$\alpha$ minimally c-commands $\beta = \begin{cases} \text{def} & \alpha \text{ c-commands } \beta \text{ and there is no } \\ \gamma \text{ such that } \alpha \text{ c-commands } \gamma \text{ and } \gamma \text{ c-commands } \beta \text{ and not } \gamma \text{ c-commands } \alpha, \\ \text{where } \alpha = \pm N \pm V \end{cases}$

Returning to Case assignment now, the Government-Binding theory
claims that a proper subset of governors, namely, the [-N] categories (i.e., V and P) are Case-assigners, and they assign Case to NPs they govern. (I am ignoring here the case of Nominative assignment, attributed in the Government-Binding framework to the AGR element in INFL.) In order for a [-N] category to assign Case (which in the standard, non-idiosyncratic cases will be Objective Case), government may not be a sufficient condition. Chomsky (1981) tentatively suggests the interesting hypothesis that in addition to government by a [-N] category, Case-assignment—in the unmarked case—may well require also adjacency between the Case-assigner and the NP in S-structure. 32 Notice that the adjacency requirement for Case-assignment would explain why in languages like English, object-NPs immediately follow V, rather than, say, come after some PP or  S complements of the verb in linear order. (In previous versions of generative grammar, this fact had to be stipulated in the base rules.) The same adjacency condition on Case-assignment would also account for the fact that in English, adverbs or any other non-subcategorized elements cannot intervene between the verb and its object either. Unless the adjacency condition is satisfied, the object-NP fails to get marked for Case, and the sentence is ruled out by the Case Filter (cf. Chomsky (1980a; 1981) and Rouveret and Vergnaud (1980)).

Assuming the properties of Case-assignment sketched above, consider now the following alternative way of looking at FOCUS in the Hungarian-type languages. Suppose that in languages exhibiting a
limited distribution of FOCUS constituents, the feature FOCUS and its
assignment to constituents in S-structure is essentially identical in
nature to (abstract) Case and Case assignment. More specifically,
instead of the "FOCUS-assignment parameter" proposed in section 2.2,
let us hypothesize that UG provides the following two alternative
options regarding the status and assignment of the feature FOCUS:

(i) It can be an entity freely assigned to categories (at S-
structure), the same way as indices are assumed to be in the Government-
Binding framework. This particular specification of the FOCUS-assign-
ment parameter of UG, manifesting the rule 'Assign "FOCUS" to α,'
yields languages like English, with syntactically unrestricted distri-
bution of FOCUS-ed elements.

(ii) Alternatively, "FOCUS" is an entity similar in status to
Case. In particular, under this specification of the parameter, "FOCUS"
is a feature inherent to the lexical category V. It can get assigned
by V, and only by V, to other categories, and its assignment is subject
to precisely the same conditions that Case-assignment is subject to:
namely, it gets assigned to a category α only if V governs and is adja-
cent to this category α in S-structure.

This conception of the FOCUS-assignment parameter, in particular
option (ii) requiring government by V and adjacency to V for FOCUS to
be assigned, would automatically provide an explanation for the fact
that the unique FOCUS position in all the three otherwise different and
unrelated languages that we have examined is uniformly a sister to V

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and is adjacent to this category. The hypothesis presented above would also solve an additional problem, one that we noted in section 2.2. We have pointed out there that the FOCUS assignment rule (40) we postulated for Hungarian would not account for sentences where the category V, or some projection of V (V^n) is interpreted as FOCUS. These cases, under the analysis given in 2.2, would necessitate an additional, separate "V-FOCUS Assignment" rule. Given, however, the proposal developed in the present section, we can avoid this. Because under our assumptions, in type (ii) languages V inherently has the feature FOCUS, all we need to say is that in case "FOCUS" has not been assigned by V to another category, the feature "stays" on V. Because V is a head-of-phrase category, the feature FOCUS can percolate upward—by the independently motivated feature-percolation convention—to any higher projection of V. Thus, cases of V^n-FOCUS would be handled by our new theory of FOCUS-assignment without resort to any further stipulations.

The above proposal for the FOCUS-assignment parameter implies that the grammar of Hungarian, in fact, need not contain the language-specific FOCUS Assignment rule, stated in (40) of section 2.2. Given the V-government and adjacency conditions on FOCUS-assignment by V, required by UC, the only things that the grammar of Hungarian needs to stipulate appear to be: (a) the specification of the "FOCUS parameter," i.e., that Hungarian is a type (ii) rather than a type (i) language with respect to FOCUS, and (b) that FOCUS can get assigned only to the left of V, rather than also to the right of V. Specification (b) seems
necessary because, for example, the grammar of Aghem differs minimally with respect to its FOCUS position from that of Hungarian or Basque precisely in that the FOCUS position in this language is to the right rather than to the left of V. However, we may eventually be able to eliminate this language-particular stipulation, too. Consider the following tentative suggestion in this direction.

As often observed, there is one major type of information about the phrase structure of languages that the X-bar theory of the base cannot express universally, and that must be stipulated in particular grammars. This information involves the relative order of heads-of-phrases and their complements (cf., e.g., the differences in this respect between languages like English and languages like Japanese). These language-particular—and often even more idiosyncratic—facts of head/complement order are traditionally assumed to be stated in the base component of particular grammars. Given now, however, the assumption—basic to the Government-Binding theory—that heads must govern their complements, we can try to develop an alternative proposal. Instead of specifying it in the base, we could incorporate the same information into the grammars of individual languages by adding a language-particular directionality-clause to the universal definition of "government" (cf., e.g., the formulation given in (61)). In particular, we could specify for each language, or if necessary—in a more marked case—for each head, the particular direction (i.e., leftward or rightward) in which its government operates. So government in a
language like Japanese, for instance, would have the language-particular specification that a [±N, ±V] category can govern only constituents occurring to its left. It would be this directionality restriction on the government relation, rather than a statement in the base component, that would account for the consistently head-final order of all phrases in Japanese.

The addition of such a "directionality parameter" to the definition of government in UG would at least partially subsume the generalization that we expressed in our "Head Peripherality Condition" (cf. (47) in Chapter 1, section 1.5). In particular, the assumptions that (a) complements must be governed by their heads, and (b) the government relation is—at least in the unmarked case—a unidirectional notion would automatically yield the result, alluded to in section 1.5 of Chapter 1, that complements to any particular head-of-phrase occur on one side of the head, rather than on both sides, i.e., that heads-of-phrases tend to occupy a peripheral position at their level of projection.

Returning now to our hypothesis about FOCUS-assignment based on V-government in type (ii) languages, in each particular type (ii) language, we would expect to find the FOCUS position on the same side of V where its non-FOCUS-ed complements occur, namely, on the "governing side" of V. Notice that this prediction is borne out rather strikingly by the cases of the languages we have looked at. Basque is a consistent SOV, i.e., "modifier-head" language. Clearly, under the above
assumptions, $V$ in Basque can govern only to the left, and indeed, the FOCUS position in this language turns out to be a left-sister to $V$ (cf. our discussion in section 2.3.1). Aghem—as we have pointed out in section 2.3.2, based on Watters (1979)—is a typical SVO, i.e., "head-modifier" language, which implies that the governing side of $V$ in this language must be the right side. Again, the position of FOCUS in Aghem turns out to correlate with this property, as predicted; namely, the FOCUS position turns out to be a right-sister to $V$ in this language. Although the case of Hungarian is slightly more complex, it too is consistent with the suggestion outlined above. Even though the Hungarian VP has its complements to the right rather than to the left of the head, recall that the phrase structure motivated in Chapter 1 (cf. diagram (55) of 1.5) exhibited a "small verb-phrase," namely, the constituent $V'$. Because $V$ rather than $V'$ is the element that assigns the feature "FOCUS" to constituents, it is this category that must govern the particular constituent involved. But notice now that $V$—in contrast to $V'$ and some other heads in Hungarian—is a leftward rather than a rightward governor. (This is demonstrated by the fact that base-generated complements in $V'$ occupy a pre-verbal rather than a post-verbal position in Hungarian, as established in Chapter 1, section 1.5.) So again, our tentative suggestion about a directionality parameter in the definition of government and its particular prediction with respect to the position of FOCUS in relation to $V$ in type (ii) languages is confirmed.
If the above proposal can indeed be maintained, it means that in fact the only language-particular stipulation one must make in order to specify correctly the syntactic distribution of FOCUS-ed constituents in various languages is fixing the value of the "FOCUS-assignment parameter," argued for in the present section. Given this, everything else regarding the distribution of FOCUS in individual languages seems to follow from general principles of UG and their interaction with some independently motivated properties of the particular grammars involved.
CHAPTER 2: NOTES

1 Cleft constructions exist in Hungarian too, in addition to the FOCUS constructions to be discussed in the present study.

2 The case where the FOCUS of the clause is contained in a pre-verbal phrase can be illustrated by the following sentence:

(i) Attila MÁRI kutyájától félt.
    Attila MARY dog-hers-from feared
    'Attila was afraid of MARY'S dog.'

or:
    'It was MARY'S dog that Attila was afraid of.'

Notice that sentence (ii) below

(ii) *Attila félt MÁRI kutyájától.
    Attila feared MARY dog-hers-from

would not be a possible version of the sentence in (i), for here the FOCUS-constituent is not inside of a phrase occupying an immediately pre-verbal position.


4 Other languages may mark FOCUS by a variety of other devices, such as by the addition of some special morphology.

5 Clearly, sentences (9) and (10) are "natural responses" to different questions, and are "appropriate refutations" of different assertions.

6 Notice that in the model assumed in these works, no distinction is made between "S-structure" and surface structure. In fact, the assumption is—as reflected also in Chomsky's (1971) proposal for the analysis of FOCUS—that at least some rules of semantic interpretation apply to the output of the syntactic and the phonological component too, i.e., that in our present terminology they apply to "surface structures" rather than to "S-structures."

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This proposal for FOCUS assignment correctly predicts that an English sentence with sentence-final main stress and intonation peak will usually be ambiguous with respect to focus, because more than one constituent in it will satisfy the criterion of "containing the intonation center," and consequently be interpreted as FOCUS. For instance, sentence (9), in addition to the FOCUS assignment specified above, can also have the whole VP, i.e., "HIT JOHN" as its FOCUS, as shown by the fact that it is a "natural" response not only to the question "Who did Mary hit?" but also to the question "What did Mary do?"

The proposal of an alternative "linear" model of grammar is developed and discussed in a recent paper by Van Riemsdijk and Williams (1981).

Notice that sentences like

(i) Someone loved by the woman he was betrayed.

are perfectly acceptable. The contrast between (i) and example (13a) in the text provides supporting evidence for the left-to-right asymmetry incorporated into the formulation of this principle of anaphora.

On the LF representation of quantified expressions and Wh-questions, cf. May (1977), Chomsky (1973; 1977), and related subsequent work.

Some empirical evidence for our assumption that the LF-movement of FOCUS-phrases involves an adjunction to S rather than to S' comes from the consideration of sentences like the following:

(i) Every man likes A BLONDE.

Sentences like (i) exhibit scope-ambiguity. This sentence (i), for instance, has one reading under which the FOCUS-ed phrase "A BLONDE" takes wide scope over the quantified NP "every man," and, crucially, another reading, under which the quantified NP "every man" has wider scope than the FOCUS-phrase. Given now the standard assumption that QR adjoins phrases to S (for arguments, cf. May (1977)), we can explain the existence of this latter, narrow-scope reading for the FOCUS-phrase by hypothesizing that FOCUS-phrases also get adjoined to S in LF, similarly to non-FOCUS-ed quantified NPs. Under this hypothesis, the reason for the scope-ambiguity of (i) is the same as the reason for the scope-ambiguity exhibited by sentences with two non-FOCUS-ed quantified NPs, namely, the order of application of the two adjunctions. If, however, we postulated S' as the landing site of FOCUS-phrases in LF, we would wrongly predict that the FOCUS-ed phrase will always have wide scope over any non-FOCUS-ed quantified NP, i.e., that sentences like (i) will not exhibit scope-ambiguity.
In (18c), the extracted FOCUS-phrase "MÁRIT" could have appeared in the intermediate clause instead of the matrix clause.

In Chapter 3, we will consider the hypothesis that the movement involved here is not a syntactic transformation, but rather a "stylistic rule," i.e., a movement rule applying in the PF component of our model of grammar (cf. Chomsky and Lasnik (1977), Rochemont (1978)).

The extraposed relative clause gets interpreted as part of FOCUS as a result of its being "re-associated" with its head in LF.

Several other aspects of Kiss's (1981) analysis are referred to at appropriate places throughout this study.

The glosses and the underlining in examples (29)-(31) are mine.

In my judgment, sentences such as (30) are less than fully acceptable. However, for the sake of the argument, I continue to assume the judgments given in Kiss (1981).

Sentences such as (33a), exhibiting the pronoun ez 'this' rather than az 'it'/'that' corresponding to the "left-extraposed" clause, have the effect of a slightly "expository" style, as, e.g., the style used in lectures.

Notice that "Left Dislocations" in general are not subject to Subjacency.

In order to maintain this claim, it is necessary to assume that although PF provides no input to LF, it does feed the component of "Discourse Grammar," and thus, these "metalinguistic" interpretations can indeed be assigned in the absence of the feature FOCUS, based purely on stress.

As we will see later, this is not the only way of marking FOCUS in Aghem.

Only X\textsuperscript{max} categories may appear in the "pre-V" position in Hungarian. A possible class of exceptions to this claim is the class of determinerless, "bare" direct objects occurring in immediately pre-verbal position, described, for instance, in Hetzron (1975). However, these cases can reasonably be analyzed as resulting from a word-formation process deriving complex verbs, rather than as instances of true Complement-V constructions. Note also that in addition to rule (40), we need a "FOCUS-percolation" device in order to get the feature FOCUS on constituents internal to the X\textsuperscript{max} phrase occupying "pre-V" position.
23 Some recent works where this point has been made are Rochemont (1978), Horvath (1978a), and Schachter (1979).

24 In Chapter 3, we will examine an analysis under which Wh-Q phrases in Hungarian appear in the "pre-V" node only in the PF-component. A question that arises under the account proposed in the text is: What happens in the case of multiple Wh-questions in Hungarian, when only one of the Wh-phrases occurs in the "pre-V" node, i.e., how can these questions receive a non-echo interpretation? The answer to this question has to do with an independently motivated assumption regarding the interpretation of multiple Wh-questions, namely, with the assumption that Wh-Q phrases that have not been moved by overt syntactic "Wh-movement" nevertheless get moved in the LF-component; more specifically, they are assumed to get adjoined to the Wh-Q phrase that has been moved by overt Wh-movement. (On the interpretation of multiple Wh-questions along these lines, cf. Chomsky (1973) and Aoun, Hornstein and Sportiche (1980)). Given this analysis, we can claim that the feature FOCUS assigned at S-structure to the "pre-V" node "spreads" to the other Wh-Q phrases adjoined to the FOCUS-marked one in the LF-component. Hence the representation resulting after the LF-movement of non-"pre-V" Wh-Q phrases does satisfy rule (42), and consequently it may get assigned a non-echo question interpretation. (The process by which Wh-Q phrases in Hungarian get into COMP in LF is discussed and justified in Chapter 4, sections 4.2 and 4.3.) Given the requirement of "uniform interpretation" for Wh-phrases in multiple Wh-questions pointed out in Chomsky (1973), and the proposal of an "absorption" process in LF made in Aoun, Hornstein and Sportiche (1980), our claim that the feature FOCUS becomes a property shared by all of the Wh-operators in the LF-representation of a multiple Wh-construction is a rather plausible hypothesis.

25 This does not mean that such a discourse could never occur, just that it is different in status from the one in (48).

26 I am leaving out here immaterial details of the analysis.

27 Aghem has some other (morphological) ways of marking FOCUS in addition to the syntactic FOCUS-ing process discussed here.

28 The examples cited here are taken from Watters (1979). P2 in the glosses means a particular Tense marker, and DS stands for "dummy subject." The particle nô glossed as "FOC" in (53a) marks an intransitive sentence when the whole clause is "focus."

29 We would then expect, for instance, to find languages with a FOCUS-position following the first constituent of the clause, or immediately preceding the subject-NP, etc.
30. The AGR element is assumed to govern the subject-NP. If AGR can be argued to be "nominal" in nature, then this type of government would also conform to the generalization that governors are defined by the features \([\pm N, \pm V]\).


32. Double object constructions in languages like English would require a slightly modified version of the adjacency condition for Case-assignment (cf. Chomsky (1981, Chapter 2)). A proposal that makes double object constructions consistent with the adjacency condition is made and argued for in Stowell (1981).

33. This hypothesis should of course be subject to further empirical testing in a wider variety of languages having syntactically restricted FOCUS-assignment processes.
CHAPTER 3
THE EST NOTION OF TRACE-BINDING AND THE
STYLISTIC RULE HYPOTHESIS

In the course of the previous chapters, we have introduced some basic facts and analyses that will be of importance for our discussion below. First, it was argued that Wh--phrases as well as FOCUS phrases in Hungarian undergo a movement process. It has furthermore been shown that moved Wh-Q and FOCUS phrases occupy in surface structure the "pre-V" node (cf. diagram (55) in Chapter 1) of the phrase structure of Hungarian. In addition, we have established that given the properties of UG proposed and motivated in Chapter 2, the syntactically restricted surface distribution of FOCUS-phrases and interrogative Wh-phrases in Hungarian can be accounted for by one simple assumption, namely, by the claim that Hungarian is a "type (ii)" language with respect to FOCUS-assignment (cf. our discussion of the FOCUS-assignment parameter of UG in Chapter 2, sections 2.2 and 2.4, and the FOCUS constraint on the Wh-Q operator in section 2.3).

Even though these principles seem to suffice to explain the regularities observed at the level of S-structure and beyond it, our analysis so far has not addressed the important question of how the relevant pre-S-structure syntactic processes contribute to the phenomena under
investigation, and how these processes relate to other sub-theories of UG. In this chapter, we will turn to these questions. In particular, we will investigate the nature of the movement process(es) involved in actually substituting phrases into the "pre-V" node in Hungarian. After a survey of the notion of trace and conditions on trace-binding as traditionally conceived of in the EST framework, we will propose and discuss a hypothesis that the movement operation as a result of which Wh-Q phrases and FOCUS-phrases show up in the "pre-V" node in the surface structure of Hungarian in fact does not apply in the syntactic component, i.e., is not a syntactic transformation, but rather a "Stylistic Rule" in the sense of Chomsky and Lasnik (1977) and Rochemont (1978), applying on the PF side of the grammatical model assumed here. We will examine and evaluate the consequences (both advantages and disadvantages) of this theory with respect to trace theory, conditions on binding (such as, e.g., the Opacity condition of Chomsky (1980a)), the semantic interpretation of Wh-questions and FOCUS-constructions, "unbounded" movements of Wh-Q and FOCUS-phrases, and a set of interesting empirical phenomena involving the interaction of some template-like interpretive rules (cf. our interpretive templates for ASPECT given in (73) of Chapter 1, section 1.7) and Wh-Q/FOCUS-movement.

3.1. **FOCUS/Wh-Movement and the EST Notion of Trace and Binding**

The major innovation that distinguished the "Extended Standard Theory" (EST) from the "Standard Theory" of transformational generative
grammar had to do with the recognition that semantic interpretation cannot uniformly be based on deep structures. It was noticed (cf. works like, e.g., Chomsky (1971) and Jackendoff (1972)) that some aspects of semantic interpretation—such as quantifier scope, anaphora, FOCUS/PRESUPPOSITION, for example—are determined by surface structures, i.e., by the output of the transformational component rather than by initial phrase markers. In fact, in these early versions of EST, the only aspect of semantic interpretation that was still assumed to be based on deep structure representations was the interpretation of "thematic relations," i.e., the assignment of thematic roles like "Agent," "Goal," "Patient," etc. These were viewed as being determined by the interaction of lexical properties and grammatical relations as represented at the level of Deep Structure. The significant step of explicitly introducing "traces" into the representation of derived structures and the assumptions relating to this concept, i.e., "trace theory," made it possible to claim that in fact surface structures, "enriched" by traces, are the only representations that enter into semantic interpretation. The "trace theory of movement rules" itself consists essentially of the conceptually rather simple claim that movement operations "leave behind" a phonologically null element "t" in the original position of the moved category, which retains the index of this moved category. In a model of grammar incorporating trace theory, deep structure grammatical relations, and hence thematic relations, are recoverable—on the basis of traces—even at the level of Surface Structure, i.e., even after the application
of transformations. Consequently, in such a model, surface structures can fully determine semantic interpretation relating to sentence-grammar.

The "trace theory of movement rules" has received motivation and support from a number of independent phenomena involving different domains of linguistic theory. (For a discussion of these motivations, cf., e.g., Chomsky (1973; 1975, Chapter 3; 1976), Wasow (1972), Fiengo (1974; 1977), Lightfoot (1976), Quicoli (1976), and Jaeggli (1980b).)

One of the most interesting and important properties of trace theory has to do with the nature of the relation that holds between moved phrases and their traces. Traces need to be "properly bound" by the moved element they are co-indexed with in surface structure in order to receive an interpretation. The crucial claim we have referred to above is that the relation of "proper binding" between a moved phrase and its trace is identical to the relation between an antecedent and its bound anaphor; i.e., traces are proposed to be on a par with reflexives (e.g., himself), reciprocals (each other), and other bound anaphors, such as, e.g., the pronoun in phrases like "craned his neck," "lost his way," etc. (This proposal has been developed and discussed in Fiengo (1974) and Chomsky (1975).)

The hypothesis that the proper binding of traces is a subcase of the general relation of "bound anaphora" obviously restricts the class of possible movement rules, and hence—if it indeed turns out to be tenable—it constitutes a significant step toward increasing the
explanatory power of our theory. The proposal is clearly rich in specific empirical consequences. Notice that the permissible relation between an antecedent and its bound anaphor, as conceived of in the EST framework, is a structural relation characterized in terms of the notion "c-command" presented below:\^2

(1) **Condition on "Bound Anaphora"**
"Bound anaphors" must be c-commanded by their antecedents.\^3

(2) \textit{C-command = def} Node A c(onsituent)-commands node B if neither A nor B dominates the other and the first branching node which dominates A dominates B. (Reinhart (1976, 32))

Thus, under the above hypothesis about the nature of traces, trace theory makes a strong and interesting prediction as to where a movement rule can move elements (at least regarding referential ones). Given the general principle (1) governing bound anaphora interpretation, the prediction is that transformations will not move (referential) elements downward in the phrase marker, i.e., it in effect excludes "lowering" movement operations (but cf. the next paragraph). This is so because a trace-antecedent relation resulting from a downward movement would be blocked by principle (1) of bound anaphora interpretation at Surface Structure. As pointed out in works like, e.g., Fiengo (1974) and Chomsky (1975, Chapter 3), this conception of trace theory would provide an explanation, for instance, for the fact that English has a transformation that raises the subject-NP of an embedded sentence to the subject

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position of a higher clause, but no transformation that lowers the
subject of a sentence into the subject (or any other) position of an
embedded clause. A similar asymmetry is observable also clause-
internally. The Passive construction in English exhibits the raising
of an NP from object to subject position, but no rule exists that moves
a subject down into the object position. Both of these types of cases
would be explained simply by virtue of the fact that the trace left by
the "lowering" rules would violate the condition on bound anaphora
(cf. principle (1)), and hence the resulting surface structure would
not be interpretable.

The claim that trace-binding is a special case of bound anaphora
has received rather striking confirmation from the consideration of
some actually existing "downward" movement rules of English, such as,
e.g., the rule of THERE-Insertion. Even though the existence of THERE-
Insertion—a rule "lowering" and postposing the subject-NP—would in
fact be a counter-example to the generalization that "there are no
lowering transformations," it actually turns out to provide strong evi-
dence in favor of the explanatory account for the above rough generali-
ization provided by trace theory. Specifically, notice that in a THERE-
Insertion construction, the NP-postposing operation does leave behind a
trace that would violate the condition on bound anaphora if it appeared
in surface structure. However, crucially, this "dangerous" trace gets
replaced by the dummy NP 'there' in the course of the transformational
derivation, so that at the level of Surface Structure, the trace is not
present any more, and hence no violation of the condition on proper binding of anaphors occurs. This, and other similar cases of "lowering" rules and their implications for the trace theory of movement rules are discussed in Fiengo (1977) and Dresher and Hornstein (1979).\(^5\)

Consider now the substitution rules that move phrases in Hungarian into the "pre-V" node motivated in Chapters 1 and 2, i.e., the rules that we have informally referred to as "Wh-Q Movement" and "FOCUS Movement." The phrase structure configuration in which these movement operations take place (as established in Chapters 1 and 2) is reproduced below for ease of reference:

\begin{center}
\begin{tikzpicture}

\node (S) {S'};
\node (COMP) [below left] {COMP};
\node (S) [below] {S};
\node (NP) [below left] {NP};
\node (INFL) [above] {INFL};
\node (VP) [below right] {VP};
\node (V) [below] {V};
\node (max) [below left] {$X_{\text{max}}$};
\node (NP) [below right] {NP};
\node (PP) [below right] {PP};
\node (V) [below] {V};
\node (V) [right] {...};
\draw (S) -- (COMP);
\draw (S) -- (NP);
\draw (S) -- (INFL);
\draw (S) -- (VP);
\draw (VP) -- (V);
\draw (V) -- (X_{\text{max}});
\draw (X_{\text{max}}) -- (V);
\draw (V) -- (NP);
\draw (V) -- (PP);
\end{tikzpicture}
\end{center}

The target position of these movements, i.e., the "pre-V" node, is circled on diagram (3). What is crucial to notice here is that the "pre-V" node does not c-command any of the argument positions in the phrase structure of Hungarian; in fact, on the contrary, the subject-NP, as well as all VP complements, asymmetrically c-command that position (cf. the definition given in (2)). Consequently, it seems, whenever a
phrase moves into the "pre-V" node, i.e., as we have argued, in the
derivation of all Wh-Q and FOCUS constructions, an ill-bound trace would
be left behind in the original position of the moved phrase. (Notice
that in these cases, no obliteration of the trace occurs, to "save" the
derivation.) Thus, this case seems to present a serious problem for
the EST version of trace theory sketched above.

One way that these facts of Hungarian could still be consistent
with the otherwise well-motivated and methodologically clearly desirable
claim that trace-binding is a subcase of bound anaphora would be if it
turned out that other cases of bound anaphora (such as, e.g., recipro-
cals, etc.) also failed to observe the c-command condition stated in
(1). This, however, does not seem to be the case, as shown by the
following contrasts:

(4) a. A fiúk nem szerették egymást.
    the boys not liked each other-acc.
    'The boys didn't like each other.'
    
    vs.

   b. *Egymás nem szerették a fiúkat.
    each other not liked the boys-acc.

(5) a. Kati bemutatta {egymásnak a gyerekeket} 6
    Cathy in-showed {a gyerekeket egymásnak}.
    each other-to the children-acc.
    the children-acc. each other-to
    'Cathy introduced the children to each other.'
    
    vs.

   b. *Kati bemutatta {egymást a gyerekeknek}.
    Cathy in-showed {a gyerekeknek egymást}.
    each other-acc. the children-to
    the children-to each other-acc.
The data on reciprocals (as well as on other lexical anaphors) seem to pattern the same way as the corresponding cases in English do. Given this, there is no reason to claim that condition (1) of bound anaphora, based on the c-command relation, is any less relevant in Hungarian than it is in English.

In addition to the above state of affairs, a further potentially serious problem seems to arise when we consider the fact—established in section 1.4.2 of Chapter 1 and section 2.1.1 of Chapter 2—that both Wh-Q and FOCUS phrases can be extracted out of their clauses and can occupy in surface structure the "pre-V" node of a higher clause indefinitely far from the clause they originated in. The problem we are referring to here has to do with another type of condition on bound anaphora, namely, the "Opacity Condition" (Chomsky (1980a)).

It is argued in Chomsky's "On Binding" (1980a) that the "Specified Subject Condition" (SSC) and the "Propositional Island Condition" (PIC), which in earlier versions of EST were considered as conditions on rule application (for the formulation of these principles of UG, cf. Chomsky (1973; 1976; 1977) and related work), are preferably reinterpreted as general conditions on the binding of anaphors, along with the c-command condition on anaphora stated earlier in (1). Incorporating some further revisions, Chomsky offers the following two conditions on an anaphor α, to replace the SSC and the PIC respectively:

In a structure of the form \[ \ldots [\beta \ldots \alpha \ldots ] \ldots \]

where α is an anaphor, and \( \beta = \text{NP or } \overline{s} \),
(6) **Opacity Condition**

If $\alpha$ is in the domain of the subject of $\beta$, $\beta$ minimal, then $\alpha$ cannot be free in $\beta$.  

(Chomsky (1980a, 13))

(7) **Nominative Island Condition (NIC)**

A nominative anaphor cannot be free in $\bar{S}$.

(Chomsky (1980a, 36))

To clarify what is meant by the terms "free" and "bound" in this framework, we say that an anaphor $\alpha$ is **bound** in $\beta$ if there is a category c-commanding it and coindexed with it in $\beta$; otherwise $\alpha$ is **free** in $\beta$ (cf. Chomsky (1980a, 10)).

One of the most interesting consequences of the theory of binding proposed in "On Binding" (Chomsky (1980a)) has to do with the notion of "escape hatch" for movement. In earlier versions of EST (cf., e.g., Chomsky (1977)), the fact that the COMP position—but no other position in a tensed sentence—was an "escape hatch" for extraction operations (i.e., for movements out of $\bar{S}$) had to be stipulated as a special property of COMP. In contrast, under the binding theory developed in the "On Binding" (henceforth OB) framework (cf. conditions (6) and (7) above), this stipulation can be eliminated. The "escape hatch" nature of COMP, under this theory, is attributed simply to the particular position this node occupies in the phrase structure—more specifically, to the fact that this is the only position in a tensed clause that is neither c-commanded by (i.e., is in the domain of) the subject of its clause, nor a nominative (i.e., governed by TENSE). Consequently,
given the binding conditions (6) and (7), an anaphor occupying the COMP position—such as, e.g., the trace of Wh-movement in languages like English—can in fact be free in its minimal $\bar{s}$, but in contrast, an anaphor occupying any other, hierarchically "lower" position in a tensed clause cannot (i.e., it must be bound from inside of its $\bar{s}$).\textsuperscript{9}

Thus, all cases of "unbounded" movement that can be analyzed as successive COMP-to-COMP movement operations (such as, e.g., Wh-movement in English and Relative-Wh-movement in Hungarian) are consistent with the OB theory of binding. (In addition, these rules also must observe the Subjacency condition.)\textsuperscript{10} Notice, however, that the case of "unbounded" Wh-Q movement and FOCUS-movement in Hungarian—exemplified below—would present a potential problem for this theory (for further examples, cf. sections 1.4.2 and 2.1.1):

(8) a. $[_{s} \text{Kati} \left[_{v_{p}} \text{melyik lányt} \right] \text{gondolta} \left[_{s} \text{hogy} \left[_{s} \text{a szomszédok}ight] \text{thought} \text{that} \text{the} \text{neighbors}ight]^{\text{said}} ]$

'Which girl did Cathy think the neighbors said that John loved?'

b. $[_{s} \text{Kati} \left[_{v_{p}} \text{MÁRT} \right] \text{gondolta} \left[_{s} \text{hogy} \left[_{s} \text{a szomszédok}ight] \text{thought} \text{that} \text{the} \text{neighbors}ight]^{\text{said}} ]$

'It's MARY who Cathy thought that the neighbors said that John loved.'

As we have established previously, the surface position of these
moved phrases is not the COMP node, but rather the "pre-V" node, dominated by V' (cf. the phrase structure reproduced in diagram (3)).

Given the Subjacency requirement and the fact that the base rules of Hungarian can freely generate (an empty) "pre-V" node in any V'—even if the particular V involved is not subcategorized to take a V' complement—, the most straightforward analysis of the phenomenon of "unbounded" movements represented in examples (8a, b) would be to postulate a successive cyclic "pre-V" node-to-"pre-V" node movement, parallel to the COMP-to-COMP analysis of the "traditional" type of Wh-movement (cf., e.g., Chomsky (1977)).

But notice now that the "pre-V" node—in contrast to COMP—is in the domain of the subject-NP, i.e., it is in an "opaque" domain in the sense of Chomsky (1980a). Thus, assuming the OB theory of binding, there is a crucial difference between COMP-to-COMP and "pre-V" node-to-"pre-V" node movement. Whereas COMP is automatically predicted to be able to function as an "escape hatch" for extractions under the OB theory, the "pre-V" node-to-"pre-V" node movement of Hungarian Wh-Q and FOCUS phrases would violate the Opacity Condition (cf. (6)), so that this analysis could be maintained only if one stipulated the "pre-V" node as an exceptional, language-particular "escape hatch" in the grammar of Hungarian. But this step, namely, admitting the possibility of stipulating language-particular "escape hatches" in our theory, would clearly be an undesirable move. It must be noted here that given the theory we are assuming, having a transformational component conforming

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to the 'Move α' schema and an interpretive component applying to S-structures (for specific proposals regarding FOCUS and Wh-Q in the S-structure of Hungarian, cf. sections 2.2, 2.3, and 2.4 of Chapter 2 of the present work), one could in principle avoid this problem of violating Opacity if instead of a derivation involving "pre-V" node-to-"pre-V" node movement, one assumed a COMP-to-COMP- ... -to-"pre-V" node derivation for sentences like (8a, b). In other words, this would be a derivation in which the "escape hatch" is in fact the COMP node for these extractions too. Under this view, it is only on the last cycle that the phrase involved moves into the "pre-V" node (i.e., to the position it occupies in surface structure), whereas the "pre-V" nodes of all intervening clauses are unaffected by the extraction process. (A particular version of this proposal will appear in our analysis to be developed later in this chapter.) Clearly, on this derivation, the Opacity Condition would not be violated. On the other hand, this derivation involves a movement from the COMP node into an S-internal position. Such a movement operation has traditionally been prohibited in the EST framework (based on facts from English) by a stipulation to the effect that a phrase in COMP position can move only to another COMP position. The relevant condition is stated in Chomsky (1973), given in (9) below:

(9) (= Chomsky (1973, (110c)))

No rule can involve X, Y (X superior to Y) in the structure
... X ... [α ... Z ... -WYV ... ] ...

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where Y is in COMP and X is not in COMP.

The COMP-to-COMP- ... -to-"pre-V" node derivation seems to be in direct conflict with condition (9), thus calling into question the elimination of the Opacity violation in this way. (We will return to the topic of movement from COMP to an S-internal position in a somewhat different context in Chapter 4.)

In summary, what we have shown in this section are two problems involving movement into the "pre-V" node (that is, involving "Wh-Q Movement" and "FOCUS Movement") in the framework of EST. Both of these problems had to do with the improper binding of traces left by these movement operations: one is a systematic violation of the c-command condition on bound anaphora (principle (1)); the other involves an apparent violation of the Opacity Condition (principle (6)) by extractions of Wh-Q and FOCUS phrases. In the following sections, we will propose and discuss a hypothesis regarding the nature and status of movements into the "pre-V" node in the grammar of Hungarian that has the immediate consequence of eliminating both of the two problems with trace-binding pointed out above.

3.2. "Movement to FOCUS": A Stylistic Rule

We have established in Chapters 1 and 2 (a) that there is a movement operation applying in the derivation of Wh-question and FOCUS-constructions in Hungarian, and (b) that in Surface Structure, Wh-Q phrases and FOCUS phrases systematically appear in the "pre-V" node of
the phrase structure. On the basis of these facts, we have tacitly assumed that Hungarian has a movement transformation, applying in the syntactic component, that substitutes phrases into the "pre-V" node. Even though this is a very plausible conclusion, it is not a logically necessary consequence of the above facts.

Given the model of core grammar outlined in Chomsky and Lasnik (1977), suppose now that not only the syntactic component, but all three major sub-components of core grammar can exhibit rules of the form 'Move α.' A typical, well-established example of a movement rule applying in the LF component is May's (1977) Quantifier Raising (QR) rule. Regarding now the occurrence of rules of the 'Move α' type in the PF component (i.e., on the left-hand side of the model), Rochemont (1978) has motivated a component of "Stylistic Movement" rules (distinct from "scrambling" rules), which precisely are instances of 'Move α' applying in the PF component. Rochemont (1978) also suggests some general properties distinguishing Stylistic Rules from other movement rules. One major characteristic of Stylistic Rules pointed out by Rochemont is that they all crucially involve discourse-related notions, in particular the notion of FOCUS. Two other important properties they share, which follow automatically from their assumed place of application in the model, are: (a) they apply to the output of all syntactic transformations (i.e., to S-structure representations), and (b) their application does not affect quantifier scope, anaphora relations, or any other aspect of LF-representations. Some examples of rules of
English argued to be stylistic movements by Rochemont are "PP-Extration," "FOCUS NP SHIFT" (= Heavy NP Shift), and "Subject Postposing" (for a discussion of these, cf. Rochemont (1978, Chapter 2)).

Given the availability of 'Move α' in the PF component, consider now the hypothesis that the movement operation involved in placing phrases into the "pre-V" node in Hungarian is such a rule, i.e., that it is a "stylistic rule" rather than a syntactic transformation. Let us make this "Stylistic Rule Hypothesis" (henceforth SRH) somewhat more precise.

We have argued in Chapter 2 that the reason why Wh-Q and FOCUS phrases in Hungarian must appear in the "pre-V" node in surface structure is that in this language, the "pre-V" node is the only position in the phrase structure (besides V itself, cf. section 2.4 of Chapter 2) that can be assigned the feature "FOCUS." Recall now that we have also established in Chapter 2 that the "pre-V" node receives the feature "FOCUS" at the level of S-structure. Under this assumption, the SRH implies that in the derivation of a FOCUS construction, the representation entering the PF component (i.e., the S-structure representation) will have a "pre-V" node empty of lexical material, but marked by the feature "FOCUS." Notice that the case of Wh-questions falls under the same analysis, because—as we have argued in section 2.3 of Chapter 2—they are in fact a special sub-case of FOCUS constructions (cf. the "FOCUS Constraint on the Wh-Q Operator," (41) of Chapter 2). Given these facts, we can formulate the Stylistic Rule moving phrases into the
"pre-V" node in Hungarian as follows:

(10) **Stylistic Movement to FOCUS**

Move $\alpha$ to "FOCUS."

This very general formulation would still guarantee that, in effect, no phrase will get interpreted as FOCUS in any other position, and furthermore, that all phrases moved into the "pre-V" node by rule (10) will get interpreted as the FOCUS of their clause. Notice also that this formulation is consistent with Rochemont's (1978) claim that all stylistic rules crucially refer to the notion FOCUS. What actually motivates the SRH, and what makes it appear superior to the hypothesis of a syntactic movement into the "pre-V" node, however, has to do with the problems involving trace-binding that we discussed in the previous section. (On the comparison of a syntactic movement vs. a stylistic movement analysis for these cases, cf. also Horvath (1980).)

Crucially, it must be noted that the SRH immediately eliminates the problem pointed out in section 3.1 having to do with the violation of the c-command condition on bound anaphora (principle (1)). Movement into the "pre-V" node under the SRH (i.e., by rule (10)) cannot in principle result in a violation of any condition on the "proper binding" of anaphors, because the binding conditions, and among them the "c-command condition on bound anaphora," hold at LF, whereas the movement in question (rule (10)) would take place on the "phonological side" of the grammar, i.e., in the PF component, and thus would provide no input to LF.\footnote{14}
The other case of an apparent violation of the proper binding of traces pointed out in the previous section, namely, the one involving the violation of the Opacity Condition (cf. (6)) by "unbounded" extractions of Wh-Q and FOCUS phrases, is eliminated for the same reason as the problem involving the c-command requirement. Again, because Opacity is a condition on binding relevant in the LF component, and because stylistic rules—in contrast to syntactic transformations—provide no input to this component, the application of such a rule obviously cannot produce a representation violating Opacity.

The existence of "unbounded" extractions of Wh-Q/FOCUS phrases, however, does raise some questions under the stylistic rule analysis. Rochemont (1978) proposes and motivates another generalization about stylistic rules, in addition to the ones already referred to. He points out that stylistic rules are strictly clause-bound, i.e., no stylistic rule can cross an S boundary. Thus, in order to maintain that movements into the "pre-V" node in Hungarian are in fact stylistic operations, one would need to account for the apparent "unboundedness" of these movements (shown, e.g., in examples (8a, b)).

This indeed seems to be a feasible task, taking into consideration the fact that Hungarian does provide independent motivation for assuming a syntactic transformation 'Move α' that can extract phrases from COMP to COMP—similarly to English—in addition to its stylistic 'Move α' rule. Instances of such potentially "unbounded" syntactic movements in Hungarian are the Wh-movement operation applying in
Relative Clauses, and the rule of "Topicalization" (both illustrated in Chapter 1). Given this, consider the following derivation for "unbounded" Wh-Q/FOCUS movements:

\[(S, t_i \cdot \cdots \cdot [VP x_i^{\text{max}} v \cdots (S, t_i \cdot \cdots \cdot [VP \cdots v \cdots t_i \cdots ])]\]

On such a derivation, the "unboundedness" of these movements is attributed to the syntactic transformation 'Move α,' the same way as it is, e.g., in the case of Wh-movement in English, or in Relative Clause and Topicalization constructions in Hungarian. The only additional thing that happens in the above cases is that Hungarian also has a stylistic rule (rule (10)) that can move a phrase from any position in the clause —crucially including the COMP position—into the "pre-V" node of the same clause, thus accounting for the actual "pre-V" position of FOCUS/Wh-Q phrases in Surface Structure. Some interesting empirical evidence supporting the above hypothesis about these "unbounded" extractions—having to do with "island" effects—will be presented in the next section.

Let us turn now to an investigation of the consequences of the SRH proposed in the foregoing discussion. First, in section 3.3 below,
we will consider some (potential) arguments in favor of such an analysis, whereas in section 3.4 we will point out some basic problems with this approach.

3.3. **Apparent Arguments in Favor of the Stylistic Rule Hypothesis (SRH)**

In addition to the elimination of the problem involving the improper binding of traces pointed out before, the SRH outlined in section 3.2 appears to have a number of further desirable consequences.

3.3.1. **The Scope of Wh-Q in Hungarian**

A widely accepted assumption in current versions of EST is that the scope of quantifiers is determined in terms of c-command domains (in the sense of Reinhart (1976)), as represented on phrase markers in the LF component (for this proposal, cf. May (1977)). For instance, under this theory, the reason why in an English Wh-question containing an additional quantified NP, such as, e.g.,

(12) *Which movie did every student see?*,

the Wh-phrase has necessarily wide scope over the quantified NP is that in the LF representation of sentences like this, the Wh-Q phrase appears in the COMP node (as in S-structure), whereas the quantified NP—assuming May's (1977) QR rule—is adjoined to S; i.e., it appears in a position asymmetrically c-commanded by the Wh-phrase. Recall now the fact that at least at the level of Surface Structure, Wh-Q phrases in Hungarian occupy a position crucially different from that of English Wh-Q
phrases. Specifically, they occupy the "pre-V" node (rather than COMP), i.e., a position that instead of c-commanding the positions of other quantified NPs is in fact asymmetrically c-commanded by them. This raises the important question of whether the scope phenomena associated with Wh-Q phrases in Hungarian are any different from the scope phenomena exhibited by English Wh-Q phrases.

To answer this question, let us consider the Hungarian counterpart of the basic example (12) that we used in the case of English:

(13) Minden diák melyik filmet látt a t-i.
    every student which movie-acc. saw t-i
    'Which movie did every student see?'

Sentence (13), just like its English translation (cf. (12)), has only one reading: a reading in which the Wh-Q operator takes wide scope over the universally quantified subject-NP (i.e., the question does not ask for pairs of particular students and movies, but rather requires one single movie that all the students saw as a response). Thus, the only correct representation for (13) in LF (using the English glosses instead of Hungarian lexical items) is the following:

(14) For which x, x a movie (for all y, y a student (y saw x))

This case is representative of the class of Hungarian Wh-questions in general. So what we see here is that at the level of LF-representations (relevant for the determination of quantifier scope), Wh-Q phrases in Hungarian too must occupy a hierarchically "higher" position than the position into which the rule of QR (cf. May (1977)) moves (non-Wh)
quantified phrases. In other words, the above facts (cf. (13)-(14)) indicate that the position of Wh-Q phrases in Hungarian cannot be the "pre-V" node in the LF component, as it is in Surface Structure, but rather must be a position outside of S that c-commands all quantifier positions (i.e., all the landing sites of QR).

But notice now that it is precisely this state of affairs that is predicted by the SRH. Specifically, on the stylistic rule analysis (cf. rule (10) and derivation (11)), the syntactic 'Move α' rule applies with the effect of moving the Wh-phrase into COMP, just as it does in the case of Relative Clause constructions. It is this representation that is then available for semantic interpretation, and hence for the determination of quantifier scope. Because the COMP node does asymmetrically c-command all positions in S, the Wh-Q phrase would necessarily c-command the positions where quantifiers appear in LF-representations, thus giving us precisely the facts observed above. The movement into the "pre-V" node, under this theory, happens only in the PF component, so the fact that the actual surface position of Wh-Q phrases does not c-command the rest of the quantified NPs in the sentence is correctly predicted to be irrelevant, in fact "invisible" for scope assignment, taking place at LF.

Although the SRH is not the only conceivable hypothesis that is consistent with the facts of the relative scope of Wh-Q in Hungarian, these facts follow from this hypothesis automatically, with nothing further to be said. Because this is certainly not a logical
necessity, the case of quantifier-scope interpretation reviewed above constitutes evidence in support of the SRH.

3.3.2. The "Trace Erasure Prohibition"

Another argument in favor of the SRH seems to emerge when we consider the case of Wh-Q/FOCUS movement in sentences where the "pre-V" node had been occupied by a base-generated V'-complement (such as the directional PPs, predicate nominals, and adjectives shown in examples (30), (32), (34), (36) of Chapter 1) at the level of D-structure. To recall the phenomena involved, consider the following example, presented originally as (32a) in Chapter 1. (Similar examples involving non-Wh FOCUS-ed phrases are given in section 2.1.2 of Chapter 2 (cf. sentences (21)-(22)).)

(15) Mari mit tett az asztalra t_i ?
Mary what-acc put the table-onto t_i

'What did Mary put on the table?'

As argued at length in sections 1.5, 1.6, and 1.7 of Chapter 1 and section 2.1.2 of Chapter 2, sentences like (15) have undergone two movement operations in their derivation. First, the V'-complement—az asztalra 'on the table' in the present example—that had occupied the "pre-V" node at D-structure has undergone the rule of "Local Postposing" demonstrated in diagram (65) of Chapter 1. Furthermore, another phrase (in this case the Wh-Q phrase mit 'what-acc.') has been substituted into the vacated "pre-V" position.
Under the trace theory of movement rules, the claim that Wh- Q/FOCUS phrases get substituted into the "pre-V" node by a syntactic transformation implies that in the derivation of sentences like (15), the trace left by the postposing of the base-generated "pre-V" complement would be erased. This seems to lead to a serious problem with respect to interpretation. Specifically, to permit substitution operations that involve the erasure of traces would make a unified semantic interpretation at the level of S-structure impossible. Explicit proposals to exclude such operations, as well as empirical evidence for them, are provided both by Freidin (1978) and by Dresher and Hornstein (1979). Freidin (1978, 524 (12)) states the principle as follows:

(16) **Trace Erasure Prohibition (TEP)**

A bound trace may not be erased.

What is meant by "trace erasure" here is the replacement of a bound trace by another indexed phrase, thus obliterating the original index of that trace. The reason for saying that trace erasure crucially involves replacement of the trace by an indexed element has to do with the fact that replacement of a trace by a "dummy" grammatical formative that presumably has no index (such as the existential THERE and the expletive IT) is in fact permissible. This argument is developed in Dresher and Hornstein's (1979) discussion of "rightward NP-movement" rules. According to their proposal, which is essentially equivalent to Freidin's Trace Erasure Prohibition, "only designated NP elements can erase traces" (cf. Dresher and Hornstein (1979, 80, principle (38))).
Given now that Wh-Q and FOCUS phrases substituted into the "pre-V" position are clearly index-bearing entities (rather than "dummy" designated elements, in the above sense), the derivation of sentences represented by (15) seems to be in direct conflict with the otherwise well-motivated and restrictive principle of trace theory stated in (16) above. In other words, in a significant class of Hungarian Wh-Q/FOCUS constructions, the substitution of Wh-Q and FOCUS phrases into the "pre-V" node seems to involve a violation of the Trace Erasure Prohibition (or whatever principle takes its place in other versions of the theory).

Notice now, however, that this problem does not arise under the SRH. Because in this analysis the movement of Wh-Q/FOCUS phrases takes place only in the PF component, the trace in the "pre-V" node bound by the postposed V'-complement would not be "covered" at any representation relevant for semantic interpretation (i.e., neither at S-structure, nor in LF). Thus, the potential violation of the Trace Erasure Prohibition sketched above gets eliminated automatically if we adopt the SRH.

3.3.3. An Argument from "Island" Phenomena

As we have pointed out in our discussion of "unbounded" movements of Wh-Q and FOCUS phrases under the SRH, the only derivation for these extractions consistent with the SRH (assuming Subjacency) is the one represented in (11). Recall that this derivation involved extraction from COMP to COMP, by means of the syntactic transformation 'Move α,'
and then, a single application of the clause-bound stylistic rule stated in (10), to move the extracted phrase from COMP to the "pre-V" node (of the same clause). Crucially, notice that none of the "pre-V" nodes of the intermediate clauses in the extraction site is involved in this (successive cyclic) movement. This implication of the SRH makes some interesting, highly specific empirical predictions regarding "island" phenomena.

First, the SRH predicts that whether the "pre-V" positions of the intermediate clauses are filled or not will have no influence on the options for extraction. More specifically, the prediction is that extraction of Wh-Q/FOCUS phrases will be possible even when the intermediate "pre-V" nodes are filled by lexical material; i.e., clauses with lexically filled "pre-V" nodes do not function as "islands."

This prediction is clearly borne out, as shown by sentences such as (17a, b) below. 19 (Elements occupying the "pre-V" node are underlined.)

(17) a. [S János [VP melyik fiúnak gondolta [S, hogy [S Péter John which boy-to_thought that Peter

Slimmed] [VP kijelentette [S, hogy [S a házigazda már [VP bemutatta out-reported that the host already in-showed

Marit t_i Mary-acc. t_i 'To which boy did John think Peter declared that the host had already introduced Mary?'

b. [S János [VP ATTILÁNAK gondolta [S, hogy [S Péter John ATTILA-TO_thought that Peter

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[VP kijelentette [S, hogy [S a házigazda már [VP bemutatta out-reported that the host already in-showed Marit Ṡ]]]]]]]
Mary-acc. Ṡ

'It's ATILIA to whom John thought that Peter declared that the host had already introduced Mary.'

In these examples, the "pre-V" node of each intermediate clause in the extraction site is filled by a base-generated V'-complement, namely, by the (intransitive) PPs be 'in' and ki 'out', respectively. (On such base-generated "pre-V" complements and their interaction with Wh-Q/FOCUS movement, see our discussion in sections 1.5, 1.6, and 1.7 of Chapter 1, and section 2.1.2 of Chapter 2.) Yet as we can see, the Wh-Q phrase (in (17a)) and the FOCUS phrase (in (17b)) can be extracted freely. The generalization exemplified by these cases is that a Wh-Q/FOCUS phrase may indeed cross an indefinite number of clauses with filled "pre-V" nodes without giving rise to a subjacency violation, precisely as predicted by the SRH.

In section 1.8 of Chapter 1, we have pointed out that Hungarian exhibits the possibility of Relativization out of any number of embedded questions, a movement operation that in a language such as English, having one single landing site for Wh-phrases, would be ruled out by Subjacency. The generalization stated in the previous paragraph—shown to follow from the SRH—implies that in addition to this, Hungarian may permit another movement that would be in violation of the "Wh-island Constraint" in languages like English. Namely, according to this

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generalization, Hungarian could, in principle, exhibit free "unbounded"
Wh-Q/FOCUS movement out of embedded Wh-questions and FOCUS construc-
tions, too. This in fact turns out to be the case. Consider, for
instance, the following examples:

(18) a. \[ S \text{ János} [\text{VP melyik fia} \text{mak} \text{ i kérdezte} [S', \text{ hogy} [t_j [\text{VP ki} \text{ j tudja} [S', \text{ hogy} [S a házigazda [\text{VP kit} \text{ k mutatott be} \text{ knows that} \text{ the host} [\text{who acc k showed in} \text{ t}_k \text{ t}_i] \text{?] [\text{?}]]]]]]]]]]\]
\text{('To which boy did John ask who knew whom the host had introduced?')}

b. \[ S \text{ János} [\text{VP ÁTTILÁNÁK} \text{ i kérdezte} [S', \text{ hogy} [t_j [\text{VP ki} \text{ j tudja} \text{ the host} [\text{who acc k showed in} \text{ t}_k \text{ t}_i] \text{?] [\text{?}]]]]]]]]\]
\text{('It's ÁTTILA to whom John asked who knew whom the host had introduced')}

In the derivation of sentences like these, the extracted phrase
can be assumed to move from COMP to COMP by the syntactic transformation
'Move α,' as predicted by the SRH, and demonstrated also by our previous
examples (17a, b). The reason why the presence of Wh-phrases originat-
ing in—and staying inside of—the intermediate clauses causes no block-
ing of this COMP-to-COMP movement is that the application of the syn-
tactic 'Move α' rule is optional (by the general assumption of the EST
theory that all rules of syntax are optional). Thus, these Wh-Q
phrases may, but need not move into COMP in the syntactic component;
rather, they may stay in their D-structure position in Hungarian
throughout the syntactic derivation, and then move directly from there into the (closest) "pre-V" node by the stylistic rule stated in (10). The interpretation of Wh-questions that had not undergone syntactic "Wh-movement," i.e., in which the Wh-Q phrase is not in COMP at S-structure (as proposed for the intermediate clauses in sentences like (18a, b) above), would pose no special problem either. Notice that UG needs to provide some mechanism for interpreting Wh-Q phrases "in place" anyway, given the case of multiple Wh-questions, as well as the existence of a large class of languages with Wh-questions that involve no (overt) movement operation. For such cases, an LF movement rule— "invisible" in Surface Structure—adjoining these Wh-phrases to COMP has been proposed in the EST framework (cf., e.g., Chomsky (1973, sec. 16)). (This rule would be similar in status to the QR rule of May (1977).) The same rule would automatically extend to the non-moved Wh-phrases of Hungarian referred to above.

In the present section, we have so far shown cases in which the Subjacency condition could potentially be violated, but still, the resulting sentences are acceptable (cf. (17a, b), (18a, b)). The derivation that avoids these Subjacency violations (cf. (11)) had been shown to be a necessary consequence of the SRH. Thus, we have interpreted these facts as support for the SRH. However, an obvious alternative view of the above data could be, at this point, to claim that Hungarian simply does not exhibit Subjacency the same way as English does. More specifically—taking into account the fact that the
"Complex-NP Constraint" does hold in Hungarian—one could try to claim that S'/S nodes (without being dominated by NP) cannot lead to subjacency effects in this language. But notice now that the SRH makes an interesting additional prediction, which can eliminate this latter alternative, i.e., can show that Subjacency does hold with respect to S'/S nodes in Hungarian too.

The crucial test cases have to do with the possibility/impossibility of extracting a Wh-Q/FOCUS phrase from embedded clauses whose COMP is already occupied by another phrase, such as, e.g., by a relative Wh-phrase. To be more specific, because under the SRH extracted Wh-Q/FOCUS phrases are claimed to move out of their clause uniformly through the COMP position, whereas the "pre-V" node cannot serve as an "escape hatch," this hypothesis predicts—under the assumption of Subjacency—that although "unbounded" relativization will be possible out of embedded Wh-questions (cf. also our discussion in section 1.8 of Chapter 1), the extraction of both a Wh-Q/FOCUS phrase and a relative Wh-phrase from the same clause will be unacceptable, even if the "pre-V" nodes in the path of the extraction are all free. Consider, for instance, the following contrasting pair of sentences:

(19) a. Ez volt az a fiú [S' akinek [S a gyerekek [VP mondták this was the boy [who-to S] the children said [S, hogy [S Péter [VP kérdezte [S, hogy [S Mari [VP mit [vett that Peter asked that Mary what-acc j vett [t_j [t_i ajándékba.]]]]]]]]] bought [t_j [t_i present-into 'This was the boy for whom the children said Peter asked what Mary had bought as
a present.')

b. *Ez volt az a fiú [S, akinek [S a gyerekek [VP kérdez-
this was that the boy [VP who-to] the children asked
tek [S, hogy [S Péter [VP mit] mondott [S, hogy [S Mari
that Peter [VP what-acc] said that Mary
[VP vett [S, ajándékba.]]]]]]]]]
[VP bought [S, present-into]
('This was the boy
for whom the children asked what Peter said Mary bought as
a present.')

Sentence (19a) is perfectly acceptable (even though somewhat awkward
because of its complexity), but sentence (19b) is simply ungrammatical.
Both of the above sentences involve "unbounded" Relativization, i.e.,
Wh-movement out of an embedded question. The only difference between
the two is that in the acceptable (19a), only one of the two Wh-phrases,
namely, only the relative Wh-phrase, gets extracted from its clause,
whereas in the unacceptable (19b), both the relative Wh-phrase and the
Wh-Q phrase get extracted from the clause they originate in (namely,
from the most deeply embedded clause in this case).

But, as pointed out above, this state of affairs is precisely what
one would expect on the basis of the SRH in conjunction with the Subja-
cency condition. Sentence (19a) is derived by a successive cyclic
COMP-to-COMP extraction of the relative Wh-phrase and by the (clause-
bound) application of the stylistic rule (10) in the most deeply
embedded sentence, moving the Wh-Q phrase into the "pre-V" node. Sen-
tence (19b), on the other hand, has no well-formed derivation under
these assumptions. Given Subjacency and the fact that only one phrase

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can be in COMP, the extraction of the relative Wh-phrase in (19b) makes it impossible for the Wh-Q phrase to use COMP as its "escape hatch," in contrast to sentences such as, e.g., (17a), in which the Wh-Q phrase could freely "escape" through COMP. Thus, the only way left for the Wh-Q phrase to get into its surface position in the "pre-V" node of the higher S would be to move there directly from inside its S. But this would be impossible under the SRH, for Stylistic Rules—as noted earlier (based on Rochemont (1978))—are by definition clause-bound.

Thus, the sharp contrast in acceptability between (19a) and (19b) points to the fact that Subjacency is relevant for Hungarian clauses, and it further reinforces the conclusion we reached on the basis of examples such as (17a, b) and (18a, b) that the SRH for movement into the "pre-V" node has interesting predictions regarding "Wh-island"-type phenomena, and that these predictions are actually borne out by the facts of Hungarian.

3.3.4. Evidence from ASPECT Interpretation

In section 1.7 of Chapter 1, we have discussed some template-like interpretive rules for the interpretation of PERFECTIVE/PROGRESSIVE aspect in Hungarian. The generalization involved has to do with the constituent V', more specifically, with the presence and the position of a complement phrase in V'. On the basis of examples such as (70), (71), and (72) of Chapter 1, we have reached the following descriptive generalization. Clauses with a complement occurring in the "pre-V" node
are interpreted obligatorily as having PERFECTIVE ASPECT (see example (71) of Chapter 1), whereas clauses in which a V'-complement occupies a post-V position, i.e., in which "Local Postposing" (cf. (65) of Chapter 1) has applied, are necessarily interpreted as having PROGRESSIVE ASPECT, as we saw, for instance, in the case of sentence (72) in Chapter 1 (see note 27 of Chapter 1 on Imperatives). All the rest of the cases, such as, e.g., sentence (70) of Chapter 1, having a non-branching V', are vague with respect to ASPECT, i.e., the actual interpretation of such sentences with respect to ASPECT depends only on the context in which they occur.

To account for these observations, we have postulated the set of strictly local interpretive templates for ASPECT in Hungarian presented in (73) in Chapter 1. They are reproduced below in (20) for convenience of reference:

(20) Interpretive Templates for ASPECT

a. \([v, x_{\text{max}}] \rightarrow \text{PERFECTIVE}\)

b. \([v, v, x_{\text{max}}] \rightarrow \text{PROGRESSIVE}\)

c. Elsewhere \rightarrow \text{VAGUE}\)

As pointed out in section 1.7 of Chapter 1, these interpretive templates obviously apply in the LF-component, i.e., to the output of the syntactic component. Recall, for instance, that they crucially follow "Local Postposing," the syntactic transformation responsible for the surface difference between sentences like (71) and (72) of Chapter 1.
But accepting that much, one would expect that if movement into the "pre-V" node is a grammatical transformation, then Wh-Q and FOCUS phrases appearing in the "pre-V" node would also trigger the application of rule (20a), just as base-generated "pre-V" phrases do. However, this is not what actually happens. Consider, for instance, the following sentences; the phrase appearing in the "pre-V" node is underlined:

(21) Péter mit festett?
Peter what-acc. painted
'What did/has Peter paint/painted?'

or:

'What was Peter painting?'

(22) Péter EGY ÜNARCKÉPET festett.
Peter A SELF-PORTRAIT-acc. painted
'Peter (has) painted A SELF-PORTRAIT.'

or:

'Peter was painting A SELF-PORTRAIT.'

Instead of being necessarily PERFECTIVE, both (21) and (22) are vague with respect to ASPECT, just as sentences having no complement phrase in V' are (cf., e.g., (70) in Chapter 1). The same holds true for all Wh-Q and FOCUS constructions. But notice now that the SRH automatically solves this puzzle; in fact, it necessarily predicts precisely this state of affairs. Specifically, if it is a stylistic rule (namely, rule (10)) that places the Wh-Q/FOCUS phrases into the "pre-V" node, then in the LF component, where (20) applies, there would indeed be no $x_{\max}$ present in the V' constituent in the representation of sentences such as (21) and (22). Consequently, under the SRH, it would be only template (20c)—the "elsewhere" case—that would apply in these cases,
assigning the interpretation "VAGUE" with respect to ASPECT. Thus, the SRH apparently is able to account for this otherwise curious configuration of data, with no special stipulation whatsoever.

3.4. Some Problems with the SRH

In spite of the numerous considerations favorable to the SRH presented in the previous section, closer examination of the hypothesis that movement of phrases into the "pre-V" node in Hungarian is the result of a stylistic rather than a syntactic transformation reveals some problems that cast serious doubt on its validity.

In the discussion below, I will not consider arguments challenging the very existence of Stylistic Rules in UG in general, i.e., analyses showing that particular phenomena that previously had been claimed to be "stylistic," and actually provided the basic motivation for the postulation of a component of Stylistic Rules (in the sense of Rochemont (1978)), should in fact be regarded as rules of the syntactic component instead. (An example of such an analysis is the convincing case made in Guéron (1980, sec. 1.4) against the "stylistic" status of the rule of PP Extraposition.) Obviously, if the proposal of a Stylistic Rule component in UG (apart from "scrambling") turns out to be unmotivated, the SRH suggested for Hungarian above can no longer be reasonably maintained. But even ignoring this not implausible state of affairs, and continuing to assume that stylistic rules do exist in UG, we can see that the proposal made regarding the "stylistic" status of movement into
the "pre-V" node in Hungarian faces some serious difficulties.

The major problem involved in the SRH has to do with the claim it makes regarding the place where the interpretation of FOCUS takes place in the grammatical model.

3.4.1. FOCUS Interpretation and the SRH

Recall our discussion of the interpretation of FOCUS constructions given in Chapter 2, section 2.1. We have claimed there, on the basis of Chomsky's (1976, 336-345) argument from the phenomenon of "weak crossover," that the FOCUS interpretation rule applies at LF and introduces a variable in the original place of the FOCUS-ed constituent. First we will briefly review the argument leading to the above conclusion, confirming its validity and relevance also for Hungarian. Then we will show that the SRH is inconsistent with this conception of FOCUS interpretation.

The phenomenon of "weak crossover," noted and discussed originally by Postal (1971) and Wasow (1972), is claimed by Chomsky (1976) to be a manifestation of a particular principle of anaphora interpretation specifying the conditions under which a pronoun may have a variable as its antecedent in LF. The principle, in essence, states that a variable cannot be the antecedent of a pronoun occurring to its left in LF representations. Chomsky proposes to incorporate this principle into the theory as a condition on the rule (referred to as "rule A") that replaces a pronoun in the scope of a quantifier by the variable bound by
this quantifier. In particular, rule A, applying in the LF-component, is stated informally as follows: "... a pronoun P within the scope of a quantifier may be rewritten as the variable bound by this quantifier unless P is to the left of an occurrence of a variable already bound by this quantifier" (Chomsky (1976, 343)). The conception that "weak crossover" involves simply the relative position of pronouns and variables in LF representations is supported by the fact that the phenomenon is exhibited by a variety of syntactically different constructions. Thus, consider the following set of cases drawn from Chomsky (1976):

(23) Who did the woman he loved betray?
(24) The woman he loved betrayed someone.
(25) The man who the woman he loved betrayed is despondent.

According to the judgment generally accepted in the literature, the pronouns in sentences such as (23)-(25) cannot be construed as "anaphoric" to the other underlined elements in their respective clauses; instead, they can only refer to someone whose identity is established elsewhere. This judgment becomes clearer if we contrast the above sentences to (26), (27), and (28) respectively:

(26) Who was betrayed by the woman he loved?
(27) Someone was betrayed by the woman he loved.
(28) The man who was betrayed by the woman he loved is despondent.

In the above Passive versions of sentences (23), (24), and (25), the reference of the pronouns need not be established elsewhere; rather,
they can be interpreted as "anaphoric" to the underlined element in their clause.

Notice now that even though sentences (23)–(25), exhibiting "weak crossover" effects, are rather different from one another in terms of their syntactic structure, their representations in LF, resulting from the application of interpretive rules introducing bound variables, are significantly similar:

(29) Partially developed LF-representation for (23)
for which x, [the woman he loved betrayed x]

(30) Partially developed LF-representation for (24)
for some x, [the woman he loved betrayed x]

(31) Partially developed LF-representation for (25)
the man x such that [the woman he loved betrayed x] is desponent

In particular, notice that the bracketed phrases in all these LF-representations are identical, and furthermore, they all have the pronoun appearing to the left of the variable. This precisely constitutes a representation to which rule A (cf. Chomsky (1976, 343) reproduced above) cannot apply. Hence, the pronoun does not get replaced by the variable, and consequently it functions similarly to a name, whose reference must be established independently. Thus, under Chomsky's (1976) assumptions, we get a straightforward account for why sentences such as (23), (24), and (25) exhibit "weak crossover" effects. The same assumptions also explain why sentences (26), (27), and (28) are
not subject to "weak crossover." Because of the application of NP-movement in their derivation, the LF-representation of these sentences has the variable in the subject rather than in the object position, i.e., the pronoun in these cases appears to the right of the variable: ...

... [x was betrayed by the woman he loved]. Thus, rule A in this case is free to apply and (optionally) replace the pronoun by the variable.

What is crucial to note for the purposes of the argument regarding FOCUS interpretation is that non-variables, e.g., lexical NPs, are not subject to the phenomenon of "weak crossover." This can be seen when we consider sentences such as the following:

(32) The woman he loved betrayed John.

Comparing this sentence to sentence (24) above, we see that the only difference between them is that in the position where (24) has a quantifier (someone), sentence (32) has a non-quantified NP (John). Sentence (32), in contrast to sentence (24), can freely exhibit an anaphoric interpretation between the pronoun and the underlined object-NP. Because the LF-representation of (24), but not that of (32), will have a bound variable in the position of the object-NP, we are led to the conclusion that the "weak crossover" phenomenon (i.e., under Chomsky's (1976) assumptions, rule A) indeed crucially distinguishes variables from non-variables in LF.

Given the above analysis, the evidence regarding the nature and status of FOCUS interpretation, alluded to already in Chapter 2,
section 2.1, comes from the following type of facts:

(33) The woman he loved betrayed JOHN.

As claimed in Chomsky (1976), the noun phrase JOHN, bearing primary stress and being interpreted as the FOCUS of sentence (33), cannot function as the antecedent of the pronoun to its left; the reference of the pronoun in this case must be established elsewhere. In other words, sentence (33), but not sentence (32), is subject to "weak crossover." Making the assumption that the representation of FOCUS constructions in LF contains a bound variable in the position of the FOCUS-ed element immediately provides an explanation for the otherwise mysterious difference between sentences like (32) vs. (33) with respect to "weak crossover." Under this theory, the representation of sentence (33) would look roughly like the following:

(34) JOHN = the x such that [the woman he loved betrayed x]

Notice that the pronoun occurs to the left of the variable in (34), as in (29)-(31). Thus, the inability of the FOCUS phrase (JOHN) to function as the antecedent of the pronoun (he) in (33) is accounted for by the same generalization as the limitation on the interpretation of the pronoun was in cases such as (23), (24), and (25), namely, by the special condition on rewriting pronouns as bound variables in LF specified by rule A. On the other hand, if we assume that FOCUS constructions do not involve a bound variable, or that they do have a variable, but the representation containing this variable is not available in the LF-
component, i.e., in the component of core grammar where rules of anaphora—and among them, rule A—apply, then we have no explanation for why a FOCUS-ed NP gives rise to "weak crossover" effects, when a non-FOCUS NP in the same syntactic position does not (cf., e.g., (32) vs. (33)). To give an additional example for the application of "weak crossover" in FOCUS constructions and its failure to apply to the otherwise identical non-FOCUS-ed counterpart, consider the following contrast:

(35) His mother loves John.

(36) His mother loves JOHN.

In sentence (35), with main stress on the verb, the pronoun can clearly be interpreted as anaphoric to the object-NP John. In (36), however, the reference of the pronoun must be established outside of the clause; the FOCUS-ed object-NP JOHN cannot serve as its antecedent. Again, under the theory of FOCUS interpretation outlined above, the reason for this contrast would be that whereas the LF-representation of (35) contains no variable in the position of the object-NP, sentence (36) does. In particular, it has roughly the following representation in LF: JOHN = the x such that [his mother loves x]. Because in this representation the pronoun occurs to the left of the bound variable, we get the "weak crossover" effect, as predicted by rule A.

Even though Chomsky's (1976) argument regarding the representation of FOCUS constructions in LF presented above is based on data from
English, it has been construed to shed light on the nature of UG, rather than only on the grammar of English. This is a methodologically correct decision, especially given the rather abstract nature of the generalization involved. Yet because we will be using the implications of the above argument in connection with phenomena internal to the grammar of Hungarian, let us briefly check whether it indeed goes through in this language too. Consider, for instance, the Hungarian equivalents of the English sentences (32)-(33) and (35)-(36), discussed previously:

(37) a. A nő, akit szeretett elárulta Jánost.  
    the woman who-acc. loved-3sg. away-sold John-acc.  
    'The woman he loved betrayed John.'

    b. A nő, akit szeretett JÁNOST árulta el.  
    the woman who-acc. loved-3sg. JOHN-ACC. sold away  
    'The woman he loved betrayed JOHN.'

(38) a. Az anyja szereti Jánost.  
    the mother-his loves John-acc.  
    'His mother loves John.'

    b. Az anyja JÁNOST szereti.  
    the mother-his JOHN-ACC. loves  
    'His mother loves JOHN.'

The above sentences exhibit the same contrast that we observed in the case of their English counterparts. In sentences (37a) and (38a), i.e., in the non-FOCUS-ed versions, coreference between the pronoun, represented by the agreement element, and the underlined NP following it is free; however, in sentences (37b) and (38b), with the same NP
FOCUS-ed, "weak crossover" applies, so that the reference of the "pronoun" (i.e., of the agreement marker) in these cases can only be established elsewhere.

In summary, the above line of argument leads to the conclusion that FOCUS is interpreted in the LF-component, and the representation derived by the FOCUS interpretation rule exhibits a bound variable (namely, a variable bound by the "FOCUS" operator) in the original position of the FOCUS-ed phrase.

Let us consider now the question of how this conception of FOCUS interpretation would be compatible with the analysis that we have tentatively proposed (in section 3.2) for movement into the "pre-V" node in Hungarian, namely, with the SRH.

Recall that the SRH, or at least the particular version of it discussed in the previous section (cf. rule (10)), implies that although the feature "FOCUS" gets (optionally) assigned to the "pre-V" node at the level of S-structure, the actual phrase that will end up as the FOCUS constituent in the particular sentence moves into the (previously empty) "pre-V" position, and thus gets associated with "FOCUS," only in the PF component. Hence, given the organization of the model of core grammar assumed in the REST research program, FOCUS constituents in Hungarian would not be identifiable as such in the LF component (due to the fact that PF provides no input to LF), and consequently, FOCUS could not be interpreted in LF. Thus, the hypothesis that the pre-V position of FOCUS-phrases in Hungarian is due to a stylistic movement.
rule, namely, 'Move α to "FOCUS"' (rule (10)), forces one to the view that FOCUS-interpretation does not take place in the LF-component; rather, it must be assumed to happen in some component of the grammar beyond LF that is fed by the PF-component. (A concrete proposal along these lines, to which we will return below, has actually been developed in Rochemont (1978).) But notice that in face of the argument from the interaction of FOCUS-interpretation with rules of anaphora, presented above, this claim is untenable.

One might consider two ways out of this paradox, while still maintaining a stylistic rule analysis for movement into the "pre-V" node in Hungarian:

a. One may try to reformulate rule (10), under the assumption that the above conclusion regarding the place of FOCUS interpretation in the model is only a consequence of the particular analysis we have proposed in 3.2, rather than an implication inherent in any stylistic rule hypothesis for the phenomenon involved.

b. Alternatively, one could attempt to refute the validity of the judgments regarding FOCUS and "weak crossover" on which Chomsky's (1976) argument for the LF-status of FOCUS interpretation has been based. Below, we will discuss both of these options.

There does seem to be an alternative analysis of FOCUS in Hungarian—still involving a stylistic movement into the "pre-V" node—that would in fact permit FOCUS interpretation to take place in the LF-component. This potential alternative would have to be based on a
theory of FOCUS-assignment different from the one proposed in Chapter 2 (section 2.2, especially rule (40), and a revision of the proposal in section 2.4). Specifically, instead of assigning the feature "FOCUS" necessarily to the "pre-V" node, the rule of FOCUS-assignment in Hungarian would have to be assumed to have the general form 'Assign "FOCUS" to α', i.e., it would have to be assumed to apply freely, without any structural restriction, or any requirement of government by V, similar to its English counterpart. Given that FOCUS-assignment applies at the level of S-structure, this proposal implies that particular phrases will be identified as FOCUS (i.e., will be assigned the feature "FOCUS") already at S-structure in Hungarian, too. Thus, their interpretation could take place in LF, the same way as we assume it does in the case of languages like English. Under this alternative analysis, the stylistic rule we would need to move FOCUS-marked phrases (both Wh and non-Wh ones) into the position they appear in in the Surface Structure of Hungarian would have to be—stated informally—roughly like the following, which would replace rule (10) of our original proposal:

(39) Move "FOCUS" into "pre-V" position.

However, aside from some potential technical problems arising in connection with the actual formalization of this stylistic rule, there is a major problem inherent in this alternative proposal, which renders it untenable. Recall the generalization, noted in Chapter 2, that FOCUS-ed phrases in the surface structure of Hungarian must occur in
the "pre-V" node, i.e., they cannot appear in any other position in the sentence. In order to account correctly for this fact, the present modified stylistic rule analysis would have to resort to the claim that rule (39), i.e., the rule moving FOCUS-marked constituents into the "pre-V" node, is an obligatory stylistic rule. This would clearly be an untenable claim. Of course, mechanically, we could make sure that the stylistic rule itself is optional, but in that case, one would need to capture the generalization that FOCUS-ed elements can occur only in the "pre-V" node by postulating in addition a (language-specific) filter applying to the output of rule (39). This analysis, however, would be undesirable for the following reasons. First, it involves the otherwise unprecedented situation that a filter crucially constrains the output of a stylistic movement rule. Even more significantly, the formal statement of the filter needed would be extremely awkward and unrevealing. In particular, it would have to list a variety of "unless-conditions" on the filter in order to correctly specify all the cases in which a category marked by the feature FOCUS is acceptable. More specifically, the filter would have to be prevented from ruling out a constituent bearing the feature FOCUS if: (a) it precedes and is an adjacent sister to V; (b) it is contained in a constituent satisfying condition (a); or (c) it belongs to a category that is a projection of the lexical category V. Notice that the same problem does not arise under our original proposal (cf. Chapter 2, sections 2.2 and 2.4, and section 3.2). On that theory, the fact that FOCUS-phrases in Hungarian necessarily appear
in the "pre-V" position in surface structure is attributed to the
requirement of "V-government" for FOCUS-assignment in this language,
and to the fact that in Hungarian, the only position governed by V in
the required sense is the "pre-V" node (cf. our discussion of the
"FOCUS-assignment parameter" in section 2.4 of Chapter 2); consequently,
the stylistic rule 'Move α to "FOCUS"' (cf. (10)) can apply optionally,
with no misgeneration resulting. 27

Having eliminated the above alternative analysis of stylistic
movement into the "pre-V" node, we are back to our original SRH, and to
the problem of its being incompatible with FOCUS interpretation in the
LF-component. As we have noted above (in option (b)), however, if one
could refute Chomsky's (1976) argument for FOCUS interpretation having
to take place in LF, we could still maintain the SRH. An attempt to
deny the validity of the evidence based on the interaction of FOCUS
interpretation with rules of anaphora—in particular, with Chomsky's
(1976) "rule A"—has actually been made in Rochemont (1978). We will
discuss his argument below.

What Rochemont (1978, 101-102) sets out to demonstrate is that
contrary to the claim on which Chomsky's (1976) argument is based,
FOCUS-constructions are not subject to the condition on anaphora
expressed by rule A. In other words, Rochemont maintains that given
appropriate discourse context, it can be shown that FOCUS-sentences,
such as, e.g., our example (33) (Rochemont's (22)), in fact do not
exhibit "weak crossover" effects, in contrast to constructions
involving Wh-movement or QR, which do manifest such effects. If this indeed turned out to be the case, then one would have good reason to believe that FOCUS interpretation applies not in LF, but rather—as claimed by Rochemont—in a component beyond LF, namely, at the level of "full" semantic representations, referred to in Rochemont (1978) as "Pragmatic Representations." 28

To support his claim that the representations resulting from FOCUS interpretation are not subject to the application of rule A, Rochemont cites the following fragment of discourse, containing our example (33): 29

(40) [= Rochemont (1978, Chapter 4, example (25))] 30

A: Sally and the woman John loves are leaving the country today.
B: I thought that the woman he loves had betrayed Sally.
A: No—the woman he loves betrayed JOHN; Sally and she are the best of friends.

As noted by Rochemont, the context in (40) reinforces an interpretation under which the pronoun he in the last sentence is coreferential with the FOCUS-ed phrase JOHN. The possibility of a coreferential interpretation between the pronoun and the FOCUS-ed NP occurring to its right in this sentence is taken by Rochemont to demonstrate that at the level where rule A applies—namely, in LF—no variable has been introduced yet in place of the FOCUS-constituent, i.e., FOCUS interpretation—in contrast to other rules introducing bound variables such as Wh-movement and QR—has not applied yet. This certainly is a possible
interpretation of the above facts.

However, this conclusion, it seems to me, does not follow necessarily from the state of affairs described by Rochemont. Strictly speaking, Chomsky's (1976) condition under discussion is not a condition prohibiting coreference, i.e., coindexing between a variable (or the instantiation of a variable) and a pronoun to its left. Notice that the structural relation holding in these cases is not one where "disjoint reference" would apply. Rather, the condition in question merely specifies under what circumstances a pronoun in the scope of a quantifier can be rewritten as the variable bound by this quantifier. Given this, there is a conceivable alternative account for the existence of a coreferential interpretation for the pronoun and the FOCUS-ed NP in the last sentence of (40). Namely, we can say that the option of a coreferential reading observed in (40) is not due to the non-applicability of rule A to the output of FOCUS interpretation, but rather is attributable to "accidental" coindexing between the pronoun (he) and the FOCUS-ed phrase (JOHN). Under this account, the FOCUS-NP JOHN, or rather the variable replacing it in LF as a result of FOCUS interpretation, would not be the "antecedent" of the pronoun, consistent with the condition on rule A. Instead, the reference of the pronoun, as well as the reference of the FOCUS-phrase, gets established elsewhere, namely, both of them get their reference (on the interpretation under discussion) based on an earlier occurrence of the name John in the discourse context (cf. the first sentence of discourse (40)).
This hypothesis of "mediated" coreference suggested above raises a number of potentially interesting questions having to do with the options for anaphoric relations exhibited by various NPs replaced by a bound variable in LF, especially regarding their behavior with respect to "discourse anaphora." (Consider, e.g., the difference in the reference options between FOCUS-ed vs. quantified NPs in discourse.) Dealing with these questions lies beyond the scope of the present study. However, this alternative to Rochemont's (1978) account of the above facts does seem to have considerable initial plausibility, especially because our proposal, in contrast to his, can explain why setting up a context manifesting a previous occurrence of the intended referent of the pronoun (i.e., John) is necessary in order to get the coreferential interpretation in the first place. (It must be noted here that for some speakers the coreferential interpretation of sentences like (33) seems available even without specification of such a context. It is not clear, however, that "weak crossover" is relevant for these speakers with respect to the other types of constructions involving bound variables, either. Clearly, further research is needed to clarify these cases.)

In summary, if our suggestion to account for the phenomenon represented in discourse (40) is indeed tenable, then there is no evidence whatsoever against the conclusion, established in Chomsky (1976), that the rule of FOCUS-interpretation applies in the LF-component, along with the rest of the interpretive rules relevant for sentence grammar.
Thus, the problem of the incompatibility between the SRH in Hungarian and the conception of FOCUS-interpretation in the model we pointed out earlier in this sub-section still stands as a serious reason for rejecting this analysis of movement into the "pre-V" node.

3.4.2. The Inadequacy of the SRH Account of ASPECT Interpretation

Some additional observations relating to our discussion of ASPECT-interpretation and the SRH in section 3.3.4 above further diminish the initial appeal of the stylistic rule analysis. Recall that a major positive argument in favor of the SRH was based on the application of the interpretive templates for ASPECT, presented in (20), in Wh-questions and FOCUS-sentences (cf. section 3.3.4).

On the basis of examples such as (70), (71), and (72) of Chapter 1, section 1.7, and (21)-(22) of section 3.3.4 of the present chapter, we reached the descriptive generalizations summarized below:

(41) Surface Structure Patterns ASPECT

(i) \([V, V] \quad \text{VAGUE (e.g., (70) of Chapter 1)}\)

(ii) \([V, X^{\text{max}}, V] \quad \text{PERFECTIVE (e.g., (71) of Chapter 1)}\)

(iii) \([V, V, X^{\text{max}}] \quad \text{PROGRESSIVE (e.g., (72) of Chapter 1)}\)

(iv) \([V, X^{\text{max}}, V] \quad \text{VAGUE (e.g., (21)-(22) of Chapter 3)}\)

\{+Wh\}

\{+FOCUS\}

The "surprising" fact, on which our argument for the SRH has been based, is that given the interpretive rules (20)—originally motivated in
section 1.7 of Chapter 1—one would expect the surface configuration (41(iv)), i.e., structures with Wh-Q and FOCUS phrases occupying the "pre-V" node, to undergo interpretive rule (20a), and thus manifest an exclusively PERFECTIVE interpretation, the same way as base-generated "pre-V" phrases do; however, this turns out not to be the case. Instead, what actually happens is that these surface configurations, derived by the movement of a phrase into the "pre-V" position, are vague with respect to ASPECT, i.e., given templates (20), they must be subject to part (c) of the set of rules, similar to sentences with no complement phrase appearing in V' (cf. case (41(i))). This observation was interpreted in section 3.3.4 as strong evidence in support of the stylistic status of movement into the "pre-V" node, because under this analysis, Wh-Q and FOCUS-phrases would indeed not be present in V' at the level of S-structure, i.e., at the representation feeding LF. In other words, the S-structure representation of cases (41(iv)) under the SRH would be (42).

(42) \[ [\nu, \Delta] \nu \]

Thus—making the plausible assumption that lexically empty categories are "invisible" for such language-particular interpretive templates—at the level where rules (20) apply, surface configurations (41(iv)) would be indistinguishable from configurations (41(i)), and hence would uniformly undergo rule (20c), rather than rule (20a).

If these were all the relevant data, this case would indeed
constitute a crucial piece of evidence in favor of the SRH. However, closer examination reveals an additional pattern, not considered before, with respect to which the SRH in fact turns out to make the wrong prediction. Consider the case of Wh-Q/FOCUS movement in sentences that have a base-generated V'-complement in the "pre-V" node at D-structure. For concreteness, we reproduce here the relevant versions of our example used in Chapter 1, section 1.7 to establish the generalization about ASPECT interpretation in Hungarian in the first place (cf. sentences (71)-(72) of Chapter 1). (The phrase base-generated in the "pre-V" node is marked by underlining.)

(43) a. Mari mitı rakott az asztalra ti? Mary what-acc. i piled the table-onto ti 'What did/has Mary pile/piled on the table?' or: 'What was Mary piling on the table?'

b. Mari AZ ÉDENYEKETı rakta az asztalra ti Mary THE DISHES-ACC. i piled the table-onto ti 'Mary (has) piled THE DISHES on the table.' or: 'Mary was piling THE DISHES on the table.'

As argued at length in Chapter 1, two movement operations are involved in the derivation of the above type of sentences: (1) "Local Postposing," moving a base-generated "pre-V" complement to a post-verbal position, and (2) substitution of a phrase into the "pre-V" node, vacated by the postposing process. The crucial fact for demonstrating that the SRH is in fact unable to provide an adequate account of the application of our interpretive templates for ASPECT (cf. (20)) is that
sentences like (43a, b) are systematically VAGUE with respect to ASPECT (see the English translations above). The reason why this fact constitutes strong counter-evidence against the SRH, or at least invalidates our positive argument presented in section 3.3.4 in favor of it, is the following.

Assuming the SRH, the representation of sentences (43a, b) would look like (44) at the level of S-structure, i.e., at the level of representation entering semantic interpretation:


In other words, under the assumption that the rule substituting phrases into the "pre-V" position is a stylistic movement, i.e., that it applies only in the PF component, the representation of sentences like (43a, b) would be identical to that of corresponding non-FOCUS-ed declarative sentences at the level relevant for the application of the interpretive templates for ASPECT. Specifically, structure (44) would not only be the S-structure underlying sentences (43a, b); it would also be the S-structure of sentence (72) of Chapter 1, repeated here for convenience:

(45) Mari rakta az asztalra az edényeket.
    Mary piled the table-onto the dishes-acc.
    'Mary was piling the dishes on the table.'

But notice now that this consequence of the SRH makes the wrong prediction with respect to ASPECT interpretation. In particular, it predicts
that sentences like (43a, b) will exhibit the same options for ASPECT interpretation as sentences such as (45) do: namely, both of these sentence-types will undergo interpretive rule (20b), because of the structure of their V' shown in (44), and hence will end up with a necessarily PROGRESSIVE interpretation. Because sentences such as (43a, b) actually turn out to be uniformly VAGUE with respect to ASPECT, in contrast to sentences like (45), which are indeed necessarily PROGRESSIVE, we can conclude that in the above cases, whether or not "WH-Q/FOCUS movement" has applied in the derivation does make a difference with respect to ASPECT interpretation. This state of affairs cannot be accommodated under a stylistic rule analysis for movement into the "pre-V" node.

So let us summarize the apparently unresolvable paradox we have arrived at in our discussion of the interaction of Wh-Q/FOCUS movement with the interpretive templates for ASPECT (20). We have found the following two surface structure patterns involving Wh-Q/FOCUS movement, corresponding to sentences such as (21)-(22) of section 3.3.4 and (43a, b) respectively:

(46) **Surface Structure Pattern**

(i) \[ V', \begin{array}{c} \times \text{max} \\ \{ +\text{Wh} \} \\ \{ +\text{FOCUS} \} \end{array} V \]  

(ii) \[ V', \begin{array}{c} \times \text{max} \\ \{ +\text{Wh} \} \\ \{ +\text{FOCUS} \} \end{array} V \times \text{max} \]

The paradox involved is that, given the interpretive templates in (20),
in order to get the interpretation "VAGUE" for both of the above cases, the Wh-Q/FOCUS phrase should be absent from the "pre-V" node in sentences of type (46(i)), but present in the "pre-V" node in sentences of type (46(ii)) at the level where ASPECT interpretation applies. This seemingly impossible requirement will get fulfilled in a non-ad hoc way by the analysis to be developed in Chapter 4, as an alternative to the SRH discussed in this chapter.
CHAPTER 3: NOTES

1 The discussion of the Stylistic Rule Hypothesis presented below is partially based on an earlier paper of mine (Horvath (1980)). The conclusion reached in the present chapter, however, is different from that of the paper.

2 This account may not be sufficient in "non-configurational" languages. However, all the languages we are discussing here are "configurational."

3 Regular personal pronouns like he, she, etc. are not "bound anaphors" in the technical sense.

4 In more recent versions of the theory, such a movement would be ruled out by some additional principles of UG as well, such as the "θ-criterion" of Chomsky (1981).

5 Pullum (1980) claims to have found data from several languages that seem to constitute counter-examples to the parallelism between traces and bound anaphors. However, he has used in the paper a linear definition of the "proper binding" relation rather than one based on c-command. For a potential explanation of these superficially anomalous cases, see May (1981b).

6 Hungarian provides some evidence indicating that the morpheme nak/nek associated with indirect objects is not a Case-marker, but rather a postposition cliticized to the head noun of its NP-complement. Consequently, indirect objects in Hungarian can be argued to be PPs rather than NPs.

7 Of course, for both cases, alternative accounts are conceivable, given a different theoretical framework.

8 The term "domain" here refers to the notion "c-command domain," as defined in Reinhart (1976). "Anaphor" in the statement of these conditions is used as a technical term, referring to trace, PRO, reciprocals, reflexives, and other "bound anaphors."

9 The other "escape hatch" predicted by the OB-theory is the subject-position of an infinitival clause. This is a correct
prediction, as demonstrated by cases of "raising."

Furthermore, "unbounded" extractions are subject to "bridge conditions," discussed in Erteschik (1973). Koster (1978) argues convincingly that extractions out of S' represent a "marked" option in UG.

Some empirical evidence (from Subjacency) showing that "pre-V"-to-"pre-V" movement is indeed an untenable hypothesis will be presented later in this chapter.

Recall that we have not resolved yet the problem of whether FOCUS-Assignment is optional or obligatory. This question will be addressed in Chapter 4.

The only case that is an apparent exception to this generalization is the case of "multiple FOCUS constructions." For these, I propose an analysis based on adjunction in LF and the "spreading" of the feature FOCUS, parallel to the suggestion we made in note 24 of Chapter 2 regarding multiple Wh-questions.

In some versions of EST, these conditions are assumed to apply at S-structure, but crucially, they do not apply in the PF-component.

Notice that COMP must be accessible for Stylistic Rules independently of the above case, as shown by the possibility of PP-extra-position from Wh-moving phrases in English (under the analysis argued for in Rochemont (1978)).

The phenomena that have originally motivated May's (1977) QR hypothesis are the same in Hungarian as in English.

An alternative to this account will in fact be discussed in Chapter 4.

These principles are subsumed under the "θ-criterion" of Chomsky (1981). This does not affect our present argument, however.

Most of the examples in this sub-section will be complex and somewhat hard to process (for the non-linguist) out of appropriate context. However, they are always clearly distinguishable from the truly unacceptable *-ed sentences.

The apparent obligatoriness of Wh-movement in languages such as English can be accounted for by postulating a filter that rules out [+WH] COMPs that contain no lexical Wh-phrase.
21 I am also assuming the principle of Strict Cyclicity here. (For a discussion of this condition, cf. Chomsky (1973) and Freidin (1978).)

22 Notice that such a movement would be ruled out—at least in the OB-theory—as a syntactic transformation, too, because the trace left behind by it would be free in an opaque domain (namely, in the domain of the subject).

23 An alternative formulation, replacing left-to-right order in the condition with the notion of c-command, is proposed and argued for convincingly by Reinhart (1976, Chapter 3). For the purposes of the present argument, it makes no difference which one of these alternative formulations we adopt.

24 See our discussion of the interpretive rule deriving representations of FOCUS such as (34) in Chapter 2, section 2.1.

25 The absence of a subject in the relative clause is due to the fact that Hungarian is a "Pro-drop" language, with overt subject-agreement on the verb.

26 Notice that given a contrastive interpretation for the FOCUS element, set up by a previous occurrence of the intended referent in the context, a coreferential reading can be obtained (both in Hungarian and in English). For a discussion of such cases, see the end of the present sub-section. The relevant judgments here are the ones under a non-contrastive interpretation of FOCUS.

27 The only thing that would still need to be excluded is a derivation in which the "pre-V" node gets assigned FOCUS, but the stylistic rule (10) happens not to apply. But this would be achieved by the independently necessary principle ruling out lexically empty categories serving as FOCI.

28 This level of representations is assumed to get input from the LF and PF components of core grammar, as well as from other cognitive representations, falling outside the domain of formal grammar.

29 Rochemont (1978) discusses an additional example (discourse (24) of his Chapter 4) arguing for the same point. This case, however, requires contrastive stress on the pronoun.

30 The accent marks in the sentences of (40) are mine. Rochemont (1978) used italics to indicate the word bearing the main stress in the sentence.
31 This position is also taken in a recent study of stress and focus in English by Culicover and Rochemont (1981).

32 The variation in the form of the verb is due to definite/indefinite object agreement.
CHAPTER 4

ON THE STATUS OF GOVERNED EMPTY CATEGORIES

IN THE THEORY OF BINDING

In the previous chapter, we have examined in detail the hypothesis that movements into the "pre-V" node in Hungarian (motivated in Chapters 1 and 2) were the result of a **stylistic** rather than a syntactic movement rule. Even though the SRH did have some nice consequences (cf. sections 3.3.1, 3.3.2, and 3.3.3), in the face of the problems outlined in section 3.4—and also, considering the highly tenuous nature of a "Stylistic Rule" component (distinct from scrambling) in the theory in general—we are led to the conclusion that the SRH may not constitute an adequate account for the range of empirical phenomena we are concerned with, and that a more fruitful direction for investigation would open up if we abandon it.

The obvious alternative to a stylistic rule analysis is, in this case, an analysis based on the assumption that the substitution of phrases into the "pre-V" node of Hungarian phrase structure is simply a manifestation of the general **syntactic** transformation 'Move α.' Notice that because the rule 'Move α' is clearly needed in the syntax of Hungarian independently of the derivation of Wh-Q and FOCUS construc-
tions, this analysis represents the "null hypothesis," in contrast to the stylistic rule analysis, which involves an additional language-particular stipulation for the grammar of Hungarian, namely, the stylistic rule (10) (cf. Chapter 3). Furthermore, the assumption that movement into the "pre-V" position takes place in the syntactic component of core grammar, i.e., before the level of S-structure, would immediately eliminate the problem inherent in the SRH involving the place of FOCUS interpretation in the model (cf. our discussion in section 3.4.1 of Chapter 3).

Thus in this chapter we will propose a syntactic 'Move α' analysis for movements into the "pre-V" node. This hypothesis will be elaborated and extended to all the empirical phenomena discussed in the previous chapters. It will be shown that the case at hand has some interesting implications with respect to the choice of an adequate theory of Binding in UG and the status of "traces" in it, with respect to the hypothesis of the existence of movement operations in the LF-component, as well as with respect to the formulation of Subjacency. The chapter will be organized as follows.

In section 4.1 we will present the analysis, discuss its incompatibility with the version of trace-theory and "proper binding" assumed in the "On Binding" framework and in all previous variants of EST, and will show that it crucially points to the necessity of a revision of the notion of "trace-binding." It will be argued that what is needed is a principled distinction between traces that are variables
and traces that are anaphors, and a theory of Binding that specifies different binding requirements for these two types of empty categories. Under such a theory, which essentially coincides with the theory of Binding postulated in the framework of the Government-Binding (henceforth GB) theory (cf. Chomsky 1981 and related work), we in fact get an explanation for the "downgrading" (as opposed to "upgrading") nature of "Wh-Q/FOCUS Movement" in Hungarian. The same conception of binding will also solve the problem of why the application of the rule of FOCUS Assignment appears to be optional in some cases but obligatory in others. Section 4.2 will deal with the derivation of well-formed LF-representations for FOCUS/Wh-Q constructions in Hungarian and with the way the proposed hypothesis can account for some facts about the scope of the Wh-Q operator in this language. In section 4.3, we will investigate some interesting cases of interaction between the rules postulated to derive the LF representation of Wh-Q and FOCUS constructions and other rules of interpretation: namely, an interpretive template for IMPERATIVES and the set of rules posited in Chapter 1, section 1.7 for ASPECT interpretation. The complex of data will be shown to provide striking empirical evidence for the existence of movement processes in LF. The analysis will also resolve the apparent paradox involving ASPECT interpretation that we pointed out in section 3.4.2 of the previous chapter. Section 4.4 will treat a potential objection to the syntactic 'Move α' analysis advocated here, based on an apparent violation of the "θ-criterion" (cf. Chomsky 1981, 2.2., 2.6) on this
principle). Finally, section 4.5 will briefly address the phenomena of "unbounded" extractions under the analysis proposed in this chapter. It will be tentatively suggested that the pattern of "island" effects pointed out in section 3.3.3 of Chapter 3 motivates a slight modification of the standard formulation of Subjacency (on Subjacency, cf. Chomsky (1973; 1977) and Rizzi (1978)).

4.1. **The Syntactic 'Move α' Hypothesis and the Non-Unitary Nature of "Trace-Binding"**

Recall our discussion in Chapter 3, section 3.1 that led to the postulation of the SRH. The basic motivation for proposing that Wh-Q/FOCUS movement was a **stylistic** rather than a **syntactic** process had to do with the crucial observation that if this movement takes place prior to S-structure, it systematically violates the c-command condition on the "proper binding" of traces. More specifically, consider the fact that given the particular landing site of Wh-Q/FOCUS phrases in Hungarian, the S-structures resulting from these operations would exhibit the structural relation between traces and their antecedents represented in diagram (1) below (see next page).

No matter which argument has moved into the "pre-V" position, the trace left by the movement is not c-commanded by the moved element (assuming the definition of "c-command" given in Reinhart (1976, 32), reproduced in (2) of Chapter 3). In other words, these configurations violate condition (1) of Chapter 3, the "Condition on 'Bound Anaphora,'"
yet they give rise to perfectly well-formed sentences. Because bound anaphors such as reciprocals and reflexives do observe the general c-command condition on bound anaphora (cf. (1) of Chapter 3) in Hungarian too, the existence of syntactic movements into a non-c-commanding position shown in diagram (1) above seems to constitute clear counter-evidence to the fundamental claim of "trace-theory" as conceived of in the "On Binding" framework and in all earlier versions of EST, namely, to the claim that the antecedent-trace relation is a special case of "bound anaphora," and hence, traces are subject to precisely the same conditions on proper binding as lexical anaphors. (Note in particular conditions (1), (6), and (7) presented in Chapter 3.) As we have pointed out earlier, the hypothesis that traces are bound anaphors has the desirable effect of considerably restricting the class of possible movement rules, and its empirical predictions are borne out by a wide
range of data from English and some other languages analyzed (cf. the references cited in Chapter 3, section 3.1). It was these qualities of the hypothesis that motivated our attempt to eliminate the apparent counter-example manifested by Hungarian through proposing a stylistic movement rule. Because this did not lead to a satisfactory analysis, however, we now must face the fact that Hungarian indeed has S-structure configurations such as the one represented in diagram (1), i.e., that the traces left by Wh-Q and FOCUS phrases moved to the "pre-v" node are indeed not "properly bound." Unless one wants to resort to the highly unsatisfactory stipulation that the traces of Wh-Q/FOCUS movement in Hungarian are simply exceptions to the c-command requirement for "proper binding," this state of affairs indicates a need to re-examine the EST notion of "trace-binding," outlined in Chapter 3, section 3.1.

4.1.1. Binding in the GB Framework: Variables vs. Anaphors

The traditional conception of trace theory incorporated—at least implicitly—the assumption that all traces have the same properties. They were considered as phonologically null elements, arising through movement operations, that uniformly belong to the class of "bound anaphors," and hence are supposed to observe conditions on binding, such as the c-command condition (cf. (1) of Chapter 3), the SSC, and the PIC.

Subsequent work in the REST framework, however, has revealed an increasing amount of evidence suggesting that, at least in certain respects, not all traces are alike. It has been noted, for instance,

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that a trace in S left by Wh-movement differs from a trace in COMP and from the trace left by NP-movement (the operation involved in "Passive" and "Raising" constructions in English) in that the former has the effect of blocking the application of phonological contraction rules, whereas the latter do not (cf. the discussion of to-Adjunction in, e.g., Chomsky (1976), Lightfoot (1976), Postal and Pullum (1978), and Jaeggli (1980b)). Similarly, a split in the functioning of traces left by Wh-movement vs. traces left by NP-movement, this time with respect to a particular filter in the syntax of Italian, has been pointed out by Longobardi (1978). Here again, the Wh-trace has an effect similar to an intervening lexical item (namely, it blocks the application of the filter), whereas the trace of NP-movement is "invisible" for this rule of PF. An interesting, non-ad hoc account of these differences between the functioning of Wh-traces vs. NP-traces in the PF-component is proposed in Jaeggli (1980b), based on the theory of abstract Case developed in Chomsky (1980a). Jaeggli observes that the independently motivated principles of Case-theory imply a systematic difference between traces left by Wh-movement and traces left by NP-movement: Wh-traces appear in Case-marking positions, whereas NP-traces appear in non-Case-marking positions. His suggestion is that Case-marked traces function like lexical NPs (which are also necessarily Case-marked), whereas non-Case-marked traces do not. This claim would obviously give an adequate account of the phenomena pointed out above.
Even more interesting for our purposes are some differences observed between the functioning of the trace of Wh-movement vs. the traces left by other movement rules with respect to Binding. In particular, investigating Wh-ex extractions out of Wh-island configurations in Italian, Rizzi (1978) presents evidence suggesting that the trace of Wh-movement in this language is not subject to the Opacity condition on the binding of anaphors, even though, as demonstrated in the paper, Opacity does hold for traces of NP-movements and clitic-movements, as well as for lexical anaphors. Rizzi's tentative account for this fact is based on the independently motivated assumption that the S-structures of constructions involving Wh-movement—in contrast to the output of NP-movement and clitic-movement—are mapped onto LF-representations by rules (as discussed in Chomsky (1973; 1976; 1977)) that substitute a variable for the trace in S left by Wh-movement. Assuming further that conditions on binding apply in the LF-component rather than at S-structure, his proposal is that in Italian, variables \((x,y,z \ldots)\) are not members of the set of "anaphors," in contrast to non-variable traces —i.e., \(x',[e]'s\)—which are. Because Opacity is a well-formedness condition on anaphors, it would indeed follow that the trace of Wh-movement in Italian is immune to it. Chomsky (1980a, 15) points out that assuming \(S\) to be a bounding node for Subjacency in English, one can vacuously generalize the above claim regarding the trace of Wh-movement to English, for the "Wh-Island" condition holding in this language is fully accounted for by the bounding nature of \(S\) alone.
On the basis of their study of "disjoint reference," and in particular cases of "strong crossover" (cf. Wasow (1972)), Freidin and Lasnik (1981, especially sections 2 and 3) argue that Wh-traces in S are exempt not only from the Opacity condition (former SSC) but also from the PIC (formulated in the OB framework as the NIC). Thus, the picture emerging is that the traces of Wh-movement, which at the level of LF are bound variables, systematically behave unlike anaphors with respect to conditions on Binding, whereas traces that are not rewritten as variables in LF do behave like anaphors.

The above generalizations have been incorporated into the theory of UG in a systematic manner only recently, in the framework of the "Government-Binding" (GB) theory, developed in Chomsky's "Pisa Lectures" and related work (see Chomsky (1981) and references therein). I will present below those, and only those, principles of this theory that are directly relevant for our discussion here. (For a detailed treatment of all these and related topics, including the exploration of a number of alternative formulations of particular principles, and for the elaboration of the whole system of UG in the GB framework, see Chomsky (1981).) In particular, we will be concerned here with the GB theory of Binding.

The GB framework was developed as a response to a variety of conceptual and technical problems involved in the OB theory (cf. Chomsky (1981, Chapter 3, section 3.1) for a discussion of these). Because the theory of Binding in the GB framework is formulated in terms of the
more fundamental theory of Government, we need to give here first a
definition of the notion "government" (mentioned already in Chapter 2,
section 2.4 in connection with our proposal for FOCUS-assignment), as
well as the notion of "governing category." (I will present here one
of several alternative formulations of these definitions proposed in
the GB literature, without further discussion. The reason for this is
that the choice of one or another of these alternatives has no conse-
quences for the point we are concerned with in the present context.)

(2) **Government** (Chomsky (1981, section 3.2.1(3))

\[ \alpha \text{ governs } \beta \text{ if } \]

(i) \[ \alpha = X^0 \]

(ii) \[ \alpha \text{ c-commands } \beta \text{ and if } \gamma \text{ c-commands } \beta \text{ then } \gamma \text{ either c-commands } \alpha \text{ or is c-commanded by } \beta. \]

In other words, \( \alpha \) in the above definition is \([\pm N, \pm V]\). The intuitive
idea behind the concept of government is that lexical heads "govern"
their complements. This notion is extended to the relation between the
"AGR" element contained in INFL and the subject-NP of a clause, as well
as to some other cases (through the device of "S'-deletion"). NP and
S' are stipulated to be absolute boundaries to government.

(3) **Governing Category** (Chomsky (1981, section 3.2.3(11))

\[ \alpha \text{ is the governing category for } \beta \text{ if and only if } \alpha \text{ is the minimal } \\
\text{category containing } \beta \text{ and a governor of } \beta, \text{ where } \alpha = \text{NP or } S. \]

Given these preliminary definitions, we can turn to the discussion of
Binding in the GB framework.
An important feature of the GB framework is that it distinguishes two conceptually distinct notions of "binding" that had been considered in previous versions of EST as one unified concept. Specifically, Chomsky (1981) proposes to distinguish between "operator-binding" and "antecedent-binding." The former is conceived of as a logical notion referring to the relation between an operator (such as a quantified expression or a Wh-phrase in LF) and the variable it binds, whereas the latter is a syntactic notion referring to the relation between an anaphor or (proximate) pronominal and the antecedent from which it receives its reference. It is maintained that the notion "bound" involves the c-command relation both in the case of "antecedent-binding" (also referred to as "A-binding") and in the case of "operator-binding" (or "A¬-binding"). However, there is a further criterion added that crucially distinguishes the two types of "binding." These notions are defined in Chomsky (1981, section 3.2.3) essentially as follows:

(4) $\alpha$ is "antecedent-(or A-)bound"/"operator-(or $A$-)bound" by $\beta$ if and only if $\alpha$ and $\beta$ are coindexed, $\beta$ c-commands $\alpha$, and $\beta$ is in an A/$A$-position. (Otherwise, $\alpha$ is "antecedent-(or A-) free"/"operator-(or $A$-) free" with respect to $\beta$.)

The term "A-position" in (4) stands for "argument-position." An "A-position" is a base-generated position in which a thematic role ($\theta$-role) can (potentially) be assigned to an argument. The term "$A$-position" refers to positions that are not A-positions, such as, e.g., all adjunct positions. Notice the claim incorporated in
(4): "antecedent-binding" can hold only if the c-commanding element occupies an A-position, and "operator-binding" can hold only if the c-commanding element appears in an $\overline{A}$-position.

The "theory of Binding" of the GB-framework is to be understood as a theory of antecedent-binding (or A-binding). In other words, the Binding principles, to be presented below, specify requirements for the binding of various types of elements from A-positions only; operator-binding is irrelevant for the GB "theory of Binding." In the following discussion, the terms "binding," "bound," and "free" will be used in the sense of "antecedent-binding," "antecedent-bound," and "antecedent-free." When we refer to the counterparts of these notions relating to operator-binding, we will specify it explicitly.

Chomsky (1981) subdivides nominal expressions into three basic categories and states the Binding Theory with respect to these three types of elements. Specifically, these categories are: (a) anaphors; (b) pronouns; (c) R-expressions. Intuitively speaking, anaphors are NPs that cannot have "inherent reference." Lexical anaphors, such as reciprocals and reflexives, and traces left by NP-movements are considered the two major types of elements falling into this category. The class of pronouns is conceived of as consisting of pronouns and PRO.5 (Pronouns are supposed to have the grammatical features gender, number, and person.) R-expressions are assumed to include lexical NPs (with heads that are "potentially referential"), and—crucially, for our purposes—variables. Loosely speaking, "variables" are empty
categories in $S$ bound by an operator, i.e., bound from an $\overline{A}$-position.\(^6\)

In section 2.4.2 of Chomsky (1981), the following principle is proposed to specify whether a particular trace is a variable or not:

\[(5) \quad [= (17) \text{ of Chomsky (1981, section 2.4.2)}] \quad \text{A trace is a variable if and only if it is Case-marked.}\(^7\)

Given the foregoing assumptions and definitions, the GB theory of Binding can be stated by the three simple principles stated below:

\[(6) \quad \text{Binding Theory} \quad \text{(Chomsky (1981, section 3.2.3(12)))} \]

\[(A) \quad \text{An anaphor is bound in its governing category.} \]

\[(B) \quad \text{A pronominal is free in its governing category.} \]

\[(C) \quad \text{An R-expression is free.} \]

From the above sketch of the conception of Binding in the GB-framework, we will be concerned mainly with binding condition (C) of (6) and with the claim that variables—in contrast to non-variable traces (such as NP-traces)—are R-expressions, i.e., that they are on a par with names rather than with lexical anaphors (as assumed in previous versions of the theory).

To illustrate the effect of these claims regarding variables, consider how the phenomenon of "strong crossover" (in the sense of Wasow (1972)) would receive a natural explanation under the GB theory.\(^8\)

Compare the following pairs of sentences (and their partially developed LF-representations):

\[(7) \quad a. \quad \text{Who did he say Mary had kissed } \underline{t_1}? \]
in LF: for which \( x \), he said Mary had kissed \( x \)
vs.

b. Who \( t_i \) said Mary had kissed him?

in LF: for which \( x \), \( x \) said Mary had kissed him

(8) a. Who \( t_i \) did he say \( t_i \) had kissed Mary?

in LF: for which \( x \), he said \( x \) had kissed Mary
vs.

b. Who \( t_i \) said he had kissed Mary?

in LF: for which \( x \), \( x \) said he had kissed Mary

There is a clear difference between the (a) sentences and the (b) sentences with respect to the options available for the interpretation of the pronoun. In the (b) sentences, the pronoun may—even though it need not—be interpreted as identical to the variable \( x \), but in the (a) sentences it may not. 9 This state of affairs can be characterized by assuming that in the (a) sentences the pronoun cannot bear the same index as the variable \( x \), even though in the (b) sentences it can.

Notice now how this phenomenon bears out the claim that variables are analogous to names. If we substitute a name in place of the bound variable appearing in the LF-representation of the above sentences, we get exactly the same reference options for the pronoun:

(9) a. He said Mary had kissed John.

vs.

b. John said Mary had kissed him.

(10) a. He said John had kissed Mary.

vs.

b. John said he had kissed Mary.

Under the hypothesis that variables and names belong to the same
category from the point of view of binding, namely, that they both are R-expressions, all the phenomena manifested by examples (7), (8), (9), and (10) are accounted for automatically, as a consequence of principle (C) of the Binding Theory (cf. (6) above). In sentences (7a)-(10a), if the pronoun happened to be coindexed with the R-expression (x and John, respectively), then the R-expression would be bound by it, violating binding condition (C). So the only indexing that gives rise to well-formed sentences in these cases is one in which the pronoun is indexed differently from the R-expression. In contrast, the (b) sentences are well-formed also in case the pronoun is coindexed with the R-expression in question, for in these sentences, the R-expression is not c-commanded by the coindexed pronoun, and therefore no binding occurs. (Notice that the pronoun in these cases also satisfies the Binding Theory, for it is free in its governing category—the embedded clause—as required by condition (B).)

Thus, what the cases of "strong crossover" indicate is that variables are subject to principle (C) rather than to principles (A) or (B) of the Binding Theory, just as names are. In the above framework, the fact that the trace of Wh-movement in Italian seems to violate the Opacity condition of the OB theory (as pointed out in Rizzi (1978)) also receives a straightforward explanation. The Opacity condition follows as a theorem from principles (A) and (B) of the GB Theory of Binding. So, given that the trace of Wh-movement in S is a variable rather than an anaphor or a pronominal, we in fact predict that it will

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not obey "Opacity." The reason why the same phenomenon could not be observed in English is that S is a bounding node in this language, so that the relevant structures are ruled out by Subjacency.

Having presented the above sketch of Binding in the GB framework, we can return now to our discussion of the case of "Wh-Q/FOCUS movement" in Hungarian and its implications for the theory of binding.

4.1.2. "Downgrading" Movement and the Trace of Wh-Q/FOCUS Phrases

On the basis of the discussion in the previous chapters, we have come to the conclusion that Hungarian has a syntactic movement operation—i.e., an instance of the syntactic transformation 'Move α'—that moves constituents "downwards," namely, into the "pre-V" node. As noted before, the "pre-V" node fails to c-command the rest of the argument positions in the phrase structure of Hungarian; hence in the resulting S-structures, the trace left by these movements is never c-commanded by its antecedent. This would clearly be a serious problem for the traditional notion of "trace-binding," as conceived of in the OB theory, and in its EST predecessors. In light of the proposals outlined in sub-section 4.1.1, however, the status and significance of this set of phenomena changes radically. Instead of constituting merely a curious exception to one of the major, most interesting claims of trace theory (namely, to the claim that traces are "bound anaphors," and the process of "trace-binding" falls uniformly under the conditions on bound anaphora), it becomes the empirical materialization of a
crucial difference between the conception of trace and binding in the GB and in the OB frameworks. 10

Notice that this crucial difference involves primarily the fact that whereas the OB theory considered traces uniformly as belonging to the class of "bound anaphors," i.e., as being on a par with lexical anaphors with respect to binding, the GB theory splits up traces (i.e., in its own terms, governed empty categories) into two different "types"—variables and non-variable traces (or "NP-traces")—and distributes them between the categories of R-expressions and anaphors, respectively.

Let us examine now the predictions made by the theories of binding stated in the above two types of frameworks with respect to the class of possible movement operations. Taking first the case of well-known movement rules in English, the OB-type theories gave a unified account of why all major movement processes leaving behind an empty category, such as, e.g., the operations involved in "Passive," "Raising," "Wh-Question," and "Relative Clause" constructions, are "upgrading" rather than "downgrading" movements. The explanation in all of the above cases was that "downgrading" movement, more precisely movement to a position that does not c-command the original position of the moved phrase, would result in an ill-formed S-structure, because the trace in these cases would not be "properly bound" (cf. the "Condition on Bound Anaphora" (1) of Chapter 3, as well as the Opacity Condition (6) and the NIC (7) in Chapter 3, subsuming the former).

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In contrast, notice that the GB theory of Binding, outlined in sub-section 4.1.1, provides no such unitary explanation for why moved phrases tend to wind up c-commanding their traces. In the cases involving non-variable traces, such as in Raising and Passive constructions, the GB Binding Theory does indeed account for the generalization that the phrases involved move into a position c-commanding their original position, i.e., for the impossibility of "lowering" NP-movements. Specifically, the reason for this would be that non-variable traces are anaphors in the GB framework too, and consequently are subject to Binding Condition (A) (cf. (6)). Assuming the definition of "antecedent-bound" (A-bound) given in (4), this condition in effect requires that there be an element coindexed with the anaphor in its governing category that occupies an argument position (A-position) c-commanding the anaphor.

Crucially, however, no such explanation would be available for the case of Wh-movement type operations, i.e., for operations involving a trace that is considered a variable. The binding condition relevant for variables is principle (C) of the Binding Theory, presented in (6). This condition says nothing about the need for a coindexed category to c-command the variable. In fact, on the contrary, the only thing principle (C) specifies is that R-expressions (hence variables) cannot be c-commanded by a coindexed element occupying an A-position. Notice that even though the Wh-phrase in COMP does c-command its trace (in the case of Wh-movement in English), COMP is not an A-position, and thus the
variable is still "antecedent-free," as required by condition (C) of the Binding Theory. The important point to note here is that the GB theory of Binding—in contrast to previous versions of EST—offers no account for the fact that Wh-movement in languages such as English is an "upgrading" rather than a "lowering" rule. (We will return to the issue of the operator-binding of variables involved here in the next section.)

On the basis of the above discussion, one might be tempted to conclude that the "traditional" conception of trace-binding, inherent in the pre-GB versions of EST, is superior to the one proposed in the GB-framework, because it can capture the "upgrading" nature of both of these two types of movements by one single generalization. But the crucial question to consider here is whether the above observation indeed constitutes a true generalization. The case of movements into the "pre-V" node in Hungarian strongly indicates—as we will show below—that the uniform exclusion of "downgrading" movement operations, implied by "traditional" versions of trace theory, has in fact been a spurious generalization, and instead the phenomena involved turn out to provide interesting empirical evidence in support of the conception of "trace" and "binding" adopted in the GB-framework.

Notice the kind of constructions that exhibit the "problematic" lowering movement in Hungarian. They are Wh-question and FOCUS constructions. (The former is argued in Chapter 2, section 2.3 to be also an instance of a FOCUS-Construction.) There is good reason to believe that in both of these cases the empty category left behind by the
movement is a bound variable in LF. Apart from its initial intuitive plausibility, this claim is supported by the empirical phenomena of "weak crossover," discussed in detail in Chapter 3, section 3.4.1 (cf. especially examples (37) and (38), demonstrating the existence of "weak crossover" effects in Hungarian FOCUS constructions.) Recall also the principle stated in (5) of sub-section 4.1.1.\textsuperscript{11} It made the claim that if a trace is Case-marked then it must be a variable. The trace of Wh-\texttext{Q}/FOCUS movement in S systematically occupies a Case-marked position in Hungarian, so according to this criterion too, it must be a variable.

Given that the binding condition relevant for variables, namely principle (C) of the GB Theory of Binding, gives rise to "strong crossover" phenomena, as demonstrated at the end of the previous sub-section, the claim that the empty category left by movements into the "pre-V" node is a variable predicts that these constructions will exhibit "strong crossover" effects. This prediction is in fact borne out. Consider, for instance, the reference options for the pronoun (or agreement marker) in the following sentences involving FOCUS movement:

\begin{align*}
(11)\ a. \ & \text{JÁNOS KÁTINAK}_i \ \text{hitte} \ \text{S} (\text{hogy} [\text{S} (\text{S})_i \ \text{kijelentette}_i \ \text{(S)}_i \ \text{declared-3sg}._i \\
& \text{S}, \ \text{hogy} [\text{S} \ \text{Mari telefonált} \ \text{t}_i .]]]) \text{ that Mary phoned} \ \text{t}_i \text{. }] \text{.}
\end{align*}

\begin{align*}
& \text{she declared that Mary had called CÁTHY.}'
\end{align*}

\begin{align*}
(11)\ b. \ & \text{János KÁTIT}_i \ \text{hitte} \ [\text{S} \ \text{hogy} [\text{S} \ \text{t}_i \ \text{kijelentette}_i \ \text{t}_i \ \text{declared-3sg}._i \\
& \text{S}, \ \text{hogy} [\text{S} \ \text{Mari telefonált} \ \text{t}_i .]]]) \text{ that Mary phoned} \ \text{t}_i \text{. }] \text{.}
\end{align*}

\begin{align*}
& \text{Vs.}
\end{align*}
[s, hogy [s Mari telefonált neki.]][12]
that Mary phoned to-her
'CATHY declared that Mary had called her.'

What we see here is that in sentence (11a) the pronoun cannot
bear the same index as the FOCUS-ed phrase (occupying the "pre-V" node
in the matrix clause), and hence it cannot be interpreted as coreferen-
tial with it.13 At the same time, sentence (11b) may freely exhibit
such an interpretation. This contrast is parallel to the one we found
between the (a) and the (b) sentences of (7) and (8) at the end of sub-
section 4.1.1. Here again, the facts fall out automatically from the
GB theory of Binding, provided that the empty category left by "FOCUS-
movement" is considered a variable. Under this assumption, the neces-
sarily non-coreferential interpretation of the pronoun in (11a) would
simply follow from the fact that on the coindexed derivation, the vari-
able, i.e., t₁, would be A-bound by the pronoun, in violation of prin-
ciple (C) of the Binding Theory. In contrast, the pronoun in (11b)
does not c-command the variable, hence the variable cannot be bound by
it, even if they bear the same index. Thus, condition (C) would not be
violated in (11b), predicting correctly the possibility of a coreferen-
tial interpretation.

Having established that the trace left by movements into the
"pre-V" node should be regarded as a variable, we must notice that our
original problem involving the "downgrading" nature of these operations
is no longer a problem, given the GB theory of Binding. According to
Binding Condition (C), variables must be free (i.e., must not be A-bound), and this requirement is met by the configurations resulting from Wh-Q/FOCUS movements in Hungarian. The question of what the condition for the operator-binding of variables is in LF and how the constructions at hand meet this condition will be addressed in section 4.2 below. Apart from this, we can conclude on the basis of the foregoing discussion that the GB conception of "trace-binding" permits, i.e., actually predicts the existence of, cases like that of Wh-Q/FOCUS movement in Hungarian. In particular, it has the consequence that "downgrading" movements can exist if and only if the trace they leave behind is a variable (rather than a non-variable trace, such as, e.g., the trace of "NP-movement"). This class of movement rules is incorrectly ruled out by the "traditional" conception of traces and "proper binding," as shown by the facts of Hungarian.  

Finally, it must be noted that—in contrast to the usual case of Wh-type movements in familiar languages—the rule of Wh-Q/FOCUS movement in Hungarian moves phrases into an A-position, i.e., into a potential Θ-position, in the sense of Chomsky (1981). (Recall our discussion in Chapter 1 establishing that the "pre-V" node is a base-generated position in which a significant class of verbs takes a subcategorized complement.) Given this, it necessarily follows from the GB Binding Theory that it must crucially be a position not c-commanding the rest of the argument positions in the phrase structure. In other words, even though a case like Hungarian is permitted by this theory, there could
be no language that differed from Hungarian only in that instead of the "pre-V" node, the rule parallel to Wh-Q/FOCUS movement would substitute phrases into the subject-position. Such a movement would be ruled out by binding condition (C), for the variable in this case would systematically be bound (i.e., A-bound) by the moved phrase.

4.1.3. Binding and the Apparent Obligatoriness of FOCUS-Assignment

In our discussion of the process of FOCUS-assignment in Hungarian (cf. rule (40) of Chapter 2, section 2.2, and its revision in section 2.4), we have pointed out an apparent problem regarding the application of this rule. The following paradoxical situation has been noted. Phrases that are demonstrably base-generated in the "pre-V" node that they occupy in S-structure (i.e., such V'-complements as, e.g., the directional PP, the predicate nominative, and the predicate adjective in examples (37), (38), and (39) of Chapter 1, section 1.5) may or may not be interpreted as the FOCUS of their sentence. This would lead one to assume that the assignment of the feature FOCUS to the "pre-V" node—taking place at S-structure—will have to be optional. However, a serious problem seems to arise when we notice that all phrases occupying the "pre-V" node in S-structure that have been generated in some other position and have been substituted into their S-structure position by a movement rule rather than as a result of lexical insertion, must be interpreted as the FOCUS of their sentence. For these moved phrases, FOCUS Assignment seems to have to apply obligatorily. To illustrate the
phenomenon, consider, e.g., the following sets of sentences. (The phrases in question are underlined.)

(12) a. Attila a falra akasztotta az új képeket.
     Attila the wall-onto hung the new pictures-acc.
     'Attila hung the new pictures on the wall.'

     b. Attila A FÁLRA akasztotta az új képeket.
     Attila THE WALL-ONTO hung the new pictures-acc.
     'Attila hung the new pictures ON THE WALL.'

vs.

(13) a. *Attila az új képeket1 űrbe akasztotta a falra f1.
    Attila the new pictures-acc.1 hung the wall-onto f1.
    'Attila hung the new pictures on the wall.'

    b. Attila AZ ÚJ KÉPEKET1 űrbe akasztotta a falra f1.15
    Attila THE NEW PICTURES-ACC.1 hung the wall-onto f1.
    'Attila hung THE NEW PICTURES on the wall.'

The same generalization also holds with respect to extractions of base-generated "pre-V" complements from an embedded clause into the "pre-V" node of a higher clause:

(14) a. Attila imádja a falra akasztani az új képeket.
    Attila loves the wall-onto hang-Infinitive the new pictures-acc.
    'Attila loves to hang the new pictures on the wall.'

    b. *Attila a falra1 imádja f1 akasztani az új képeket.
    Attila the wall-onto1 loves f1 hang-Inf. the new pictures-acc.
    'Attila loves to hang the new pictures on the wall.'

    c. Attila A FALRA1 imádja f1 akasztani az új képeket.
    Attila THE WALL-ONTO1 loves f1 hang-Inf. the new pictures-acc.
    'Attila loves to hang the new pictures ON THE WALL.'

or:  'It's ON THE WALL that Attila loves to hang the new pictures.'
The obvious generalization emerging from these contrasts is that if and only if a phrase in "pre-V" position in S-structure has originated elsewhere, i.e., has been moved to its S-structure position, FOCUS-assignment to that phrase is obligatory. (Notice that the syntactic movement rule involved could not specifically refer to the feature FOCUS in its structural description, because before the level of S-structure, where 'Move a' applies, FOCUS is not yet assigned.) The paradox, then, is that the operation assigning "FOCUS" to the "pre-V" node in Hungarian seems to be optional for one class of cases and obligatory for another class of cases. Obviously, we would not want to account for this apparent property of the rule by direct stipulation, such as, e.g., by specifying that it applies optionally to a "pre-V" phrase, "unless there is a trace coindexed with that phrase somewhere in the sentence, in which case, it applies obligatorily."

Notice now that the above puzzle automatically receives an elegant solution under the assumptions of sub-section 4.1.2 regarding the nature of the trace left by movements into the "pre-V" node and the theory of Binding.

Suppose that the assignment of the feature FOCUS to the "pre-V" node (say, under government by and adjacency to V, as proposed in Chapter 2, section 2.4) is uniformly optional. Then the apparent obligatory of FOCUS-assignment in the case of a non-base-generated "pre-V" phrase would have to fall out from independent principles of the grammar. It actually does, in the following way. The only additional
assumption we need for this is that variables must be \( \bar{A} \)-bound by an appropriate operator in LF. This requirement is identical to the fundamental assumption underlying all previous work on LF, that "open sentences" constitute ill-formed semantic representations. (We will return to the discussion of the operator-binding of variables in the next section.) Given this, consider now the type of derivation that we want to exclude, namely, one in which an application of 'Move \( \alpha \)' had substituted a phrase into the "pre-V" node, and FOCUS Assignment failed to apply. The trace of this moved phrase is not A-bound, because the "pre-V" node does not c-command it. So, according to principle (A) of the GB Binding Theory, it cannot be an anaphor. It cannot be PRO either, for it is governed. Consequently, it can only be a variable. (Notice also that it occurs in a Case-marked position.) But crucially, if it is a variable, it must be bound (i.e., \( \bar{A} \)-bound) by an appropriate operator in LF, such as a quantifier, Wh, or the FOCUS-operator that we represented as "\( \alpha = \text{the } x \)". Because in the sentences under discussion (such as examples (13a) and (14b) above) FOCUS Assignment failed to apply, no operator is available to bind the variable in their LF-representation. Hence the sentences are ungrammatical under the non-FOCUS-ed interpretation. The reason why base-generated "pre-V" phrases can occur without the feature FOCUS assigned to them (such as in (12a) and (14a)) is, of course, that their structure contains no empty category that needs to be a variable, and consequently the above problem does not arise in their case.
Thus, the conception of trace and binding adopted in section 4.1.2 not only accommodates the particular movements into a non-c-commanding position that we have been discussing before, but it also turns out to provide an explanation for this otherwise mysterious, independent observation about the application of FOCUS Assignment.

4.2. The Operator-Binding of Variables and Wh-Q/FOCUS Raising in LF

Although the GB Theory of Binding specifies no requirement for the binding of empty categories that are variables (apart from the condition that they must be free), these elements are subject to another—"logical" rather than syntactic—constraint on well-formedness at LF. This requirement, alluded to already in sub-section 4.1.3, can be stated as follows:

(15) A variable must be "bound" (i.e., A-bound) by an appropriate operator in LF.

Recall now the notion "A-bound," as defined in Chomsky (1981, section 3.2.3), given in (4) of section 4.1.1 above. I repeat the relevant part of definition (4) below:

(16) \( \alpha \) is "operator-bound" (A-bound) by \( \beta \) if and only if \( \alpha \) and \( \beta \) are coindexed, \( \beta \) c-commands \( \alpha \), and \( \beta \) is in an A-position.

The above requirement has been implicit in previous work on LF and on the interpretive rules producing operator-variable representations, such as, e.g., Wh-Q interpretation (cf. Chomsky (1973; 1977)), FOCUS interpretation (Chomsky (1976)), Quantifier Raising (May (1977)), and

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all related subsequent work in the EST framework.

The assumption that variables must be c-commanded by their operators in order for the required binding relation to hold has the desirable empirical consequence of explaining why Wh-movements in languages such as English are "raising" rather than "lowering" operations. Notice, for instance, that without these assumptions about the operator-binding of variables, the GB-theory would predict that extraction of Wh-Q phrases in languages could proceed not only upward, i.e., from a lower COMP to successively higher COMPs, but also inversely, from a higher COMP to successively lower COMP nodes. This second logical possibility, however, is not attested in languages. The c-command requirement for the operator-binding of variables has the effect of precluding such non-existing movement operations.

Returning now to the case of Wh-Q/FOCUS movement in Hungarian, we must recognize that the S-structure configuration resulting from these operations is in direct violation of principle (15) of the operator-binding of variables. In particular, Wh-Q and FOCUS phrases—corresponding to β in definition (16) of A-binding—do not c-command the variables they are supposed to bind. (In addition, they appear in an A-position rather than in an A-position, so even if they did c-command their variable, the kind of binding relation they would establish would be antecedent-binding rather than operator-binding.) Thus, at the level of S-structure, requirement (15) for the well-formedness of representations containing variables is obviously violated. But
there is a way out of this apparent problem. What is crucial to recognize here is that principle (15) is not a "syntactic" constraint, but rather a well-formedness condition on "logical representations." Thus, it must hold at the level of LF-representations rather than at S-structure. Notice that if (15) applied at S-structure, it could give no unified treatment for all bound variables, because, e.g., variables bound by quantifiers or the variable bound by the FOCUS operator in languages such as English are introduced only in the LF-component.

Given this, the obvious hypothesis to propose regarding the case of Wh-Q and FOCUS constructions in Hungarian is that rules mapping S-structures onto LF-representations change these structures so that in LF they do satisfy requirement (15). More specifically, suppose that even though at S-structure, Wh-Q and FOCUS phrases occupy the "pre-V" node in Hungarian, in the LF-representation of these constructions, they get raised to a "peripheral" non-argument position, i.e., to a position outside of S. 16 Because these positions necessarily c-command all the argument positions in the phrase structure, i.e., all the positions where variables can occur, the representations resulting from this "raising" operation in LF will conform to the general principle (15). To illustrate the operation we are proposing, consider, for instance, the S-structure and the corresponding LF-representation of the following Hungarian Wh-question:
(17) A diákok melyik filmet, látták?  
the students which movie-acc, saw  

'Which movie did the students see?'

a. S-structure  

b. LF-representation

After the application of the LF-movement rule placing the Wh-Q phrase into COMP (cf. (17b)), the Wh-Q operator does c-command its variable, i.e., the trace occupying the original D-structure position of the moved phrase, as required by (15). The same would hold for non-Wh FOCUS phrases. The only difference would be in the particular landing site of the LF-movement rule: as indicated by some scope phenomena, non-Wh FOCUS phrases, similarly to quantifiers, must be adjoined to S rather than to COMP (or S'). (See our argument in note 11 of Chapter 2.) Note that our proposal is similar in spirit to the analysis suggested in Kayne (1980, section 2.2) with respect to "Stylistic Inversion" and the NIC in French. This latter analysis, too, relies on a movement in LF to "save" structures that otherwise would have been ruled out.
What our hypothesis crucially presupposes is that movement operations conforming to the general 'Move α' schema exist not only in the syntactic component but also in LF. Because the latter component provides no input to PF, the effects of LF-movements would be phonologically undetectable. Let us see now what independent motivation there is for the postulation of such operations in UG.

Since May's (1977) work on the regularities involving quantifier scope, movement in LF, and in particular the rule of Quantifier Raising (QR), has become a standard assumption in recent versions of EST. (For a justification of QR, see May (1977).) Moreover, the particular movement operations that our hypothesis makes use of—namely, Wh-Q and FOCUS Raising in LF—have both been specifically proposed in the literature quite independently of the case of Hungarian. Chomsky (1973) discusses the interpretation of multiple Wh-questions in English and suggests a rule applying in LF to move Wh-phrases that could not undergo overt syntactic Wh-movement into a COMP already containing a Wh-Q phrase (cf. Chomsky (1973, principle (249))). Further independent motivation for Wh-Q Raising in LF is provided by the case of languages that do not have syntactic Wh-movement at all, such as, e.g., Chinese (as argued in Huang (1980)), and even a language like French, which although it does have syntactic Wh-movement, does not, at least in its matrix clauses, require that a Wh-Q phrase move to COMP by overt Wh-movement in order for there to be a non-echo question interpretation (as pointed out by, e.g., Aoun, Hornstein and Sportiche (1980)).
Permitting an LF-movement rule to apply to Wh-Q phrases in such cases and move them into a [+WH] COMP node would result in a uniform LF-representation for Wh-questions across languages. Thus, such a theory would be able to capture the fact that the interpretation of Wh-questions is essentially similar irrespective of whether overt Wh-movement has applied in their derivation (cf., e.g., the two types of French Wh-questions). Further evidence that Wh-Q phrases in S undergo movement in LF comes from the observation, made originally by Kayne (1979) and further justified in Aoun, Hornstein and Sportiche (1980), that the positions occupied by these elements are subject to a principle constraining the distribution of empty categories, namely, to the ECP (for discussion, cf. Chomsky (1981, Chapter 4)). Given our hypothesis that the landing site of Wh-Raising in LF is the COMP node, similarly to the case of overt Wh-movement, we can informally say that languages such as English differ from languages such as Chinese in that the former type of languages has a "syntactically realized" LF-representation for Wh-questions, whereas the latter type does not. What our analysis of Hungarian developed in the present chapter suggests is that this language belongs to the latter type, i.e., that the S-structure it assigns to Wh-questions does not reflect their representation in LF.

Similarly, in the case of the interpretation of (non-Wh) FOCUS phrases, an LF-movement analysis has been proposed in Chomsky (1976). More specifically, such a movement rule would apply, e.g., in the LF of languages such as English to move FOCUS-ed elements out of their
original clause-internal position that they occupy at S-structure and place them into a c-commanding peripheral position, in particular, as indicated by some facts presented in note 11 of Chapter 2, adjoin them to S. In a sense, one can say that the case of FOCUS in English is parallel to that of Wh-questions in languages like Chinese: in both cases, the phrases containing the operator must be moved out of their S-structure position in order to derive well-formed LF-representations.

The question then arises whether there are any languages that exhibit a "syntactically realized" LF-representation for FOCUS in the same way as we said English does with respect to Wh-Q. There does seem to be a potential candidate for such a case. Recall that in Chapter 2, we have distinguished between two basic types of languages according to the distribution of FOCUS-ed elements in their S-structure: type (i), in which FOCUS Assignment was free, i.e., unconstrained by syntactic position (such as, e.g., in English), and type (ii), in which the feature FOCUS could be assigned only by V, to constituents governed by and adjacent to it in S-structure (such as, e.g., in Hungarian, Basque, or Aghem). However, this may not be an exhaustive typology. It has been pointed out to me by S. Anderson that Breton may represent a third type of case with respect to the syntactic distribution of FOCUS. In Breton, FOCUS phrases apparently must occur in strictly sentence-initial position. A plausible account of this generalization about linear order would be to hypothesize that FOCUS phrases in Breton must be left sisters to S, i.e., must occupy a position outside of S. If this indeed
turns out to be the right constituent structure, then Breton would provide the example we have expected to find, namely, it would have a syntactic S-structure reflecting the LF-representation postulated universally for FOCUS-ed sentences. I will not attempt here to present an account of FOCUS in Breton. However, it must be noted that the existence of this third kind of language-type with respect to the distribution of FOCUS is not necessarily inconsistent with the typology of FOCUS-assignment we proposed in Chapter 2 (especially section 2.4). If the Breton structures are indeed as suggested above, one could say, for instance, that this language lacks the process of FOCUS-assignment altogether. The presence of "FOCUS" on the left sister node to S might in that case be construed as one of the options available for the expansion of COMP by the base-rules, similarly to [±WH] posited as part of the feature matrix defining COMP in languages such as English. Obviously, only a detailed investigation of the language could reveal whether the above suggestions are on the right track.

On the basis of the above discussion, it seems at least reasonable to assume that "logical operators" (such as quantified expressions, the Wh-Q operator, and the FOCUS operator "α = the x") may undergo movement in the LF-component. Given this, our claim that in Hungarian Wh-Q and FOCUS phrases systematically get moved from their S-structure position, namely, from the "pre-V" node, to a hierarchically higher, peripheral A-position in LF, and hence the operator-binding of the variable involved can take place as required by (15), becomes a much more
plausible hypothesis. In fact, the case of Wh-Q and FOCUS constructions in Hungarian is essentially parallel to the case of Wh-questions in Chinese or FOCUS-ed sentences in English. The only difference is that Hungarian Wh-Q/FOCUS phrases systematically undergo overt movement (into the "pre-V" node) in the syntactic component before the LF-movement operations under discussion apply to them. Notice, however, that given the framework we have developed in Chapter 2, the necessity of this intermediate movement in the syntactic component in Hungarian requires no special stipulation. It follows automatically from (a) the availability of the 'Move α' rule schema in the syntax of Hungarian, and (b) from the fact that the feature FOCUS, which universally is indispensable for obtaining FOCUS interpretation (and also Wh-Q interpretation in LF, as argued in section 2.3 of Chapter 2), can be assigned to constituents only in the "pre-V" node, Hungarian being a "type (ii)" language with respect to the FOCUS-assignment parameter (cf. section 2.4 of Chapter 2). In the rest of this section, as well as in the following section, we will explore some specific empirical consequences of our hypothesis of LF-movement from the "pre-V" node in Hungarian.

The most obvious domain with respect to which our hypothesis makes crucial empirical predictions is the interpretation of scope relations. More specifically, it has been argued in works such as Reinhart (1976) and May (1977) that quantifier scope reflects relations between the c-command domains of particular quantifiers in phrase markers. Thus, phenomena of scope can indicate whether a particular S-structure
representation has undergone some change in LF. In the foregoing
discussion, we have claimed that Wh-Q and FOCUS phrases in Hungarian
undergo a movement in LF that raises them from their S-structure posi-
tion in the "pre-V" node to a position outside of S. This hypothesis
was originally motivated by the universal well-formedness condition on
operator-variable structures stated in (15). Now we will show that
some phenomena involving the relative scope of a Wh-Q phrase and a
quantified NP in simple Hungarian sentences—alluded to already in
Chapter 3, section 3.3.1—turn out to provide some empirical confirma-
tion for the existence of the LF-movement operation represented in
diagrams (17a-b).

Consider again the possible scope-interpretations in sentences
such as example (13) of Chapter 3, repeated below:

(18) Minden diák melyik filmet látta t₁?
every student which movie-acc. saw t₁

'Which movie did every student see?'

Given (a) that scope is determined in terms of c-command domains, and
(b) that QR is an adjunction to S, our hypothesis predicts that the
Wh-Q phrase in sentences like (18) will always have wider scope than
the (non-Wh) quantified NP in the clause, because COMP—the landing site
proposed for Wh-Q Raising in LF—asymmetrically c-commands all elements
adjointed to S.²⁰ In other words, the prediction is that the range of
scope-interpretations available for the Wh-Q phrase in (18) will be the
same as in the English counterpart of this sentence (in which the

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Wh-phrase appears in COMP overtly, at the level of S-structure). This prediction is borne out, as we noted before, in Chapter 3, section 3.3.1. The only interpretation exhibited by (18) is one on which one single movie is expected as a response, namely, the interpretation represented below:

(19) For which x, x a movie (for all y, y a student (y saw x))

This is in sharp contrast to the obvious scope-ambiguity manifested by a similar sentence, having a non-Wh quantified NP instead of the Wh-phrase of (18):

(20) Minden diák látott egy filmet.
    every student saw a movie-acc.

'Every student saw a movie.'

In this case, the quantified object-NP can take either wide or narrow scope with respect to the quantified subject-NP, as is the case with the corresponding English sentence. (The scope-ambiguity in both cases is predicted by the analysis involving QR, as proposed in May (1977).)

Notice now that if there was no LF-movement raising Wh-Q phrases from the "pre-V" position into COMP, we would expect precisely the opposite state of affairs to hold with respect to (18) from what we actually find. Namely, we would wrongly predict that the scope of the Wh-Q operator will necessarily be narrower than the scope of quantified expressions in the same clause, because the "pre-V" node is asymmetrically c-commanded by these elements. (This prediction would be made irrespective of whether our theory assumed QR or not.)
In addition to providing supporting empirical evidence for the LF-movement of Wh-Q phrases postulated (cf. diagrams (17a-b)), facts involving the scope of Wh-Q and FOCUS phrases in the particular case of Hungarian promise to be a very fruitful area for further research. Notice that in the discussion above, we have considered the relative scope of Wh-Q only in simple sentences. If the primary analysis proposed here is indeed tenable, the state of affairs revealed in Hungarian presents an excellent opportunity for getting new insights into the application of LF-movement rules—more specifically, the ones relevant for Wh-Q and FOCUS constructions—in complex structures. In particular, scope-phenomena in Hungarian can shed light on the nature of their "boundedness," on the question of whether FOCUS may (or must) take wide scope (i.e., scope over the whole sentence, rather than only the embedded clause it occurs in at S-structure), and may help answer the question of what types of positions in the phrase structure are accessible for LF-movements. In connection with the latter issue, for instance, it has been observed—though not explained—that in multiple Wh-questions, a Wh-phrase in COMP is not available for movement in LF, but one in an argument-position is. (On these facts, see Chomsky (1973) and a recent paper on wide-scope quantification by Aoun, Hornstein, and Sportiche (1980), both of which account for the phenomenon only by stipulation.) It must be noted, though, that the investigation of the above obviously important questions—especially the ones relating to the scope of FOCUS—Involves judgments that are extremely delicate. We
will not pursue this line of research in the present study.

Leaving the discussion of scope phenomena—the standard way of motivating LF-movements—we will consider in the next section an entirely different domain of facts, which turns out to provide us with a fresh, new type of empirical evidence in support of the movements in LF we postulated above, and, by implication, in support of the existence of movement operations in the LF-component of core grammar in general.

4.3. **Empirical Evidence for Movement in LF**

As pointed out before, the basic evidence for the claim that the transformational movement rule 'Move α' is involved not only in the derivation of S-structures from D-structures but also in the mapping of S-structures onto LF-representations has come in generative studies from the range of possible interpretations of scope for sentences with quantifiers and other quantifier-like elements, such as, for instance, Wh-Q. Although this claim permits a simple, elegant account for a significant amount of quantifier-scope phenomena (as argued in detail in May (1977)), the hypothesis of actual movements in LF might still seem empirically underdetermined. In this section, we will present two cases, both of them relating to independently motivated interpretive templates alluded to earlier in our discussion, that can remedy the above situation.

One of the essential, defining properties of movement transformations is that they leave a "gap," i.e., an empty category, in place of
the moved constituent. The two pieces of evidence we will outline here both have to do with this property of movement rules. Notice that whereas in the case of movements in the syntactic component, this property is self-evident, in the case of movements (allegedly) applying in the LF-component, the detection of a "gap" in a particular structural position is not a trivial matter, for this component provides no input to phonological representations. The two cases to be presented below involve the application of particular local interpretive rules in Wh-questions and FOCUS-constructions in Hungarian. They will be shown to provide striking evidence that in fact there is a movement out of the "pre-V" node in LF applying in the derivation of these constructions. In both cases, the argument is based on demonstrating that a "pre-V" node that at the level of S-structure is filled by a Wh-Q or FOCUS phrase crucially behaves (with respect to the particular interpretive templates involved) as an empty category at the level of LF-representations.

4.3.1. Imperatives

In our discussion of the rule of "Local Postposing" (cf. Chapter 1, section 1.7), we briefly referred to a particular property of the Imperative construction in Hungarian. Specifically, our observation had to do with the imperative counterpart of sentences having a base-generated "pre-V" complement, such as, e.g., (transitive or intransitive) PPs, predicate nominatives, and predicate adjectives (cf., e.g.,
sentences (37a), (38a), and (39a) of Chapter 1). What we pointed out there was that the imperative versions of declarative sentences with a V'-complement in the "pre-V" node systematically exhibit this V'-complement in an immediately post-verbal position. We concluded from this that base-generated "pre-V" complements must undergo the independently motivated rule of "Local Postposing" in order to form an Imperative. To illustrate, consider the following examples. (The V'-complement is underlined).

(21) a. Declarative

Mari az asztalra tette az edényeket.
Mary the table-onto put the dishes-acc.
'Mary put the dishes on the table.'

b. Imperative

Mari tegye az asztalra az edényeket!
Mary put-Imp. the table-onto the dishes-acc.
'Mary should put the dishes on the table.'

(22) a. Declarative

Balra fordultam az első utcasarkon.
left-to turned-lsg. the first street-corner-on
'I turned left at the first street-corner.'

b. Imperative

Fordulj balra az első utcasarkon!
turn-Imp. left-to the first street-corner-on
'Turn left at the first street-corner!'

In cases involving no "pre-V" complement, imperative morphology on the verb by itself suffices to give a well-formed Imperative.

Because "Local Postposing" itself applies optionally (cf. section
1.7 of Chapter 1), to capture the generalization pointed out above, we need to postulate the following template-like interpretive rule for the LF-component of Hungarian. (This template has already been mentioned in note 27 of Chapter 1.)

(23) **Interpretive Template for Imperatives**

\[
[v', v + \text{Imp.} (x_{\text{max}})] \rightarrow \text{IMPERATIVE}^{23}
\]

This guarantees that Local Postposing indeed applies in the derivation of the Imperative counterparts of declarative sentences with base-generated "pre-V" complements. Recall now, however, the fact pointed out in note 22 of Chapter 1 that there do exist imperative sentences with a V'-complement that stays in the "pre-V" node. The curious fact observed in Chapter 1, note 22, is that whenever a base-generated "pre-V" complement is "left" in that position in an Imperative, it systematically gets interpreted as the FOCUS of the sentence. Consider, e.g., the following examples (parallel to (21a, b) and (22a, b) respectively):

(24) a. Mari AZ ÁSZTALRA tegye az édenyeket!
    Mary THE TABLE-ONTO put-Im. the dishes-acc.
    'Mary should put the dishes ON THE TABLE.'

vs.

b. *Mari az asztalra tegye az édenyeket!
    Mary the table-onto put-Im. the dishes-acc.
    'Mary should put the dishes on the table.'

(25) a. BALRA fordulj az első utcásarkon!
    LEFT-TO turn-Im. the first street-corner-on
    'Turn TO THE LEFT at the first street-corner!'
b. *Bála fordulj az első utcasarkon!

left-to turn-Imp. the first street-corner-on

'Turn to the left at the first street-corner!'

This generalization constituted an unexplained, mysterious phe-
nomenon at that point in our discussion. Now, however, we are in a
position to actually explain it.

Let us continue to assume template (23) as the basic mechanism
assigning IMPERATIVE interpretation in the LF-component of Hungarian.
This correctly accounts for the unacceptability of sentences (24b) and
(25b) and for the acceptability of (21b) and (22b). As for the fact
that sentences such as (24a) and (25a)—i.e., the FOCUS-ed counterparts
of (24b) and (25b), respectively—are acceptable, it gets explained
automatically under the crucial assumption that FOCUS-phrases in Hun-
garian undergo a movement out of the "pre-V" node in LF, as suggested
in the previous section. As a result of such a movement, the "pre-V"
node is vacated in LF, and consequently the interpretive template (23)—
also applying at LF—is in fact satisfied. In the case of a non-FOCUS-
ed "pre-V" complement, the LF-movement rule cannot yield a well-formed
LF-representation because of the absence of an appropriate operator to
bind the resulting variable. Hence for these cases there is no deriv-a-
tion in which the "pre-V" node is empty, and consequently template (23)
is never able to apply to assign IMPERATIVE interpretation.

Thus, the above phenomena involving V'-complements in the Impera-
tive construction receive a non-ad hoc account under the general
analysis developed here, and consequently they must be construed as evidence in support of it, i.e., more specifically, as support for the LF-movement hypothesis.

4.3.2. A Solution to the ASPECT-Interpretation Paradox

In Chapter 3, sections 3.3.4 and 3.4.2, we discussed the case of ASPECT-interpretation in Wh-Q/FOCUS-constructions in Hungarian. What we have concluded from this discussion (in particular, cf. section 3.4.2) is that the SRH for Wh-Q/FOCUS movement is not capable of accounting for the range of data involved; it has been shown to make the wrong prediction with respect to a crucial set of cases. In the present sub-section, it will be demonstrated that under the syntactic 'Move α' analysis—incorporating the movements in LF postulated in section 4.2—the full range of relevant phenomena receives an explanation. Consequently, the case of ASPECT-interpretation provides a strong empirical argument for the superiority of the syntactic 'Move α' hypothesis, developed in the present chapter, over the SRH, considered in Chapter 3.

Recall the set of descriptive generalizations we reached earlier with respect to ASPECT-interpretation in Hungarian:

\[
\begin{align*}
(26) & & \text{Surface Structure Patterns} & & \text{ASPECT} \\
& & (i) \left[ V, V \right] & & \text{VAGUE (e.g., (70) of Ch. 1)} \\
& & (ii) \left[ V, x^{\max} V \right] & & \text{PERFECTIVE (e.g., (71) of Ch. 1)}
\end{align*}
\]
(iii) $[v', v \ x_{\text{max}}]$ PROGRESSIVE (e.g., (72) of Ch. 1)
(iv) $[v', x_{\text{max}} \ V] +\text{Wh} \ +\text{FOCUS}$ VAGUE (e.g., (21)-(22) of Ch. 3)
(v) $[v', x_{\text{max}} \ V \ x_{\text{max}}] +\text{Wh} \ +\text{FOCUS}$ VAGUE (e.g., (43a, b) of Ch. 3)

On the basis of patterns (i), (ii), and (iii), we have postulated a set of template-like interpretive rules for the specification of ASPECT in Hungarian, reproduced below for convenience of reference:

(27) **Interpretive Templates for ASPECT**

a. $[v', x_{\text{max}} \ V] \rightarrow$ PERFECTIVE
b. $[v', v \ x_{\text{max}}] \rightarrow$ PROGRESSIVE
c. Elsewhere $\rightarrow$ VAGUE

These rules can clearly yield the correct interpretations for the first, second, and third patterns in (26), i.e., for the cases not involving a Wh-Q or FOCUS phrase. The challenge that any analysis of Wh-Q/FOCUS movement/interpretation faces is to account adequately for patterns (26(iv)) and (26(v)), with no further stipulation added to the simple set of interpretive rules for ASPECT presented in (27).

In Chapter 3, we have seen that the SRH for movement into the "pre-V" node could account for the interpretation of ASPECT in cases represented by (26(iv)); however, it could not accommodate pattern (26(v)). Recall that—as argued in section 3.4.2—regarding this latter pattern, the Stylistic Rule analysis of Wh-Q/FOCUS movement
wrongly predicted that it will necessarily exhibit PROGRESSIVE ASPECT. More generally, as we pointed out in section 3.4.2, the situation emerging from the interpretations of the five possible patterns shown in (26) appears to present a paradox. In order to get the right ASPECT-interpretations, given rules (27a, b, c), the Wh-Q/FOCUS phrase should be absent from the "pre-V" node at the point where (27) applies in sentences of type (26(iv)), but present in the "pre-V" node at the point of ASPECT-interpretation in sentences of type (26(v)). In the following, we will show how this apparently paradoxical requirement can actually be satisfied under the syntactic 'Move α' analysis, pursued in the present chapter.

Given the assumption that the overt movement of phrases into the "pre-V" node takes place in the syntactic component, i.e., prior to S-structure, our templates for ASPECT-interpretation have no problem specifying the appropriate interpretation for sentences of type (26(v)); this pattern would enter LF and undergo part (c) of (27), assigning the interpretation "VAGUE" with respect to ASPECT. A problem seems to arise, however, when we consider the case of pattern (26(iv)). These types of sentences—as shown in (26)—are actually VAGUE with respect to ASPECT, yet under the syntactic 'Move α' hypothesis, their S-structure entering LF would satisfy part (a) rather than part (c) of (27), so that if the S-structure representations remained unchanged in LF, they would get wrongly interpreted as having exclusively PERFECTIVE ASPECT.
But recall now that we have postulated—for entirely independent reasons—a movement applying in LF that has the effect of extracting precisely Wh-Q and FOCUS phrases from their S-structure position in the "pre-V" node. If Wh-Q and FOCUS Raising in LF are indeed movement operations in the usual sense, then in the LF-representations they derive, the only lexical material dominated by the V' node will be the verb. Hence, at this level of representation, surface pattern (26(iv)) will look precisely like pattern (26(i)) and will thus satisfy part (c) of template (27), yielding the correct ASPECT-interpretation.

Consider now how the assignment of ASPECT in sentence-type (26(iv)) and in sentence-type (26(v)) can be reconciled, resolving the apparent "paradox" we have pointed out before. Notice that assuming the LF-Raising of Wh-Q and FOCUS phrases, we would have two distinct representations for each Hungarian Wh-question and FOCUS-construction available in the LF-component: one—before the application of LF-movement—in which the Wh-Q/FOCUS phrase would still be in its S-structure position, i.e., in the "pre-V" node, and another—derived from the former by the LF-Raising of the Wh-Q/FOCUS phrase—in which the "pre-V" node is empty. Given that the set of interpretive templates for ASPECT are also rules of LF, suppose that they freely interact with other rules of LF. More specifically, it is reasonable to assume that rules of the LF-component—similarly to the rules of the syntactic component—are not extrinsically ordered with respect to one another, and hence templates (27a, b, c) can apply freely, to the input as well as
to the output of Wh-Q Raising and FOCUS Raising in LF. It is the existence of the two different representations referred to above, both accessible to ASPECT-interpretation (rules (27)), that is the clue to the solution of our "paradox."

Let us see now the actual derivations of these two "problematic" cases, pattern (26(iv)) and (26(v)), under the analysis proposed. We will assume here that ASPECT-interpretation applies optionally, at any point where its structural description is met. (Suppose, furthermore, that sentences must be marked for ASPECT in order to be well-formed in LF.)

\[ (28) \]

**Pattern (26(iv))**

\[
\begin{align*}
\text{S-structure:} & \quad [v, x_{\text{max}}^v, v] \\
\text{LF-component:} & \\
\text{ASPECT-Interpr. templates (27)} & \quad \text{PERFECTIVE (by (27a))} \\
\text{(optional):} & \\
\text{Wh-Q Raising/FOCUS-Raising:} & \quad [v, \Delta^v, v] \\
\text{ASPECT-Interpr. templates (27)} & \quad \text{VAGUE (by (27c)) (optional):}
\end{align*}
\]

**Pattern (26(v))**

\[
\begin{align*}
\text{S-structure:} & \quad [v, x_{\text{max}}^v, v, x_{\text{max}}^v] \\
\text{LF-component:} & \\
\text{ASPECT-Interpr. templates (27)} & \quad \text{VAGUE (by (27c)) (optional):}
\end{align*}
\]

The crucial fact to note in (28) is that both for cases (26(iv)) and for cases (26(v)) there is a derivation on which the specification "VAGUE" is assigned. This would adequately explain the judgments for
ASPECT-interpretation listed in (26). The fact that there is another, additional derivation for each, under which PERFECTIVE gets assigned to (26(iv)) and PROGRESSIVE to (26(v)) causes no problem. It is consistent with the actual facts, for these sentences can indeed be used in contexts requiring PERFECTIVE and PROGRESSIVE ASPECT, respectively.

In the cases that do not involve Wh-Q and FOCUS phrases, such as patterns (26(i)), (26(ii)), and (26(iii)), there would be no possibility for LF-raising to apply, because these phrases contain no appropriate operator; consequently, their LF-representation would be identical to their representation at S-structure. Hence—as we said before—sentence-type (26(i)) undergoes rule (27c), assigning "VAGUE"; (26(ii)) undergoes (27a), assigning "PERFECTIVE"; and (26(iii)) undergoes (27b), assigning "PROGRESSIVE" ASPECT.

In summary, what the above discussion has shown is that the syntactic 'Move α' hypothesis, crucially, combined with the independently motivated LF-raising rules, moving Wh-Q and FOCUS phrases out of the "pre-V" node, can successfully handle this otherwise quite mysterious set of facts involving ASPECT-interpretation in Wh-Q and FOCUS constructions. This obviously constitutes empirical evidence in favor of the particular analysis for Hungarian put forth in this chapter, as well as in support of the existence of phonologically "invisible" movement operations applying in the LF-component of core grammar in general.
4.4. On "Trace Erasure" and the \( \theta \)-Criterion

As part of our argumentation for the SRH, in section 3.3.2 of Chapter 3, we pointed out an apparently serious problem involved in the claim that Wh-Q/FOCUS movement is a syntactic transformation that substitutes phrases into the "pre-\( V \)" node, having to do with the "erasure" of a trace in a significant set of cases. At that point of the discussion, this was construed as evidence for the superiority of the SRH over a syntactic 'Move \( \alpha \)' analysis, because clearly, under the SRH, the problem did not arise at all. Thus, in order to be able to maintain the syntactic 'Move \( \alpha \)' analysis proposed and motivated in this chapter, the apparent problem with "trace erasure," noted in section 3.3.2, must be dealt with.

The class of "problematic" cases that we are referring to here is represented, e.g., by the following sentence:

\[
(29) \quad \text{Mary} \left[ \text{VP} \left[ \text{v}, \text{AZ EDÉNYEKET}_i \text{ tette az asztalra}_i \right] \right].
\]

'Mary put THE DISHES on the table.'

According to our assumptions—argued for in Chapters 1 and 2—the derivation of sentences such as (29), i.e., sentences having a base-generated "pre-\( V \)" complement, proceeds as represented in diagram (30) (see next page). As we can see from diagram (30), such sentences would necessarily involve the erasure of a bound trace in the "pre-\( V \)" node under the assumption of a syntactic substitution analysis for Wh-Q/FOCUS movement (cf. (30b) vs. (30c)). Our argument against a syntactic
(30)

a. D-structure: Mari [VP[V, az asztalra j tette] az edényeket i]
   Mary the table-onto j put the dishes-accco i

'bMove α':

b. Mari [VP[V, t j tette az asztalra j] az edényeket i]

d. S-structure: Mari [VP[V, AZ EDÉNYEKET i tette az asztalra j] t i]

(as opposed to a stylistic) analysis for Wh-Q/FOCUS movement in Chapter 3, section 3.3.2, was based on the fact that there is good reason to postulate a general prohibition against the replacement of a bound trace by another index-bearing element in UG. This principle of UG is motivated both on theoretical and on empirical grounds in works such as Freidin (1978) and Dresher and Hornstein (1979). In section 3.3.2, we adopted the formulation of the principle given in Freidin (1978, 524) called the "Trace Erasure Prohibition" (cf. (16) of Chapter 3). Clearly, the syntactic 'Move α' analysis for Wh-Q/FOCUS movement implies the violation of the Trace Erasure Prohibition in a significant class of cases (namely, in the type of case represented by (30)). However, when we take a closer look at the intended content of the Trace Erasure Prohibition, we must realize that the case of Hungarian under discussion, in fact, does not violate the deeper generalization underlying
this principle, even though it does violate the particular statement of
it given in (16) of Chapter 3.

The major conceptual motivation for proposing the Trace Erasure
Prohibition has been that the obliteration of a bound trace by another
indexed phrase would make a unified semantic interpretation at the level
of S-structure impossible. The reason for this is that (a) the assign-
ment of thematic roles to arguments (a central part of semantic inter-
pretation) is crucially based on the grammatical functions the particu-
lar arguments fulfilled at the level of D-structure, and (b) that in
the case of arguments that have undergone a movement in the course of
the derivation, these D-structure grammatical functions are recoverable
at the level of S-structure on the basis of the coindexed trace the
moved phrase left behind it in its D-structure position. Regarding its
empirical consequences, this principle excludes, e.g., sentences such as
(31a) below, derived from (31b):

(31) a. *[\text{S}_1 \text{John}_i [\text{VP was believed}] \text{S}_2 \text{Mary}_j [\text{VP to kiss} \text{ t}_j].]]]

b. [\text{S}_1 \text{\Delta [VP was believed}} \text{S}_2 \text{\text{John}_i}} [\text{VP to kiss \text{Mary}_j}].]]

Sentence (31a) would correctly be ruled out under the Trace Erasure
Prohibition, for its derivation involves the erasure of the trace of the
phrase \text{John}_i in the subject position of the embedded clause by the
moved object-NP \text{Mary}_j. \text{27} The fundamental reason underlying the un-
grammaticality of (31a), however, is that in this sentence, the NP
\text{John}_i will not be able to receive an interpretation at the level of

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S-structure; more precisely, because of the erasure of its trace, the grammatical function fulfilled by this phrase at the level of D-structure, namely, subject of the embedded clause, will not be recoverable at S-structure, and consequently the phrase will not be assigned the thematic role "Agent of" kiss Mary, which it should have, based on the D-structure representation of the sentence. In fact, the NP John receives no thematic role at all at the level of S-structure, for Passive predicates do not assign a thematic role to their subject.

In summary, the basic case that the principle of Trace Erasure Prohibition has been designed to eliminate is that which occurs when an argument displaced by a movement transformation cannot be assigned a thematic role (henceforth "θ-role") because its trace—on the basis of which its D-structure grammatical function (henceforth GF-θ, following Chomsky's (1981) terminology) could be recovered at S-structure and at LF—has been obliterated. Let us consider now the question of whether the Trace Erasure Prohibition indeed needs to be stipulated as an independent principle of UG, or could instead be derived from other, more general properties of the theory.

In the framework of the Government-Binding (GB) theory (as outlined in Chomsky (1981)), there is, in fact, a general condition on the well-formedness of LF-representations that can render the stipulation of the Trace Erasure Prohibition (or any equivalent alternative statement) unnecessary. This principle of UG, referred to as the "θ-criterion," is a constraint on the assignment of θ-roles to arguments
in LF:

(32) θ-Criterion [= Chomsky (1981, section 2.2(4))]  

Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.28

An argument α is assumed to be assigned a θ-role (i.e., be "θ-marked") by the category β, if β θ-marks the position occupied by α or a trace of α.

In accordance with a further restrictive principle proposed in the GB-framework, namely, in accordance with the "Projection Principle," the θ-criterion must be satisfied at each "syntactic level," i.e., at LF as well as at D-structure and S-structure. The intuitive idea expressed by the Projection Principle is that representations at each of these three syntactic levels are projected from the lexicon, in that they observe the thematic structure and subcategorization properties of lexical items. (For a discussion and formal statement of the Projection Principle, see Chomsky (1981, section 2.2).)

Given the θ-criterion and the projection principle as stated above, the Trace Erasure Prohibition (or any other statement to the same effect) can be dispensed with, with no loss in explanatory power. To illustrate, let us see now how these general principles of UG would rule out derivations such as (31) above. Assuming the projection principle, sentence (31a) would violate the θ-criterion (cf. (32)), for in its S-structure representation, the argument John fails to receive a θ-role. In particular, it fails to maintain the GF-θ that it filled at
D-structure—namely, \([NP, \mathit{S}_2] (= \text{"subject of } \mathit{S}_2\text{"})\)—due to the fact that its trace bearing this GF-\(\emptyset\) had been "erased" by the moved object-NP \(\mathit{Mary}_j\). Consequently, the \(\theta\)-role "agent" with respect to the VP kiss \(\mathit{Mary}_j\) that it exhibits at D-structure will not be assigned to it at the level of S-structure. In addition, there is another violation of the \(\theta\)-criterion involved in (31). The \(\theta\)-role assigned in the embedded subject position, namely "agent of" kiss \(\mathit{Mary}_j\), would get assigned to the argument \(\mathit{Mary}_j\), which occurs in this position at the level of S-structure. Hence, at this level of representation, \(\mathit{Mary}_j\) would bear two \(\theta\)-roles: one assigned to it by virtue of the position of its trace ("patient of" kiss), and another assigned by virtue of its own position ("agent of" kiss \(\mathit{Mary}_j\)). Even one of these two violations of the \(\theta\)-criterion would suffice to correctly exclude sentences such as (31a).

Notice that the \(\theta\)-criterion in conjunction with the projection principle are much more comprehensive in their empirical coverage than the Trace Erasure Prohibition was. To take just one relevant example showing that they account for phenomena that are not covered by the latter principle, consider, e.g., the ungrammaticality of sentences such as (33a), derived from (33b):

\[
(33) \quad \begin{align*}
&\text{a. } ^*\mathit{John}_i \text{ killed } t_i. \\
&\text{b. } [\mathcal{S}_i \Delta [\mathit{VP} \text{ killed } \mathit{John}_i]]
\end{align*}
\]

Under the account based on the \(\theta\)-criterion, (33a) is excluded, because the argument \(\mathit{John}_i\) would be assigned more than one \(\theta\)-role (similarly to
the case of Mary, in (31a) discussed before). Cases like the above, however, would not be accounted for by the Trace Erasure Prohibition, because the empty subject position in this derivation was not a "bound trace," and hence no obliteration of indices occurred.

Let us return now to the problem of the syntactic substitution of Wh-Q/FOCUS phrases into the "pre-V" node in Hungarian in cases where the "pre-V" node contained the trace of a base-generated V'-complement (cf. example (29) with the derivation given in (30)). It will be shown here that although derivations such as (30) definitely violate the Trace Erasure Prohibition, they can "escape" violating the alternative account, namely the θ-criterion outlined above. (Notice that, as demonstrated previously, the θ-criterion, combined with the projection principle, does have the general effect of ruling out movements into θ-marked positions.)

The crucial question for us to consider in approaching this problem is whether θ-roles will get properly assigned to arguments in sentences such as (29), or the derivation we have proposed for this sentence-type in fact involves a violation of the θ-criterion. Taking sentence (29) as a concrete example, let us see first what the lexical entry for the verb of this sentence specifies:

(34)  tesz; V; [NP, V'] --- GOAL, [NP, VP] --- PATIENT, [NP, S]
      'put' --- AGENT.

At the level of D-structure (cf. (30a)) the argument az edényeket ('the dishes-acc.') appears in the object position, thus filling the
GF-Ø "object," represented by the notation [NP, VP]. Given the lexical properties of the particular V involved (cf. (34)), it gets assigned the θ-role PATIENT. The argument az azsztal ('the table')—appearing inside of the directional PP—bears the GF-Ø [NP, V'] in the D-structure of (29). Hence, on the basis of the lexical entry of its verb, it gets assigned the θ-role GOAL. The subject-NP receives a θ-role (AGENT) in a similar fashion. (We will not be concerned here with the subject-NP any further, because given that it does not undergo any movement in the derivation involved, it obviously satisfies the θ-criterion at S-structure and LF too, the same way as it does at D-structure.)

Consider now what happens in the corresponding S-structure representation, derived by the application of 'Move α'. The argument az edényeket ('the dishes-acc.') will still receive the θ-role PATIENT, this time because of the presence of its trace in the object position. The critical question, however, is what happens to the θ-role GOAL and to the argument to which it is supposed to get assigned, namely, az asztal ('the table'). The derivation of (30c) from (30b) indeed involves the "erasure" of the trace left in the "pre-V" node by the application of "Local Postposing" (cf. (30a) vs. (30b)), just as was the case with the trace left by the raised subject-NP John in the embedded subject position of example (31a). Yet, although trace-erasure resulted in a violation of the θ-criterion in (31a), ruling the sentence ungrammatical, it does not seem to do so in the Hungarian case, i.e., in derivation (30).
Recall that in the theory adopted here, the assignment of GFs, and hence the assignment of θ-roles to arguments, is assumed to ignore linear order, and—considering the case of "configurational" languages here—is claimed to be based solely on hierarchical constituent structure (as determined by the notion "c-command"). This assumption is a more restrictive hypothesis than the alternative theory of GF assignment, involving information both about hierarchical structure and linear order, would be. In addition, it is empirically supported by the existence of numerous languages—one of them being Hungarian, as pointed out in Chapter 1—in which the linear order of complements to the same head, i.e., of complements appearing in the same position in terms of hierarchical structure, is free. So, if cases of "fixed" order between complements at the same level of hierarchical structure (as, e.g., that of English object-NPs always preceding PP and S' complements) can be accounted for on independent grounds, this conception of GF (and θ-role) assignment can be maintained universally. If not, then the grammar of the particular languages presenting this state of affairs would have to contain some additional specification of linear order as a condition on GF-assignment. Because Hungarian is clearly a language in which complement order is free, in this language at least the assignment of GFs, and hence θ-roles, can, and in fact should preferably, be done exclusively on the basis of hierarchical structure.

Given the above fact, i.e., that linear order is irrelevant for GF and θ-role assignment (at least) in the Hungarian-type languages,
the assignment of the θ-role GOAL to the argument az asztal ('the table') in the S-structure representation of (29) can take place properly, in spite of the fact that its trace in the "pre-V" node has been "erased." The reason for this is the following. As specified in the lexical entry shown in (34), the θ-role GOAL gets assigned to an argument filling the GF [NP, V'] with respect to the verb tesz ('put'), and in accordance with the foregoing discussion, the only condition for this GF to get associated with an argument is that the argument be an immediate constituent of V' (rather than of another phrase, such as VP or S). Notice now that—as shown by (30c, d)—the derived position of the argument in question (az asztal) in S-structure (i.e., the position it occupies after the application of "Local Postposing") still is dominated by V', and hence it does satisfy the above condition for filling the GF [NP, V']. Consequently, it can be assigned the θ-role GOAL, as required, and thus in fact no violation of the θ-criterion occurs at the level of S-structure either, in spite of the fact that trace-erasure took place in the course of the derivation. It must be noted here that there is an additional possibility for θ-role assignment in the construction under discussion. Given that in the S-structure representation of sentence (29), not only the argument az asztalra 'on the table' but also the preposed direct object az edényeket 'the dishes' satisfies the relation [NP, V']—assuming that θ-role assignment proceeds freely whenever an argument exhibits the relevant structural relation—there will be a derivation for (29) on which this latter
argument will get assigned the θ-role GOAL instead of the post-V argument az asztalra. This possibility, however, poses no problem. Although such "wrong" derivations would be generated by θ-role assignment, they would systematically be "filtered out" by the θ-criterion, because under this derivation, the argument az edényeket 'the dishes' would receive two θ-roles, and the argument az asztalra 'on the table' would get assigned no θ-role. The important point here is that there is a derivation for sentences like (29) that conform to the θ-criterion.

The same "escape" from a θ-criterion violation as described above is usually not available in cases of trace-erasure, for in most cases, such as, e.g., in (31a), the argument whose trace gets obliterated has moved "too far away," i.e., has moved to an S-structure position in which it cannot be assigned the same GF that it filled at D-structure. Because under these circumstances the only way for the argument to receive a θ-role is through its trace (occupying its D-structure position), and this trace has been erased, such derivations indeed result in a violation of the θ-criterion.

In summary, what we have established in this section is that in a theory (like, e.g., the GB-framework) that eliminates the explicit stipulation of a principle such as the "Trace Erasure Prohibition," and replaces it by more comprehensive, independently motivated constraints, namely, by the θ-criterion and the projection principle, the syntactic 'Move α' analysis for Wh-Q/FOCUS movement in Hungarian developed in the
present chapter actually encounters no problem because it involves the "erasure" of a bound trace in a class of cases.

4.5. "Unbounded" Wh-Q/FOCUS Movements and Subjacency

There is one more topic discussed in connection with the SRH in Chapter 3 (section 3.3.3) that we have not yet reconsidered in relation to the alternative "syntactic 'Move α'" analysis proposed in this chapter. This topic is the phenomenon of "unbounded" extractions of Wh-Q/FOCUS phrases (for some examples, see section 1.4.2 of Chapter 1 and section 2.1.1 of Chapter 2).

Recall first that under the SRH, it followed that the extraction of Wh-Q/FOCUS phrases, i.e., of phrases whose surface position was the "pre-V" node, could proceed only (by successive cyclic movement) from COMP to COMP, in the fashion represented schematically in diagram (11) of Chapter 3, section 3.2.33 In other words, in the theory adopted in Chapter 3 (essentially the OB-framework), a logically equally possible alternative derivation, namely, movement from "pre-V" node to "pre-V" node has been ruled out. This was due to the fact that (a) stylistic rules are uniformly clause-bound (i.e., they cannot "cross" an S' boundary), and (b) if extraction out of "pre-V" position was done by a syntactic transformation ('Move α'), then the trace left by this operation in the "pre-V" node would be "free in the domain of the subject," thus violating the Opacity Condition. In the framework of assumptions developed in the present chapter, however, this conclusion no longer
follows. Thus, it would seem reasonable to assume that in this latter framework, the "unbounded" extraction of Wh-Q/FOCUS phrases takes place by successive cyclic movement from "pre-V" node to "pre-V" node, in a way analogous to the COMP-to-COMP extraction of Wh-phrases in English or in Hungarian Relative Clause constructions. In light of the above facts, let us consider now how the observations we made in Chapter 3, section 3.3.3, involving the presence/absence of "island"-effects in case of Wh-Q/FOCUS extractions can be accounted for under the syntactic 'Move α' analysis, which we proposed to replace the analysis built on the SRH.

Note first the fact—pointed out in section 3.3.3—that "unbounded" extraction of Wh-Q/FOCUS phrases is possible even when the "pre-V" nodes of the intermediate clauses are filled by lexical material. This generalization is illustrated in examples (17a) and (17b) of Chapter 3—exhibiting Wh-Q/FOCUS extraction through clauses whose "pre-V" node is occupied by a base-generated V'-complement—and also in examples (18a) and (18b) of Chapter 3, which involve "unbounded" Wh-Q/FOCUS movement out of embedded Wh-questions. Given the Subjacency condition, the perfect acceptability of the above types of sentences indicates that at least in these cases, it must have been the COMP-node rather than the "pre-V" node of the intermediate clauses that served as "escape hatches" for Wh-Q/FOCUS extraction. In other words, taking a Wh-Q extraction as a concrete example, the "unbounded" movement in sentences such as (17a, b) and (18a, b) of Chapter 3 must be assumed to take place in the way shown in diagram (35) below:34
(35)

\[ [S, [S \ldots [_{\text{VP \, Wh-phrase}}_i \, v \ldots [S, t_i \ldots [S \ldots [_{\text{VP \, X_{\text{max}}} \, v \ldots [S, t_i \ldots [S \ldots [_{\text{VP \, X_{\text{max}}} \, v \, t_i]]]]]]]]]]

'Move α'

'Move α'

'Move α'
Given the most general, i.e., maximally restrictive, formalism for the statement of transformations (namely, the 'Move a' schema) adopted here, the fact that the above derivation requires for Wh-Q and FOCUS phrases—eventually appearing in the "pre-V" node in S-structure—to move into COMP poses no problem; in fact, it would happen automatically anyway, unless prevented by some additional device. The only aspect of derivation (35) that actually might seem to be a problem is the fact that it involves movement of a phrase from COMP into a position other than COMP, namely, a movement from COMP into the "pre-V" node.

This movement is in direct conflict with a constraint assumed in earlier versions of EST, explicitly prohibiting any movement from a COMP to a non-COMP position. This principle, which we have reproduced as (9) in Chapter 3, section 3.1, was originally proposed in Chomsky (1973, (110c)). The stipulation of the constraint was motivated by the need to exclude derivations of the following type in English:  

(36) Who \(_i[S_1 t_i\) decided \(_[S_2 t_i[S_2 Bill would hit \ t_i]]\)\]

In more recent versions of the theory, however, it has been argued that the stipulative statement of "COMP-to-COMP" movement can be eliminated. (For a particular proposal in this direction, see May (1981a).) In the GB-framework, for instance, the Theory of Binding turns out to provide an automatic explanation for the ungrammaticality of cases such as (36), for the trace in the matrix subject position (in fact, a variable) would A-bind the variable in the original position of
the moved Wh-phrase, which is a violation of Binding Condition (C) (cf. (6) in section 4.1.1). Assuming now that these types of cases are indeed ruled out by independently necessary principles of UG, such as the Binding Theory, or the θ-criterion, the apparent problem with movement from COMP into the "pre-V" node would no longer exist, and the derivation of sentences such as (17a, b) and (18a, b) of Chapter 3 could proceed as required (cf. diagram (35)). Note that COMP-to-"pre-V" node movements would not violate the GB Binding Conditions, because given the phrase structure of Hungarian, the "pre-V" node does not c-command, and hence—even if considered an A-position—does not bind the variable occupying the D-structure position of the moved phrase.

At this point one might raise the objection that the elimination of the stipulated "COMP-to-COMP" constraint from the grammar will lead to some other serious problems, in fact, in Hungarian itself. More specifically, it seems, for instance, that this would permit not only the movement of Wh-Q/FOCUS phrases, but also the movement of Relative Wh-pronouns from COMP into the "pre-V" node, yielding the following type of impossible relative clauses:

(37) *a fiú [S, (az/hogy) [S Mari [vp (a)kinek_i mondta [S, t_i (hogy)
the boy (that) Mary who-to_i said [S, t_i (that)

[ S János [vp adott egy pofont [S
John gave a slap-in-the-face-acc. t_i ]]]]

The only acceptable version of the above relative clause is one in which
the Wh-pronoun appears in COMP, namely the one given below:

(38) a fiú [S, akinek] [S Manny [VP mondta [S, t1 hogy [S János
the boy who-to Mary said [t1 that John
[VP adott egy pofont
gave a slap-in-the-face-acc. [t1]]]]

'the boy whom Mary said John had given a slap in the face'

It must be noted first that, given the maximally general 'Move α'
schema, the problem shown by (37) would arise not only in structures
involving the extraction of relative Wh-pronouns, but in simple relative
clause constructions too. In both cases, it must be guaranteed
somehow that the relative Wh-phrase ends up in COMP rather than in the
"pre-V" node. It can in fact be argued, as will be shown below, that
to achieve this result for cases represented by (37) above by means of
a stipulation to the effect that a phrase in COMP can move only to
another COMP would be missing a generalization.

The ungrammaticality of sentences such as (37)—having an
extracted relative Wh-pronoun in a non-COMP position in S-structure—
can, and in fact preferably must, be attributed to a more general
requirement governing the distribution of relative Wh-pronouns in the
S-structure of Hungarian. (The same constraint also holds in English.)
Informally speaking, the generalization involved seems to be that in
order to get a well-formed Relative Clause interpretation, the Wh-
pronoun corresponding to the "gap" in the position of the relativized
element must be adjacent to the head of the relative clause construction
in S-structure. As evidence in support of adopting this latter account for the ungrammaticality of (37), consider, e.g., the following fact:

\begin{quote}
(39) *a fiú [S, (az/hogy) [S Mari [VP mondta [S, (a)kinek [S János the boy (that) Mary said who-to John

\[ [VP adott egy pofont gave a slap-in-the-face-acc. \frac{t_4}{t_4}])))\]
\end{quote}

Relative clause (39) is just as ungrammatical as (37) was, although in this derivation the "COMP-to-COMP" constraint has not been violated, and, in fact, the moved relative Wh-pronoun does appear in a COMP node. The requirement of adjacency between the relative pronoun and the head of the construction proposed above would account for both of these cases. Hence, whatever the deeper explanation and proper specification for this adjacency requirement is in our theory, it constitutes an independently motivated generalization that can prevent misgenerations of the type illustrated by example (37). Consequently, there is no need to appeal to the "COMP-to-COMP" stipulation for this case either.

In summary, if one drops the explicit, stipulative prohibition against movement from COMP to a non-COMP position from the theory—a clearly desirable move on methodological grounds—the derivation of sentences involving the long-distance extraction of Wh-Q/FOCUS phrases through clauses whose "pre-V" nodes are lexically filled presents no problem for the syntactic 'Move α' analysis of Wh-Q/FOCUS movement (cf. derivation (35), for sentences such as (17a, b), (18a, b) of Chapter 3).
Finally, let us consider the contrast observed between sentences such as (19a) vs. (19b) in Chapter 3, section 3.3.3, under the analysis we have proposed in the present chapter.

Recall that both (19a) and (19b) of Chapter 3 involved relativization out of an embedded Wh-question. The two examples differed minimally in one crucial way: in (19a) only the Relative Wh-phrase has undergone extraction, whereas the Wh-Q phrase stayed within its own clause (i.e., moved into the "pre-V" node inside its own clause); in contrast, (19b) involved the extraction of both the Relative Wh-pronoun and the Wh-Q phrase from their clause (namely, in this case, from the most deeply embedded clause). The fact that although (19a) was perfectly acceptable, (19b)—in our judgment—was unacceptable, was construed in Chapter 3 as evidence that the "pre-V" node—even when empty, as in this case—cannot serve as an "escape hatch" for successive cyclic extractions. In other words, we concluded that (19b) is unacceptable because in order to avoid a Subjacency violation, both of the two Wh-phrases extracted from its most deeply embedded clause would have to move through the COMP position of this clause (COMP being the only potential "escape hatch"), and this is impossible—as it is in the case of "Wh-islands" in English—because COMP can accommodate only one phrase.

It must be noted here first that the difference in acceptability between (19a) and (19b) of Chapter 3 could in principle be due to some other factor. Namely, it is possible, for instance, that (19b) is felt
to be bad in contrast to (19a) simply because of a difference in complexity. Although (19a) and (19b) are of the same length, and they both involve the movement of a Relative Wh-phrase and of a Wh-Q phrase, (19b) has undergone two distinct "long-distance" extraction operations (i.e., two movements over S'), whereas (19a) has undergone only one. Given the marked nature of extraction operations in UG (cf. Koster (1978)), it is not implausible to claim that the application of more than one of these operations in the same sentence by itself renders such sentences "unacceptable." A systematic study of a wider range of similar cases in Hungarian would be in order here to establish the observations made on the basis of sentences (19a-b). As for choosing between the two alternative types of accounts outlined above, this seems unfeasible based on Hungarian alone.\footnote{A way to distinguish empirically between these two possibilities would be to find a language in which the extraction of two phrases in the same sentence is actually acceptable. This would constitute evidence against the proposal based on "complexity." If it turned out that (19b) was judged unacceptable because of its complexity, or some other irrelevant reason, nothing further would have to be said.}

However, let us assume here—as we did in Chapter 3, section 3.3.3—that the contrast between sentences such as (19a) and (19b) is in fact due to the inability of the "pre-V" node to function as an "escape hatch." What this would mean, in other words, is that Wh-Q/FOCUS phrases actually never get extracted from their clauses by
successive cyclic "pre-V" node-to-"pre-V" node movement. Rather, the
only possible derivation for them, irrespective of whether the inter-
mediate "pre-V" nodes are filled or not, is the derivation represented
in diagram (35). If this is the case, the question arises why this
should be so. More precisely, the question one would need to ask is:
why should COMP-to-COMP extraction be permitted but "pre-V" node-to-
"pre-V" node movement be ruled out, i.e., how could these facts be
specified in our theory?

To illustrate the apparent situation involved, consider the fol-
lowing diagram, representing two logically equally possible derivations
for the "unbounded" movement of Wh-Q/FOCUS phrases (see diagram (40) on
next page).

Notice now that given the GB theory of Binding, conditions on the
proper binding of anaphors (as the Opacity Condition was in the OB
framework) are no longer relevant for constraining extractions by Wh-
movement or by any other rule involving variables. Thus, the only
"locality" principle limiting the possible "distance" between moved
elements and their original positions in such cases is the Subjacency
condition. What follows from this is that if the phenomenon represented
schematically in diagram (40) below indeed turns out to be a true gen-
eralization, it will have to be accounted for in terms of Subjacency.
Below we will outline a proposal that can achieve this in a rather
natural way.
(40) a. Ungrammatical derivation (cf., e.g., (19b) of Chapter 3)

\[
[S, [S \ldots [VP \text{ Wh-Q/FOCUS}_i \ V \ldots [S, [S \ldots [VP \Delta \ V \ldots [S, [S \ldots [VP \Delta \ V \ldots _4 \ldots ]]]]]]]]]
\]

b. Permissible derivation (cf., e.g., (19a), (17a, b), (18a, b) of Chapter 3)
Taking the traditional notion of Subjacency, stated in terms of a particular set of "bounding nodes," out of which no more than one can be "crossed" by an application of 'Move α', there seems to be no reason why "pre-V"-to-"pre-V" movement should constitute a violation of Subjacency when COMP-to-COMP movement does not do so in the same language. Note, crucially, that—as shown in diagram (40)—the number of S'/S and NP nodes, i.e., the number of potential bounding nodes crossed by a COMP-to-COMP and by a "pre-V"-to-"pre-V" movement, is identical. Consider, however, the following version of Subjacency.

Let us assume, following a suggestion made in Chomsky (1980a,15), that the set of bounding nodes specified in UG is: NP, S', and S.

Furthermore, suppose that the statement of the Subjacency condition itself is as given in earlier versions of EST (such as, e.g., in Chomsky (1973)), i.e., that the condition does not permit a movement operation to apply across more than one bounding category boundary. These assumptions will specify the "unmarked" case, namely, the case of languages such as Russian, which permit only "clause-bound" movements. (On the marked nature of "unbounded" movements/dependencies, cf. Koster (1978).) Notice that "unbounded," i.e., successive cyclic, movements are uniformly ruled out in this framework of assumptions, because a movement from a COMP node to a higher COMP node would necessarily "cross" two bounding nodes, namely, S' and S. Thus, although the above assumptions succeed in capturing the "unmarked case," in order to be able to account for the existence of languages with COMP-to-COMP
movements, such as English, we need to introduce more flexibility into
the system by adding some parameter to which the language-particular
variation observed could be attributed. Several relevant proposals
have been made for such a parameter in the literature. One such pro-
posal—made in Chomsky (1980a)—was to conceive of "bridge verbs" (in
the sense of F.teschik (1973)) as having the marked property of making
the S' boundary of their complement "invisible" for the purposes of
Subjacency. Another suggestion, made more recently (cf. Chomsky's
"Pisa Lectures"), was based on the marked mechanism of S'-deletion.
Each of these parameters would have the effect of correctly permitting
COMP-to-COMP movements in the languages whose grammar exhibited them.
However, they would also permit movements from "pre-V" node-to-"pre-V"
node in the case of Hungarian. But consider now the following alterna-
tive hypothesis for a parameter responsible for "unbounded" (i.e.,
successive cyclic) movements.

(41) The "S'-bounding" Parameter

When a category α is adjacent to an S' boundary (i.e., neither
lexical material nor a category boundary intervenes between
them), then this S' boundary is "transparent," i.e., does not
count as a bounding node, for the movement of α.

Whether or not the condition specified in (41) should be tied to the
set of "bridge verbs," thus accounting for the impossibility of extrac-
tions from complements of "non-bridge verbs," is an empirical question
that will be left open here.38
Notice that the $S'$-bounding Parameter (41) would be a marked choice for a grammar to contain. If it does not get chosen, the core grammar resulting would permit only "bounded" movements, i.e., the language would be of the "Russian type." If it does get chosen, it would give rise to languages with the possibility of successive cyclic movement from COMP to COMP, such as English or Hungarian. The crucial difference between parameter (41) proposed above and previous alternatives is that the $S'$-bounding Parameter can rule out movement from "pre-V" node to "pre-V" node, while still permitting COMP-to-COMP movement, in contrast to other hypotheses, which were not able to distinguish these two types of cases, i.e., could not handle the phenomena represented in diagram (40).

Of course, even this minor modification in the system is rich in empirical consequences. To take just one example, consider how parameter (41) would interact with the "Wh-island Parameter," proposed by Rizzi (1978) on the basis of languages such as Italian. The Wh-island Parameter involves the status of S as a bounding node. In particular, it is argued that in Italian, for instance, S does not function as a bounding node for Subjacency, although in languages such as English, it does. Notice now that if the $S'$-bounding Parameter (41) could freely co-occur with the Wh-island Parameter in the grammar of particular languages, this would predict that there would be languages with "Wh-island" violations freer even than the ones exhibited by the Italian-type languages. In particular, the presence of both of the above
parameters in the grammar of a language would imply that this language
would permit movement from a COMP, skipping over one COMP, into a third
COMP node. This is so because in such a grammar, S nodes would not be
bounding nodes at all, and in addition the S' boundary adjacent to the
COMP from which the movement took place would not count either, in
accordance with (41). Whether such a language exists is not an easy
matter to establish, given the extremely complex nature of the relevant
data. Intuitively, however, such a language would be a rather curious
phenomenon. In order to rule this case out in principle, it could
plausibly be assumed that the Wh-island Parameter (eliminating S from
the set of bounding nodes specified as the unmarked case in UG) and the
S'-bounding Parameter (41) (preventing S' from functioning as a bounding
node in particular cases) are in a disjunctive relationship with each
other in UG. In other words, it is not unreasonable to assume that any
given language may "choose" either one or the other, but not both, of
the "marked" parameters to add to the basic specification of bounding
given by UG. If this is indeed the case, the theory of Bounding in UG
may be conceived of as consisting of the Subjacency condition (as tra-
ditionally formulated), the specification that NP, S', and S constitute
the set of bounding nodes, and in addition, the option of a single
"marked" parameter, which may or may not be realized in particular core
grammars. This marked "Bounding Parameter" would have two values:
value (a) would be principle (41), i.e., what we referred to above as
the "S'-bounding Parameter," and value (b) would be Rizzi's (1978)
"Wh-island Parameter," i.e., the specification of S as not belonging to the set of bounding nodes. What is common to the two values of this Bounding Parameter is that either of them has the effect of yielding the possibility of COMP-to-COMP movement. The conception of Bounding outlined here can correctly specify all three types of languages observed in the literature with respect to Subjacency. The absence of the marked "Bounding Parameter" would correspond to the "unmarked case," giving languages with exclusively clause-internal movements, such as Russian. The presence of the Bounding Parameter would give the "marked case," i.e., would yield the option of "unbounded," successive cyclic movement. The choice of value (a) for the parameter would result in languages such as English (or Hungarian) from the point of view of Bounding, whereas the choice of value (b) for the Bounding Parameter would produce cases such as that of Italian.
CHAPTER 4: NOTES

1 By "governed empty categories" I refer essentially to traces. The specification "governed" is necessary here to distinguish traces from PROs—a type of phonologically null element that is never governed. In the present study, we are not concerned with PRO. For the motivation of these notions, cf. Chomsky (1981, especially Chapter 3).

2 In addition, FOCUS/WH-Q movements constitute a central, essential part of Hungarian syntax. To claim that they are due to a "stylistic rule" is intuitively unappealing, considering what kinds of processes have been claimed to be stylistic in other languages.

3 In the OB-framework, condition (1) of Chapter 3 is in fact subsumed under the Opacity Condition and the NIC (given in (6) and (7) of Chapter 3, respectively). This was not the case, however, in previous versions of the theory, involving the SSC and the PIC instead of the former two conditions.

4 Some other sub-theories in the GB system, most prominently the theory of abstract Case, are also based on the notion of "government."

5 In addition to being a pronominal, PRO also belongs to the class of anaphors at the same time—hence its property of having to be ungoverned (argued in Chomsky (1981)).

6 A more elaborated and precise definition of when an element is a variable is given in section 3.2.3 (6) of Chomsky (1981), making use of the notion "locally A-bound."

7 The issue of whether (5) is derivable, in full or in part, from other principles of the system will not be addressed here. The term "Case-marked" in (5) refers to abstract Case, as specified by the theory of Case in the GB-system.

8 The implications of "strong crossover" for the status of variables with respect to rules of anaphora were pointed out first in Chomsky (1976). A more elaborated discussion of these facts, and a concrete proposal based on them, are presented in Freidin and Lasnik (1981).
Notice that the "non-coreference" observed in the (a) sentences has nothing to do with the position of the Wh-phrase with respect to the pronoun. The same judgments hold, e.g., if the Wh-phrase is moved one clause higher than the clause in which the pronoun appears.

The OB theory is not different in the respect relevant for us here from other versions of EST preceding it. The same statements would be true for those too. I use the OB theory simply because that is the most recent exposition of the conception of trace and binding we are concerned with.

A discussion of principle (5)—its status and the question of how it could be derived from other principles of the grammar—is given in Chomsky (1981, 3.2.2, 175–183).

The reason why the extracted subject-NP KATT 'Cathy' shows up bearing accusative Case and the theoretical significance of the generalization involved is discussed in Horvath (in preparation). This phenomenon is irrelevant for the issues addressed here.

Sentence (11a) is perfectly grammatical otherwise. The pronoun in it simply must be interpreted as referring to somebody other than KATT. Notice also that it cannot refer to MARI 'Mary' either. The reason for the latter phenomenon is that if this pronoun were coindexed with MARI, it would bind the name (i.e., MARI) in violation of principle (C) of the Binding Theory (cf. (6)).

If the FOCUS-ing processes of Basque and Aghem (discussed in Chapter 2, sections 2.3.1 and 2.3.2) can be argued to involve movement, then these cases will lead us to the same conclusion regarding the inadequacy of the "traditional" conception of trace-binding, as the case of Hungarian has, and will support the GB Binding Theory, because in these languages too, moved FOCUS-constituents will not c-command their traces.

Sentence (13b) would also be acceptable if main stress fell on LIJ 'new'. In that case, only the adjective would be interpreted as FOCUS.

The precise landing site of these movements in LF will not be discussed here, because it is immaterial for our purposes. However, later we will see—on the basis of some scope phenomena—that Wh–Q Raising should be a movement to COMP, whereas non-Wh FOCUS-phrases are probably adjoined to S. (On the landing site of non-Wh FOCUS phrases, cf. note 11 of Chapter 2.)
As for the empty category in the "pre-V" position, it has no role to play in semantic interpretation. Its status is similar to that of traces in COMP left by successive cyclic movements. They merely represent intermediate stages of the derivation.

Given that syntactic Wh-movement—like all other instances of 'Move α'—is optional in our model, languages like English must have some extra mechanism (possibly a filter) to guarantee the apparent "obligatoriness" of overt Wh-movement.

This does not imply, however, that Wh-movement in LF has the same properties as overt, syntactic Wh-movement. Two ways in which Wh-Raising in LF is different from its syntactic counterpart are: (a) it seems to be truly unbounded (i.e., not subject to Subjacency), and (b) it cannot move phrases out of COMP. Obviously, an adequate theory of LF would need to explain these descriptive generalizations.

The case of non-Wh FOCUS phrases provides no such evidence. We take this as indication that the landing site of non-Wh FOCUS phrases—similarly to that of quantified NPs—is not COMP. Rather, as we pointed out earlier, they can be argued to be adjoined to S (cf. note 11, Chapter 2). Our discussion in the following section, however, will deal with some empirical phenomena supporting the LF-movement hypothesis that do extend to non-Wh FOCUS phrases too.

The study of scope-phenomena would be of great interest also in the other "Hungarian-type" languages referred to in Chapter 2, such as Basque and Aghem.

Notice that this fact cannot be captured under some semantically based generalization together with the specification of PROGRESSIVE ASPECT interpretation, discussed in section 1.7 of Chapter 1. (The generalization that might come to mind is "imperfectiveness" of action with respect to the Present.) The reason why this would not work is that the Future tense construction—which surely belongs to the same semantic category as the former two constructions—exhibits V'-complements systematically in the "pre-V" position.

Notice that Hungarian can also have non-2nd person subjects in its Imperatives, so template (23) need not say anything about subject-NPs.

This, of course, does not mean that LF cannot in principle be divided into ordered subcomponents.

We have no real evidence for claiming that the templates for
ASPECT-interpretation apply optionally rather than obligatorily. The latter choice would have worked too.

26 An obvious case to test would be that of quantified "pre-V" complements. For some reason, many quantifiers cannot occur in the "pre-V" node. (I have no explanation for this fact at present.) However, the ones that do occur in "pre-V" complements—such as existential quantifiers corresponding to 'some' in English—seem to behave as predicted (under the assumption of QR). Namely, instead of yielding an exclusively PERFECTIVE interpretation, such sentences are VAGUE with respect to ASPECT, similarly to sentences with Wh-Q or FOCUS phrases in the "pre-V" node at S-structure. However, judgments on these cases are rather hazy and unreliable.

27 Derivation (31) would also be blocked by the Strict Cycle Condition. But—as argued in Freidin (1978)—the Trace Erasure Prohibition is a more general principle, which, together with other independently motivated principles of trace theory, eliminate the need for the stipulation of Strict Cyclicity and render it a derived property of grammars.

28 For a discussion and elaboration of the θ-criterion and related notions, cf. Chomsky (1981, sections 2.2, 2.6, and 3.2.2). The θ-criterion subsumes Freidin's (1978) principles of "Functional Relatedness" and "Functional Uniqueness."

29 Note that the D-structure representation in this derivation (33b) also violates the θ-criterion, because in this representation, the θ-role (AGENT) assigned to the subject-position by the VP killed John does not get associated with any argument.

30 If the directional phrase in V'—bearing the θ-role GOAL—is indeed best analyzed as a PP, as we have suggested before, then an additional statement would be necessary to specify that GOAL is realized as a PP rather than an NP. This statement could probably take the form of a lexical redundancy rule.

31 Regarding "non-configurational" languages (such as Walbiri or Japanese are argued to be), Chomsky (1981, section 2.8) suggests that in this language-type, the assignment of GFs proceeds randomly. Thus, it is subject only to the constraining effect of the θ-criterion.

32 I am disregarding here the issue of whether the NP argument involved is dominated by PP. If it is, then the statement in the text could be maintained only by making some additional assumption as to why this intervening PP does not "count." A brief discussion of θ-role assignment to NP complements in PPs is given in Chomsky (1981, Chapter 2, 93, and note 83).
Throughout this discussion, we are assuming some version of the Subjacency condition to hold for 'Move α', implying a successive cyclic derivation for "long-distance" antecedent-trace relations.

A potential alternative derivation would be for the phrase to move on the last cycle into the matrix COMP first, and from there, down to the "pre-V" node of the clause. The availability of this additional possibility seems to have no empirical consequences.

This particular example is taken from May (1981a).

This particular structure would also violate the θ-criterion.

One can make up examples in which two separate extraction operations in fact seem to give acceptable results. But in these cases, the extraction paths of the two movements are non-overlapping. Consequently, one might still maintain a version of the "complexity" hypothesis in face of these examples by incorporating into it the notion of "overlapping extractions."

There do exist alternative accounts of the "bridge" phenomena. (Cf., e.g., Erteschik (1973), or for a more recent proposal, in the GB-framework, based on the ECP, cf. Chomsky (1981, section 5.3).)
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