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McDaniel, Dana S.

CONDITIONS ON WH-CHAINS

City University of New York

Ph.D. 1986

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CONDITIONS ON WH-CHAINS

by

DANA S. MCDANIEL

A dissertation submitted to the Graduate Faculty in
Linguistics in partial fulfillment of the requirements
for the degree of Doctor of Philosophy, The City
University of New York.

1986

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This manuscript has been read and accepted for the Graduate Faculty in Linguistics in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

date January 27, 1986

Robert W. Fiengo, Jr.
Robert W. Fiengo, Chairman of
Examining Committee

1/28/86
date

John A. Moyne
John A. Moyne, Executive Officer

Helen S. Cairns

D. Terence Langendoen

Howard Lasnik

M. Carme Picallo
Supervisory Committee

The City University of New York

Abstract
CONDITIONS ON WH-CHAINS

by
Dana S. McDaniel

Adviser: Professor Robert W. Fiengo

This thesis investigates a type of wh-construction, "partial wh-movement", in which the wh-phrase appears in a position lower than the position from which it takes scope. The latter position is occupied by an element referred to as a scope-marker. A second construction, "multiple wh-movement", exhibiting movement of more than one wh-phrase in multiple questions, is considered to be part of the same phenomenon. Romani and German, which have these constructions in addition to the English type, "full wh-movement", serve as the basis for the investigation. The study is conducted within the Revised Extended Standard Theory of generative grammar.

The restrictions on partial and multiple wh-movement are accounted for by the Empty Category Principle and subjacency. The latter is recast as a set of constraints on representation, the Wh-chain Condition. Wh-constructions (including full wh-movement) are treated in terms of the chains which are formed. In order for multiple wh-movement structures to meet the Wh-chain Condition, it is necessary to posit a rule of absorption applying at S-structure. Finally, it is shown how the Wh-chain Condition, absorption, and various other proposed principles might be handled in terms of parameters and learnability.

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CHAPTER ONE

PRELIMINARIES

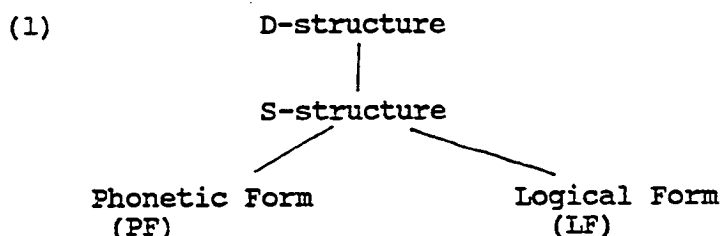
This study deals with a type of wh-construction which does not occur in English. The construction will be considered in detail in both German and Romani, and conclusions will be reached about wh-movement in general. The framework which provides the basis for the analysis is Government-Binding Theory, the theory of generative grammar developed in Chomsky (1981) and other recent work. In section 1.1, the main facets of Government-Binding Theory will be briefly presented, and in section 1.2 some background information will be given about the dialects and the notation used in this study.

1.1. Outline of Government-Binding Theory

A central goal of linguistics is to arrive at a theory of Universal Grammar (UG), which would characterize the class of possible human grammars. In the current theory of generative grammar, the Revised Extended Standard Theory (REST), this goal is directly addressed. It is suggested that UG consists of a general schema constrained by various principles, which are considered to be parameterized. This means that every grammar could be defined in terms of a combination of settings of the parameters. Such a theory could account for language acquisition. If UG is assumed to be the innate human linguistic system, then language

acquisition would consist of setting the parameters based on evidence from the language being acquired. The limited number of possibilities would account for the facility of first language acquisition.

In the Government-Binding (GB) framework, UG is conceived of as containing a system of distinct levels of representation, as shown in (1):



The mappings between these levels make up the autonomous components of UG. S-structure is related to both D-structure and LF by the transformational rule move α . These mappings constitute the syntactic component of the grammar. The mapping from S-structure to LF includes rules such as those determining the scope of quantifiers and wh-words in situ, LF being a representation of the aspects of meaning determined by sentence grammar. S-structure also maps onto PF, which constitutes the phonological component. This component includes phonological rules, deletion rules, certain movement rules, such as affix hopping, and possibly stylistic rules. Since PF and LF are distinct levels which are not directly related to each other, they do not interact, i.e., LF and PF rules have no effect on each other.

Various principles constrain the representation at each level. D-structure representation is constrained by X-bar Theory, a theory of phrase structure first proposed in Chomsky (1970). This theory has the advantage of eliminating the necessity for the specific phrase structure rules of earlier frameworks. According to X-bar Theory, the phrase structure of all lexical categories is of the form given in (2):

$$(2) X^n \longrightarrow \dots X^{n-1} \dots$$

According to this, each category projects hierarchically to a more complex category with specifiers and complements. The ordering of these elements could be determined by a general ordering parameter (e.g., complements to the left/right) combined with other principles of UG (cf. Stowell (1981) for a detailed account). Various versions of X-bar Theory have been proposed (cf. Jackendoff (1977) and subsequent literature), all of which make use of certain important notions introduced by the schema. Two basic notions are "head" and "maximal projection". The maximal projection is the node with the greatest degree of complexity in the hierarchy of nodes of a certain type. The head of a constituent is the node with the lowest degree of complexity, X^0 , the terminal node. Since these notions play an important role in other components of the grammar (as will be seen further below), it is necessary for an analysis to make precise the status of categories in terms of X-bar Theory which it assumes. For example, the basic

structure of the clause is often represented by the expansions in (3):

(3)a) $S' \rightarrow \text{Comp } S$

b) $S \rightarrow \text{NP Infl VP}$

(Infl includes AGR (agreement), tense, and possibly modals and auxiliary elements.) In each of these cases, it must be specified which of the categories on the right is the head. I will follow Stowell (1981) in assuming that Comp is the head of S' (i.e., $S' = \text{Comp}'$), and that Infl is the head of S (i.e., $S = \text{Infl}'$).

The notions introduced by X-bar Theory also permit a central configurational notion of GB Theory, "government" to be defined. The definition given in Aoun and Sportiche (1983) is as in (4):

(4) α governs γ in the structure $[_B \dots \gamma \dots \alpha \dots \gamma \dots]$

where,

a) $\alpha = X^0$

b) where ϕ is a maximal projection, if ϕ dominates γ then ϕ dominates α .

(I assume the further condition that B is a projection of α .) According to this definition, a head governs all the elements within the domain of its maximal projection, but does not govern those within the domain of another maximal projection. The definition of government differs slightly in different analyses. I will assume the one given here until chapter 4, where a revision will be proposed.

Returning to D-structure, the second determinant of representation at this level is the lexicon. In the lexicon, lexical items are specified for subcategorization frames and θ -marking (thematic marking). The lexicon in this way determines the complement structure of each category. For example, the verb hit is specified in the lexicon as requiring an argument, to which it assigns the θ -role (thematic role) patient. If the verb is hit, then the expansion of the VP will contain an object.

The Projection Principle is a basic constraint which requires that not only D-structure, but every level of representation, conform to the structure designated in the lexicon. This is stated as in (5):

(5) The Projection Principle

Representations at each syntactic level (i.e., D-structure, S-structure, and LF) are projected from the lexicon, in that they observe the subcategorization and θ -marking properties of lexical items. (Chomsky (1981), 29)

Since S-structure is related to D-structure by movement, it follows from the Projection Principle that in the schema move α , a trace will appear in the base position of the moved element. In this way, when an element moves out of the position where it is subcategorized and θ -marked, there will still be an element, namely the trace, in θ -position to fulfill the Projection Principle. The Projection Principle does not ensure that every clause will have a subject

position. Chomsky (1981) suggests replacing the Projection Principle with the Extended Projection Principle, which would be the same as the former, but would require in addition that every clause have a subject. Recently there have been various attempts to derive the Extended Projection Principle from an S-structure well-formedness condition involving licensing of arguments and predicates (cf. Zagana (1982), Rothstein (1983)).

Other principles determining the properties of the levels of representation and their relationship to each other can be grouped into a number of subtheories, which gives UG a modular character. These include:

(6)a) θ -Theory

- b) Case Theory
- c) Binding Theory
- d) Control Theory
- e) Bounding Theory
- f) Government Theory

The central principle of θ -Theory is the θ -Criterion, which in its strongest form is as in (7):

(7) θ -Criterion

Each argument bears one and only one θ -role and each θ -role is assigned to one and only one argument. (Chomsky (1981), 36)

The class of arguments contains all elements to which reference can be assigned and clauses. Non-arguments

include those NPs which cannot assume a θ -role, such as existential there and pleonastic it in English. θ -role is considered to be assigned by a lexical head to its complements. Every complement position is a θ -position and, due to the Projection Principle and the θ -Criterion, must contain an argument at D-structure. The type of θ -role assigned (patient, goal, etc.) is determined by the specification of the lexical head in the lexicon. θ -role is also assigned to the subject position, but in a different way. In this case, θ -role is not determined by a lexical head alone, but rather compositionally by the whole predicate (see Marantz (1981) for discussion of this distinction). In the latter case, the argument can be referred to as "external", because it is not included in the maximal projection of the predicate, whereas arguments base-generated within this maximal projection are "internal" (cf. Williams (1983) and sources cited therein). Due to the difference in θ -role assignment, the subject position, but not the object position, is in some cases a non- θ -position (i.e., assigned no θ -role). In the case of the passive construction, the verb must assign a θ -role to its object, the argument it subcategorizes for, but the passive morphology has the effect that no θ -role is assigned to the subject position. The θ -Criterion together with the Projection Principle derive the basic effects of trace theory (cf. Chomsky (1973), Fiengo (1974) and subsequent literature). As was noted earlier, the Projection Principle

requires that a trace be left in the base-generated position of a moved argument. According to the θ -Criterion, the θ -role assigned to the object must be assigned to only one argument. For this reason, the trace left by movement must be linked with the moved argument. The latter, again due to the Projection Principle, must not move to a θ -position. It will then receive a θ -role through its trace. This accounts for constructions like the passive, where the object can move to subject position. Note that, as pointed out in Chomsky (1981), the θ -Criterion as stated in (7) is probably too strong. The requirement that every argument be assigned only one θ -role must be weakened to accomodate certain cases. For the purposes of this study, (7) is sufficient, however.

The main principle of Case Theory is a condition on S-structure representation, the Case Filter, given in (8):

(8) * NP if NP has phonetic content and no Case (Chomsky (1981), 49)

According to (8), every lexical NP has abstract Case. Case is considered to be assigned to an NP by a Case-assigning category which governs it. The argument position to which no Case is assigned is the subject position of an infinitival clause or gerund. In these cases, Infl lacks tense and agreement, and does not qualify as a governor. It is for this reason that this position usually contains PRO, a type of non-overt argument, which will be discussed more

below. In some languages certain verbs can apparently assign Case to the subject of their infinitival complement clause, such as the verb believe in English (as in "John believes Bill to have left."). In addition, the complementizer for in English seems to assign Case to the subject of an infinitival complement clause. These two cases are considered to constitute some type of exceptional Case-marking, since the Case-assigner is not in a usual government configuration with respect to the NP to which it assigns Case. In some accounts, exceptional Case-marking is handled by a change in structure (S' deletion in the Case of verbs like believe), but the solutions are still problematic. Note that in German and Romani, exceptional Case-marking is not nearly as wide a phenomenon as in English, but is restricted to certain small clause constructions in German, and probably does not exist at all in Romani. The Case Filter can handle aspects of certain constructions. In the passive, an NP object must move to subject position. This is presumably due to the fact that passive morphology removes the Case-assigning ability of the verb. Since the verb cannot assign Case to its object, this NP moves to subject position, where it is assigned nominative Case by Infl. In the case of wh-movement, the wh-word is assumed to inherit Case from its trace, which must be in a Case-marked position.

In recent work, it is often found necessary to distinguish between structural and inherent Case (cf.

Chomsky (1986)). The former would be assigned at S-structure under government. The latter type is directly related to θ -role assignment and is considered to be assigned at D-structure. These are the non-nominative and non-accusative Cases.

Binding Theory, constrains the distribution and possible referential interpretation of NPs. It refers to categories specified with the features [$\pm$ anaphor] and [$\pm$ pronominal], each with an overt and a non-overt counterpart. The set of anaphors, [$\begin{smallmatrix} +anaphor \\ -pronominal \end{smallmatrix}$], includes reflexives and reciprocals (e.g., themselves, each other) and NP trace. Pronouns, [$\begin{smallmatrix} -anaphor \\ +pronominal \end{smallmatrix}$], are lexical (non-anaphoric) pronouns (e.g., they, them) and the non-overt pronoun pro (which does not occur in English). PRO is considered to be a pronominal anaphor, [$\begin{smallmatrix} +anaphor \\ +pronominal \end{smallmatrix}$]. It is pronoun-like in that it can occur with no antecedent (as in "PRO to swim would be fun."), but anaphor-like in that it sometimes is interpreted as receiving referential content from a certain antecedent (as in "John_i persuaded Bill_j PRO_{i/j} to leave."). The R-expressions, [$\begin{smallmatrix} -anaphor \\ -pronominal \end{smallmatrix}$], are names and variables. The definition of the notion "bind" is as in (9):

- (9) x binds y iff x c-commands y , x is coindexed with y , and x and y are of the same categorial type.

"C-command" can be defined as in (10) (following Reinhart (1976)):

(10) x c-commands y if neither of x , y dominates the other and the first branching node dominating x also dominates y .

An element which is not bound is free. A further distinction is made between A-binding and A'-binding. The former refers to the type of binding where the binder is in A-position (argument position, i.e., a position which can contain an argument at D-structure) and the latter to binding from an A'-position (non-argument position, such as Comp). The Binding Conditions refer only to A-binding and can be stated as in (11):

(11) Binding Conditions

- a) An anaphor must be bound in its governing category.
- b) A pronoun must be free in its governing category.
- c) An R-expression must be free.

(Chomsky (1981), 188)

A governing category can be defined as in (12):

(12) α is the governing category for β iff α is the minimal category containing β and a governor of β , where α = NP or S.

Examples of the basic data accounted for by the Binding Theory are given in (13):

- (13)a) John_i knows that Bill_j hit himself_i/j/*_k.
- b) John_i knows that Bill_j hit him_i/a_j/k.
- c) He_i/j knows that Bill_i left.
- d) Who_i does he_i/j think t_i is crazy?
- e) John_i believes himself_i / * him_i to be crazy.

f) John; thinks that Bill's; picture of himself_i is
on the wall.

In (13a-b), the governing category for the pronoun or reflexive is the lower clause. The reflexive must be bound in this clause, and the pronoun must be free, so that the former must be coindexed with Bill and the latter must not be. If Bill in (13c) were coindexed with he, Principle C of the Binding Theory would be violated, since the R-expression would be bound. The strong crossover case, exemplified in (13d) can be handled in the same way. Since the trace is a variable, he may not be coindexed with it. In (13e), believe somehow governs the subject of the complement clause, as was mentioned above, so that the governing category for this subject is the whole sentence. In (13f), the governing category for the reflexive is the NP. Since PRO is a pronominal anaphor, the Binding Conditions contradictorily require it to be both bound and free in its governing category. PRO must not have a governing category; hence it will always appear in an ungoverned position. The choice of the antecedent of PRO is determined by a different module of the grammar, Control Theory.

The Binding Theory presented here is in its simplest form and is problematic in several ways. In recent work, numerous revisions have been proposed. In Chomsky (1981), it was found necessary to introduce the notion SUBJECT in the definition of "governing category", and Picallo (1985)

suggests that tense is also a necessary factor. In Chomsky (1986), it is suggested that the notion governing category be replaced by that of "complete functional domain". I will not discuss these and other revisions, since the Binding Theory does not play a major role in this work.

The modules of UG which will be most important for this study are Bounding Theory and Government Theory. Since Binding Theory refers only to A-binding, it does not affect the A'-binding relation between a moved wh-phrase and its trace. This is instead restricted by Bounding Theory. The main principle of Bounding Theory is subjacency, given in (14):

- (14) No constituent can move out of more than one bounding node.

The bounding nodes are considered to be NP and S, at least in English. Subjacency presumably applies to movement occurring in the syntax. It handles most of the phenomena previously accounted for by Ross' (1967) constraints. The sentence in (15), for example, which had been ruled out by Ross's Complex NP Constraint, can be ruled out by subjacency:

- (15) * What_i [did you see [the boy_j [who_j [t_j broke t_i ?

Subjacency also subsumes the Wh-Island Constraint of Chomsky (1962), which states that clauses introduced by a wh-phrase are islands, as in (16):

- (16) Who_i [do you wonder [where_j [John saw t_i t_j ?

In order for subjacency to subsume the Wh-Island Constraint,

a further condition is necessary to ensure that the wh-phrase in these cases does not move through the lower Comp, as it does in (17) (and must, due to subjacency):

(17) Who; [₅do you think [₅t; that [₅John saw t; ?

I will follow Lasnik and Saito (1984) in considering the constraint which rules out Comp-to-Comp movement in (16) to be the same as the filter proposed in Chomsky and Lasnik (1977) to rule out the cooccurrence of a wh-phrase and a complementizer in Comp. This is a filter on S-structure representation, the Doubly Filled Comp Filter, which could be stated as in (18):

(18) Doubly Filled Comp Filter

* [_{comp} XY]

This would rule out (16) with a trace in the lower Comp. It is too broadly stated, however, since it would also rule out (17). It seems necessary to add the proviso in (19):

(19) not counting a trace if it cooccurs with a
complementizer

There are alternatives to positing (19). In Lasnik and Saito's system, for example, it is unnecessary due to other principles. (Note that for Lasnik and Saito, (18) actually does not exist in the form of a filter, since they claim to derive its effects.) This Filter will be discussed in more detail in the chapters that follow. It is significant that subjacency is stated as a condition on movement rather than as a well-formedness condition on S-structure

representation. Originally, this was due to the fact that a general rule of construal would incorrectly rule out coindexing between A-positions over more than one bounding node, as in (20):

(20) John; thinks _S [that _S [a picture of himself; _{NP}] is on the wall.

However, it would not be difficult to state a condition on representation which would not apply to cases of A-binding like (20). I will argue in the chapters that follow that data from German and Romani are better analyzed with subjacency restated as a condition on S-structure representation.

I will diverge slightly to discuss the operation of wh-movement itself, although this is not strictly a part of Bounding Theory. Comps are considered to be marked with the feature [$\pm$ wh]. In complement clauses, this feature depends on the verb which subcategorizes for the clause, and therefore also for the Comp, which is its head. The verb wonder, for example, subcategorizes for a [+wh] Comp, whereas the verb think subcategorizes for a [-wh] Comp. The matrix Comp can always be specified with either feature. At LF, wh-phrases are interpreted as quantifiers, taking scope from the [+wh] Comp over the clause from which they originated. (21a-c) respectively illustrate the approximate D-structure, S-structure and LF representations of the sentence "I wonder who Bill saw.":

(21)a) I wonder _S [_S _{Comp} [a picture of himself; _{NP}] is on the wall.

b) I wonder [_S _{Comp} who; [_S Bill saw t;

c) I wonder [_S for which x, x a person [_S Bill saw x
At LF, then, wh-phrases will occur in the [+wh] Comp to indicate scope. This is not necessary at S-structure, however, which is why wh-phrases do not necessarily have to move at this level, but can remain in situ. In English this occurs in multiple question constructions, as illustrated in (22):

(22) Who thinks that Bill saw what?

In this example, what remains in situ. At LF, however, it presumably moves to the highest Comp, since it is interpreted as a double direct question. The LF representation would be approximately as in (23):

(23) for which x, x a person, and for which y, y a thing

[_S x thinks [_S that [_S Bill saw y

Note that subjacency is generally not considered to apply to wh-movement which takes place at LF, due to the fact that the subjacency violation cases are grammatical, or at least better, with wh-phrases in situ. Compare the sentences in (24) to those in (15)-(16):

(24)a) ? Who saw the boy who broke what?

b) Who wonders where John saw who? (with wide-scope reading)

More will be said about these issues in the chapters that follow. Note that relative clause constructions are also

considered to involve wh-movement, although its characteristics are often unclear. These will also be discussed to some extent.

The main principle of Government Theory is the Empty Category Principle (ECP), which restricts the distribution of non-pronominal, non-overt NPs. The ECP can be stated as in (25):

(25) [_i e] must be properly governed.

Proper government can be defined as in (26):

(26) α properly governs β iff α governs β and α is lexical. (Chomsky (1981), 273)

According to this definition, the only difference between government and proper government is that in the latter the class of governors is restricted. Since the head of Infl is not lexical, it governs, but does not properly govern the subject. This explains the impossibility of extraction of the subject, as in (27):

(27) * Who_i; [_idoes John think [_ithat [_it_i; left?

(27) would be ruled out by the ECP, since the trace in subject position is not properly governed. Kayne (1981b) suggests that the class of proper governors could be considered to exclude prepositions as well, so that the impossibility of preposition stranding in most languages could also be attributed to the ECP. Preposition stranding would be possible in English due to a type of reanalysis. In many accounts, the ECP is considered to apply at LF, since LF movement also causes ECP violations. An example is

the multiple question construction, which exhibits "superiority" effects, as in (28):

(28) * What did who see?

It would be claimed that the movement of the subject who at LF leaves a trace which is not properly governed.

The ECP with government as defined in (26) would incorrectly rule out the sentences in (29):

(29)a) Who does John think left?

b) Who left?

To handle such cases, it is assumed that there is another type of proper government, antecedent government. The type defined in (26) is lexical government. Antecedent government would be defined in such a way that the trace in Comp in (29a) and the wh-word in Comp in (29b) would properly govern the coindexed trace in subject position. In several accounts, the different types of government are combined into a uniform definition (cf. Chomsky (1981), (1986), Stowell (1981)). I will follow Lasnik and Saito (1984) in considering antecedent government to be distinct. It can be defined as in (30):

(30) Antecedent Government

α antecedent-governs β if

a) α and β are coindexed

b) α c-commands β

c) there is no γ (γ an NP or S') such that α c-commands γ and γ dominates β , unless β is the head of γ . (Lasnik and Saito (1984), 248)

This means that NP and S', but not other maximal projections, are barriers to antecedent government, unless the "governee" is the head of the NP or S' in question. Note that it is generally held for all types of government that the head can be governed outside its maximal projection. The definition in (26) would then be of "lexical government" rather than of "proper government", and "proper government" would be redefined as referring to lexical or antecedent government. The sentences in (29) then meet the ECP, since the trace in subject position is antecedent-governed. Note that (27) would have to be ruled out by claiming that the complementizer blocks antecedent government in some way. In this study, the ECP will play a significant role. The important notion will be lexical government, and little will be said about antecedent government.

In recent work, many of the concepts discussed above can be recast in terms of chains, which are sets of coindexed elements in a certain configuration, generally created by the rule move α . Coindexing in this case includes both cosubscripting, as between a variable and its operator, and cosuperscripting, the type of coindexing which indicates a different type of relationship, such as between an expletive element in subject position and a postverbal

element. A distinction can be made between A-chains and A'-chains. In the former, the head (first member) of the chain is in A-position, and in the latter in A'-position. In Chomsky (1981), A-chains are defined as in (31):

(31) $C = (\alpha_1, \dots, \alpha_n)$ is an A-chain if and only if

- (i) α_1 is an NP
- (ii) α_i locally A-BINDS α_{i+1}
- (iii) for $i > 1$, (a) α_i is a non-pronominal empty category or (b) α_i is A-free
- (iv) C is maximal, i.e., is not a proper subsequence of a chain meeting (i) to (iii). (Chomsky (1981), 333)

The term "BIND" refers to "bind", but includes cosuperscripting as well as cosubscripting. Local binding is defined as in (32):

(32) α locally binds β if α and β are coindexed, α c-commands β , and there is no γ coindexed with α that is c-commanded by α and c-commands β .

(Chomsky (1981), 59)

In Chomsky (1981), the discussion is limited to A-chains. I will assume that the conditions on local BINDING and on maximality ((31ii) and (31iv)) hold for A'-chains as well as for A-chains (with A'-BINDING replacing A-BINDING).

Conditions such as the θ -Criterion and the Case Filter can now be revised to apply to chains (cf. Chomsky (1981)).

This study will focus on the type of A'-chain resulting from wh-movement.

Little has been said in this outline of UG about how the theory might be parameterized. Various suggestions have been made in this respect involving different parts of the theory. Hale (1982) suggests that some languages are non-configurational, in the sense that they have a flat, rather than a hierarchical, structure. Since many of the subtheories discussed above and the notion government depend crucially on hierarchical structure, it can be expected that this difference in grammar type is a major one. This will be discussed to some extent in chapter 2. Another difference in grammar types which is often discussed is whether and under what conditions non-overt pronouns and expletives are permitted. This is often referred to as the pro-drop or null-subject parameter, although there is disagreement about which parameter(s) are actually involved.

Other differences in parameter settings have been suggested with respect to the individual subtheories. For example, the definition of governing category of the Binding Theory may vary across grammars. Another example, which will be important for this study, is the suggestion made in Rizzi (1982) that the bounding nodes of Bounding Theory could differ across grammars. Grammars also differ in the level at which certain rules apply. Certain languages, such as Chinese, do not have wh-movement at S-structure, i.e., all wh-phrases are in situ. Since the interpretation of wh-constructions is parallel to that of languages with syntactic wh-movement, it has been proposed that wh-movement

does apply at LF in languages like Chinese, as it presumably does in the case of wh-phrases in situ in English multiple questions (cf. Huang (1982a,b)). Although most of the discussion in the following chapters will focus on languages with syntactic wh-movement, Chinese type languages will be brought up in chapter 5.

This concludes the outline of the framework assumed in this study, GB Theory. I will now give some brief background information on the main languages under discussion.

1.2. Background on Languages

Romani is an Indic language which consists of many diverse (but often still mutually intelligible) dialects. In some cases, the language is basically lost with only a few Romani words remaining. In many other cases, in spite of borrowing, the language is still distinct. The dialects under discussion here are spoken in southern Yugoslavia and are of the latter type. Very little has been written on Romani in general. On the dialects under discussion, there is to my knowledge only one "traditional" grammar, Kepeski and Jusuf (1980). The basic lexical items of these dialects are Indic, but there are many loanwords, mostly of Slavic and Turkish origin. The structure probably has more in common with the Balkan areal group than with Indic. The two dialects considered in this study are sufficiently close to each other, that they would usually be classified as two

variants of the same dialect. One is spoken in Priština and the other in Skopja. I will refer to them as Dialect I and Dialect II respectively. The speakers discriminate between the two with no difficulty. Aside from several minor differences in vocabulary and pronunciation, there are certain slight structural differences, which play an important role in the analysis presented here. To indicate that judgments differ between the dialects, I use slash notation. The judgment to the left of the slash represents Dialect I, and the one to the right, Dialect II. When there is no difference (which is most often the case), the slash is not used.

As is well-known, German is also made up of many diverse dialects, and there is a general dialect division between the north and the south. Unless otherwise indicated, I will be considering the dialect of my family, which is northern.

Returning to Romani, this language has no official orthography. The system I use is the one proposed in Cortiade (1984), which was devised with the Yugoslav and Albanian dialects in mind. One modification is the use of the symbol "j" for the sound [j] instead of "j" in his system for typographical purposes. Note that the symbol "8" is used in the orthography (representing the sounds [t] and [d] of certain morphemes).

For both German and Romani, the English glosses given are meant to clarify the phenomenon in question. In

general, they are not word-for-word, but represent the rendering into English of the original sentence. This means that everything but the part of the structure in question is given in close to usual sounding English. The main difference between this and a word-for-word gloss is in the tense/aspect of the verb. In the case of German, there are also differences in word order. The Romani and German sentences are given in partial S-structure representations. Major bracketing and traces are indicated, although factors which do not bear on the phenomenon in question, such as pro, are left out.

In chapter 2, the general structure of Romani and German is discussed. Since little is known about Romani, it is treated in much greater detail than German. In many cases, the phenomena in Romani are not discussed in satisfactory detail, but only the beginnings of an analysis is presented. This is due to lack of space, since each topic could be the subject of a thesis in itself. I attempt, therefore, to give only what is necessary for understanding of the subsequent chapters. In chapter 2, the question of configurationality is also discussed, and it is concluded that both German and Romani are to some degree non-configurational. In chapter 3, two types of wh-movement, partial and multiple, are presented. It is proposed that the properties of these constructions are best handled by a condition on S-structure representation, the

Wh-chain Condition, which would replace subadjacency. The Wh-chain Condition is formulated only with respect to German, leaving the question of how to handle the Romani data for chapter 4. In chapter 4, a set of problematic data in both German and Romani is first discussed. It is concluded that these data are best handled by the ECP. Further data are then considered, which together with the ECP analysis, shed light on the nature of the Wh-chain Condition in Romani. It is concluded that most of the Condition holds the same way in both languages. Once the ECP analysis and the Wh-chain Condition in Romani have been established, topicalization in Romani, which is discussed in chapter 2, is returned to. In the last section of chapter 4, it is determined to what extent the assumption that German and Romani are non-configurational affected the preceding analysis. Chapter 5 addresses the question of parameters and learnability with respect to the analysis proposed in the preceding chapters.

CHAPTER TWO

OUTLINE OF ROMANI AND GERMAN STRUCTURE

This chapter will serve as an outline to the structures of German and Romani, the two main languages under discussion. I will concentrate on A'-binding, since this is directly relevant to the analysis which will be developed later on. There will, however, be some discussion of word order and related phenomena. Romani will be treated in much greater detail than German, since it is relatively unfamiliar so that some general background on its structure must be presented. In addition, it has a type of topicalization and an active resumptive pronoun system, both of which have interesting properties which will play an important role in later discussion. I will treat German and Romani separately in this chapter, since they behave differently with respect to these phenomena.

2.1. Romani

2.1.1. General Description

In this section, I will present certain general facts about Romani syntax, which will serve mostly to introduce the language.

First, Romani is a pro-drop (or null-subject) language, allowing the non-overt subject pro. It exhibits the various properties often considered to be related to this, such as verbal inflection indicating subject-verb agreement (see Taraldsen (1978) and subsequent literature for discussion of

the null subject parameter; other null-subject properties of Romani will be seen later on). Examples are given in (1):

(1)a) (Me) dikh-av-a e Demire.

(I) see-1SG-PRES Demir.

b) (Oj) dikh-ol-a e Demire.

(She) see-3SG-PRES Demir.

c) (Oj) dikh-l-â e Demire. [1]

(She) see-PAST-3SG Demir.

As indicated by the parentheses, the subject pronoun is optional, and its presence implies a degree of emphasis (although the pronoun is used much more frequently than in the Romance null subject languages). Romani allows other types of non-overt subjects in addition to pro, indicating that the position is properly governed. This will be discussed in chapter 3.

Another aspect of Romani syntax which should be noted here is that, as in other Balkan languages, it has no infinitive. (See Joseph (1983) for discussion of the loss of the infinitive in these languages.) There is only one non-finite verb form, a participle, which has a rather limited distribution. This raises the question of whether PRO exists at all in Romani. In place of the infinitive, a subjunctive form is used, which consists of a particle, te and a finite non-tensed verb. The particle te is similar to English to (and I will gloss it as such) in that nothing except the negative particle may intervene between it and

the verb. This indicates that te is not in Comp, but in Infl. The Comp of these clauses is then empty. This is illustrated in (2):

(2)a) Mangava o Demiri te jal khere.

I-want Demir-NOM to go-3SG home.

b) * Mangava te o Demiri jal khere.

I-want to Demir-NOM go-3SG home.

c) Mangava sig te jav khere.

I-want quickly to go-1SG home.

d) * Mangava te sig jav khere.

I-want to quickly go-1SG home.

((2d) is completely ungrammatical, unlike its counterpart in English.) Note that the subjunctive form of the verb is almost identical to the present indicative. The only difference is that the subjunctive may not contain the present tense suffix -a (which is often omitted in the indicative). Since, in addition, neither the past tense suffix nor the future tense prefix may appear in this form, I will consider te to replace Tense in Infl. [2] It might be thought that what I am referring to as a subjunctive could be considered an inflected infinitive, as in Portuguese. This might be possible in some sense, although historically the form is not an infinitive and morphologically it is almost identical to the present indicative. The main problem with such an account would be that, unlike in Portuguese, there would be no uninflected infinitive. Verbs appearing in the distribution of what I

have called the subjunctive must have agreement inflection. Due to this, the labeling of this form as an inflected infinitive would amount to a difference in terminology only.

It should be noted that, unlike other Balkan languages, Romani does not have pronominal clitics, or at least no clitic movement or doubling. Direct object pronouns and the reflexive may take on a clitic-like form when directly preceded by the verb. This is similar to English forms such as 'im for him. Romani, then, could be said to have clitics to the extent that English does.

Historically, Romani did have a third person subject clitic, lo (feminine la/li, plural le), which still exists in some dialects, but not in the ones under discussion. In the latter, the subject clitic has developed into the word talo (Dialect II) or tano (Dialect I), which has interesting and puzzling properties. I will discuss some of these here, since talo will be used as a diagnostic for structure at several points later on. Unlike lo, which was used mostly with a pro subject and the present tense of the copula (which in Dialects I and II is either a clitic or omitted in the third person), talo has an extremely wide distribution. It may appear in almost any clause with a third person subject (including clausal subjects), and agrees with it morphologically like an adjective, with the feminine form tali and the plural tale. It is never obligatory and seems to have no semantic or pragmatic effect at all. It may

appear anywhere in the clause except in sentence-initial position, counting empty elements such as pro and the non-overt copula. Some examples are given in (3):

(3)a) I Arîfa dikhlâ tali e Demire irati.

Arifa saw FEM-SG Demir yesterday.

b) I Arîfa dikhlâ e Demire irati tali.

Arifa saw Demir yesterday FEM-SG.

c) I Arîfa tali dikhlâ e Demire irati.

Arifa FEM-SG saw Demir yesterday.

d) Irati tali i Arîfa dikhlâ e Demire.

Yesterday FEM-SG Arifa saw Demir.

e) * Tali i Arîfa dikhlâ e Demire.

FEM-SG Arifa saw Demir.

f) Tali dikhlâ e Demire.

FEM-SG saw Demir.

g) Tali súzi.

FEM-SG pretty.

h) Tali i Arîfa súzi.

FEM-SG Arifa pretty.

i) Mangava tali i Arîfa te dikhol e Demire.

I-want FEM-SG Arifa to see-3SG Demir.

j) * Tali i Arîfa te dikhol e Demire mangava.

FEM-SG Arifa to see-3SG Demir I-want.

k) Nane súkar talo so i Arîfa dikhlâ e Demire.

[It] isn't good MASC-SG that Arifa saw Demir.

l) * I Arîfa dikhlâ talo e Demire.

Arifa saw MASC-SG Demir.

m) * Me dikhlûm tali e Demire.

I saw FEM-SG Demir.

In (3a-h) tali agrees with a feminine singular third person subject. (3a) probably represents the most natural word order, with talo directly following the verb, but other orders are possible. (As will be discussed below, Romani word order is generally free.) (3e) is ungrammatical, since tali occurs in first position. (3f-h), on the other hand, are grammatical, presumably because an empty element could precede tali (pro in (3f), pro and/or the copula in (3g), and the copula in (3h)). (3i-j) show that the restriction on position is independent of structure. In both cases, tali appears as the first element of an embedded clause. (3j) is ungrammatical because the whole clause is fronted, so that tali occurs sentence initially. In (3i), this is not the case and the sentence is grammatical. (3k) shows that talo may agree with a sentential subject (which, in this case, is extraposed) and (3l-m) that it may not agree with a non-subject or a non-third person subject. An important fact about talo is that it may not occur in existential constructions (in which a special form of the copula is used in the present) and in various impersonal constructions. Examples are given in (4):

(4)a) Isi but chave (*talo/*tale) k-o biav.

[There]-is many children (MASC-SG/PL) at the wedding.

b) Hal pe mange phabaja (*talo/*tale).

Eats itself to-me apples (MASC-SG/PL).

(= "I feel like eating apples.")

c) Valâni mange o çhave (*talo/*tale).

Is-necessary to-me the boys (MASC-SG/PL).

(= "I need the boys.")

This seems to indicate that talo may not occur with an expletive. However, it will be suggested below that Romani has a flat structure, so that these constructions would not contain any expletive at all. (The constructions will be discussed in chapter 4.) Interestingly, speakers differ as to whether talo may occur in weather expressions, which may support the claim that the subject of weather expressions (when there is one) is a quasi-argument (cf. Chomsky (1981)). In the following example, the slash notation indicates a difference among speakers, rather than between the two dialects:

(5) Dol iv (* / talo).

[it] gives snow (MASC-SG).

(= "It's snowing.")

The question of how talo should be analyzed is difficult. Although its distribution is too wide for a clitic, it has some clitic-like properties, namely that it is never stressed, it may not occur in initial position (but the fact that empty elements "count" in this respect is unclitic-like), and it has a purely pleonastic function. It has in common with the reflexive that it can agree only with a

subject (although talo may agree only with a subject with nominative Case, whereas the reflexive sometimes does not follow this requirement; see footnote 4 of this chapter for some discussion of the Binding Theory in Romani). Since it agrees with the subject and has the features of gender and number, it also might be considered to be a second spell-out of AGR. This is supported by the fact that it may not occur in impersonal constructions, as was pointed out above. These constructions have no subject agreeing with the verb, which is either invariable or in the neutral third person singular form. There is, then, no AGR at all, which would explain the impossibility of talo. I will leave the analysis of talo open here. The facts, in any case, are clear and will be appealed to later on to resolve certain questions of structure.

Another significant fact about Romani is that it has extensive morphological Case-marking, with eight Cases. Except for the nominative and accusative, the Case suffixes were historically postpositions assigning the accusative Case, as is still true in other Indic languages (cf. Sampson (1926), Pobożniak (1964)). The Romani suffixes could be argued still to be postpositions as well, although they would have to be considered clitics, since they are not phonologically independent. An example of the dative is given in (6). The two analyses are represented by the two glosses:

(6) Din'jum e 'chanve-n-ge love.

I-gave the children-ACC-to money.

I-gave the children-DAT money.

I prefer to consider these as Case suffixes, however, for several reasons. First, Romani speakers who know other languages with Case suffixes "feel" them to be parallel to the Romani counterparts. Second, there are also several prepositions in Romani. These are followed by the nominative Case of nouns and the locative Case of pronouns. If the locative Case form of a pronoun were actually made up of a postposition preceded by an accusative pronoun, then it would have to be claimed that prepositions are followed by postpositional phrases in these cases. Examples are given in (7), with both analyses in the glosses:

(7)a) Phir'jum pal-o 'chavo.

I-walked behind-the boy-NOM.

b) Phir'jum pali les-8e.

I-walked behind he-ACC-on.

I-walked behind he-LOC.

Proponents of the postposition analysis might claim that the pronoun following a preposition does not precede the postposition 8e (on), but is simply in an emphatic form similar to the French disjunctive, which accidentally has the same form as the postposition cliticized to a pronoun. This proposal has some interesting implications, which I will not discuss here. There is one other indication that the morphemes in question are Case suffixes. This is that

modifying adjectives may optionally contain them as well. This is illustrated in (8), again with both analyses in the gloss:

(8) Dinj^um e tikne(-n-ge) chanve-n-ge love.

I-gave the little(-ACC-to) children-ACC-to money.

I-gave the little(-DAT) children-DAT money.

It would be difficult to account for the double occurrence of the postposition. In addition, it would have to be claimed that there are two accusative forms, in this case tikne and tiknen, only the latter of which could precede a postposition. According to the Case suffix analysis, overt Case marking would simply be optional with adjectives in non-nominative Cases.

I will, therefore, assume the Case suffix analysis and will not consider the alternative any further. However, with respect to the phenomena under discussion here, little rests on which analysis is adopted and, if the alternative were found to be preferable, then the relevant details could be changed accordingly.

2.1.2. Word Order and Configurationality

As is often true of languages with extensive morphological Case-marking, Romani has extremely free word order. However, SVO would probably be considered basic, since this seems to be the most common in all types of clauses. The fact that all other word orders are possible leads to the question of whether Romani is configurational,

i.e., whether its structure is basically hierarchical or flat (with no VP node). Various analyses have been suggested to account for "free word order languages" since Ross' (1967) proposal of a scrambling rule in the stylistic component (which would be at the PF level in current terms.) More recent examples are Chomsky (1981), who suggests that these languages have arbitrary rather than structural θ -role assignment, and Hale (1982), according to whom the basic distinguishing factor of these languages is that they have a one-bar rather than a two-bar phrase structure system. Hale concludes that, due to this, government is non-functional in non-configurational languages. One might also assume, as does Haider (1984), (1985a) in analyzing German, that all positions are governed in these cases, which has slightly different implications. [3] In the system I will propose for Romani (as well as for German, which will be discussed in section 2.2), I will follow Haider in this respect. In addition, I will claim that although Romani lacks a VP, θ -role assignment and related properties are similar to their counterparts in configurational languages. This probably reflects different degrees of configurationality, with languages like Romani having an intermediate status between a configurational language like English and a non-configurational language such as Warlpiri (cf. Hale (1982) and sources cited therein). Romani is non-configurational only in the sense that it has no VP node, so that there is no structurally external argument. It is otherwise similar

to configurational languages and direct correlates can be found to the properties of such languages in cases where it differs. For example, the notion "external argument" can be retained by adopting a proposal given in Haider (1985b,c). Haider suggests that rather than the external argument being structurally determined, the external argument can be defined as the one to which Case is assigned by an element other than the one which assigns θ -role to it. This would include both Case assignment by Infl and inherent Case in the sense of Chomsky (1986), which Haider refers to as invariant Case. In Chomsky's account, the latter is Case which is assigned at D-structure rather than at S-structure and is based on θ -role rather than on structure. Haider considers inherent Case to be realized by the argument itself rather than assigned by the verb at D-structure. The two accounts are basically similar. If Chomsky's is adopted, then Haider's notion of external argument would have to be slightly revised to refer to an argument which is not assigned Case at S-structure by the same element which assigned its θ -role. In configurational languages, S-structure Case assignment would depend only on structure, not on θ -role, i.e., accusative would be assigned to the object position and nominative to the subject position. In non-configurational languages, this would not be possible, since the structure is flat. This means that assignment of nominative and accusative Case would also depend on θ -role.

However, a distinction could still be made between the two types of Case, by claiming that inherent Case is assigned at D-structure, and nominative and accusative at S-structure. The distinction is motivated by the fact that verbal morphology does not affect inherent Case, whereas it does affect nominative and accusative. If the verb is passive, then the argument with patient θ -role is assigned nominative rather than accusative Case. Haider suggests that the Extended Projection Principle (cf. Chomsky (1982)), which requires that every sentence have a subject, be replaced by a condition, the Realization Principle, stating that in any case where there is an argument which receives Case (of either type), there must be an external argument (in Haider's sense). This has a similar effect on non-configurational languages as Belletti's (1985) revision of Burzio's Generalization (cf. Burzio (1981)) has on configurational languages. In her revision, she adds the word "structural" to the rule: "No θ -role to the subject position iff no structural Case to the object position." From left to right, this means that if Case is assigned by the verb at S-structure, there will have to be an argument in subject position. This, in turn, means that there must be an argument assigned Case by Infl in this case, which is the claim of the Realization Principle. The right to left part of the biconditional is not incorporated by the Realization Principle, on the other hand. However, it is inaccurate, even in Belletti's system. It would incorrectly

claim that there are no verbs which do not assign structural Case and do assign a θ -role to the subject. Verbs like the German helfen ("help"), which Belletti gives as an example of a verb assigning inherent Case, as well as transitive verbs in general, which according to her can assign inherent partitive Case, would be counterexamples, since they can (and must) have subjects. I will assume then that the condition holds only from left to right. It seems that in the case of non-configurational languages, the operation of S-structure Case assignment must be made more precise. I will suggest introducing the term "subject θ -role". The term appears to be meaningless, since "subject" is a structural, rather than a thematic term. I will claim that in these languages there is still a distinction between the θ -role assigned by the verb itself and the one assigned by what in English would be the VP. Since there is no VP, the θ -role assigned to the subject in English will be part of the θ -grid of the verb in languages with no VP. However, its features remain unspecified until the other θ -roles have been assigned. In this way one θ -role is distinct from the others. This will be referred to as the "subject θ -role." I will use the term "object θ -role" to refer to the others. Case assignment would then work so that in the usual case (unless the verb is ergative or passive), Infl would assign Case to the argument with subject θ -role and be coindexed to it. In this case, the argument with subject θ -role would be

the external argument (in Haider's sense). Passive and ergative verbs would have the property of assigning no subject θ -role, so that Infl assigns Case to the argument with object θ -role in these cases (unless the argument already has inherent Case). Note that the Binding Theory, which seems to be relatively simple in Romani, would refer to the argument assigned Case by Infl. [4]

The account given here is similar to various accounts of non-configurationality in which these languages have dual syntactic representations (cf. Chomsky (1981) and subsequent literature). This consists of positing at each level one structure representing constituent structure and another representing lexical structure. The latter contains a VP and determines θ -role assignment. Since both structures appear at every level, the Projection Principle is not violated. The account proposed above is similar to this and possibly could be replaced by it. I will not attempt to carry this out, however, since I will suggest that the subject/object θ -role distinction (which would be the equivalent of lexical structure) plays an important role in determining constituent structure as well in languages like Romani. In particular, I will claim that there is a directionality requirement on θ -role assignment, which has an effect on word order. In Romani the requirement would be that subject θ -role is assigned to the left, and object θ -role to the right, which would explain the preferred SVO word order. It is not surprising that the directionality

condition on θ -role assignment treats subject θ -role differently from the others, since it is distinct. In the sentences in (9), only (9a) does not require any degree of special intonation. The other sentences are put in approximate order from most to least expected word order:

(9)a) *Janav so o chavo marja e chia.*

I-know that the boy-NOM hit the girl-ACC.

b) *Janav so marja o chavo e chia.*

c) *Janav so marja e chia o chavo.*

d) *Janav so o chavo e chia marja.*

e) *Janav so e chia marja o chavo.*

f) *Janav so e chia o chavo marja.*

It could be assumed that the directionality requirement is a weak constraint, which is easily broken in certain cases. I will claim in chapter 4 that only NPs can violate the constraint, and that a structure with S' arguments strictly adheres to it.

I will refer to languages of this type, which differ from configurational languages only in that a VP node is lacking, as non-VP languages. The properties which result from the lack of a VP are a subset of the properties often attributed to non-configurational languages (cf. Haider (1985a), Hale (1982), Huang (1982b)). NP movement will not exist, since nominative Case can be assigned to any position. If PRO is assumed to be ungoverned, then it should not exist, since all positions are governed. There

will be no expletives whose only function is to fulfill the requirement that there be an external argument position. There will be no subject/object asymmetries, again since both the subject and the object are properly governed. Romani seems to have these characteristics. NP-movement can be claimed not to exist, since movement is not involved in the passive, which is limited in any case. [5] There is also not much evidence for raising to subject. Note, however, that this latter fact is predicted by the theory independently. Since Romani has no infinitive, raising would always create an improper chain to which Case is assigned twice and the Binding Theory would be violated. As was mentioned above, the existence of PRO is questionable in Romani, since there is no infinitive. It will be seen in chapter 4 that the facts involving impersonal expressions are most easily handled if it is assumed that there is no subject at all (i.e., there are no expletives which occur only as a result of a requirement that there be an external position; it will be claimed, however, that there are other types of expletives. In this way, Romani differs from the type of non-configurational languages discussed by Hale. These expletives will be seen to be directly related to θ -role assignment.) Finally, there are no subject/object asymmetries, as will be discussed in chapter 3. There seems then to be evidence supporting the claim that Romani has no VP of the English type. It is difficult to determine whether S should be the maximal projection of V or of Infl.

Both need to be governors in order to assign Case. It will have to be assumed that one somehow becomes a governor by being linked to the other. I will leave this question open.

Further indication in support of the claim that Romani is not a "true" non-configurational language, but only a non-VP language, is that there is syntactic wh-movement. In languages which have often been claimed to be non-configurational, syntactic wh-movement either does not exist, as in Japanese, or operates differently from in English, as in Navaho (cf. Hale (1982)). Romani wh-movement seems clearly to operate as in English, with wh-phrases fronting to a Comp position. In addition, there appears to be a second position outside of S which is hierarchically structured with respect to S and probably with respect to Comp as well. This indicates that although Romani has a flat structure within S, it has hierarchical structure outside of S. This has been suggested by Kiss [6] to be the case of Hungarian (but see Horvath (1981), who claims that Hungarian is configurational within S as well). Again, Romani appears to be non-configurational only in the sense that it has no VP.

I will assume then that Romani is a non-VP language, rather than a non-configurational one. The most important consequence of this for the central topic of this work will be that there is an English type Comp which is the site of moved wh-phrases. In addition, it will be significant that

all immediate constituents of S can be claimed to be governed by the verb. [7] It should be noted, however, that very little of the analysis would be affected if Romani were assumed to be configurational. This will be discussed in the last section of chapter 4.

2.1.3. Comp and Resumptive Pronouns

The complementizer corresponding to English that is so in Romani. So is used to introduce indicative clauses, whereas subjunctive clauses are not introduced by any complementizer, as was discussed above. So may sometimes be omitted, as in English, with certain verbs such as mislinav ("think"). Unlike in English, however, this is not possible in complex structures such as those involving wh-movement. I will, therefore, consider so to be obligatory and the cases in which it is omitted to indicate parenthetical usage.

It is clear that there is wh-movement in Romani, since, whereas NPs can occur postverbally, wh-phrases in single questions are always preverbal. This is illustrated in (10) with interrogatives and in (11) with relative clauses:

(10)a) Dikhlûm e çhave.

I-saw the boy.

b) Kas dikhlân?

Whom did-you-see?

c) * Dikhlân kas?

You-saw whom?

(11)a) Ake o 'chavo kas dikhlûm.

Here's the boy whom I-saw.

b) * Ake o 'chavo dikhlûm kas.

Here's the boy I-saw whom.

(Note that (10c) is good as an echo question.) In addition, there is evidence that the position of the wh-phrase is Comp and not in an S-internal position (as Horvath (1981) claims is the case in Hungarian). Although wh-phrases sometimes appear to occur within S, the complementizer does as well, and I will claim in the next section that this is the result of other elements in S undergoing topicalization. The fact that the subject may occur after the wh-phrase shows that the latter is not adjoined to the verb. This is illustrated in (12):

(12)a) Kas o Demîri dikhlâ?

Whom Demir saw?

b) Janav kas o Demîri dikhlâ.

I-know whom Demir saw.

c) Ake o 'chavo kas o Demîri dikhlâ.

Here's the boy whom Demir saw.

Additional evidence for wh-phrases being in Comp is that they may not cooccur with the complementizer, so. The sentences in (13) are ungrammatical in Dialect I:

(13)a) * Janav kas so o Demîri dikhlâ.

I-know whom that Demir saw.

b) */ Ake o 'chavo kas so o Demîri dikhlâ.

Here's the boy whom that Demir saw.

c) */ Gelûm kaj so o Roma beśen.

I-went where that the Rom live.

In Dialect II, (13b-c) (but not (13a)) are grammatical, but this will be claimed in the following section to involve the Topic position. Assuming that the sentences in (13) are ruled out by the Doubly Filled Comp Filter (see chapter 1), this indicates that wh-phrases appear in Comp. Note that the Doubly Filled Comp Filter is actually problematic in that Comp sometimes appears to be occupied by more than one wh-phrase. This will be dealt with in chapters 3 and 4.

I will not discuss wh-movement itself in detail here, since it will be the topic of the chapters that follow. At this point, I will present the resumptive pronoun "strategy", which is extremely common and in most respects does not behave like a strategy. Certain facts involving resumptive pronouns differ in the two dialects. I will claim, however, that this can actually be attributed to a difference in the Topic position, and that the behavior of resumptive pronouns is the same. For this reason, I will limit the discussion in this section to the facts of Dialect I, and return to those of Dialect II in the next section. Sentences which differ in grammaticality in Dialect II will still be indicated as such in the usual manner.

Resumptive pronouns are obligatory in some cases, optional in others, and precluded in still others. They are obligatory in relative clauses in which an NP with oblique

Case (Case other than nominative or accusative) is relativized and the complementizer, so, rather than a wh-phrase, appears in Comp. The sentences in (14) are ungrammatical without the resumptive:

(14)a) Ake _{NP} [o čhavo; _S [so _S [kheľ'jum * (leça;)].

Here's the boy that I-danced (with-him).

b) Ake _{NP} [o čhavo; _S [so _S [arakhľum _{NP} [* (lesqo;) lil.

Here's the boy that I-found (his) book.

c) Ake _{NP} [o čhavo; _S [so _S [phir'jum _{PP} [pali * (les8e;)].

Here's the boy that I-walked behind (him).

When an NP with nominative or accusative Case is relativized in this construction, the resumptive is optional. (In the case of the nominative, it is less preferred, which is probably related to the fact that Romani is a null-subject language, so that subject pronouns are less preferred in general.):

(15)a) Ake _{NP} [o čhavo; _S [so _S [(ov;) kheľ'ja mança irati.

Here's the boy that (he) danced with-me yesterday.

b) Ake _{NP} [o čhavo; _S [so _S [dikhlum (le;) irati.

Here's the boy that I-saw him yesterday.

With a wh-phrase in Comp, the facts are more complex.

Apparently, a wh-phrase cannot cooccur in the same clause as a resumptive pronoun unless an NP node intervenes. In other words, the wh-phrase must bind a resumptive pronoun over an S' or NP node. The equivalents of (14a), (14c) and (15) with a wh-phrase in Comp, given in (16), are ungrammatical for this reason:

- (16)a) */ Ake _{NP} [o čavo; [kaça; [khel'jum leça; .
Here's the boy with-whom I-danced with-him.
- b) * Ake _{NP} [o čavo; [kas8e; [phir'jum [pali les8e; .
Here's the boy who-LOC I-walked behind he-LOC.
- c) */ Ake _{NP} [o čavo; [ko; [ov; khel'ja mança irati.
Here's the boy who he danced with-me yesterday.
- d) */ Ake _{NP} [o čavo; [kas; [dikhlum le; irati.
Here's the boy whom I-saw him yesterday.

The corresponding interrogatives, given in (17), are ungrammatical in the same way:

- (17)a) * Kaça; [khel'jan leça; ?
With-whom did-you-dance with-him?
- b) * Kas8e; [phir'jan [pali les8e; ?
Who-LOC did-you-walk behind he-LOC?
- c) * Ko; [ov; khel'ja tuça irati?
Who he danced with-you yesterday?
- d) * Kas; [dikhlân le; irati?
Whom did-you-see him yesterday?

On the other hand, the equivalent of (14b) with a wh-phrase in Comp and the corresponding interrogative are grammatical, presumably due to the intervening NP boundary. This is illustrated in (18):

- (18)a) Ake _{NP} [o čavo; [kasqo; [arakhlum [lesqo; lil.
Here's the boy whose I-found his book.
- b) Kasqo; [arakhlân [lesqo; lil?
Whose did-you-find his book?

Sentences similar to those in (16) and (17) but with the wh-phrase one clause away from the resumptive pronoun are also grammatical, with the exception of the construction with a PP, (16b, 17b). (This will be discussed below. Note that (16b) also differs from the other examples in (16) in that it is ungrammatical in Dialect II as well as in Dialect I.) Examples of this type corresponding to (16) and (17) are given in (19) and (20) respectively:

(19)a) Ake _{Nr} [o čhavo; _§ [kaça; _§ [janav _§ [so _§ [kheIjan leça; .
Here's the boy with-whom I-know that you-danced with-him.

b) * Ake _{Nr} [o čhavo; _§ [kas8e; _§ [janav _§ [so _§ [phirjan
[pali les8e; .
Here's the boy who-LOC I-know that you-walked behind he-LOC.

c) Ake _{Nr} [o čhavo; _§ [ko; _§ [janav _§ [so _§ [ov; khelja tuça
irati.
Here's the boy who I-know that he danced with-you yesterday.

d) Ake _{Nr} [o čhavo; _§ [kas; _§ [janav _§ [so _§ [dikhlum le; .
irati.
Here's the boy whom I-know that I-saw him yesterday.

(20)a) Kaça; _§ [misline _§ [so _§ [kheIjum leça?
With-whom do-you-think that I-danced with-him?

b) * Kas8e; _§ [misline _§ [so _§ [phirjum _§ [pali les8e; ?
Who-LOC do-you-think that I-walked behind him?

c) Ko; [₅misline [₅so [₅ov; khel'ja mança irati?
 Who do-you-think that he danced with-me yesterday?

d) Kas; [₅misline [₅so [₅dikhlûm le; irati?
 Whom do-you-think that I-saw him yesterday?

This indicates that a wh-phrase can bind a resumptive pronoun if an S' node intervenes. Evidence which conclusively shows that the determining factor is the distance (in depth) between the wh-phrase itself (as opposed to the [+wh] Comp or the head of the relative, for example) and the resumptive pronoun is found in a construction which will be discussed in detail in the next chapters. In this construction, a wh-phrase moves to a Comp lower than the [+wh] Comp and the latter is filled by so ("what"). In this case, a resumptive pronoun is not possible. Compare the grammatical (a) sentences of (21)-(22) with their ungrammatical counterparts in (b):

(21)a) Ake [_{NP}o çhavo; [₅kas; [₅mislinav [₅so [₅dikhlûm le;
 irati.

Here's the boy whom I-think that I-saw him yesterday.

b) */ Ake [_{NP}o çhavo; [₅so [₅mislinav [₅kas; [₅dikhlûm le;
 irati.

Here's the boy what I-think whom I-saw him yesterday.

(22)a) Kas; [₅misline [₅so [₅dikhlûm le; irati?
 Whom do-you-think that I-saw him yesterday?

b) * So [₅misline [₅kas; [₅dikhlûm le; irati?
 What do-you-think whom I-saw him yesterday?

The (b) sentences are ungrammatical due to the cooccurrence

of a wh-phrase and a resumptive pronoun within an S'. The rule could be stated as follows:

(23) Resumptive Pronoun Rule

An overt resumptive pronoun may not be bound by a wh-phrase unless an S' or NP node intervenes.

Similar rules seem to apply in several other languages, such as Italian, and in some form it might even be a universal. Often the facts are not as clear in other languages, especially if resumptive pronouns are marginal in any case. In addition, there are often further restrictions, indicating that the rule might be parameterized. The fact that a resumptive pronoun cannot be bound by a wh-phrase within its clause might be considered to be a performance phenomenon. In Romani, this is definitely not the case. This will become even clearer in the next section, in which it will be seen that a great degree of redundancy is possible in other cases. It should be noted that, to the extent that resumptive pronouns are possible at all, the rule holds in English. (In English, however, that in the Comp of a relative clause behaves like a wh-phrase, unlike Romani so. This has been noticed in other connections, in particular with respect to the ECP (cf. Kayne (1981a).)) (24b-c) are definitely better than (24a), which is completely ungrammatical:

(24)a) * That's _{NP} [the guy; _S [who; _S [I saw him; .

b) ? That's [the guy; [who; [I think [that [you saw
_{NP} _S _S _S _S
 him; .

c) ? That's [the guy; [who; [I met [his; children.
_{NP} _S _S _{NP}

The rule as stated in (23) is simply a descriptive statement which would preferably follow from basic principles. I will not investigate this problem here, but it should be noted that something similar to the Binding Theory may be involved. According to the Binding Theory, pronouns must be A-free in their minimal governing category, which is either an S or an NP (see chapter 1). Resumptive pronouns, which are pronominal variables, apparently must be A'-free in a minimal NP or S'. The similarity suggests that the Binding Theory might extend to A'-binding (as in Aoun's (1985) account), although NP does not seem to play a role in the Romani Binding Theory (see footnote 5).

It is now necessary to return to the cases exemplified in (14), in which resumptive pronouns are obligatory. In (14a), if the resumptive pronoun were omitted, there would be a problem of recoverability, since the argument is not obligatorily subcategorized for. Note that the problem is not the trace with oblique Case, as Hornstein and Weinberg's (1981) filter might suggest, since a parallel construction with a wh-phrase in Comp is possible (as long as the Resumptive Pronoun Rule is not violated). Compare the sentences in (25):

(25)a) Ake [o čhavo; [kaça; [mislinav [so [kheľ'jum t; .
_{NP} _S _S _S _S
 Here's the boy with-whom I-think that I-danced.

- b) * Ake [o čavov; [so [mislinav [so [kheľ'um t; .
 Here's the boy that I-think that I-danced.

In both (25a) and (25b) the trace has oblique (instrumental) Case. The problem with (25b) seems to be that an argument which is not obligatory is non-overt. By obligatory argument, I am referring to those whose θ -role is obligatory. This includes the object of transitive verbs, regardless of whether the object must appear. A verb like eat (which behaves the same way in Romani) always assigns a θ -role, so that when no argument appears, there is still an implicit argument. When there is a subject with θ -role, then it is also an obligatory argument (except in the case of the subject of NPs, which will be discussed below). Non-obligatory arguments are those which are optionally subcategorized for by the verb. When such an argument is non-overt in these cases, it is not the argument itself which is irrecoverable, since there is an antecedent (the head of the relative), but rather its θ -role. Unlike in the case of obligatory subcategorization, where the θ -role of a non-overt argument can be retrieved from the θ -grid of the verb, there is nothing in the structure to indicate the θ -role of an optional argument. Since the θ -role of arguments with nominative and accusative Case are always recoverable, the resumptive pronoun is optional in these cases, as was shown in (15). The dative Case is interesting in that there are two types, corresponding to the contrast in question.

With verbs like give, which subcategorize for an indirect object, the dative argument is obligatory, whereas the dative can also occur as an optional argument of almost any verb. In the latter case, but not in the former, the resumptive pronoun is obligatory, as illustrated in (26):

(26)a) Ake _{NP} [o čavo; [so _̩ [dinjum (lesqe;) love.
Here's the boy that I-gave (to-him) money.

b) Ake _{NP} [o čavo; [so _̩ [kheľjum * (lesqe;).
Here's the boy that I-danced (for-him).

Example (14b) shows that when the argument is in the genitive Case, the resumptive is obligatory. This is as expected, since the argument in the specifier position of an NP is generally not obligatory. In this respect, NPs differ from clauses. Certain nominalizations (such as "Carthage's destruction"), on the other hand, do seem to assign an obligatory agent θ -role. Romani does not have such constructions (nominalizations generally cannot take arguments), so that their behavior cannot be tested. The problem is similar to that posed by the agent of clausal passives in some cases, which again do not occur in Romani. In these cases, although the θ -role is obligatory (i.e., an agent is at least implied), it seems that a resumptive would be necessary. This question would have to be addressed using a language with a Romani-type resumptive pronoun system and which has the necessary constructions. I will leave this open.

The obligatoriness of the resumptive in (14c), where it

is the object of a preposition, poses a different problem. This cannot be explained by recoverability, since the argument is obligatorily subcategorized for. Instead, this fact is probably related to the impossibility of preposition stranding, which in turn has been attributed to the ECP. [8] If the resumptive pronoun were omitted, an ECP violation would occur.

- (27) a) * Kas; [dikhlân [e chia; [ko; [t; marja t; /le; ?
Whom did-you-see the girl who hit t/him?
- b) */ Ake [o chavo; [kas; [dikhlûm [e chia; [ko;
[t; marja t; /le; .

Here's the boy whom I-saw the girl who hit t/him.

so only to a small extent in the relative clause cases, as shown by the glosses in (27)) has been interpreted as indicating that constructions with resumptive pronouns are not derived by movement (cf. Chomsky (1981)). (27) shows that this would not hold in Romani. In the analysis I will propose later on, subjacency will not be considered a condition on movement, so that (27) will be unproblematic in this respect, regardless of how the constructions are derived. Another example of a case in which resumptive pronouns do not save a restriction on wh-movement is the impossibility of extraction out of adverbial clauses, as illustrated in (28). (The restriction itself will be discussed in chapter 3.)

- (28)a) * Kas; [₅gelân khere [₅angle [₅te dikhe t; /le;?
 Whom did-you-go home before to see t/him?
- b) */ Ake [_vo çhavo; [₅kas; [₅gelûm khere [₅angle
 [₅te dikhav t; /le;.
 Here's the boy whom I-went home before to see
 t/him.

The preposition stranding cases have still not been taken care of. Whereas the resumptive pronoun appeared to save the construction in (14c), with so ("that") in Comp, it does not have this effect when a wh-phrase is in Comp, as was seen in (19b, 20b). This contrast is illustrated again in (29):

(29)a) Ake _{NP} [o čavo; [_Sso [_Sjanav [_Sso [_Sphirjan [_{PF}pali
 * (les8e;).

Here's the boy that I-know that you-walked behind
 (he-LOC).

b) (= (19b)) * Ake _{NP} [o čavo; [_Skas8e; [_Sjanav [_S
 [_Sphirjan [_{PF}pali (les8e;).

Here's the boy who-LOC I-know that you-
 walked behind (he-LOC).

c) (= (20b)) * Kas8e; [_Smisline [_Sso [_Sphirjum [_{PF}pali
 (les8e;)?

Who-LOC do-you-think that I-walked behind
 (he-LOC)?

The fact that resumptive pronouns do not save an ECP violation is extremely problematic, since the ECP refers specifically to empty categories as opposed to overt ones. If it is assumed that the ECP applies at S-structure and LF, then a possible solution would be to consider resumptive pronouns to be inserted at the PF level in the place of traces, maybe as a type of spellout. The Resumptive Pronoun Rule would then be a PF rule. Since at S-structure and LF, there would be traces in either case, traces and resumptive pronouns behave alike. [9] There is still the problem of explaining the contrast between (29a) and (29b-c). One possibility is for the resumptive in (29a) to be inserted at D-structure. The construction with so in Comp would then not involve movement at all. In A-position an overt or empty resumptive pronoun would be generated. Since these

are variables, the question arises of how they are bound. As would be the case of the English such that constructions (to the extent that they are considered part of the grammar), the head of the relative would have to be considered to act as an operator. Another question is what allows the empty resumptive pronoun to be an object. As in the Romance languages, Romani allows the empty pronoun pro only when it receives Case from Infl. Apparently, this restriction does not extend to the pro which is also a variable (the empty resumptive). The answer may involve the recoverability condition on pro, which requires that its features be recoverable (cf. Chomsky (1982)). In the usual case, this occurs through coindexing with Infl, since AGR is spelled out on the verb, explaining why pro must be a subject. It could be claimed that in Romani the requirement can also be satisfied by coindexing with the head of a relative clause. In this case, pro could be an object as well as a subject. This seems plausible, given that the head of the relative acts as an operator. The empty resumptive would be precluded only if the result were a recoverability violation of the type discussed earlier (irrecoverable θ -role) or an ECP violation. The presence of a wh-phrase in the Comp of the relative clause indicates that the wh-phrase was base-generated in A-position and moved to Comp. In this case, a resumptive pronoun can replace the trace at PF (if the Resumptive Pronoun Rule

permits it), but this cannot "save" any S-structure or LF violations.

In summary, resumptive pronouns often behave like traces in Romani. This is due to the fact that resumptive pronouns are in many cases just spellouts of traces at the PF level. This spelling out is constrained by the Resumptive Pronoun Rule. Later on, this rule will play an important role in determining structure. There is evidence for claiming that, whereas wh-constructions (i.e., those with a wh-phrase) are derived by movement, relative clauses introduced by the complementizer are not. In the next section, the Topic position will be discussed and the Dialect II judgments in this section will be accounted for.

2.1.4. Topic

As was mentioned at the beginning of the preceding section, Comp (whether filled by a complementizer or a wh-phrase) often appears to occur within S, as in the following examples:

(30)a) Mislinav i Arifa so geli khere.

I-think Arifa-NOM that went home.

b) Na janav i Arifa-NOM kas dikhlâ.

I don't know Arifa whom saw.

c) Mislinav e Arifa so o Demiri dikhlâ.

I-think Arifa-ACC that Demir-NOM saw.

d) Mislinav irati so i Arifa geli khere.

I-think yesterday that Arifa-NOM went home.

e) Mislinav o Demiri e Arifage love so dinja.

I-think Demir-NOM to-Arifa money-ACC that gave.

f) Na janav o Demiri e Arifage love keda dinja.

I don't know Demir-NOM to-Arifa money-ACC when gave.

g) E Arifa keda dikhlân?

Arifa-ACC when did-you-see?

Rather than considering Comp to occur within S, which would lead to various problems, it seems best to consider other elements to appear in an A'-position preceding Comp. This approach is supported by several indications that the position is an A'-position. First, resumptive pronouns are possible when an NP occurs in this position. On the other hand, clitic doubling is not permitted. Compare the two examples in (31):

(31)a) Mislinava e Arifa so dikhlân (1a).

I-think Arifa-ACC that you-saw (her).

b) Mislinava so dikhlân (*1a) e Arifa.

I-think that you-saw (her) Arifa.

If (31b) were possible with 1a (which it is only if e Arifa is said emphatically or parenthetically), then (31a) could be analyzed as a type of clitic doubling construction. However, since this is not the case, 1a in (31a) must be a resumptive pronoun, bound by an NP in A'-position. Secondly, elements may appear in higher clauses in this position as well, as shown in (32):

(32)a) E Arifa mislinav so o Demiri dikhlâ (1a).

Arifa-ACC I-think that Demir saw (her).

- b) Mislinav e Arifa so jáne kèda o Demìri dikhlâ (la).
I-think Arifa-ACC that you-know when Demir saw (her).
- c) Pes mislinav so i Arifa dikhol (pes).
Herself I-think that Arifa sees (herself).
- d) O Demìri e Arifage mislinav o love so (ov) dinjá
(len) (lage).
Demir-NOM Arifa-DAT I-think the money-ACC that (he)
gave (it) (to-her).
- e) E Arifa jánav o Demìri so (ov) mislinol so dikhlûm
(la).
Arifa-ACC I-know Demir-NOM that (he) thinks that I-
saw (her).
- f) E Arifa o Demìri jánav so (ov) mislinol so dikhlûm
(la).
Arifa-ACC Demir-NOM I-know that (he) thinks that I-
saw (her).

The examples in (32) show that all types of combinations are possible. Any number of constituents in any order originating in any clause may appear in this position in any higher clause.

I will henceforth refer to the position as "Topic" (or "Top"), and will assume a phrase-structure similar to the one proposed in Chomsky (1977), where the following rules are posited for English:

- (33) [his (65)] a) $S' \rightarrow \text{TOP } S'$
b) $S' \rightarrow \text{COMP } S$ (Chomsky (1977), 91)

Note that Chomsky in addition had to posit a rule expanding S' to COMP S'' to account for the fact that in English topicalized phrases follow the complementizer. (A Comp position also had to follow Top in his system, since he analyzed topicalization as an instance of wh-movement.) This is not necessary in Romani, since Top precedes Comp. Every clause would be an S''. Rudin (1982) posits an A'-position, "Foc", to the right of Comp (in S) as well as a Top position to the left for Bulgarian, whose structure resembles that of Romani. In Romani, elements other than the subject and verb can also directly follow Comp. However, this can be considered part of the general freedom of word order in Romani, which does not hold to the same extent in Bulgarian. In the case of Romani, the structure represented by the rules in (33) seem sufficient. [10] The status of the rules in (33) must be determined in terms of X-bar Theory. I am considering Comp to be the head of S', as was said in chapter 1, and will return to the status of Top and S'' in chapter 4.

It might be proposed that, rather than considering Top and Comp to be separate positions, they should be treated as one. There would be several problems with this. First, Comp and Top have distinct properties. The only elements which can appear in Comp (i.e., to the position on the right) are the complementizer and wh-phrases. On the other hand, almost any major category may appear to the left of these, in Top. The only ones which may not are the Comp

elements themselves (but see the discussion of Dialect II below) and the verb. Whereas an entire clause (S'') may appear in Top, the verb alone or together with other constituents of S may not. This is illustrated in (34):

- (34)a) $\left[\begin{smallmatrix} \text{So} \\ \text{S} \end{smallmatrix} \text{ o Demiri dikhlâ e Arifa} \right] \left[\begin{smallmatrix} \text{kaj} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{sun'jan} \\ \text{S} \end{smallmatrix} \text{ t; ?} \right]$
 That Demir saw Arifa where did-you-hear?
- b) * $\left[\begin{smallmatrix} \text{Dikhlâ} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{sosqe} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{o Demiri} \\ \text{S} \end{smallmatrix} \text{ t; e Arifa t; ?} \right]$
 Saw why Demir Arifa?
- c) * $\left[\begin{smallmatrix} \text{Dikhlâ} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{e Arifa} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{sosqe}_K \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{o Demiri} \\ \text{S} \end{smallmatrix} \text{ t; t; t}_K ? \right]$
 Saw Arifa why Demir?
- d) * $\left[\begin{smallmatrix} \text{O Demiri} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{dikhlâ} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{sosqe}_K \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{t; t; e Arifa} \\ \text{S} \end{smallmatrix} \text{ t}_K ? \right]$
 Demir saw why Arifa?
- e) * $\left[\begin{smallmatrix} \text{O Demiri dikhlâ e Arifa} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[janav} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{so t; .} \\ \text{S} \end{smallmatrix} \right]$
 Demir saw Arifa I know that.
 (complementizer)

The other property differentiating Top and Comp is the number of elements which may appear in them. As has been seen, any number of elements can occur in Top. (I have not addressed the question of the structure of the multiply filled Top. It is likely that a type of adjunction occurs which permits c-command, as will be suggested in chapter 4 to be the case of Comp.) Comp, on the other hand, is constrained by the Doubly Filled Comp Filter, which permits only one element to occur there. (Actually, the filter has to be weakened to handle multiple questions, as will be discussed in chapters 3 and 4.) These two distinctions

could still be accounted for without positing a separate Top position if Comp were considered to have two "slots" each with separate properties. However, this would also lead to complications. Since elements in Top may bind resumptive pronouns at any distance, if Top were part of Comp, the Resumptive Pronoun Rule would have to be altered. This would not be easy, especially given the facts of Dialect II discussed below. If Top is outside of S', on the other hand, binding will always be over an S' node, so that the Resumptive Pronoun Rule would not be expected to have any effect. For these reasons, I will consider Top to be a distinct position dominated by S''. In later chapters, it will be seen that this assumption is necessary in accounting for other phenomena as well.

Up to now, I have not discussed the semantic or pragmatic aspects of the Top construction. It should first be noted that topicalization in Romani is different from Japanese, at least in that in Romani an element in Topic must bind a variable in S-internal position (i.e., a sentence like "Circuses, I like clowns." meaning "As for circuses, I like clowns." is not possible in Romani). Rudin (1982) claims that in the case of Bulgarian, the Top position corresponds roughly to the pragmatic term "topic", i.e., the elements in it represent "old information" which the rest of the sentence is about. Rudin points out, however, that the position sometimes can also represent the "focus", i.e., new information (which in most cases appears

instead in a "Foc" position, following Comp). In Romani, both possibilities definitely exist. The subject, which is often also the topic, probably appears more often in Top than in subject position, and non-subjects in Top are often stressed, indicating focus (although the same effect obtains if they are stressed without moving to Top). On the other hand, when other factors are considered, it becomes clear that topicalization cannot be claimed to have a semantic-pragmatic function. First, it would be expected that if the elements in Top represent either old or new information, they should be meaningful. However, talo and resumptive pronouns can appear in Top, as shown in (35):

- b) Ake [o óhavo; [leça; [so [i Arìfa khel'ja
 _{NP} _S _S _S
(leça;).

- c) Ake [o'chavo; [leça; [kaça; [kheľ'jum
(*/ leça;).

- d) [E Arifa; [₃ [₃ j̣anav [la; [so [dikhlân (la;).
Arifa-ACC I-know her that you-saw her.

is unstressed. In (35b), the resumptive pronoun of a relative clause appears in Top. In its original position, a second resumptive pronoun may appear. (This is the type of construction alluded to in the preceding section which would cast doubt on a claim that the Resumptive Pronoun Rule simply represents a performance strategy to avoid redundancy.) In (35c), a wh-phrase is in Comp, so that a second resumptive is precluded by the Resumptive Pronoun Rule. In (35d), the resumptive coindexed with the NP in the higher Top appears in the lower Top. (It would be expected that they could cooccur in one Top. This, however, would sound very unusual, which, in this case, probably is due to performance factors.) Again, a second resumptive may appear in the A-position. As in the case of talo, resumptive pronouns in Top do not add to the meaning and are not stressed. Further indication that Top does not correspond to topic or focus is that the position seems to occur as a sister of NP as well as S', at least in the case of relative clauses. Consider the sentences in (36):

(36)a) Alo khere $\begin{matrix} \text{[o } \acute{\text{c}}\text{havo;} \\ \text{N}^{\text{P}} \end{matrix}$ $\begin{matrix} \text{[e Arifa;} \\ \text{S} \end{matrix}$ $\begin{matrix} \text{[ko;} \\ \text{S} \end{matrix}$ $\begin{matrix} \text{[t;} \\ \text{S} \end{matrix}$ mangol
(la_j).

Came home the boy-NOM Arifa-ACC who likes (her).

b) Alo khere $\begin{matrix} \text{[e Arifa;} \\ \text{N}^{\text{P}} \end{matrix}$ $\begin{matrix} \text{[o } \acute{\text{c}}\text{havo;} \\ \text{S} \end{matrix}$ $\begin{matrix} \text{[} \\ \text{S} \end{matrix}$ $\begin{matrix} \text{[ko;} \\ \text{S} \end{matrix}$ $\begin{matrix} \text{[t;} \\ \text{S} \end{matrix}$ mangol
(la_j).

Came home Arifa-ACC the boy-NOM who likes (her).

(VS word order is probably more common than SV in these cases, since with SV the head NP would be further away from

does not affect the semantics, it could be a PF rather than a syntactic phenomenon. This possibility will be considered further below, once several other properties of Top have been presented. I will now turn to a more detailed discussion of the interaction of Top and resumptive pronouns.

In the preceding section, it was suggested that in the case of wh-movement, resumptive pronouns are inserted at the PF level. The question here is whether this holds for topicalization as well, which would be desirable. Since an element in Top binds a trace, the claim would be that at the PF level, this trace could be "spelled out" as a resumptive pronoun. As was pointed out above, the Resumptive Pronoun Rule would apply vacuously since there is always an intervening S'. Sentence (32c) above showed that the resumptive of the reflexive has the same form as the reflexive. This does not seem problematic for the PF insertion account, since at PF the reflexive binder would be visible. The fact that a resumptive pronoun itself can appear in Top, optionally binding a second resumptive must be investigated with respect to the PF insertion account. Although the constructions themselves, illustrated in (35b-d), are problematic, the problem is not specifically with the PF insertion account. In the case of (35b), in which a resumptive is generated in the syntax, it would be claimed that the resumptive moves to Top leaving a trace, which at PF can be replaced by a resumptive pronoun. Cases like

(35c), with a wh-phrase in Comp, would be derived differently, since presumably the resumptive is not inserted until PF. It would have to be claimed that in this case a trace moves to Top in the syntax and leaves a trace. Either or both of the traces may be replaced at PF by resumptive pronouns (as long as the Resumptive Pronoun Rule is not violated). The idea that traces can move to Top may seem strange, but it is actually no stranger than the movement of resumptive pronouns to Top. In fact, it is not obvious how to prevent this possibility. In (35d), there is also presumably a trace in Top which is replaced by a resumptive. The construction would be derived by Top-to-Top movement. The trace in the intermediate Top could be replaced by a resumptive at the PF level. The S-structure representations of (35b-d) would be as in (39a-c) respectively:

- (39)a) ake $\begin{bmatrix} \text{[o } \acute{\text{c}}\text{havo;} \\ \text{N} \end{bmatrix}$ $\begin{bmatrix} \text{[le}\acute{\text{c}}\text{a;} \\ \text{NP} \end{bmatrix}$ $\begin{bmatrix} \text{[so} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[i Arifa} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{khel'ja} \\ \text{S} \end{bmatrix}$ t;
 b) ake $\begin{bmatrix} \text{[o } \acute{\text{c}}\text{havo;} \\ \text{N} \end{bmatrix}$ $\begin{bmatrix} \text{[t;} \\ \text{NP} \end{bmatrix}$ $\begin{bmatrix} \text{[ka}\acute{\text{c}}\text{a;} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[khel'jum} \\ \text{S} \end{bmatrix}$ t;
 c) $\begin{bmatrix} \text{[e Arifa;} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[j'ana} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{v} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[t;} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[so} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[dikhlân} \\ \text{S} \end{bmatrix}$ t;

Note that although plausible derivations can be given for (35b-c), the constructions are problematic for the theory in many respects. It is unclear among other things what allows a variable to move to Top, what the moved element counts as in the theory, how many chains are involved, and whether the Bijection Principle (cf. Chomsky (1982)), if it is assumed, is adhered to. If the head of a relative counts as a binder, the possibility of a trace moving to Top ((35c))

could be considered to be constrained by the requirement that traces must be bound. The ungrammaticality of two similar constructions gives support to this claim. One is the interrogative equivalent. (40), the interrogative corresponding to (35c), is ungrammatical:

- (40) * [_iLeça; [_ikaça; [_ikhel'jan t; ?
 With-him with-whom did-you-dance?

Similarly, although a resumptive pronoun may appear in the Top of a relative clause, it may not appear in the one to the left of the head NP (unless it is bound by an NP in a higher Top). This is shown in (41), the equivalent of (35c) with the resumptive in the Top of N''' instead of S':

- (41) * Ake [_ileça; [_{N'}o çhavo; [_i [_ikaça; [_ikhel'jum t; .
 Here's with-him the boy with-whom I-danced.

(40) and (41) would be ungrammatical due to the fact that the trace in Top at S-structure is not bound. I will not attempt to analyze these phenomena any further here. It is important to note that although they are problematic, it seems that the PF insertion account could hold once an analysis is found. In any case, it is not the PF insertion account which is posing the problems.

The construction in (35d) is less problematic. There is nothing to rule out Top-to-Top movement, although extraction possibilities indicate that it is not necessary. Topicalization is freer than wh-movement, appearing to be unbounded. As shown in (42), extraction out of relative and adverbial clauses is possible:

(42)a) [E Arifa; [sosqe; [alo khere t; [[o chavo_K
 _S _S _S _N NP
 [[ko_K [t_K mangol (la;)?
 _S _S _S
 Arifa-ACC why went home the boy who likes (her)?

b) [E Arifa8ar; [[gelûm khere [[angle [te córav
 _S _S _S _S _S
 (la8ar;) love.

From-Arifa I-went home before to steal (from-her)
 money.

More will be said about this in chapter 4. As would be expected, the equivalent of (35d) with the resumptive in a higher Top than the one containing the topicalized NP is ungrammatical, as shown in (43):

(43) * [La; [[janav [e Arifa; [so [dikhlân t;
 _S _S _S _S _S _S
 Her I-know Arifa-ACC that you-saw.

(43) is ungrammatical due to the fact that there is an unbound trace in the highest Comp at S-structure, and probably due to other facts as well. The analysis of (35d) raises a further question concerning the PF insertion account. It might be asked why traces in Top, but not wh-traces in Comp, can be replaced by resumptive pronouns at PF. Actually, it is not clear that this is not possible. It is difficult to find examples in which the trace that is replaced by a resumptive is clearly in Comp. (44a), for example, could have either the S-structure in (44b), in which the trace is in Comp, or in (44c), in which a trace also appears in Top:

(44)a) ? Kaça misline leça so khel'jum?

With-whom do-you-think with-him that I-danced?

b) kaça; [misline [[t; so [khel'jum t;

c) kaça; [misline [t; [t; so [khel'jum t;

For some reason, speakers find (44a) not to be completely grammatical. I gave no explanation for this, since at least the structure in (44c) should be possible. (44c) would be derived by usual wh-movement through Comp followed by movement to Top of the trace in A-position, which leaves a second trace in A-position. [11] I will leave this question open, as well as the original one of whether resumptives can replace traces in Comp. Note that if resumptive pronouns can replace traces in Comp at PF, then it would be the case that this is true of any trace, since Romani presumably does not have NP-movement.

A final property of resumptive pronouns bound by elements in Top is that, as in the case of those bound by wh-phrases in Comp, they never serve as a saving device. (One exception, which applies to both cases, will be pointed out in chapter 3.) Violations of recoverability never arise, since the binder in Top is Case-marked. Interestingly, as in the case of wh-movement, preposition "stranding" is not possible, even if a resumptive pronoun follows the preposition. (45) is ungrammatical in the same way as (29b-c):

requirements applied only at LF and movement to Top occurred at PF, there would be no problem. (Note, however, that cases like (43), where these principles do seem to apply, would then become problematic.) Similarly, principles A and B of the Binding Theory seem to ignore topicalization. (46a) and (46b) illustrate this for principles A and B respectively:

(46)a) O Dem`iri; ʃanol [pes<sub>i</sub>/j; [so [o Den`izi; dikhol t_j.
Demir knows himself that Deniz sees.

b) O Dem`iri; ʃanol [le<sub>i</sub>/k/; [so [o Den`izi; dikhol t_i/k.
Demir knows him that Deniz sees

In (46a), o Den`izi is the binder of the reflexive, and in (46b) the illegitimate binder of the pronoun, exactly as if topicalization had not taken place. If it applies at PF, these facts are unproblematic. Otherwise, it would have to be claimed that the elements moved to Top function as operators and the traces, rather than the elements themselves, are subject to the Binding Theory. This would lead to complications which the alternative would not have.

However, there is some evidence against topicalization being a PF rule. First, as was discussed above, topicalization is constrained by the ECP. If the ECP applies at LF, there would be no explanation for this. Some further evidence is provided by Principle C of the Binding Theory. In the simple cases, it is unrevealing, since it treats variables and names alike, as R-expressions.

Consider the ungrammatical (47):

as (48a), since the Binding Theory applies at S-structure (and/or LF).

Up to this point there seems to be more evidence against than in favor of topicalization as a PF rule. I will assume that topicalization occurs in the syntax, as the foregoing evidence suggests and for reasons involving the topicalization facts of Dialect II, to which I will now turn.

It may have been noticed in the preceding section that judgments of Dialect II differ from those of Dialect I in a consistent manner. The most striking fact is that the former appears to allow violations of the Resumptive Pronoun Rule, but only in relative clauses. The interrogative facts are as in Dialect I. This is illustrated in (49):

(49)a) * Kas; [_Sdikhlan le; ?

Whom did-you-see him?

b) */ Ake [_S [_{NP}o Chávez; [_Skas; [_Sdikhlu^hm le; .

Here's the boy whom I-saw him.

It would be undesirable to claim that the Resumptive Pronoun Rule, which may follow from some universal principle, does not hold in the closely related Dialect II. The distinction between relative clauses and interrogatives makes this even less likely. When another phenomenon is considered, a preferable solution suggests itself. Dialect II also seems to allow the Doubly Filled Comp Filter to be violated, but, again, only in relative clauses. This is illustrated in (50):

- (50)a) * Janav [kas; so [dikhlân t; irati.
 ̣ ̣

I-know whom that you-saw yesterday.

- b) */ Ake [_{NP} [o čhavo; [kas; so [dikhlûm t; irati.

Here's the boy whom that I-saw yesterday.

Again, it would be inelegant to claim that in Dialect II relative clauses the Doubly Filled Comp Filter does not apply. On the other hand, the two phenomena would both be accounted for if the wh-phrases in (49b) and (50b) were not in Comp, but in Top. The Resumptive Pronoun Rule would not be violated in (49b) since there would be an intervening S' node, and the Doubly Filled Comp Filter would not affect (50b), since there would be only one element in Comp, so. The difference between the two dialects would then be that Dialect II, as opposed to Dialect I, allows wh-phrases to appear in Top, but only in relative clauses. There is one case which shows conclusively that the wh-phrase can occur in Top. This is a construction like (50b), with both a wh-phrase and the complementizer, in which another element is also topicalized. This element may appear to the right (as well as to the left) of the wh-phrase, as shown in (51):

- (51)a) */ Ake [[o čavo; [kas; o chia; [so [t; dikhle
 _N _{NP} _i _i _s
t; irati.

Here's the boy whom the girls that saw yesterday.

- b) */ Gelûm [[ka]; o Roma; [so [t; bešen t; .

I-went where the Rom that live.

Since o chia in (51a) and o Roma in (51b) are to the left of

the complementizer, they are in Top. Because of this, the wh-phrases, which are to the left of these words, must also be in Top. It was seen in (27b) and (28b) that wh-movement out of a relative or adverbial clause within a relative clause is possible in Dialect II (but not in Dialect I). This can also be attributed to wh-movement to Top, as will be seen in chapter 4. The difference in dialects will play an important role in the analysis of other constructions as well. An explanation will also be offered for the difference in behavior between interrogatives and relative clauses. Note that if this account is correct, then topicalization must occur in the syntax, since it includes wh-movement. (It could not be claimed that the wh-phrase moves to Comp at S-structure and from there to Top at PF, since, among other problems, the Doubly Filled Comp Filter, an S-structure condition, would be violated.)

In summary, an A'-position, Top, has been posited as a sister of both S' and NP. In the former case, the dominating node is referred to as S'' and in the latter as N''', although their status in terms of X-bar theory has not yet been established. NPs in Top optionally bind resumptive pronouns in all cases, as would be expected, since the binding is always over S', in accordance with the Resumptive Pronoun Rule. Any number of elements may appear in Top in any order. Any major category may appear there except for the verb (unless it is within an entire S' in Top) and Comp elements. In Dialect II relative clauses, wh-phrases may

also appear in Top. The fact that resumptive pronouns may occur in Top, optionally binding a second resumptive pronoun, was considered. This was found to be generally unproblematic for the account of resumptive pronouns given in the preceding section (although it poses other problems, which were left unaccounted for). It was suggested that the PF resumptive pronoun insertion rule may apply generally to all types of traces. It was noted that movement to any Top is possible and seems to be unrestricted, although Top-to-Top movement also occurs. The question was considered of whether topicalization might apply at PF, rather than in the syntax, since it has little effect on meaning. The arguments against this idea seemed stronger, and it was turned down mostly because the wh-movement to Top account of the facts in Dialect II would otherwise be untenable.

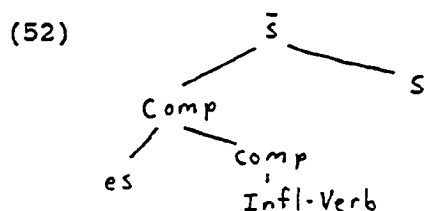
2.2. German

Since the descriptive facts of German structure are relatively familiar, I will not discuss them in any detail. Instead, I will present the general structure I will assume, and will cite various analyses in the literature.

2.2.1 Word Order and Configurationality

As in the case of most Germanic languages, German is "verb second," i.e., in certain types of clauses, the verb (or auxiliary) must be the second constituent. In German, this is the case of clauses which are not introduced by any subordinating conjunction, complementizer or wh-phrase.

When a clause is introduced by such an element, the verb occurs clause finally. Various analyses have been suggested to account for this, several of which involve the interaction between Comp and Infl (cf. Safir and Pesetsky (1981), Haider (1985a)). In most accounts, the verb is considered to be base-generated in final position. Any constituent may precede the verb when it is second. This first position resembles the Romani Top position in several ways. It often indicates semantic topic or focus, but this is not necessary. As in Romani, the reflexive can appear in this position, raising certain questions involving the Binding Theory. The German position, however, must be filled, and by no more than one constituent. German also does not have resumptive pronouns (except in left-dislocation constructions). Haider considers this position to be adjoined to Comp, which can contain the verb. When no element is fronted to the Comp-adjoined position, then the expletive es occurs there, so that the verb will still be second. The structure would be diagrammed as in (52):



(The structure of Comp will be treated in more detail in the next section.)

Once one constituent has been moved to the Comp-adjoined position, the order of the remaining constituents

is usually subject - indirect object - direct object.

Haider (1985b,c), however, presents convincing examples to show that this word order represents a preference which varies depending on the verb rather than a rule (see also Thiersch (1978), where similar arguments are given; note that German has morphological Case-marking.) Based on this and various other facts, Haider argues that German is non-configurational, in the sense that it has no VP. [12] He points out that the passive construction does not involve movement and that there is basically no evidence of any NP movement in the language. In addition, German lacks subject-object asymmetries to a great degree and has no parasitic gap constructions. Haider proposes that a maximal projection of V, "Vmax", directly dominates both subject and object NPs. Infl will then govern and assign nominative Case to the subject either from Comp or from clause final position (see below for discussion of the two possible positions of Infl). In the former case, the verb moved to Comp, so that Vmax is no longer a barrier to government, since its head has moved. In the latter case, Infl is attached to the verb in final position and can now govern with it. Haider's analysis includes various revisions in the theory, such as a different account of PRO, which does exist in German in spite of the flat structure. I will not discuss the details of his analysis here. I will, however, assume that the basic structure he posits is correct and

that German is non-configurational in the sense that Romani is, i.e., it is a non-VP language. For purposes of exposition, I will continue to refer to the sentence node as S rather than the more accurate Vmax.

Although German is a non-VP language, it has word order restrictions, which are stronger than those of Romani. The most important is that the verb must be final with the exception of clausal arguments, which may appear postverbally. Haider accounts for the verb final position by claiming that government is leftward in German. Rather than adopting this account, I will suggest that the verb can govern in either direction, but assigns Case only to the left. (I am assuming that when the verb moves to Comp, its trace, rather than the verb itself, assigns Case.) This would explain why clauses, but not NPs, may appear postverbally. [13] Since NPs with inherent Case also occur only preverbally, the directionality condition would have to apply at D-structure as well as at S-structure. Note that adverbs may not appear postverbally either, which could not be accounted for by directionality of Case assignment (or government). However, adverbs occur in preverbal position (i.e., precede the base-generated position of the verb) in a set order with respect to each other, indicating that there is a type of preverbal adverb slot. The fact that the verb can govern a sister clause to its right allows a distinction to be made between postverbal clauses and extraposed clauses adjoined to S (Vmax), since the former, but not the latter,

are governed by the verb. This claim will become important later on. In chapter 4 I will claim that in addition to the restriction on directionality of Case assignment, there is one on subject θ -role assignment, as in Romani.

2.2.2. Comp

The complementizer dass introduces finite clauses, whereas the Comp of infinitivals is empty. As in English, dass may be omitted after certain verbs, such as glauben ("think"). However, in chapter 3, where this construction will be treated in more detail, it will be suggested that the higher clause is parenthetical in these cases.

I will now summarize Haider's (1985a) analysis of the structure of Comp in German, which was partially illustrated in (52) above. I will assume his account for now and later on will point out various revisions which seem necessary. Haider considers the basic Comp position to have two specifications: [$\bar{t}$ wh] (his [$\bar{t}$ W]) and the Infl features. Only one of these may be realized in this position, however. If it is [$\bar{t}$ wh], then Infl moves to the verb in final position, whereas, if it is Infl, then the [$\bar{t}$ wh] is adjoined to Comp. In the latter case, the verb moves to Infl and will be second, deriving the structure in (52). In embedded clauses, since [$\bar{t}$ wh] is subcategorized for, it must occupy the basic Comp position, so that Infl will always move and the verb will appear finally. [14] In matrix clauses, on the other hand, Infl is not forced to

move, and remains in the basic Comp position. The [$\neq$ wh] specification is then adjoined to the left of Comp.

Haider's account makes various claims about wh-constructions. First, wh-phrases may appear in either the basic Comp position or the adjoined position, depending on whether the [+wh] feature is subcategorized for. Since the Comp of a relative clause contains a demonstrative-like element which behaves syntactically like a wh-phrase, it is considered to be specified as [+wh]. This account partially entails the Doubly Filled Comp Filter. Two wh-phrases would not occur together in the adjoined position because, as a rule, only one element may appear there. (Actually, this is, in effect, the Doubly Filled Comp Filter.) Since adjunction occurs only when the basic Comp position is filled by Infl, a wh-phrase could never appear in the adjoined position with another wh-phrase or the complementizer in the basic position. It seems that the Doubly Filled Comp Filter would have to be specifically appealed to, however, to account for the fact that more than one wh-phrase may not cooccur in the basic Comp position. Haider does not discuss the position of intermediate wh-traces in cases where there is a complementizer. I will propose an account of this in chapter 4, where the structure of Comp will be discussed in more detail.

2.3. German and Romani structure

Although the syntax of German and Romani differ in many respects, the languages have one important aspect in common.

This is that they are both non-VP languages. Although they have no VP, they have properties in common with configurational languages, such as wh-movement to Comp and structural assignment of Case and θ -role, which is restricted by directionality constraints. It is possible that this similarity is directly related to the construction shared by German and Romani which will be the focus of discussion in the next chapters. Even if there is no such relationship, the similarity will in some cases play a role in accounting for more specific phenomena, which correspond to a surprising degree in the two languages. On the other hand, most of the analysis will not depend on the non-VP account and would hold if German and Romani were considered to be configurational. Although the non-VP analysis will be assumed, the question will be addressed again in the final section of chapter 4. The role of the non-VP account will be summarized there and it will be shown how the analysis would have differed if the languages had been assumed to be configurational.

Notes to Chapter Two

1. The definite article is o/i/e and occurs with proper names (which will not be indicated in the glosses). Note that, as is illustrated in (1), the present tense suffix follows the one indicating person, whereas the past tense suffix precedes it. The suffix indicating person also differs in form in the two cases. This is due to the fact that the past tense form was historically a past participle followed by the verb be.

2. The conditional is an interesting exception to this. The "if" clause consists of a subjunctive form of the verb without any conjunction, and the result clause is in the future. In the "if" clause, a present/past, or rather untensed/past, distinction indicates whether the interpretation is that of a weak future or contrary-to-fact. The past form is identical to the past indicative. As opposed to the system in most other Indo-European languages, it is the untensed form which is used for the contrary-to-fact case and the past which indicates a weak future. This is basically the only occurrence of a past subjunctive in Romani. Examples are given in (i) and (ii):

(i) O Demiri te jan-ja frãncuski, ka-ćitin-ol o lil.

Demir to know-PAST-3SG French, FUT-read-3SG the book

"If Demir knows French, he'll read the book."

(ii) O Demiri te jan-ol frãncuski, ka-ćitin-ol o lil.

Demir to know-3SG French, FUT-read-3SG the book

"If Demir knew French, he would read the book."

3. Actually Haider follows Kayne (1983) in assuming that languages have a directionality constraint on government. Due to this, it is actually not the case that every position will be governed according to him.

4. Since Romani has a flat structure, c-command does not play much role in the Binding Theory. Reflexives would have to not count as binders, since otherwise constructions with a reflexive object would always violate Principles B or C. As in many languages, the reflexive in Romani must be bound in its clause (not counting a reflexive as a binder). There are no exceptional Case-marking constructions and no "picture of" type NPs. The possessive pronoun is distinct from the possessive reflexive, so that possessive constructions are unproblematic. PPs never contain clause-bound pronouns. The reflexive is obligatory in the equivalent of "John; saw a snake near him;/himself;."

Rather than referring to the clause as a domain, the notion "complete functional domain" introduced in Chomsky (1986) could be used. The Binding Theory would then be as follows in Romani:

- (i) A reflexive must be bound by a subject in its CFD.
- (ii) A pronoun must be free in its CFD.
- (iii) An R-expression must be free.

As was said above, it would have to be added that the reflexive is not a binder, which would preferably follow from a larger principle. Perhaps binding is asymmetric, as suggested in Higginbotham (1985). No precedence requirement is necessary, since the preferred SVO word order is already in the grammar as a condition on directionality of θ -role assignment (as will be suggested below). Due to this restriction (combined with (i) above), it is usual for the antecedent to precede the reflexive, but other word orders are possible.

There is a problem with the account given here. This is that in sentences like (iv), with a pronominal object and a name embedded in the subject, the pronoun and the name may be coindexed:

(iv) E Demiresqi; daj dikhlâ le;/j .

Demir's mother saw him.

Speakers actually prefer the noncoreferential reading, but both are acceptable. Since there is no VP, the pronoun (le) binds the name (e Demiresqi) and the sentence should be ruled out by Principle C. When the pronoun is replaced by a reflexive, the reflexive cannot be coindexed with e Demiresqi, as is expected, since the reflexive would not be bound. The construction represents a case, then, where both the pronoun and the reflexive should be disallowed by the Binding Theory. The fact that (iv) is possible suggests that there is a VP, at least in some representation. However, this would be inconsistent with some facts which will be mentioned below. I will suggest instead that cliticization is involved in some way. Indication for this is that (iv) with coindexing becomes ungrammatical if the word order is changed in any way, if an element intervenes between the verb and the object, or if the pronoun is in its long form (or emphatic form; le is the short form). It may be that the short form of the pronoun can in some sense cliticize onto the verb to avoid binding the subject. This would be possible only if the directionality constraint on θ -role assignment is adhered to, i.e., only with SVO word order.

Another question which must be addressed is what is

meant by "subject" in (i). There are three possibilities, given in (v)-(vii):

(v) an argument with subject θ -role

(vi) an argument assigned Case by Infl

(vii) an external argument (in Haider's sense)

(v) can be ruled out as being too narrow, since in certain passive-like constructions, an argument with object θ -role receives Case from Infl and can bind a reflexive (see footnote 5). (vii) seems too broad, since the class of external arguments includes those with inherent Case, which generally cannot bind reflexives. (Note that in constructions like "I told John (DAT) about him/himself," neither option is grammatical, as is expected.) It seems then that (vi) is the correct notion of "subject". As will be discussed in chapter 4, there are some constructions which do not contain an argument assigned Case by Infl. The external argument(s) then has inherent Case. In these cases, an argument with inherent Case can bind a reflexive, as illustrated in (viii):

(viii)a) Valâni lenge; kundre pe; çhavenge.

Is-necessary to-them shoes for-their-REFL children.

(= "They need shoes for their children.")

b) Isi la; po; lil.

There-is to-her her-REFL book.

(= "She has her book.")

It will be argued in chapter 4 that the Case assigned to kundre (shoes) and lil (book) in the above examples is inherent. There is then no argument which is assigned Case at S-structure. The fact that the inherently Cased arguments lenge and la may bind a reflexive indicates that when there is no subject defined as in (vi), the broader notion in (vii) can replace it. Note that this phenomenon would be problematic for an account in which the Binding Theory applied to a representation containing a VP.

I will suggest in section 2.2 that German also has a flat structure. The Binding Theory in German is somewhat more complicated than in Romani, and I will not discuss it here. However, there are certain similarities and it seems possible to propose a system for German which is similar to the Romani one.

5. Romani could not be claimed to have an English type passive. In the closest equivalent, the verb carries a suffix which is also added to adjectives. The verb in these cases is actually in its past participle or adjectival form (which is never used on its own, but only in combination with other affixes), so that the passive suffix can be considered to add only to adjectives. Historically, the suffix was the verb "become" cliticized onto adjectives (and could still be interpreted this way). With non-verbal adjectives, the passive suffix changes the adjective to a verb and adds the meaning "become", as shown in (i):

(i)a) O Demìri i dilino.

Demir is crazy.

b) O Demìri kovol dilino.

Demir will-become crazy.

c) O Demìri kadilin'jovol.

Demir will-crazy-PASS.

(= "Demir will become crazy.")

This is the most common usage of the suffix. When added to verbs, the resulting meaning resembles more that of an adjective than of a passive verb. The result of the action, rather than the action itself, is referred to. Highly transitive verbs may not occur in this structure at all, or take on a figurative meaning if they do. Marav ("beat", "hit"), for example, becomes "hurt". There is never an agent expressed in these constructions, unless it is inanimate or low in agentivity in some other way. The following examples are given in SV word order, but VS seems equally natural:

(ii)a) I luludi čhindili (kotar i bavlal/* kotar o Demìri).

The flower was-cut (from the wind/from Demir).

(cf. O Demìri/?? i bavlal čin'ja i luludi.

Demir/the wind cut the flower.)

b) O čhavo biandilo.

The child was-born.

(cf. I romni bian'ja e čhave.

The woman gave-birth-to the child.)

c) Me pre mardile (kotar o kundre/* kotar o Demiri).

My feet were-beaten (from the shoes/from Demir).

(= "The shoes were hurting my feet.")

If the arguments in these cases were claimed to have object θ -role, then the constructions would resemble the English passive in that the argument with object θ -role receives nominative Case.

Another passive-like construction consists of the verb in its active form with the reflexive. As in the parallel Romance construction, the agent is usually unspecified. The verb may agree with the NP argument or may be in the neutral third person singular form. Unlike in Romance, it is possible to express an agent in the dative Case to express the meaning "feel like." The most natural word order seems to be VS in both cases. Examples are given in (iii):

(iii)a) Akathe hal pe but maro.

Here eats itself much bread.

(= "Much bread is eaten here.")

b) Sovol pe mange.

Sleeps itself to-me.

(= "I feel like sleeping.")

c) Hal/han pe mange phabaja.

Eats itself/eat themselves to-me apples.

(= "I feel like eating apples.")

There is no movement involved here, although the argument with object θ -role can be case-marked by Infl. This construction poses many problems, which will be briefly mentioned later on. Much more could be said about the two passive-like constructions and other related constructions. The important point for this discussion is that there is no English-type passive and that in the passive-like constructions there is no obligatory movement.

6. Presented in a 1984 talk at Columbia University, entitled "A configurational language with a nonconfigurational propositional component."

7. I will use the term "S-internal" to refer to any positions for which S is a closer dominating node than S'

(or S''), i.e., all positions except Comp (and Top, which will be introduced later on).

8. See Kayne (1981b). It is claimed that the possibility of preposition stranding in a language depends on whether prepositions are proper governors. In order to adopt this account, it must be ensured that antecedent government does not "save" wh-movement structures with preposition stranding (i.e., * Kas8e; phirjan angli t; ? = "Who did-you-walk behind?"). This would involve either a slight modification in the definition of antecedent government or in the statement of the ECP itself.

The ECP will be discussed more in chapter 3.

9. Note that this is apparently not true of English, in which resumptive pronouns do "save" S-structure violations. Since resumptive pronouns are marginal in English, it may be that they basically represent a performance strategy, as suggested by Kroch (1981). It should be noted that languages with full resumptive pronoun systems often pattern differently from Romani in any case, indicating that there is parametric variation in this area.

10. There is another construction of this type in Romani, which I will not discuss in detail. NPs can appear in a position to the left of Top. In this case, they always receive nominative Case and a resumptive pronoun is obligatory (except in the case of the subject). The construction is possible only in matrix clauses, and for some speakers has only marginal status. An example is given in (i):

(i) I čhaj; [e jukle; [sosqe; [o Demiri dinja t; lage; t_k?

The girl-NOM the dog-ACC why Demir gave to-her?

It seems best to analyze this as a type of left dislocation, as Rudin (1982) does for a similar construction in Bulgarian. In Romani, it may actually be a performance phenomenon rather than part of the grammar.

11. It might be thought that the status of (44a) is due to the fact that with the structure in (44c), the Resumptive Pronoun Rule as stated would be violated. This is because the wh-word kaca does not bind the resumptive pronoun over an S', since the latter is in Top rather than in Comp. This account is not tenable, however, since the equivalent construction with a clause intervening between the wh-phrase and the resumptive is still marginal. In addition, the relative clause equivalent of (44a) is grammatical. Due to this and the fact that (44a) is not ungrammatical, it seems that the Resumptive Pronoun Rule should not rule the construction out (unless (44c) is the only possible

derivation). The rule could be revised to include S'' among the nodes over which a wh-phrase may bind a resumptive.

12. However, see den Besten (1985) for arguments for a VP in German.

13. This would contradict the requirement proposed in Stowell (1981) that clauses, as well as NPs, must be in a Case-marked chain.

14. To accomodate verbs like glauben, which allow for complementizerless complement clauses with verb-second word order, Haider claims that subcategorization determines only the presence or absence of the [+wh] feature. In chapter 3, this construction will be discussed in more detail and it will be suggested that this part of Haider's account does not hold.

CHAPTER THREE

WH-CHAINS

In this chapter, I will discuss a type of wh-construction which is rarely considered in the literature. This consists of a wh-phrase moving to a Comp lower than the Comp from which it takes scope. I will present the properties of this construction (henceforth, partial wh-movement) in German and Romani. Similar constructions have been noted in Iraqi Arabic (cf. Wahba (forthcoming)), Belauan (cf. Georgopoulos (1984)) and Afrikaans (cf. du Plessis (1977)). Certain constructions in Polish, discussed in Lasnik and Saito (1984), also resemble partial wh-movement, but it is not clear that the same phenomenon is involved. I will first discuss English-type wh-movement (henceforth, full wh-movement) in German and Romani interrogatives and relative clauses, particularly with respect to subjacency and the ECP. I will then present the partial wh-movement and multiple question facts and try to show that all types of wh-movement should be treated as a single phenomenon. The notion of wh-chain will be introduced and the analysis will involve replacing subjacency as a condition on movement with a well-formedness condition on S-structure representation, the Wh-chain Condition.

Since the Romani Top position plays little role in the discussion in this chapter, it will generally not be

represented in the structure for ease of exposition. Similarly, to facilitate comparison, the verb in second position in German will be represented as being S-internal, although it has actually moved to Comp.

3.1. Full Wh-movement

Both German and Romani allow English-type wh-movement, where a wh-phrase moves to the Comp from which it takes scope, the [+wh] Comp. In addition, these languages have in common with English that wh-movement is obligatory, that is, wh-phrases may not remain in situ (except in multiple questions, where at least one wh-phrase still must move). In German, wh-movement is in some ways more restricted and in others ways freer than in English. Romani wh-movement is extremely free as compared to other languages.

3.1.1. Subjacency

3.1.1.1. German

German exhibits the subjacency condition in all of the standard constructions except for extraction out of sentential subjects, which is permitted in some cases. This will be discussed in chapter 4 (section 4.1.5.2). In any case, the prohibition on extraction out of sentential subjects is in more recent theory not attributed to subjacency, since the configuration with an NP node dominating the S' would violate X-bar theory. Instead, the Constraint on Extraction Domain (cf. Huang (1982b)) or some other principle must be appealed to. The sentences in (1)

show that the Wh-Island Constraint and Ross' (1967) Complex NP Constraint, Coordinate Structure Constraint and Left-Branch Constraint (in that order) all apply in German:

- (1)a) * Mit wem; [_Sweisst du nicht [_Swo; [_SHans t; t;
spricht?

With whom don't you know where Hans is talking?

- b) * Mit wem; [_Srufst du [_{NP}das Mädchen; [_Sdas;
[_St; t; spricht?

With whom are you calling the girl who is talking?

- c) * Mit wem; [_Ssprichst du [_{NP}t; und mit Hans?

With whom are you talking and with Hans?

- d) * Wessen; [_Ssuchst du [_{NP}t; Buch?

Whose are you looking for book?

However, extraction is even more restricted than subjacency with S and NP as bounding nodes would account for. The sentences in (2) are ungrammatical although only one S node is crossed:

- (2)a) ?* Wen; [_Sglaubt Hans [_St; dass [_SJakob t; anruft?

Whom does Hans think that Jakob is calling?

- b) * Das ist [_{NP}der Junge; [_Sden; [_SHans glaubt
[_St; dass [_SJakob t; anruft.

That is the boy whom Hans thinks that Jakob is calling.

For some northern speakers, the interrogative (2a) is marginally acceptable, but even for these speakers the relative clause (2b) is completely ungrammatical. (In

southern dialects (2a) is apparently grammatical (cf. Haider (1984), van Riemsdijk (1983)); I do not know about (2b).) Following Rizzi's (1982) suggestion that the bounding nodes are parameterized, it might be concluded from these facts that German has three bounding nodes: S', S and NP. This would preclude any extraction out of a clause, since movement would always be over S' and S. However, two sets of facts contradict this analysis. First, adverbials and pied piped wh-phrases are not constrained in this way. Compare the grammatical sentences in (3) to those in (2) [1]:

(3)a) Wo; [_Sglaubt Hans [_St; dass [_SJakob t;
spricht?

Where does Hans think that Jakob is talking?

b) Mit wem; [_Sglaubt Hans [_St; dass [_SJakob t;
spricht?

With whom does Hans think that Jakob is talking?

c) Das ist [_{NP}der Ort; [_Swo; [_SHans glaubt [_St; dass
[_SJakob t; tanzt.

That's the place where Hans thinks that Jakob is dancing.

d) Das ist [_{NP}der Junge; [_Smit dem; [_SHans glaubt
[_St; dass [_SJakob t; spricht.

That's the boy with whom Hans thinks that Jakob is talking.

Note that these facts also cast doubt on an analysis in which the ungrammaticality of the sentences in (2) is attributed to all verbs in German being non-bridge verbs,

like English whisper. In the case of non-bridge verbs in English, extraction of PPs and adverbials is not any better than extraction of an object. In addition, German also has a distinction between bridge verbs and non-bridge verbs. When an adverbial or PP is extracted, the constructions with non-bridge verbs are still ungrammatical. Compare the patterning of flüstern ("whisper", a non-bridge verb), illustrated in (4), with that of glauben ("believe"):

(4)a) * Wen; [_Sflüsterte Hans [_St; dass [_SJakob t;
anrufen würde?

Whom did Hans whisper that Jakob would call?

b) ?* Wohin; [_Sflüsterte Hans [_St; dass [_SJakob t;
gehen würde?

To-where did Hans whisper that Jakob would go?

(4a) seems worse than (2a), which can be attributed to the fact that extraction is both over a non-bridge verb and ruled out by whatever rules out (2a). (4b) has approximately the same status as constructions in English with extraction over non-bridge verbs, unlike the parallel construction with glauben, which is grammatical (cf. (3a)). These seem clearly to be two separate phenomena.

The second fact which would be problematic for an analysis in which S', S and NP are all bounding nodes in German is that even the object can be extracted out of infinitival clauses and finite clauses which are tense-dependent in the sense of Picallo (1985), i.e., clauses

which would be subjunctive in Romance. (In German, in which the subjunctive functions differently, the present tense is used.) [2] This is shown in (5):

(5)a) Wen; [_Sversucht Hans [_St; [_SPRO t; anzurufen?
Whom is Hans trying to call?

b) Das ist [_{NP}der Junge; [_Sden; [_SHans versucht [_St;
[_SPRO t; anzurufen.
That's the boy whom Hans is trying to call.

c) Wen; [_Swill Hans [_St; dass [_SJakob t;
anruft?
Whom does Hans want that Jakob call?

d) Das ist [_{NP}der Junge; [_Sden; [_SHans will [_St; dass
[_SJakob t; anruft.
That's the boy whom Hans wants that Jakob call.

For these reasons, it seems that the bounding nodes for subjacency should be left as S and NP. It would be undesirable in principle for the bounding nodes to depend on clause type. A different principle must be involved which will distinguish adverbial and pied-piped wh-phrases from subject and object wh-phrases. Note that subcategorization is not the relevant factor here; subcategorized PPs and adverbials are extractable, as shown in (6):

(6) Worauf; [_Sglaubt Hans [_St; dass [_SJakob das
Buch t; gelegt hat?

On-what does Hans think that Jakob put the book?

Since the extractable wh-words are caseless (if adverbial) or accompanied by a Case-assigner (a preposition), I will

propose that a restriction on Case inheritance is involved (although this idea will be modified in chapter 4). The claim is that a wh-word which has moved away from its Case assigner must inherit Case from its trace. [3] In German, then, Case inheritance would be blocked over a tense-independent clause. I will refer to such clauses as propositional, in contrast with tense-dependent and infinitival clauses, for which I will use the term non-propositional. The latter term is not completely accurate, but I will use it as referring to the inability of a clause to express tense independently. The rule would be stated as in (7):

(7) Case Inheritance Restriction

In the configuration ...x...[...y...]_α..., where α is a propositional S', x may not inherit Case from y.

Rule (7) is language-specific, and does not even hold in all dialects of German. A similar rule might account for wh-movement facts in certain Slavic languages. Preferably, the existence of the rule would follow from some more general property of the language, but I will leave this problem open. It might be considered questionable that the notion "propositional S'" is included in a rule of this type. Apparently, this is an important distinction in German wh-phenomena. It will be seen later that Comps of non-propositions do not "count" in some sense.

3.1.1.2. Romani

I will now turn to subadjacency in Romani, where the condition seems almost inoperative. The Complex NP Constraint is the only construction for which it seems to hold, as exemplified by the impossibility of extraction out of a relative clause in (8a). (8b-d) show that violations of the Coordinate Structure Constraint, the Left-Branch Constraint and the Wh-Island Condition respectively are possible. (Note that, as in German, extraction out of sentential subjects is also possible, but this is not considered to fall under subadjacency and will be discussed in chapter 4, section 4.1.5.2).

(8)a) * Kas; [_S dikhlân [_{NP} e čhave; [_S ko; [_S t; marja t; ?

Whom did you see the boy who hit?

b) Kas; [_S dikhlân [_{NP} t; hem e Demire] irati?

Whom did you see and Demir yesterday?

c) Kasge; [_S dikhlân [_{NP} t; lila?

Whose did you see books?

d) Kas; [_S na jane [_S dali [_S o Demiri dikhlâ t; ?

Whom don't you know whether Demir saw?

Note that the construction parallel to (8a) with relativization over a relative is possible when the higher relative clause is introduced by the complementizer so, as shown in (9):

(9) Ake [_{NP} i čhaj; [_S so [_S dikhlûm [_{NP} e čhave; [_S ko; [_S t; marja t; .

Here's the girl that I-saw the boy who hit.

This would not be problematic for a subadjacency account, since presumably no movement is involved (see chapter 2). The facts involving the NP bounding node could be dealt with in several ways, but, in any case, a distinction must be made between relative clauses and other types of complex NPs. Due to the rarity cross-linguistically of the possibility of violations of the Coordinate Structure Constraint ((8c)), it might be thought that hem ("and") and the second NP are a type of parenthetical afterthought or that hem is actually a preposition (meaning "with", which is otherwise expressed by the instrumental Case in Romani). The first idea is ruled out by the possibility of extraction out of a conjoined subject, as in (10):

- (10) Ko; [misline [so [[t; hem o Demiri]
 _S _S _S NP
 gele khere?

Who do you think that and Demir went-PL home?

The fact that the verb in (10) must be plural is also some indication that hem cannot be a preposition. Hem does not behave like a preposition in other ways either.

Prepositions are followed by the nominative Case for nouns and the locative Case for pronouns, whereas the NP following hem receives the Case of the higher NP (as does the first member of the conjunct). It should be noted that it is not possible to extract the second member of the conjunct:

- (11) * Kas; [dikhlân [e Demire hem t;] irati?
 _S _{NP}
 Whom did you see Demir and yesterday?

The same pattern holds of topicalization, as shown in (12):

(12)a) E Arifa; [[dikhlûm [t; hem e Demire] irati.
_S _S _{NP}
 Arifa-ACC I-saw and Demir-ACC yesterday.

b) * E Arifa; [[dikhlûm [e Demire hem t;] irati.
_S _S _{NP}
 Arifa-ACC I-saw Demir and yesterday.

This seems similar to the prohibition on preposition stranding, but the structures in (11) and (12b) can be "saved" by a resumptive pronoun, whereas, as was discussed in chapter 2, preposition stranding cannot. Compare (13a), corresponding to (11), and (13b), corresponding to (12b), with the preposition stranding case illustrated in (13c-d):

(13)a) Kas; [dikhlân [e Demire hem le;] irati?
_S _{NP}
 Whom did you see Demir and him yesterday?

b) E Arifa; [[dikhlûm [e Demire hem ola;] irati.
_S _S _{NP}
 Arifa-ACC I-saw Demir-ACC and her yesterday.

c) * Kas8e; [phir'jan [pali (les8e;)] irati?
_S _{PP}
 Who-LOC did-you-walk behind (him-LOC) yesterday?

d) * Janav [o Demiri; [so [phir'jan [pali (les8e;)]
_S _S _S _{PP}
 irati.
 I-know Demir-NOM that you-walked behind (him-LOC) yesterday.

Another difference between prepositions and hem is that the genitive of an NP following hem, but not following a preposition, may be extracted, as shown in (14):

(14)a) Kasqe; [dikhlân [e Demire hem [t; chaven]]
_S _{NP} _{NP}
 irati?

Whose did you see Demir and children yesterday?

b) * Kasqe; [phirʲan [pale [t; čhave?
S PP NP

Whose did-you-walk behind children?

This fact also suggests that the ungrammaticality of (11) is due to some specific filter ruling out hem as the final overt element of an NP, rather than to a general principle. The fact that a resumptive pronoun can "save" (11) and that topicalization patterns the same way is also in support of this, if the account given in chapter 2 is correct. It was claimed there that resumptive pronouns are inserted at PF. It follows that if they do "save" a structure, the structure must be in violation of a PF condition, rather than an S-structure or LF condition. I will assume then that there is a PF filter ruling out hem as the final overt element in an NP. [4] Except for the case of relative clauses, then, extraction can be considered to be possible out of any type of complex NP. (Note that there are no noun-complement clauses in Romani.) In a subjacency account, it might be claimed that NP is not a bounding node. The impossibility of extraction out of relative clauses would then have to be accounted for some other way. These questions will be discussed in detail in chapter 4. For now I will assume that movement over NP is unconstrained in Romani.

To account for the possibility of wh-island violations, it might be proposed that S' rather than S is a bounding node, as in Italian (cf. Rizzi (1982)). However, extraction is even freer in Romani, as is shown in (15),

where two S' nodes appear to be crossed:

- (15) ? Kas; [na _S Jane [sosqe; [o Demiri mislinol t;
 [so [marjum t; ?
 _S _S

Whom don't you know why Demir thinks that I hit?

It seems, then, that bounding nodes cannot be referred to in Romani. There is some evidence suggesting that Romani has a weaker version of the Doubly Filled Comp Filter, and this may be the reason for the apparent lack of subjacency. This will be further considered later on in this chapter and again in chapter 4.

In summary, subjacency seems to be inoperative in Romani, with the possible exception of precluding extraction out of relative clauses. In German, subjacency applies as in English, with the bounding nodes S and NP. Extraction is further constrained in German by the Case Inheritance Restriction.

3.1.2. ECP

If it is true that the S-internal structure of German is flat, then there should be no that-trace effects, since the subject is properly governed. If subject-object asymmetries in double questions are attributed to the ECP, then they should also be lacking in German. In the case of southern dialects, both predictions seem to hold (cf. Haider (1984)). In northern German dialects, however, both that-trace and superiority effects do obtain to some extent. The sentences in (16) are ungrammatical, which seems to be due to the that-trace violation:

(16)a) * Wer; [_Sglaubst du [_St; dass [_St; heute
ankommt?

Who do you think that is arriving today?

b) * Wer; [_Swillst du [_St; dass [_St; heute
ankommt?

Who do you want that arrive today?

(16a) could be claimed to be ruled out by the Case Inheritance Restriction. However, it seems worse than a violation of this type. Speakers who find extraction of the direct object ((2a)) acceptable still do not allow (16a). (16b) cannot be ruled out by Case Inheritance, since the lower clause is tense-dependent. As van Riemsdijk (1983) points out, the sentences in (16) are much better (and (16b), which does not violate the Case Inheritance Restriction, possibly even grammatical) if wer (who) is replaced by a full wh-phrase:

(17)a) ?? Welcher Junge; [_Sglaubst du [_St; dass
[_St; heute ankommt?

Which boy do you think that is arriving today?

b) ? Welcher Junge; [_Swillst du [_St; dass
[_St; heute ankommt?

Which boy do you want that arrive today?

This is similar to the fact in English that superiority effects are weakened when single wh-words are replaced by phrases. Note that this might be problematic for Pesetsky (1985), who explains the lack of superiority effects in the

English cases by claiming that the which phrases are not quantifiers and therefore do not have to move at LF. However, the data in (16) and (17) indicate that at least in German, the effect is not limited to superiority. Pesetsky's analysis would not handle these cases, since the wh-phrase moves at S-structure. It is true that the which phrases still show that-trace effects in English. However, it seems unlikely that the two phenomena are unrelated. The data are then problematic in several ways. First, it is expected that the ECP should not rule out the sentences in (16), since the structure is presumably flat. The judgments in (17) are as expected, but it would be difficult to claim that they represent the usual case, since the same change in grammaticality occurs in English (in the superiority cases), where the subject is not properly governed. The superiority facts in German are also problematic. Whereas the basic constructions are apparently grammatical for southern speakers, northern speakers are unsure. (18b) seems worse than (18a), but not completely ungrammatical:

(18)a) Wer hat wen gesehen?

Who saw whom?

b) ? Wen hat wer gesehen?

Whom did who see?

In more complex structures, the superiority facts become more puzzling. This will be discussed later on. If superiority effects are attributed to the ECP, then there should be no difference between (18a) and (18b) in a

language with a flat structure. In general, it seems that in northern dialects the ability for the verb to count as a proper governor for the subject is diminished. Possibly, Infl, which is the nominative Case assigner must be the governor, but does not count as lexical. This problem, which I will leave open, will arise again at several points later on.

If the impossibility of preposition stranding is due to the ECP, then German definitely exhibits the principle here. Preposition stranding is never possible:

- (19) * Wem; [_S hast du [_{PP} mit t;] gesprochen?
 Who did you talk to?

In Romani, there are no subject/object asymmetries at all, as was mentioned in chapter 2, indicating that the subject position is always properly governed. (20) shows the lack of the that-trace filter, (21) the lack of superiority effects, and (22) the possibility of wide-scope in negation (compare the ne-personne effect in French, discussed in Kayne (1979); na, the negative particle in Romani, obligatorily cooccurs with a negative quantifier in every case):

- (20) Ko; [_S misline [_S so [_S t; kavol?
 Who do you think that will come?

- (21)a) Ko marja kas?
 Who hit whom?

(25)a) * Who; [₅did you go home [₃before [₅Bill hit t; ?

b) Who; [₅t; went home [₃before [₅Bill hit who?

In (25b) the lower who moves out of the ungoverned clause at LF and the sentence is grammatical. (25a), in which who moves out of the same clause at S-structure, is ungrammatical.

In German and Romani, extraction out of sentential subjects is (sometimes) possible (see chapter 4). This fact, however, does not indicate that the CED does not hold in these languages, since, as was discussed in the preceding section, the subject position seems to be properly governed. The equivalents of the sentences in (25) pattern the same way in German ((26)) and Romani ((27)) as in English:

(26)a) * Mit wem; [₅schlugst du Jakob [₅bevor
[₅Hans t; sprach?

With whom did you hit Jakob before Hans talked?

b) Wer; [₅schlug t; Jakob [₅bevor [₅Hans mit wem sprach?

Who hit Jakob before Hans talked to whom?

(27)a) * Kas; [₅gelân khere [₅angle [₅o Demiri te dikhol t; ?

Whom did you go home before Demir to see?

b) Ko; [₅t; gelo khere [₅angle [₅o Demiri te dikhol kas?

Who went home before Demir to see whom?

Note that the construction is possible in Romani with a relative clause introduced by so, as shown in (28):

(28) Ake [o ^{NP}chavo; [so _S [gelân khere [angle _S [o Demiri te
dikhol t; .

Here's the boy that you-went home before Demir to see.
This is expected if the CED is a condition on movement,
since the so relative presumably does not involve movement
(see chapter 2). It appears, then, that the CED does apply.
However, other phenomena, which will be discussed later on,
indicate that it either does not apply or must be revised.
It could be claimed that, since German and Romani have a
flat structure, adverbial clauses are governed by the verb.
If this were true, then the CED could not account for the
ungrammaticality of (26a, 27a). In addition, in Romani,
extraction from the Top position of such clauses is possible
at S-structure (see chapter 4 for discussion) and wh-
movement of the above type is possible if there is no
subordinating conjunction. There is no word for "in order
(to)" in Romani and in this case, extraction at S-structure
is possible:

(29) Kas; [bucin'jan e Demire [_S [te dikhe t; ?
Whom did you push Demir to see?

(In English, the sentence with "to", given in the gloss,
also sounds better than the same sentence with "in order
to". The English still does not seem completely
grammatical, however.) Since the absence of a subordinating
conjunction should not change the status of the clause with
respect to government, this casts doubt on the CED account
of (27a). These questions will be discussed in more detail

in chapter 4, where an alternative analysis will be suggested.

3.2. Partial Wh-movement

Descriptively, in partial wh-movement structures the wh-phrase moves to a Comp, but not all the way to the Comp from which it takes scope (the [+wh] Comp). The [+wh] Comp is obligatorily filled by was in German and so in Romani. These words correspond to the wh-word what, and in Romani so is also homophonous with the complementizer. I will gloss both was and so as WHAT and refer to them as scope-markers, since they mark the scope of a wh-phrase. The (a) sentences in (30) and (31) illustrate the construction in interrogatives in German and Romani respectively. The (b) sentences are the corresponding full wh-movement structures, which have the same meaning.

(30)a) Was; [₅glaubt Hans [₅mit wem; [₅Jakob jetzt t;
spricht?

WHAT does Hans believe with whom Jakob is now
talking?

b) Mit wem; [₅glaubt Hans [₅t; dass [₅Jakob
jetzt t; spricht?

With whom does Hans think that Jakob is now talking?

(31)a) So; [₅o Demiri mislinol [₅kas; [₅i Arifa dikhol t; ?
WHAT does Demir think whom Arifa sees?

b) Kas; [₅o Demiri mislinol [₅so; [₅i Arifa dikhol t; ?
Whom does Demir think that Arifa sees?

(I have coindexed was and so with the wh-phrase whose scope they indicate. This will be discussed further below.) Note that this construction is evidence against any analysis in which, unlike in the Government-Binding framework, Comp-to-Comp movement is not an option.

It might be thought that the partial wh-movement constructions actually consist of two separate questions: "What does Hans think?" "With whom is Jakob talking?" This actually may be the case in certain Slavic and Balkan languages, which allow the structure, but only in biclausal interrogatives. In these languages, unlike in German and Romani, there is an intonation break between the clauses. In addition to the lack of an intonation break, there is other evidence against such an analysis. In German, the second clause has verb final word order, indicating that it is subordinate. The structure can be used in indirect questions in both languages, as shown in (32), and in relative clauses in Romani (but not in German), as shown in (33a), with the full wh-movement counterpart in (33b):

(32)a) Ich weiss nicht [₃was; [₃Hans glaubt [₃mit wem;
 [₃Jakob jetzt t; spricht.
 I don't know WHAT Hans thinks with whom Jakob is now talking.

b) Na ʃanav [₃so; [₃o Demiri mislinol [₃kas; [₃i
 Arifa dikhla t;.
 I don't know WHAT Demir thinks whom Arifa saw.

(33)a) Ake _{NP} [o čavo; _S [so; _S [mislinav _S [kas; _S [i Arifa
dikhlâ t; . [5]

Here's the boy WHAT I think whom Arifa saw.

b) Ake _{NP} [o čavo; _S [kas; _S [mislinav _S [so _S [i
Arifa dikhlâ t; .

Here's the boy whom I think that Arifa saw.

Wh-phrases with which and whose can undergo partial wh-movement like single wh-words and PPs, as shown in (34)-

(35):

(34)a) Was; _S [glaubst du _S [welchen Film; _S [Jakob t; sieht?
WHAT do you think which film Jakob is seeing?

b) Was; _S [glaubst du _S [wessen Buch; _S [Jakob t; liest?
WHAT do you think whose book Jakob is reading?

(35)a) So; _S [misline _S [savo filmi; _S [o Demiri dikhlâ t; ?
WHAT do-you-think which film Demir saw?

b) So; _S [misline _S [kasqoro lil; _S [o Demiri citinol t; ?
WHAT do-you-think whose book Demir is reading?

In any of these constructions, if there are more than two clauses, the wh-phrase may move to an intermediate Comp as well as to the lowest and the highest. These cases will be discussed in detail further below.

As would be expected, partial wh-movement "saves" both ECP violations (to the extent that they exist) and violations of the Case Inheritance Restriction in German, if the wh-word is moved to the lowest Comp. Compare the grammatical (b) sentences of (36)-(37) with the ungrammatical (16a) and (2a), repeated below as (36a) and

(37a) respectively:

(36)a) (= (16a)) * Wer; [_Sglaubst du [_St; dass [_St;
heute ankommt?

Who do you think that is arriving today?

b) Was; [_Sglaubst du [_Swer; [_St; heute ankommt?
WHAT do you think who is arriving today?

(37)a) (= (2a)) ?* Wen; [_Sglaubt Hans [_St; dass [_SJakob t;
anruft?

Whom does Hans think that Jakob is calling?

b) Was; [_Sglaubt Hans [_Swen; [_SJakob t; anruft?
WHAT does Hans think whom Jakob is calling?

(36b) could be claimed not to violate the ECP since the trace is properly governed by the coindexed wh-phrase in Comp. (37b) does not violate the Case Inheritance Restriction, since the wh-word is within the same S' as the trace from which it inherits Case.

The non-bridge verbs behave interestingly in this respect. As shown in (38b), as compared to (4b), which is repeated here as (38a), the construction is somewhat better with partial than with full wh-movement, but still not grammatical:

(38)a) (= (4a)) ?* Wohin; [_Sflüsterte Hans [_St; dass
[_SJakob t; gehen würde?
To-where did Hans whisper that Jakob would
go?

b) ?? Was; [₅flüsterte Hans [₅wohin; [₅Jakob t; gehen würde?

WHAT did Hans whisper to-where Jakob would go?
 These facts indicate that the ungrammaticality of wh-constructions with non-bridge verbs involves more than a constraint on extraction over such verbs.

The fact that partial wh-movement "saves" certain constructions might lead one to the conclusion that it exists only as a saving device and, therefore, only in languages which have strong restrictions on full wh-movement. However, Romani, which has extremely free full wh-movement, is a direct counterexample. Macedonian also seems to allow both types of wh-movement equally freely, as does Hungarian, according to van Riemsdijk (1983). Even in German, both types are possible with extraction of PPs and adverbials, as was shown in (30). I will, therefore, not analyze the construction as serving a saving function.

In one case in German it is true that partial wh-movement is not possible when full wh-movement would not violate a principle (again, making the former appear to be a saving device only). This is in constructions with non-propositional complement clauses. Compare the ungrammatical (a) sentences below with their full wh-movement counterparts, (5a) and (5c), repeated here as (39b) and (40b) respectively:

(39)a) * Was; [₅versucht Hans [₅wen; [₅PRO t; anzurufen?
 WHAT is Hans trying whom to call?

b) (= (5a)) Wen; [_Sversucht Hans [_St; [_SPRO t;
anzurufen?

Whom is Hans trying to call?

(40)a) ?* Was; [_Swill Hans [_Swen; [_SJakob t; anruft?
WHAT does Hans want whom Jakob call?

b) (= (5c)) Wen; [_Swill Hans [_St; dass [_SJakob t;
anruft?

Whom does Hans want that Jakob call?

These examples show that a wh-phrase may not appear in the Comp of a non-propositional clause. Note that for this reason, ECP violations cannot be saved by partial wh-movement in this case. (41a) is ungrammatical, as is its full wh-movement counterpart (41b):

(41)a) * Was; [_Swillst du [_Swer; [_St; morgen ankommt?
WHAT do you want who arrives tomorrow?

b) * Wer; [_Swillst du [_St; dass [_St; morgen ankommt?
Who do you want that arrives tomorrow?

Since these types of clauses are tenseless or tense-dependent, they never occur as matrix clauses, so that it never happens that their Comp is a [+wh] matrix Comp. As would be expected, indirect questions are impossible with infinitivals in German. as shown in (42):

(42)a) * Ich weiss nicht [_Swas; [_SPRO t; zu machen.
I don't know what to do.

b) * Ich weiss nicht [_Swen; [_SPRO t; anzurufen.
I don't know whom to call.

(Note that tense-dependent clauses may also not be indirect questions, since the class of verbs subcategorizing for this type of clause does not subcategorize for a [+wh] Comp.) This is discussed by Haider (1985a), who attributes it to an unmoved Infl in Comp, which blocks wh-movement to the Comp. His analysis would account for the facts in (39), but would not extend to tense-dependent clauses (since, in this case, Infl presumably moves). As indicated by the "?" on (40a), this sentence is not as bad as (39a). It may be that the infinitive cases are ruled out independently both by the presence of Infl in Haider's analysis and by a possibly weaker principle accounting for the impossibility of a wh-phrase in the Comp of a non-propositional clause.

As in the case of the Case Inheritance Restriction, it seems here that non-propositional Comps do not "count." Note that in Romani, partial wh-movement in tense-dependent clauses is grammatical, as shown in (43):

(43) So; [_Smangea [_Skas; [_So Demiri te marol t; ?]

WHAT do you want whom Demir to hit?

It could be claimed that in German wh-movement ignores these Comps in general. In the case of full wh-movement, it is only to satisfy subjacency that movement is considered to pass through the lower Comp (as in (39b, 40b)). I will suggest in section 3.4 that subjacency in its present form be abandoned. This will enable full and partial wh-movement to be treated alike. In this case, both types of movement ignore non-propositional Comps.

When more complex structures are considered, the partial wh-movement facts become highly interesting. First, in German, it is necessary that every Comp between the scope-marker and the wh-phrase be filled by was, as shown in (44):

(44)a) Mit wem; [_Sglaubst du [_St; dass [_SHans meint [_St; dass [_SJakob t; spricht?
 With whom do you believe that Hans thinks that Jakob is talking?

b) Was; [_Sglaubst du [_Smit wem; [_SHans meint [_St; dass [_SJakob t; spricht?
 WHAT do you believe with whom Hans thinks that Jakob is talking?

c) Was; [_Sglaubst du [_Swas; [_SHans meint [_Smit wem; [_SJakob t; spricht?
 WHAT do you believe WHAT Hans thinks with whom Jakob is talking?

d) * Was; [_Sglaubst du [_Sdass [_SHans meint [_Smit wem; [_SJakob t; spricht?
 WHAT do you believe that Hans thinks with whom Jakob is talking?

(44a-c) show that the wh-phrase can move to any of the Comps above it. (43d) is ungrammatical because the Comp intervening between the Comp containing the scope-marker and the one containing the wh-phrase is not filled by a scope-marker. Here, again, non-propositional Comps do not count.

Such a Comp cannot be filled by a scope-marker, even when it occurs between a scope-marker and a wh-phrase. Compare (44c-d) with the sentences in (45):

(45)a) Was; [_S versucht Hans [_S [_S PRO zu glauben [_S wen; [_S Jakob t; anruft?
 WHAT is Hans trying to believe whom Jakob is calling?

b) * Was; [_S versucht Hans [_S was; [_S PRO zu glauben [_S wen; [_S Jakob t; anruft?
 WHAT is Hans trying WHAT to believe whom Jakob is calling?

c) Was; [_S will Hans [_S dass [_S ich glaube [_S wen; [_S Jakob t; anruft?
 WHAT does Hans want that I believe whom Jakob is calling?

d) ?* Was; [_S will Hans [_S was; [_S ich glaube [_S wen; [_S Jakob t; anruft?
 WHAT does Hans want WHAT I believe whom Jakob is calling?

(45a-b) show that the intermediate Comp may not be filled by the scope-marker if it heads an infinitival clause. (45c-d) illustrate that the same is true for tense-dependent clauses. In the latter case, the effect is not as strong, probably because there are independent grounds for ruling out the scope-marker, as well as a wh-phrase, in the infinitivals, as was discussed above.

As might be expected, a Comp filled by a wh-phrase may also not intervene between one filled by another wh-phrase

and one filled by its scope-marker. Sentence (45), with warum ("why") in the intermediate Comp is ungrammatical in the same way as (44d), with the complementizer:

- (46) * Was; [_Sweisst du nicht [_Swarum; [_SHans t; glaubt
 [_Swen; [_SJakob t; anruft?
 WHAT don't you know why Hans thinks whom Jakob is
 calling?

This is reminiscent of the Wh-Island Constraint, and I will claim that it is the same phenomenon.

In Romani, it is difficult to determine whether intermediate Comps must be filled by the scope-marker, since it is homophonous with the complementizer. The so in the intermediate Comp of (47) could be either. The so in the top Comp, on the other hand, is clearly the scope-marker, since a complementizer cannot appear in this Comp:

- (47) So; [_Svakerʃan [_Sso [_Sme mislinav [_Skas; [_So Demɫri
 marʃa t; ?

WHAT did you say WHAT/that I think whom Demir hit?

Due to this homophony and other factors, the Romani facts are less clear than the German ones. At this point, I will begin analyzing partial wh-movement based on the facts given so far, which are mostly from German. I will then return to the Romani facts.

The partial wh-movement construction poses certain problems for the account given in Lasnik and Saito (1984). There it is suggested that (48a-d) (their (183)-(186)) hold

universally at LF and that (48e) (their (187)) is an implicational universal:

- (48)a) A [+wh] Comp must have a [+wh] head.
- b) A [-wh] Comp must not have a [+wh] head.
- c) * [...Head_i...]; where $i \neq j$. (That is, a category and its head cannot be contraindexed.)
- d) A [+wh] phrase must be in a [+wh] Comp.
- e) If a language L has syntactic Wh-movement, [48a] and [48b] apply at S-structure in L. (p. 287)

Partial wh-movement constructions seem to contradict (48e), at least the second part of it. The wh-phrase in these constructions appears in a [-wh] Comp and must be the head of this Comp, since there is no other element in it. It would be difficult to claim that the wh-phrases in these cases are adjoined to S rather than in Comp, since they behave no differently from other wh-phrases in Comp. In both German and Romani, the complementizer is precluded in such constructions, which is presumably due to the Doubly Filled Comp Filter. This is illustrated in (49):

- (49)a) Was₅; [glaubst du [₃ (* dass) wen₅; [Hans t₅; sieht?
 WHAT do you think (that) whom Hans sees?
- b) So₅; [misline [₅ (* so) kas₅; [o Demiri dikhol t₅; ?
 WHAT do you think (that) whom Demir sees?

This indicates that the wh-phrase is in the [-wh] Comp, in violation of the requirement in (48e) that (48b) apply at S-structure. The question of whether (48a) can be considered to hold at S-structure here is not as clear. Since the

[+wh] Comp is headed by a scope-marker in these constructions, the only way to claim that (48a) is not violated is to claim that scope-markers count as [+wh] elements. This does not seem implausible. It seems clear that the scope-marker marks the scope of the wh-phrase and should therefore be linked with it. It behaves like a wh-word in many ways and its form also indicates that it is a wh-word lacking features (animacy and Case). I will assume then that scope-markers are base-generated in Comp and are linked with a moved wh-phrase. They might be thought of as types of wh-expletives, indicating that the moved wh-phrase is in some sense "out of place." I will refer to the latter as the "true wh-phrase", and to true wh-phrases and scope-markers together as "wh-phrases". Given this account, (48b) can still be claimed to hold.

The next question is how to treat the facts exhibited by partial wh-movement. Van Riemsdijk (1983) briefly discusses the construction in German in connection with the "L-model" of core grammar (as opposed to the T-model of Chomsky and Lasnik (1977)), first proposed in van Riemsdijk and Williams (1981). Since, in this model, LF rules precede wh-movement, an LF rule is necessary to indicate where a wh-phrase will move. The rule, Quantifier Interpretation, assigns an index to a quantified phrase and adjoins an empty category with the same index to a containing S-node. In order to avoid an ECP violation, the wh-phrase must move to

a position from which it properly governs the empty category. In this account, all wh-phrases are referred to as scope-markers (not to be confused with my more restrictive use of the term) and the German was is treated as one as well, on a par with other wh-phrases. The fact that was must appear in intermediate Comps is accounted for by claiming that, in German, Quantifier Interpretation is successive cyclic, i.e., subject to subjacency. Since the partial wh-movement construction is not a major point in the article, the account is incomplete in several ways. The question is not brought up of why the rule should apply differently in German from in languages like English, and there is no discussion of the nature of was other than that it is a scope-marker. More importantly, the distinction between propositional and non-propositional clauses is not made. This distinction would make necessary some modification of his account, since it is based on subjacency.

The analysis I will propose is similar to van Riemsdijk's, in that full and partial wh-movement are treated as one phenomenon. (I will, however, continue to assume the T-model of grammar.) As was discussed above, both full and partial wh-movement obey the Wh-island Constraint in German. However, rather than referring to this in terms of subjacency, I will account for the facts with a condition on representation at S-structure. Note that there appears to be no evidence against subjacency

being a condition on representation. If subjacency (as a condition on movement) were used in this account, it would have to be claimed that scope-markers are moved rather than base-generated in Comp. This would be problematic, since it is unclear where they would be generated. In German, subjacency would, in addition, be complicated by the invisibility of non-propositional S's. Finally, there is evidence against subjacency in double question constructions in German, which will be discussed in the next section.

As was mentioned earlier, wh-movement constructions can be considered to consist of a chain. It seems best, then, for a well-formedness condition on S-structure to be stated in terms of a restriction on such chains. In Romani, as well as in German, the chain is made up of scope-markers, a true wh-phrase, and traces of the latter, occurring in that order. In both German and Romani wh-constructions, every chain contains at least the true wh-phrase in Comp and its trace in S-internal position. If the true wh-phrase does not appear in the [+wh] Comp, then a scope-marker must occupy this position. In German, every Comp of a propositional S' (henceforth, P-Comp), and no non-P-Comp, from the [+wh] Comp to the Comp of the clause where the wh-phrase originated must be filled by a member of the chain. For reasons which will become clear in chapters 4 and 5, the configuration is best treated as two types of chains: one consisting of the elements in Comp, and the other of the

trace in S-internal position and its local binder (i.e., the element in the first Comp above it). The former will be referred to as a scope chain, since scope is determined from it, and the latter as a value chain, since it contains the base-generated position of the wh-phrase (or a position linked to this position by an A-chain). The chain formed by the union of these two types of chains will be called a wh-chain. The two types of chains will overlap in every case, since the last member of the scope chain is also the head of the value chain. The chains distinguish themselves in that the value chain consists of binding from an A'-position to an A-position, whereas the scope chain involves only A'-to-A'-binding. Since the P-Comp requirement in German (that only P-Comps are filled) holds of both types of subchains, and since it is language specific, it will be treated as a separate condition, given in (51). The Wh-chain Condition, given in (50), is assumed not to be language specific, but is stated with the German facts in mind.

(50) Wh-chain Condition:

- a) For every [+wh] Comp x, there is a wh-chain at S-structure, such that its head is in x; and for every wh-phrase y, there is a wh-chain at S-structure whose head is in the Comp from which y takes scope.
- b) The chain $W = (w_1, w_2, \dots, w_n)$ is a wh-chain iff, where $C = (a_1, a_2, \dots, a_n)$ is a scope chain and $V = (v_1, v_2)$ is a value chain,

- (i) $W = C \cup V$, and
 - (ii) $a_n = v_1$.
- c) $C = (a_1, a_2, \dots, a_n)$ is a scope chain iff
- (i) $\forall a_i, 1 \leq i \leq n, a_i$ is in Comp
 - (ii) $\forall a_i, 1 \leq i \leq n, a_i$ is a wh-phrase or a trace
 - (iii) $\forall a_i, 1 \leq i \leq n, a_i$ is A' -bound in its Comp category (see (d) below)
 - (iv) a_1 is a wh-phrase in a [+wh] Comp
 - (v) $\forall a_i, 1 \leq i \leq n$, if a_i is a scope-marker, then $(a_i, a_{i+1}, \dots, a_n)$ must contain a true wh-phrase
- d) x is a Comp category for an element in Comp_K iff there is a Comp_j c-commanding Comp_K , such that x is the minimal S' dominating Comp_j and Comp_K , and there is no $\text{Comp}_i, i \neq j, k$, such that x dominates Comp_i , unless Comp_K c-commands Comp_i .
- e) $V = (v_1, v_2)$ is a value chain iff
- (i) v_1 is in Comp
 - (ii) v_2 is a trace in S -internal position
 - (iii) if Comp_i c-commands v_2 , then it either c-commands or dominates v_1 .

(51) P-Comp Requirement (German):

Non-P-Comps do not count as Comps in (50).

The statement in (50), along with the Doubly Filled Comp Filter, handles all of the German facts discussed so far (with the exception of extraction out of NPs, which will be returned to below). The first part of (50a) states that wh-

movement must occur at S-structure. The second part of (50a) ensures that a wh-phrase will not move to a [-wh] Comp in a construction which contains no [+wh] Comp. Similarly, a scope- marker could not be generated in such a position. The sentences in (52) would be ruled out this way:

(52)a) * Hans glaubt [_Smit wem; [_SJakob t; tanzt.
Hans thinks with whom Jakob dances.

b) * Hans glaubt [_Swas [_SJakob mit mir tanzt.
Hans thinks WHAT Jakob is dancing with me.

It might be thought that this could be part of a general condition on the interpretation of wh-phrases. It will be seen in chapter 4, however, that relative clause constructions are best handled with the condition as stated in (50a). A slight modification will be made in section 4.2.4 to account for certain topicalization facts in Romani. Note that (50a) does not require that there be a distinct wh-chain for every wh-phrase. This allows the possibility of multiple questions with wh-phrases in situ. In these cases, one wh-chain will correspond to the scope of several wh-phrases, so that the second part of (50a) can be satisfied without wh-movement. The first part of (50a) ensures that one of the wh-phrases will move. More will be said about multiple questions in the next section. (50c-d) are the conditions on scope chains. According to (50ci), every member must be in Comp. This will become especially significant for phenomena involving Romani topicalization,

discussed in chapter 4. (50ciii) (together with (50d), which defines the Comp category of an element as the minimal S' dominating the Comp containing the element and the next higher Comp) states that no Comp can be skipped. (50cii) designates the types of elements in the chain as true wh-phrases, scope-markers and traces. I will henceforth refer to these together as wh-elements. (50civ) specifies that the head of the chain is in the [+wh] Comp. This is equivalent to the requirement given in Lasnik and Saito (1984) that a [+wh] Comp must contain a wh-phrase at S-structure ((48a, e) above). The fact that every scope chain contains a true wh-phrase is captured by (50civ) combined with (50cv). If there is a scope-marker, then according to (50cv), a true wh-phrase must occur in the chain (specifically to its right), and if there is no scope-marker, then according to (50civ), the [+wh] Comp will contain a true wh-phrase. (50eiii) states that a Comp which c-commands v_2 , the final member of a value chain, will either be the Comp containing v_1 or will be higher than that Comp. This is the condition on value chains that a Comp may not be skipped. (50bi) states that a wh-chain is made up of a scope chain and a value chain, and (50bii) requires that the last member of the scope chain be the first member of the value chain. This requirement ensures that in the formation of a wh-chain, a Comp will not be skipped. In (44a), for example, there must be a trace in the second Comp, since otherwise the last member of the scope chain

would be mit wem rather than the trace in the lowest Comp, which is the first member of the value chain. If this were not the case, then the Wh-Island Constraint would be expected not to hold in constructions with three clauses. It does hold, however, as shown by the ungrammaticality of (53):

- (53) * Mit wem; [₅weisst du nicht [₅warum; [₅Hans t_j glaubt
 [₅t_j dass [₅Jakob t_j spricht?
 With whom don't you know why Hans thinks that Jakob is
 talking?

The wh-chain in this case cannot be considered to be made up of the scope chain (mit wem;) and the value chain (t_j; t_j), since this would violate (50bii). (50bii), (50cii) and (50eiii) each state that a Comp may not be skipped, the first applying to the union of a scope chain and a value chain, the second to scope chains, and the third to value chains. It might seem that it would be preferable if these were all stated together as a condition on wh-chains. However, the facts of Spanish and Italian are more easily accounted for with (50cii) and (50eiii) as separate conditions. This will be seen in chapter 5 (section 5.3). Later on in this chapter, a further condition will be introduced which will subsume (50bii).

In (50) it is not stated that traces always occur to the right of the true wh-phrase. I am assuming that this is part of an independent condition on traces that they must be

c-commanded by their antecedents, and does not have to be stated in the Wh-chain Condition. It is intriguing that scope-chains, which are pure A'-chains, in the sense that all binding is between A'-positions, greatly resemble A-chains. In both cases, expletive-type elements (scope-markers in the case of scope chains) may appear to the left and traces to the right of the antecedent. This observation might be helpful in determining the nature of traces in Comp. These elements do not behave like operators or variables, at least not for the Bijection Principle, which states that each variable must be bound by one and only one operator and that each operator must bind one and only one variable (cf. Chomsky (1982), (1986)). If they were operators or variables, they could also not be claimed to delete at LF, as in Lasnik and Saito's (1984) account. It seems that they behave comparably to traces in A-chains and that they could therefore be considered to be A'-anaphors or anaphoric operators. In this sense, pure A'-chains would consist of A'-expletives, an argument (the true wh-phrase), and A'-anaphors in that order, just as A-chains consist of expletives, an argument, and anaphors, in that order. It seems that this observation could lead to insights concerning chains in general.

Note that, according to the P-Comp Requirement ((51)), there is no trace in the lower Comp of a full wh-movement construction with a non-propositional complement clause. The structure of (54) would be as indicated:

(54) Wen_s [willst du [dass [Hans t_s anruft?

Whom do you want that Hans call?

Non-propositional Comps are considered to be skipped in full as well as in partial wh-movement. As was noted earlier, there is no direct evidence for this, but since there is none against it either, it will be adopted on the grounds of simplicity.

The Wh-chain Condition does not cover the part of subjacency dealing with extraction out of NPs. For now, I will assume that something like the informally stated condition in (55) is incorporated into (50):

(55) An NP boundary may not intervene between members of a scope chain or between members of a value chain.

The first part of (55) accounts for the impossibility of extraction out of noun-complement clauses, as illustrated in (56):

(56) * Mit wem_s [glaubst du [die Behauptung [t_s dass
[Hans t_s getanzt hätte?
_{NP}

With whom do you believe the claim that Hans danced?

Here the NP boundary occurs between the wh-phrase in Comp and the trace in the lower Comp. The second part of (55) accounts for the impossibility of extraction out of relative clauses and other NPs. The reason for stating (55) in two parts rather than just as a condition on wh-chains will be made clear in chapter 4.

It has been assumed so far that scope-markers, even those

occurring in a [-wh] Comp, must be overt. If this were not the case, then a scope-marker could move, leaving a trace (i.e., a non-overt scope-marker). Sentences like (44d) would then be grammatical, since the trace of the scope-marker would be in the intermediate Comp. The ungrammaticality of (44d) is evidence that this is not the case. There is evidence for this in Romani as well, which will be given in chapter 4. It will be considered to be a property of scope-markers that they are overt. This will be brought up again in chapter 5 (section 5.3). There is one construction in German which seems to contradict this assumption. This will be discussed in section 3.4.1, where a solution to the problem will be proposed.

The Wh-chain Condition would also hold in English and other languages which are considered to have S and NP as bounding nodes. To account for languages like Spanish and Italian, with S' as a bounding node, the condition would have to be slightly revised. This will be discussed in chapter 5. Note that it is still not clear why any of these languages do not allow partial wh-movement. Whatever the reason is, it would not have to (and probably should not) be incorporated into the Wh-chain Condition, which is a condition on a type of A'-chain. In section 3.3, it will be proposed that a certain aspect of German and Romani syntax is responsible for the possibility of partial wh-movement.

If partial wh-movement is handled together with full wh-movement, i.e., in terms of wh-chains, then it would be

expected that partial wh-movement in Romani is relatively unrestricted, as is full wh-movement. The Wh-chain Condition in Romani would be as in German, but without (50ciii) and (50eiii). This would allow Comps to be skipped and island violations to obtain. The problem is that, whereas island violations are possible in the case of full wh-movement, parallel constructions with partial wh-movement are ungrammatical. Compare (15), repeated here as (57a), with its partial wh-movement counterpart, (57b):

(57)a) (= (15)) ? Kas; [na fane [sosqe; [o Demiri mislinol
t; [(t;) so [marfum t; ?

Whom don't you know why Demir thinks that I-
hit?

b) * So; [na fane [sosqe; [o Demiri mislinol t; [kas;
[marfum t; ?

WHAT don't you know why Demir thinks whom I hit?

(The trace in the intermediate Comp of (57a) is in parentheses to indicate that, although it may be unnecessary, nothing rules it out.) There is additional indication that partial wh-movement is more restricted in Romani than the full wh-movement facts would suggest. As was pointed out earlier, it is not clear whether so in an intermediate Comp is a scope-marker or the complementizer (cf. (47)). Subjunctive clauses, however, should provide a good test for whether a Comp can be skipped in partial wh-movement structures, since such clauses are never introduced

last clause. In German, such an ambiguity never arises, due to the fact that subordinate clauses are marked as such by verb-final word order. The relative clause case ((58c)) is much more difficult to account for. Regardless of whether the scope-marker is necessary, it is unclear why the sentence is ungrammatical. There is no restriction on the number of clauses over which partial wh-movement can apply in relative clauses. The equivalent of (58c) with the subjunctive and indicative clauses reversed is grammatical, as shown in (59a). The full wh-movement equivalent of (58c) is also grammatical, and the same is true of the partial wh-movement equivalent with kaça ("with-whom") in the second Comp, rather than in the lowest one. These are given in (59b) and (59c) respectively:

(59)a) Ake _{NP} [o čavo; _S [so; _S [mislinav _S [so (t;); _S [o Demiri mangol _S [kaça; _S [te khelâv t;.

Here's the boy WHAT I-think WHAT/that Demir wants with-whom to I-dance.

b) Ake _{NP} [o čavo; _S [kaça; _S [mangav _S [(t;); _S [o Demiri te mislinol _S [(t;); so _S [khel'jum t;.

Here's the boy with-whom I-want Demir to think that I-danced.

c) Ake _{NP} [o čavo; _S [so; _S [mangav _S [kaça; _S [o Demiri te mislinol _S [(t;); so _S [khel'jum t;.

Here's the boy WHAT I-want with-whom Demir to think that I-danced.

Example (59a) is unrevealing in determining the nature of the Wh-chain Condition, since the so in the second clause could be the complementizer. I have no explanation for the ungrammaticality of (58c). This construction will be brought up again in chapter 4 in the discussion on topicalization. No solution will be offered there either, however. Putting aside this case, these facts, like the island case in (57b), seem to indicate that partial wh-movement in Romani does not skip a Comp. It appears, then, that partial wh-movement is restricted in a way that full wh-movement is not, since island violations are possible with the latter. This problem may be solved by reconsidering the status of the Doubly Filled Comp Filter in Romani. There is some evidence showing that it applies in a weaker form. This will be discussed in chapter 4, where the above problem will be brought up again, and the Wh-chain Condition of Romani will be made precise.

In the case of Dialect II, partial wh-movement must be investigated with respect to wh-movement to Top. This will be done in chapter 4. The impossibility of extraction out of relative clauses will be discussed there as well. For now, I will not propose to add to the Romani Wh-chain Condition any condition having to do with extraction over an NP-boundary, since this is usually possible.

One question which must be addressed is how the proposed wh-chains conform to the general rule of chain formation, namely that each element must c-command the next.

This is unproblematic for most of the constructions discussed so far, in which each member is the sole occupant of one Comp. An exception to this is the construction with a complementizer together with a trace in an intermediate Comp. In certain accounts of the that-trace effect in English (which in German is minimal and in Romani does not exist, presumably since the subject NP is lexically governed), it is claimed that the overt complementizer prevents the wh-trace in Comp from c-commanding the trace in subject position (cf. Pesetsky (1981)). Such accounts could not hold in this analysis, since a wh-trace in an intermediate Comp containing a complementizer would never c-command into the lower clause and could therefore not form a chain with an element in a lower Comp. For this reason, this construction must be considered to consist of adjunction rather than a branching Comp. In chapter 4, a structure will be proposed for a type of construction in Romani which will bring up the same problem. At that point I will suggest an adjunction structure and discuss it in detail. Until then, the exact structure, as well as the problem of the that-trace effect in English, will be left open.

3.3. Multiple Questions

In this section, I will present the facts of double questions which are directly relevant to the analysis of partial wh-movement developed up to this point.

In both German and Romani, double (or multiple) questions may take the form they do in English, i.e., one wh-phrase moves to the [+wh] Comp and the other remains in situ. Examples are given in (60) and (61) in German and Romani respectively:

(60)a) Wer; [_Shat t; wen gesehen?

Who saw whom?

b) Wo; [_Sglaubst du [_St; dass [_SHans wen t;
gesehen hat?

Where do you think that Hans saw whom?

c) Wer; [_Sglaubt t; [_Sdass [_SHans wen ansieht?

Who thinks that Hans sees whom?

(61)a) Ko; [_St; dikhlâ kas?

Who saw whom?

b) Kaj; [_Smislinea [_Sso [_So Demiri dikhlâ kas t;?

When do you think that Demir saw whom?

c) Ko; [_St; mislinol [_Sso [_So Demiri dikhol kas?

Who thinks that Demir sees whom?

In the (a) and (b) sentences, both wh-phrases originate in the same clause, whereas in the (c) sentences, one originates in the matrix clause and the other in the embedded clause.

As would be expected, it is also possible for the moved wh-phrase to move to a Comp lower than the [+wh] Comp, i.e., to undergo partial wh-movement. Then the [+wh] Comp contains a scope-marker, as usual. The partial wh-movement equivalents of (60b) and (61b) are given in (62a) and (62b)

respectively:

(62)a) Was;_S [glaubst du [wo;_S [Hans wen t;_S gesehen
hat?

WHAT do you think where Hans saw whom?

b) So;_S [mislinea [kaj;_S [o Demiri dikhla[^] kas t;_S ?

WHAT do you think where Demir saw whom?

In these sentences, wo and kaj ("where") move to the first Comp and are coindexed with the scope-marker in the [+wh] Comp. As in other cases, in German the moved wh-phrase may not move to a non-P-Comp. (63) is ungrammatical:

(63) * Was;_S [willst du [wann;_S [Hans wen t;_S anruft?

WHAT do you want when Hans call whom?

The moved wh-phrase must also obey the Wh-island Constraint in German. (64) is ungrammatical for this reason:

(64) * Wo;_S [weisst du nicht [warum;_S [Hans wen t;_S t;_S
angerufen hat?

Where don't you know why Hans called whom?

As is expected, then, wh-movement in multiple questions is a subcase of ordinary wh-movement, following the Wh-chain Condition.

However, this is not the only possible construction for multiple questions in German and Romani. In these languages, more than one wh-phrase may move. I will refer to this as double (or multiple) wh-movement. In Romani, the two wh-phrases appear to be able to move to the same Comp (which seems to indicate a weaker version of the Doubly

Filled Comp Filter). [6] In both German and Romani, the second of two wh-phrases may move to a lower Comp. The equivalents of (60b-c) and (61b-c) with this type of double wh-movement are given in (65) and (66) respectively. The sentences in (67), corresponding to those in (61), illustrate the Romani construction with two wh-phrases in one Comp:

(65)a) Wo_j [glaubst du [wen_j [Hans t_j t_i gesehen hat?
Where do you think whom Hans saw?

b) Wer_j [glaubt t_i [wen_j [Hans t_j ansieht?
Who thinks whom Hans is looking at?

(66)a) Kaj_j [mislinea [kas_j [o Demiri dikhlâ t_j t_i ?
Where do you think whom Demir saw?

b) Ko_j [t_i mislinol [kas_j [o Demiri dikhol t_j ?
Who thinks whom Demir sees?

(67)a) Ko_j kas_j [t_i dikhlâ t_j ?
Who whom saw?

b) Kaj_j kas_j [mislinea [so [o Demiri
dikhlâ t_j t_i ?
When whom do you think that Demir saw?

c) Ko_j kas_j [t_i mislinol [so [o Demiri
dikhol t_j ?
Who whom thinks that Demir sees?

(In (67) the wh-phrases are in the most common order, but the opposite order is also possible.) I will discuss the construction in (67) further below and will concentrate now on the one represented in (65)-(66).

Before considering the double wh-movement constructions in detail, it should be noted that they support the positing of a condition on S-structure representation rather than subjacency as a condition on movement. Consider, for example, sentence (65a) above. As will be shown in detail, the construction is in accordance with the Wh-chain Condition, since there is a chain of wh-elements which does not skip any Comps. However, the construction violates subjacency. In order for wo to reach the top Comp, it must either move through the Comp filled by wen, violating the Doubly Filled Comp Filter, or it will move to the top Comp in one step over two S nodes, violating subjacency.

The first thing to notice about double wh-movement is that, as in the case of partial wh-movement, a wh-phrase ends up in a [-wh] Comp. However, there is no scope-marker in the position from which this wh-phrase takes scope, since this Comp is filled by the first wh-phrase. It is not the case that the second wh-phrase does not need to be part of a wh-chain, however. In German, when two wh-phrases do not originate in subjacent clauses or the same clause, a scope-marker must appear in the intermediate Comp if the second wh-phrase moves only as far as the lower Comp. This is illustrated in (68):

(68)a) * Wer; _S [glaubt t; _S [dass _S [ich meinte
 [mit wem; _S [Jakob t; _S gesprochen hat?
 Who believes that I thought with whom
 Jakob talked?

b) Wer; _S [glaubt t; _S [dass _S [ich meinte
 [dass _S [Jakob mit wem gesprochen hat?
 Who believes that I thought that Jakob
 talked to whom?

c) Wer; _S [glaubt t; _S [mit wem; _S [ich meinte
 [t; _S dass _S [Jakob t; _S gesprochen hat?
 Who believes with whom I thought that Jakob talked?

d) Wer; _S [glaubt t; _S [was; _S [ich meinte
 [mit wem; _S [Jakob t; _S gesprochen hat?
 Who believes WHAT I thought with whom Jakob
 talked?

(68a) is ungrammatical because the second wh-phrase mit wem moved to Comp, but is not linked by a wh-chain to a [+wh] Comp. This is not necessary (or possible) in (68b), where it does not move at all at S-structure. (68c), in which it moved to the Comp subjacent to the clause with the [+wh] Comp, and (68d), in which it moved to a lower Comp and is coindexed with a scope-marker in the higher Comp, are grammatical. This indicates that when movement takes place, a wh-chain is necessary. Note that this does not appear to hold when the two wh-phrases originate in the same clause. If the second wh-phrase moves to the lowest of three Comps, the intermediate Comp can be filled by either was or the

complementizer, as shown in (69):

(69)a) Mit wem; [₅glaubst du [₅was; [₅ich glaube
[₅welche Artikel; [₅Hans t; t; schreibt?
With whom do you think WHAT I think which articles
Hans is writing?

b) Mit wem; [₅glaubst du [₅t; dass [₅ich glaube
[₅welche Artikel; [₅Hans t; t; schreibt?
With whom do you think that I think which articles
Hans is writing?

However, in this case, as opposed to (68), in which the first wh-phrase originated in the highest clause, the intermediate Comp may be filled by the trace of the first wh-phrase. It seems, then, that the second wh-phrase, if it moves, must be part of a wh-chain which links it to the first wh-phrase or its trace. The latter is, in turn, linked to the [+wh] Comp. This means that two (or more) wh-phrases with the same scope are members of one wh-chain. The only way this could work technically would be for them to have the same index. It may be that in multiple wh-movement constructions, a type of absorption, as discussed in Higginbotham and May (1981) or Huang (1982b), takes place. The rule is considered to apply at LF. It allows both wh-phrases, once the second one has been moved to its scope position, to bind their variables. The rule in a sense absorbs the features of the two wh-phrases into a single super feature matrix. Huang states the rule as in

(70):

(70) $\left[\underset{s}{\left[\underset{Comp}{\left[WH_1, WH_2, \dots, WH_n \right]} \right]} \right] \rightarrow [WH_{(1,2,\dots,n)} \underset{s}{[\dots]}]$

This rule will, then, turn the LF representation (71b) of

(71a) into (71c):

(71a) Who saw what?

b) $\left[\underset{s}{\left[\underset{Comp}{\left[\text{What}_j \text{ who}_j \right]} \right]} \right] \left[\underset{s}{t_i \text{ saw } t_j} \right]$

c) $\left[\underset{s}{\left[\text{For which } (j, j \text{ a thing}; i, i \text{ a person}) \right]} \right] \left[\underset{s}{i \text{ saw } j} \right]$

I will assume that such a rule always applies in multiple questions. The rule in German and Romani would have to apply at S-structure, since the Wh-chain Condition applies at this level. The rule could be considered to form abstract wh-operators carrying a double (or multiple) index and directly dominating the wh-element which occupied the Comp prior to absorption. In each case, the operator would be the same type of element as its daughter, i.e., a true wh-phrase, a scope-marker or a trace. After absorption, the S-structure of the sentences in (69) would be as in (72):

(72a) $\left[\underset{s}{\left[\underset{WH_i-j}{\text{mit wem}_j} \right]} \right] \left[\underset{s}{\text{glaubst du}} \right] \left[\underset{s}{\left[\underset{WAS_i-j}{\text{was}_j} \right]} \right]$
 $\left[\underset{s}{\text{ich glaube}} \right] \left[\underset{s}{\left[\underset{WH_i-j}{\text{welche Artikel}_j} \right]} \right] \left[\underset{s}{\text{Hans } t_j \text{ } t_i} \right]$
 schreibt

b) $\left[\underset{s}{\left[\underset{WH_i-j}{\text{mit wem}_j} \right]} \right] \left[\underset{s}{\text{glaubst du}} \right] \left[\underset{s}{\left[\underset{T_i-j}{t_j} \right]} \right] \text{ dass}$
 $\left[\underset{s}{\text{ich glaube}} \right] \left[\underset{s}{\left[\underset{WH_i-j}{\text{welche Artikel}_j} \right]} \right] \left[\underset{s}{\text{Hans } t_j \text{ } t_i} \right]$
 schreibt

(WH = a true wh-phrase operator, WAS = a scope-marker operator, and T = a trace operator; for purposes of exposition, I will henceforth represent this structure by giving the double index directly to the original Comp

elements (true wh-phrase, scope-marker, trace).) The positing of absorption in these cases has the effect that two or more wh-phrases can be members of the same scope chain. In this way, the part of the Wh-chain Condition requiring that the head be in a [+wh] Comp ((50civ)) would be met. It must still be checked whether the multiple wh-movement constructions are in accordance with the rest of the Wh-chain Condition. (50ci-iii) are unproblematic. (50cv) specifies that scope-markers always appear to the left of a true wh-phrase. Since in double wh-movement constructions there are two true wh-phrases, (50cv) would require that scope-markers could occur to the left of either true wh-phrase. This means that scope-markers may not occur to the right of one true wh-phrase, unless they are to the left of another one (as in (68d)). This is certainly the case, as shown by the ungrammaticality of (73):

(73) * Wo_j;_j [glaubst du [mit wem_i;_j [Hans meint [was_i;_j;
[Jakob t_i t_j gesprochen hat?

Where do you believe with whom Hans thinks WHAT Jakob talked?

A problem might be caused by the fact that (50cv) would allow scope-markers and traces to appear in any order with respect to each other in Comps occurring between two wh-phrases. The constructions which would test this are highly complex, so that intuitions are unclear. The sentences in (74) should both be grammatical:

(74)a) ? Mit wem_{i;-j} [sagst du [t_{i;-j} dass [Hans glaube
[was_{i;-j} [Jakob meint [welche Artikel_{i;-j} [ich t_i t_j
schreibe?

With whom do you say that Hans believes WHAT Jakob
thinks which articles I am writing?

b) ? Mit wem_{i;-j} [sagst du [was_{i;-j} [Hans glaube [t_{i;-j}
dass [Jakob meint [welche Artikel_{i;-j} [ich t_i t_j
schreibe?

With whom do you say WHAT Hans believes that Jakob
thinks which articles I am writing?

Since intuitions are uncertain, I will assume that (50cv)
can hold.

(50e), the requirements on value chains, are
complicated to some extent by the multiple wh-movement
constructions. First, an abstract operator with two indices
will have to be able to bind a trace with only one of the
indices, and in some cases more than one such trace will
have to be bound by the same operator. Both of these
problems would arise in the case of an LF absorption rule as
well. It must be that an operator carrying two indices may
bind as many traces as it has indices. Sentences like (68c-
d) in which two wh-phrases with the same scope originate in
different clauses bring up an important fact about wh-
chains. Since a wh-chain must end in a value chain, as
stated in (50b), in these structures two wh-chains, whose
scopes overlap, will be formed. In (68c), for example, one
wh-chain will consist of the scope chain (WH_{i;-j}) and the

value chain (WH_{i-j}, t_i) , and the other wh-chain of the scope chain $(WH_{i-j}, WH_{i-j}, T_{i-j})$ and the value chain (T_{i-j}, t_j) . Note that the intervening trace in S-internal position, t_i in this case, does not break the larger scope chain. This can be accounted for by assuming that, whereas a doubly indexed operator may bind a trace with only one index, a trace with only one index could not bind an operator with two. This way, it would still hold that a trace in S-internal position would not be allowed to intervene in the chain. If the members of the chain carry only one index, this would be ruled out by (50ci,iii), which state that every element of a scope chain must be locally bound by an element in Comp. If the members of the scope chain carry more than one index, then a trace in S-internal position with only one index would not be a binder of these elements, and would, therefore, not break the chain. This restriction on binding could be stated as in (75):

(75) a binds b if the indices of a include the indices of b.

There is one question raised by the multiple wh-movement constructions which I have not considered. The ungrammaticality of (68a), in which the wh-phrases originate in different clauses, is attributed to the fact that the wh-chain is broken by the intermediate Comp, which contains no member of the chain. The question is what prevents the higher wh-phrase (wer) from moving down to the intermediate Comp, and then up to the higher Comp, leaving a trace in the

intermediate Comp. Similarly, it seems that there is nothing to prevent the lower wh-phrase (mit wem) from moving to the intermediate Comp and then down to the lower one, leaving a trace. In either case, a trace would appear in the intermediate Comp, so that the sentence should be grammatical. This problem does not arise with single questions. In this case, if a wh-phrase moved down, it would be bound by its trace, which is presumably ruled out by a general principle. When the double wh-movement construction is examined more carefully, it is seen that for one of the problematic cases, the same principle can be appealed to. Recall that when absorption applies, abstract operators are created which dominate the original elements in Comp. Although the original elements do not count as members of the wh-chain, they are still present in the structure. If mit wem in (68a) moved to the next higher Comp and then down, the structure would be as in (76):

(76) * $\begin{matrix} \text{wer}_i \\ \text{WH}_{i-j} \end{matrix} \text{] } \begin{matrix} \text{glaubt } t_j \\ \text{S} \end{matrix} \text{ [} \begin{matrix} \text{[} \text{t}_j \text{]} \\ \text{T}_{i-j} \end{matrix} \text{] } \text{ dass } \begin{matrix} \text{[ich} \\ \text{S} \end{matrix}$
 $\begin{matrix} \text{meinte } \begin{matrix} \text{[} \text{[} \text{mit wem}_j \text{]} \\ \text{S WH}_{i-j} \end{matrix} \end{matrix} \text{ [Jakob } t_j \text{ gesprochen hat}$

Since the abstract operator T_{i-j} is not branching, t_j still binds the original wh-phrase mit wem, violating the condition on traces. Note that, as was observed earlier, the presence of the complementizer does not prevent c-command, since otherwise no chain could be formed in the grammatical cases either. (This will be accounted for in chapter 4.) Note also that the problem is specifically that the wh-phrase is bound by the trace and not that the trace

is not bound by the wh-phrase. The trace does not have to be bound by the wh-phrase as long as it is bound by an element containing its index (in accordance with (75)), which in this case is the abstract operator in the highest Comp. This leaves the other problematic case to be resolved. The condition on traces cannot be appealed to here, since if wer moved first down and then up, it would not be bound by its trace. The structure would be as in (77):

(77) * $\begin{array}{c} \text{[} \text{WH}_{i-j} \text{ wer;} \text{]} \end{array} \begin{array}{c} \text{[glaubt } \underline{t}_i \text{; } \end{array} \begin{array}{c} \text{[} \text{T}_{i-j} \text{ } \underline{t}_j \text{;]} \end{array} \text{ dass } \\ \begin{array}{c} \text{[ich meinte } \end{array} \begin{array}{c} \text{[} \text{WH}_{i-j} \text{ mit wem;} \text{]} \end{array} \begin{array}{c} \text{[Jakob } \underline{t}_j \text{; } \\ \text{gesprochen hat} \end{array}$

I will propose that there is a condition as in (78):

(78) $\forall x_i$, x_i a wh-element in Comp, x_i must be contained in every scope chain containing the true wh-phrase with exclusively index i .

Elements contained in a chain would be understood as those which are members of the chain or are immediately dominated by members of the chain (i.e., by abstract operators). (78) would apply trivially in the case of single questions. If $\underline{x}$ is a true wh-phrase, then $\underline{x}$ itself would count as the true wh-phrase to meet the condition. With (78), the illicit multiple question construction exemplified in (77) can be ruled out. According to (78), the $\underline{t}_i$ in Comp in (77) should be contained in both scope chains containing wer, which are $(\text{WH}_{i-j}, \text{T}_{i-j}, \text{WH}_{i-j})$ and (WH_{i-j}) . The $\underline{t}_i$ in

Comp is contained in the first, but not in the second, violating condition (78). The requirement in (78) that the wh-phrase in question must carry exclusively index i prevents a doubly indexed abstract operator from allowing the condition to be satisfied. In (77), the lower abstract operator could otherwise count as the true wh-phrase in (78), since its index does include the index of t_i . It may seem undesirable that a separate condition must be established. However, this condition also subsumes (50bii) of the Wh-chain Condition, which requires that the final member of the scope chain be the first member of the value chain. This ensures that there will be no empty Comps between the scope chain and the value chain. (78) will also handle this. If x is a wh-element in Comp heading a value chain, then according to (78), it must be contained in the scope chain of the true wh-phrase with its index. It follows that it will be the final member of the scope chain and therefore that no Comps will be skipped. It might seem that replacing (50bii) with (78) would cause a problem in multiple wh-movement structures. The question is what would prevent a scope chain from crossing over its value chain rather than ending in its first member. In (77), for example, the scope chain corresponding to the value chain (WH_{i-j}, t_i) might be (WH_{i-j}, T_{i-j}) rather than (WH_{i-j}) . In this case, this would have the result of nullifying (78), and (77) would be incorrectly allowed. A scope chain like (WH_{i-j}, T_{i-j}) would be precluded independently, however.

This is due to the fact that the union of the scope chain and the value chain would form an improper wh-chain, in this case (WH_{i-j}, t_i, T_{i-j}) . Since t_i has only one index, it cannot bind T_{i-j} . The fact that one element does not bind the next makes this an improper chain. It seems then that given (78), (50bii) can be dispensed with. This is desirable, since, as was discussed earlier, (50bii) is the third statement in the Wh-chain Condition which requires that a Comp cannot be skipped. Although it would be preferable for (78) to follow from some larger principle, the condition does not seem ad hoc. It basically ensures that wh-elements appear only within their scope.

It seems, then, that (50) will hold for multiple wh-movement constructions, as long as condition (78) is adopted and absorption is assumed to apply. The positing of the absorption rule might allow the difference between languages with partial and double wh-movement and those without them to be stated. In the former, absorption applies in the syntax, whereas in the latter, it applies at LF. In order for the possibility of partial wh-movement to follow from this, absorption must be considered to apply in this case too. One possibility is that the scope-markers are base-generated without an index. Then, to create a chain, absorption will apply. Since the scope-markers had no index to begin with, the rule will simply consist of assigning them the index of the true wh-phrase. This means that in

multiple wh-movement constructions, scope-markers could directly be assigned the multiple index without the creation of an abstract operator dominating them. This has the advantage that no type of non-overt scope-marker (i.e., an abstract scope-marker operator) needs to be posited, so that it can be held that in all cases, scope-markers are overt. It still seems possible for a partial wh-movement construction to occur in a language like English, however. If scope-markers were base-generated in the appropriate places, they could form a chain with a true wh-phrase by free indexing rather than by absorption. It must be, then, that languages which do not permit absorption in the syntax do not have this type of A'-expletive (scope-marker) in their lexicon. It also seems plausible that languages with absorption in the syntax would not necessarily have a scope-marker in their lexicon. This would mean that a language could have multiple wh-movement without having partial wh-movement (but not vice versa). In the case of German, this might explain why partial wh-movement is not possible in relative clauses. The interrogative wh-words in German are distinct from the relative pronouns. The lexicon seems to contain a scope-marker corresponding to the former (was), but none corresponding to the latter.

The question arises of whether in languages like German and Romani absorption applies only in the syntax or also at LF. The relevant construction is one of double wh-movement where the second wh-phrase remains in situ (i.e., English-

type double questions, exemplified in (60)-(61)). If absorption applies only at S-structure, then the wh-phrase in situ would have to be part of the wh-chain. This would greatly complicate the statement of the Wh-chain Condition, which as stated does not apply to wh-phrases in situ. It seems preferable for absorption to be allowed to occur at LF as well as at S-structure. There is also some evidence in support of this, although it is not strong. One case is the construction in which the wh-phrase in situ occurs in a clause higher than the one where the moved wh-phrase originated, as in (79):

(79)a) ? Mit wem; [_Ssagte Hans wem [_St; dass [_SJakob t;
getanzt hätte?

With whom did Hans tell who that Jakob had danced?

b) ? Was; [_Ssagte Hans wem [_Smit wem; [_SJakob t;
getanzt hätte?

WHAT did Hans tell who with whom Jakob had danced?

The sentences are not completely acceptable, due to the crossing of wh-phrases (possibly a superiority effect, cf. Chomsky (1976), Pesetsky (1984)). They have approximately the same status as the English counterpart of (79a), which is not completely ungrammatical. If absorption took place in the syntax, then the S-structure of the sentences in (79) would be as in (80):

(80)a) mit wem;-j [_Ssagte Hans wem;-j [_St;-j dass [_SJakob
t; getanzt hätte

b) was_i [-j] [₅sagte Hans wem_i [-j] [₅mit wem_i [-j] [₅Jakob t_i
getanzt hätte

Since wem has a double index and c-commands the lower clause, it would bind the trace in the lower Comp in (80a) and the wh-phrase in (80b). The scope chain would then be broken and the sentences would be ungrammatical. It seems then that languages like German and Romani allow absorption to apply both at S-structure and at LF. This argument is somewhat weak, since the sentences in question are not completely acceptable. Another indication that absorption does not take place only at S-structure is that wh-phrases in situ are not subject to island violations. The sentence in (81) is ambiguous between wide and narrow scope interpretation of the wh-phrase in situ:

(81) Wer_i [₅fragte t_i Hans [₅wo_j [₅er was t_j gekauft
hätte?

Who was asking Hans where he bought what?

(This construction will be discussed in more detail later on.) If absorption applied only at S-structure, then in the case of wide-scope interpretation, the wh-phrase in situ (was) would be part of the wh-chain of the wh-phrase in the highest Comp (wer). The wh-chain would skip a Comp (the one containing wo), which is usually not permitted. It would be necessary to make a distinction between a wh-phrase in situ and a wh-trace in this respect. This would be difficult, since in other ways the wh-phrase in situ behaves like a trace rather than like a wh-phrase. The Comps between the

wh-phrase in situ and the higher true wh-phrase in Comp may not contain a scope-marker. Compare the grammatical double wh-movement construction in (65a) to the parallel wh-in-situ construction in (82):

- (82) * Mit wem; [₅glaubst du [₅was [₅ich glaube [₅was
 [₅Hans welche Artikel t; schreibt?
 With whom do you think WHAT I think WHAT Hans which
 articles is writing?

The sentence is grammatical only if both intermediate Comps are filled by the complementizer. The Wh-chain Condition appears to ignore a wh-phrase in situ (except for the requirement that there be at least one other wh-phrase in a wh-chain corresponding to its scope). I will assume then that wh-phrases in situ work as in English, i.e., that in these cases, absorption takes place at LF after LF movement of the wh-phrase. It will be seen further below that this can account for interesting effects on scope possibilities. The environment for the absorption rule would simply be the occurrence of more than one wh-phrase (including scope-markers) in Comp. If the rule applied to wh-phrases with different scopes, then the Wh-chain Condition would be violated, since one [+wh] Comp would not contain the head of a wh-chain. Absorption would be stated as in (83):

(83) Absorption:

$$wh_i, wh_j, \dots, wh_n \rightarrow WH_{(i-j-\dots-n)}$$

where wh is a true wh-phrase, scope-marker or wh-trace,
and wh is in Comp, and $i, j, \dots, n$ can be null.

The wh with no subscript would be a scope-marker. In the case where true wh-phrases or scope-markers are absorbed, the output of the rule would be interpreted as creating an abstract operator. (83) would apply both at S-structure and at LF in German and Romani, and only at LF in languages like English.

The absorption analysis nicely handles an aspect of the Romani construction with more than one wh-phrase in Comp ((67)). In these constructions, resumptive pronouns may occur in the same clause as the wh-phrases. This appears directly to violate the Resumptive Pronoun Rule discussed in chapter 2 ((23)). All the possibilities in the sentences in (84), indicated by parentheses, exist:

(84)a) $\left[\begin{smallmatrix} \text{Ko;} \\ \text{WH}_{i-j} \end{smallmatrix} \text{kas}_j \right] \left[\begin{smallmatrix} (\text{ov};) \\ \text{S} \end{smallmatrix} \text{mar}'\text{ja} (\text{le}_j) \right]?$
Who whom (he) hit (him)?

b) $\text{So}_{i-j} \left[\begin{smallmatrix} \text{mislinea} \\ \text{S} \end{smallmatrix} \left[\begin{smallmatrix} \text{ko;} \\ \text{S} \end{smallmatrix} \text{kas}_j \right] \left[\begin{smallmatrix} (\text{ov};) \\ \text{WH}_{i-j} \end{smallmatrix} \text{mar}'\text{ja} (\text{le}_j) \right] \right]?$

WHAT do you think who whom (he) hit (him)?

The Resumptive Pronoun Rule states that a resumptive pronoun may not be bound by an overt operator within an S'. In these cases, it would be claimed that it is not the overt wh-phrases which are binding the resumptive pronouns, but the non-overt operator with the combined index. A

resumptive pronoun still may cooccur with a wh-phrase in S' only when the two wh-phrases are in the same Comp. When they are in different Comps, even though absorption takes place, the resumptive pronoun is illicit, as shown by the ungrammaticality of (85):

(85) ?* [_{WHi-j} ko;] [misline _s [[_s _{WHi-j} kas;] [(ov;)
marja le; ?

Who do you think whom (he) hit him?

This could be explained by the fact that the overt wh-phrase (kas) still c-commands the resumptive pronoun in this case, since it is the only element dominated by the operator.

It has still not been explained why Romani allows constructions like (67) at all, since they should be ruled out by the Doubly Filled Comp Filter. Possibly, absorption itself is responsible for this. More than one wh-phrase could cooccur in Comp only if absorption had taken place, which has the effect of combining them into one operator. This would correctly predict that two (or more) wh-phrases could cooccur in Comp only if they had the same scope. The ungrammaticality of (86), as compared to examples like those in (67) illustrates this:

(86) * So; [pučhlân e čhave [kaj; kas; [ov marja t; t; ?
WHAT did you ask the boy where whom he hit?

Two questions arise at this point. One concerns Romani in particular. If two wh-phrases with the same scope can cooccur in one Comp, it seems that a scope-marker and a wh-

phrase could also cooccur, since absorption takes place in partial wh-movement as well. This is impossible, however, as shown by the ungrammaticality of (87):

- (87) * So; [₅misline [₅so; kas; [₅dikhlûm t; ?
 WHAT do you think WHAT whom I saw?

This could be explained by the fact that no abstract operator is formed in this case (since the scope-marker has no index to begin with), so that there are still two distinct elements in Comp. The second question is more problematic. If absorption allows the Doubly Filled Comp Filter to be circumvented, then this should hold in German as well. The ungrammaticality of (88) shows that this is not the case:

- (88) * [Wo; mit wem;] [₅hat Hans t; t; gesprochen?
_{whi-j}
 Where with whom did Hans talk?

One possible solution would be for languages to differ in the ordering of the Doubly Filled Comp Filter with respect to the absorption rule. In German, the former would apply first, ruling out the cooccurrence of any two wh-phrases, whereas in Romani absorption could apply first, allowing the Doubly Filled Comp Filter to be circumvented. Since ordering statements are generally undesirable, it might be preferable to analyze this as a difference in the operation of the Doubly Filled Comp Filter. Romani would have a weaker form of the Filter, which would look only as far down as the element directly under the Comp node, so that two wh-phrases dominated by one operator would not be ruled out.

In German, on the other hand, the Filter would apply to elements further down.

Multiple questions manifest many interesting properties, some of which I will discuss here, but only briefly. In languages without multiple wh-movement or without any syntactic wh-movement, multiple questions are highly complex and pose various problems. Languages like German and Romani, which allow multiple wh-movement in addition to the English type constructions, can be expected to be even more complicated in this respect. I will first discuss ambiguities which arise from the possibility of multiple wh-movement, and then present certain superiority facts.

In cases where a Comp could be subcategorized as either [+wh] or [-wh], ambiguities arise in German and Romani which do not occur in English. Consider the sentences in (89). (Since the sentences in this discussion are ambiguous, I will indicate only the parts of the structure which are shared by all of the readings.)

(89)a) Wer; [₁sagte t; [₅wo; [₅[Hans t; getanzt hätte?
Who said where Hans danced?

(= "Who said where Hans danced?" or "Who said that Hans danced where?")

b) Ko; [t; vaker'ja [kaj; [o Demiri khel'ja t; ?
 Who said where Demir danced?

(= "Who said where Demir danced?" or "Who said that
 Demir danced where?")

The most natural interpretation is the one given in the first translation. The lower Comp is considered to be [+wh], so that there are two distinct wh-chains. The lower clause is interpreted as an indirect question, as in English. With slight stress on the lower wh-phrase, the second interpretation is readily available. In this case, the embedded Comp is [-wh] and the lower wh-phrase forms a chain with the higher one, i.e., takes wide scope. With this interpretation, the construction is one of a double direct question. A second type of ambiguity was seen in (81) above and occurs in English as well. A wh-phrase in situ may move to any [+wh] Comp at LF, so that there can be an ambiguity between wide and narrow scope. Since German and Romani also have the option of multiple wh-movement, an interesting difference in scope possibilities obtains. Whereas a wh-phrase in situ can have wide or narrow scope, a wh-phrase moved at S-structure is constrained by the Wh-chain Condition (since it becomes part of the chain when it moves). The comparison can be made by considering sentences with three clauses in which the first two Comps are [+wh]. The complexity of such sentences causes a decrease in acceptability, but the distinction remains clear. In (90)-(91), the judgments represent those of the wide scope

interpretation:

(90)a) ? Wer_i [_ifragte t_i dich [_iwo_j [_idu glaubtest [_it_j
dass [_iJakob wen t_j gesehen hätte?
Who asked you where you thought that Jakob whom saw?

b) * Wer_i [_ifragte t_i dich [_iwo_j [_idu glaubtest [_iwen_k
[Jakob t_k t_j gesehen hätte?
Who asked you where you thought whom Jakob saw?

(91)a) ? Ko_i [_it_i pučhlâ tut [_ikaj_j [_imisline [_iso
[o Demiri dikhlâ kas t_j ?
Who asked you where you-think that Demir saw who?

b) ?* Ko_i [_it_i pučhlâ tut [_ikaj_j [_imisline [_ikas_k [_io
Demiri dikhlâ t_k t_j ?
Who asked you where you-think whom Demir saw?

(all sentences = "Who asked you where you think that
Hans saw who?")

All the sentences in (90)-(91) are grammatical with the narrow scope interpretation (i.e., the single direct question). As was pointed out above, the wh-phrase in situ appears not to be constrained in island configurations. The moved wh-phrase in the (b) examples is, however. It cannot form a chain with the highest wh-phrase, due to the intervening [+wh] Comp, so that the wide-scope interpretation is unavailable. This is an interesting result, since an S-structure constraint (the Wh-chain Condition) is affecting interpretation. This is a consequence of S-structure absorption, which LF absorption

cannot destroy. In a sense these languages have part of LF handled at S-structure.

The Romani cases raise several questions. First, as in the partial wh-movement case illustrated in (57), island violations are apparently not possible. This problem will be returned to in chapter 4. Since in Romani two wh-phrases may appear in the same Comp, the lower wh-phrase in (91) can occur in either of the higher Comps as well. As is predicted by the analysis of absorption given above, the scope of this wh-phrase will depend on which Comp it appears in. Only narrow scope interpretation is possible for kas in (92a) and only wide scope in (92b):

- (92)a) ? Ko; [t; pučhlâ tut [kaj; kas_k [misline [so
[o Demiri dikhlâ t_k t_j ?
Who asked you where whom you-think that Demir saw?
(= "Who asked you where you think that Demir saw
whom?" with single direct question interpretation
only)
- b) ?? Ko; kas_k [t; pučhlâ tut [kaj; [misline
[so [o Demiri dikhlâ t_k t_j ?
Who whom asked you where you-think that Demir saw?
(= "Who asked you where you think that Demir saw
whom?" with double direct question interpretation
only)

These data are a consequence of the fact that two wh-phrases can cooccur in one Comp only if absorption takes place. In (92), *kas* undergoes absorption with *kaj* and therefore has

narrow scope, whereas in (92b) it is with ko and has wide scope. Again, LF phenomena occur at S-structure. The fact that (92b), as opposed to (91b), is possible (and would be better with a wh-phrase other than kas, which creates a garden path effect, since it is a likely argument of púchlâ ("asked")) will be accounted for in chapter 4, where the Wh-chain Condition in Romani will be determined.

It should be noted that although I have said little about triple questions, they pattern as expected to the extent that they are acceptable. The degree of acceptability seems to decrease as the number of clauses involved increases. The sentences in (93) should be three ways ambiguous, since the matrix verb subcategorizes for either a [+wh] or a [-wh] Comp, unlike in (90)-(91), where the Comp could be only [+wh]:

- (93)a) ? Wer; [₅sagte t; dir [₃wo; [₅Hans glaubte
 [₅t; dass [₅Jakob wen t; gesehen hätte?
 Who told you where Hans thought that Jakob whom saw?
- b) ? Ko; [₅t; vaker'ja tuqe [₅kaj; [₅o Demiri mislinol
 [₅so [₅i Arifa mar'ja kas t; ?
 Who told you where Demir thinks that Arifa saw whom?

For some reason, the narrow scope reading of the lowest wh-phrase is difficult, as is the case in English as well. It would be more natural to interpret these sentences as triple direct questions or, and possibly even better, as double direct questions with the wh-phrase in situ having wide

scope and the one in the intermediate Comp having narrow scope (i.e., this Comp would be [+wh]). Recall that the latter interpretation is unavailable if the lowest wh-phrase moves to Comp rather than remaining in situ. This is shown in (94), which cannot be interpreted as a double direct question. The triple direct question interpretation is the most natural. The narrow scope reading of the lowest wh-phrase (i.e., the single direct question interpretation), may be slightly easier than in (93):

(94)a) ? Wer; [_Ssagte t_i dir [_Swo; [_SHans glaubte [_Swen_K
 [_SJakob t_K t_j gesehen hätte?
 Who told you where Hans thought whom Jakob saw?

b) ? Ko; [_St_i vaker'ja tuge [_Skaj; [_So Demiri mislinol
 [_Skas_K [_Si Arifa dikhlâ t_K t_j ?
 Who told you where Demir thinks whom Arifa saw?

In Romani, the option of having more than one wh-phrase in Comp is again available. With kas together with kaj in the second or lowest Comp, the most natural interpretation is of a single direct question. The triple direct question reading is unlikely, but seems available:

(95)a) ? Ko; [_St_i vaker'ja tuge [_Skaj; kas_K [_So Demiri
 mislinol [_Sso [_Si Arifa dikhlâ t_K t_j ?
 Who told you where whom Demir thinks that Arifa saw?

b) ? Ko; [_St_i vaker'ja tuge [_Sso [_So Demiri mislinol
 [_Skaj; kas_K [_Si Arifa dikhlâ t_K t_j ?
 Who told you WHAT Demir thinks where whom Arifa saw?

The construction with all the wh-phrases in the highest Comp

has only the triple question interpretation, as is expected. The difficulty of interpretation makes the sentence highly marginal, however:

- (96) ?? Ko_i kaj_j kas_k [t_i vakerja tuqe [so [o Demiri
 mislinol [so [i Arifa dikhlâ t_k t_j ?
 Who where whom told you that Demir thinks that Arifa
 saw?

The last question I will address which specifically involves multiple questions is that of apparent superiority effects. As has been said earlier, since the structure is presumably flat, there should be no superiority effects. This appears to be the case in Romani (and, accordingly, all the examples given in this discussion are possible in Romani). German, on the other hand, often has preferences about the order of wh-phrases in a wh-chain. For example, speakers tend to find (97a) better than (97b), although both are grammatical:

- (97)a) Mit wem_i;_j [glaubst du [wo_i;_j [Hans t_i t_j tanzt?
 With whom do you think where Hans is-dancing?
 b) Wo_i;_j [glaubst du [mit wem_i;_j [Hans t_i t_j tanzt?
 Where do you think with whom Hans is-dancing?

In this case, the ordering of the elements in S-internal position (which corresponds to (97a)) may be involved. In certain cases an apparent ordering preference is due to a violation of the Case Inheritance Restriction, as in (98):

(98) * Wen_i-j_i [glaubst du [wo_i-j_i [Hans t_i t_j gesehen hat?
 Whom do you think where Hans saw?

In such cases, no separate condition is necessary. The most interesting cases involve movement of the subject. It was observed earlier that in simple cases, there appears to be a superiority effect to some degree, which is unexpected given the flat structure. This fact is illustrated again in (99):

(99) ? Mit wem_i [hat wer t_i getanzt?
 With whom did who dance?

The facts become more complex when double questions containing more than one clause are considered. When the second wh-phrase remains in situ, the construction is worse than (99), but intuitions vary to some extent, possibly depending on the wh-phrase in the higher Comp. This is illustrated in (100):

(100) ?* Mit wem_i [glaubst du [t_i dass [wer t_i getanzt hat?
 With whom do you think that who danced?

The proposed analysis has no way of accounting for this. Even more puzzling is the fact that the construction becomes completely ungrammatical when the lower wh-phrase (wer) moves to Comp rather than remaining in situ, as shown in (101):

(101) * Mit wem_i-j_i [glaubst du [wer_i-j_i [t_i t_j getanzt hat?
 With whom do you think who danced?

These facts would be problematic for any account. If the

subject trace had to be antecedent governed, then if anything (101) should be better than (100). These facts are even more intriguing when they are compared to those given in (36). (36b), repeated here as (102), shows that when the subject moves to the lowest Comp in a partial wh-movement construction, the result is grammatical:

- (102) (= (36b) Was; [_Sglaubst du [_Swer; [_St; heute ankommt?
 WHAT do you think who is arriving today?

This means that the problem with (101) must specifically involve double questions. Another interesting fact is that, whereas the construction in (100) becomes better when the wh-phrases are replaced by which wh-phrases or when a second wh-phrase in situ is added, this does not seem to hold of the construction in (101). Compare the sentences in (103), corresponding to (100), to those in (104), corresponding to (101):

- (103)a) ? Mit welchem Jungen; [_Sglaubst du [_St; dass
 [_Swelches Mädchen t; getanzt hat?
 With which boy do you think that which girl danced?
- b) ?? Mit wem; [_Sglaubst du [_St; dass [_Swer t; wo
 getanzt hat?
 With whom do you think that who where danced?
- (104)a) * Mit welchem Jungen;_j [_Sglaubst du [_Swelches
 Mädchen;_j [_St; t_j getanzt hat?
 With which boy do you think which girl danced?

b) * Mit wem_{i-j} [glaubst du [wer_{i-j} [t_i t_j wo
getanzt hat?

With whom do you think who where danced?

It would be necessary to examine the superiority facts in much more detail before an analysis could be formulated to account for these data. I will leave these questions open.

In summary, three types of wh-movement have been illustrated in German and Romani: full, partial and multiple. The latter two types violate the universal suggested in Lasnik and Saito (1984) stating that in languages with wh-movement in the syntax, a [-wh] Comp is never filled by a wh-phrase. This indicates that the condition represents a parameter (or the result of one) rather than an absolute universal. If the scope-marker is considered to be a type of wh-phrase, then their universal stating that a [+wh] Comp is always filled by a wh-phrase is not violated. In any case, German and Romani represent an additional type of language in their terms. The notions of wh-chain, scope chain and value chain have been introduced along with the Wh-chain Condition ((50)), an S-structure condition on representation, which replaces subjacency. It was shown that German and Romani allow absorption to take place in the syntax, and it was proposed that it is this possibility which distinguishes these languages from languages like English, in which absorption applies only at LF and there is therefore no partial or double wh-movement. In the remainder of this chapter, I will discuss two

problematic constructions, and in chapter 4 I will compare full and partial wh-movement in more detail by considering additional data. The notion of wh-chain will be further developed there and the level of LF will be considered.

3.4. Two Problematic Constructions

3.4.1. Movement of the Scope-marker

Up to now, I have assumed that scope-markers are base-generated in Comp and do not move, since it is presumably a property of scope-markers that they must be overt. In chapter 4 an analysis for certain Romani facts will be proposed which supports this. As was observed earlier, it appears that scope-markers do not move in German, since, if they did, there would be no way of ruling out sentences like (105):

- (105) * Was; [_Smeinst du [_Sdass [_SHans glaubt [_Smit wem;
 [_SJakob t; gesprochen hat?
 WHAT do you think that Hans believes with whom Jakob
 talked?

This sentence is ungrammatical presumably because the intermediate Comp contains a complementizer rather than a wh-element, thereby breaking the scope chain. However, there would be no violation of the Wh-chain Condition if the scope-marker were base-generated in the intermediate Comp and moved to the higher Comp. In this case, a coindexed trace would appear in the intermediate Comp along with the complementizer, and the chain would not be broken. It could

not be claimed that the presence of the complementizer prevents the trace from c-commanding the wh-phrase in the lower Comp, since otherwise full wh-movement constructions, in which traces appear in lower Comps together with complementizers, would be incorrectly ruled out. As was mentioned earlier, it must be assumed that the complementizer does not prevent the trace from c-commanding material in the lower clauses.

A problem arises with a construction in German which indicates that scope-markers do move and leave traces. It appears that, as in English, there are certain predicates in German which do not require a complementizer in an embedded complement. When there is a complementizer, the verb appears in final position, but when the complementizer is missing, the verb appears in second position:

(106)a) Hans glaubt, dass Jakob nach Hause geht.

Hans thinks that Jakob home is-going.

b) Hans glaubt, Jakob geht nach Hause.

Hans thinks Jakob is-going home.

c) * Hans glaubt, Jakob nach Hause geht.

Hans thinks Jakob home is-going.

Haider (1985a, forthcoming) observes that when an element is extracted out of an embedded clause with no complementizer, the word order of the embedded clause is verb-initial. He analyzes the construction as containing the trace of the moved wh-phrase in the embedded Comp. The trace counts as first position, so that the verb only appears to be first,

but really is in usual second position. Haider gives this as evidence for Comp-to-Comp movement. The following examples are given with the structure assumed by Haider (with S instead of Vmax):

(107)a) Mit wem; glaubt; [_S Hans t_j [_S t_i hat_K [Jakob t_i gesprochen t_K ?

With whom does Hans think has Jakob spoken?

b) * Mit wem; glaubt; [_S Hans t_j [_S [Jakob_m hat_K [_S t_m t_i gesprochen t_K ?

With whom does Hans think Jakob has spoken?

The sentences in (108) illustrate subject and object extraction in such constructions. (For purposes of exposition, I will return to the inaccurate representation of the verb S-internally.)

(108)a) Wer; [_S glaubt Hans [_S t_i [_S geht t_i nach Hause?
Who does Hans think goes home?

b) Wen; [_S glaubt Hans [_S t_i [_S hat Jakob t_i gesehen?
Whom does Hans think has Jakob seen?

(108a) shows that, as in English, the absence of a complementizer makes possible the extraction of the subject (although in German the that-trace effect is weak in any case). (108b) (as well as ((108a)) brings up the first problem with these constructions, namely that the Case Inheritance Restriction seems to be violated.

The second problem is the main one under discussion here, namely that the construction is possible with partial

wh-movement:

(109) Was; [_Smeinst du [_St; [_Sglaubt Hans [_Swen; [_SJakob
t; geschlagen hat?

WHAT do you think believes Hans whom Jakob hit?

In (109) the second clause contains no complementizer and the verb occurs in second position, if a trace is considered to be in Comp. This indicates that the scope-marker moved from the second Comp to the higher Comp. The problem is how (109) should be differentiated from (105), which has the same structure, but with the complementizer in the intermediate Comp.

A solution to the problem, which would also solve the problem of Case inheritance (as well as other problems, which the construction would pose later on) is to consider the top clause in these constructions to be parenthetical. The structures of (106b), (107a) and (108b) would be as in (110a-c) respectively:

(110)a) (Hans glaubt) [_S[Jakob geht nach Hause.

b) Mit wem; (glaubt Hans) [_Shat Jakob t; gesprochen?

c) Wen; (glaubt Hans) [_Shat Jakob t; gesehen?

According to this analysis, verbs would not subcategorize for complementizerless clauses in German. Non-verb-final word order in the second clause would instead indicate that the glauben clause is parenthetical. Since there is no lower Comp at all, no problems arise. The word order of the parenthetical expressions is the usual one for parentheticals in German: verb first unless sentence

initial. [7]

Several objections could be made to this suggestion. One is that speakers do not "feel" the expressions in parentheses in (110) to be parenthetical unless they are said with special intonation. In addition, some theory of parentheticals would have to be developed to explain why some languages allow this whereas others do not. French, for example, never permits lower clauses without a complementizer, and even in German, this is not possible with all predicates. This problem does not seem extremely severe, and I will leave it open.

As Thiersch (1978) observes, the expressions in question are often considered not to be parenthetical due to the fact that more than one can occur together (although intuitions are not always certain), as illustrated in (111):

(111)a) Hans glaubte, Jakob sagte, Ascher wäre gestern angekommen.

Hans thought Jakob said Ascher arrived yesterday.

b) ? Wen glaubte Hans, sagte Jakob, hätte Ascher angerufen?

Whom thought Hans said Jakob has Ascher called?

This in itself does not seem problematic, however, since it could be claimed that two parentheticals are occurring consecutively. The fact that the second parenthetical in (111a) can have verb second word order indicates that the first parenthetical does not count as the beginning of the

sentence. Verb initial word order is also possible, in which case there is a meaning change. The interpretation of (111a) is that Jakob said that Ascher arrived. If the word order were reversed ("sagte Jakob" instead of "Jakob sagte"), the interpretation is that Jakob said that Hans thinks that Ascher arrived. This could be seen as problematic for the parenthetical account, since the difference could be claimed to depend on whether the expression "Jakob sagte" is parenthetical. In (111a) it would not be. I will claim, on the other hand, that the difference results from a choice of considering "Hans glaubt" as the beginning of the sentence or not. If it is, a following parenthetical will be in verb initial word order and will be interpreted as parenthetical to the first parenthetical, rather than to the clause. If the first parenthetical does not count as sentence initial for a following parenthetical expression, the latter will be in verb second word order, which corresponds to an interpretation in which the second parenthetical expression is parenthetical only to the lower clause. This might be represented as in (112), with (112a) corresponding to (111a) and (112b) to the other possibility:

(112)a) (Hans glaubte) (Jakob sagte) Ascher wäre gestern
angekommen.

b) (Hans glaubte (sagte Jakob)) Ascher wäre gestern
angekommen.

In (112a), "Hans glaubte" is ignored in determining the word

order of the second parenthetical. This cannot occur in (112b), since the second parenthetical is part of the first.

Another objection to the parenthetical account would involve the inflection of the lower verb, which, although tense-independent, is related to the inflection of the higher verb, which is claimed to be parenthetical. If glauben, for example, is in the past tense, and the action of the lower clause follows that of glauben, the lower clause is best expressed in the conditional, as shown in (113):

(113) Ich glaubte, Hans würde weggehen.

I thought Hans would leave.

This is part of the phenomenon of "sequence of tenses." However, it is not an effective argument against the higher clause being parenthetical, since the phenomenon in this case could be based on semantics. In (113), the lower clause expresses an uncertain future in the past. This clause could stand on its own with the same semantic idea implied, as in (114a), and, even more significantly, would be in the same form in cases where the glauben clause seems unquestionably parenthetical (i.e., clause internal with parenthetical intonation), as in (114b):

(114)a) Hans würde weggehen.

Hans would leave.

b) Hans, glaubte ich, würde weggehen.

Hans, believed I, would leave.

In the case of verbs like sagen ("say"), in which the embedded clause represents indirect discourse, the same objection could be made, but it would be stronger, since, in these cases, the lower verb is subjunctive, as shown in (115):

(115)a) Hans sagt, Jakob sei krank.

Hans says, Jakob is-SUBJ sick.

However, the same counterarguments given for verbs like glauben could be used in the case of verbs like sagen. It would not be the verb itself in this case which would require the subjunctive, but the semantic-pragmatic notion of indirect discourse. The subjunctive clause could stand on its own, as in (116a), indicating that it is not a statement of truth but that someone has claimed it to be true. (116b) shows that, when the sagen clause is unquestionably parenthetical, the subjunctive would still be used:

(116)a) Jakob sei krank.

Jakob is-SUBJ sick.

(= "Jakob is said to be sick.")

b) Jakob, sagt Hans, sei krank.

Jakob, says Hans, is sick.

The strongest objection which could be raised against the parenthetical account is that extraction is possible out of the clause which is presumably parenthetical, as shown in (117):

(117)a) Wer; [_ssagt t; [_s[_sJakob sei krank?
 Who says Jakob is sick?

b) Warum; [_ssagt Hans t; [_s[_sJakob sei krank?
 Why does Hans say that Jakob is sick?

This seems to undermine the parenthetical account, since, in order for extraction to take place out of a clause, the clause must be part of the syntactic structure. There are two facts, however, which weaken this argument. One is that this holds only for indirect discourse verbs like sagen. The equivalents of (117) with glauben are ungrammatical:

(118)a) ?* Wer; [_sglaubt t; [_s[_sJakob ist krank?
 Who thinks Jakob is sick?

b) * Warum; [_sglaubt Hans t; [_s[_sJakob ist krank?
 Why does Hans think Jakob is sick?

((118a) would be acceptable in a situation where the clause "Jakob ist krank" is treated like a quote.) This actually strengthens the parenthetical argument in the glauben cases, since, if glauben could subcategorize for a complementizerless complement, there would be nothing to rule out the sentences in (118). The sagen facts might be accounted for by claiming that indirect discourse complements can appear with no complementizer. In this case, the clause would have similar status to that of a direct quote, and it, rather than the sagen clause, would in some sense be parenthetical. This means that two possibilities would exist for sagen constructions. In cases where extraction is out of the second clause, as in (119a),

could not be attributed to some independent semantic factor is shown by the grammaticality of the equivalent of (120a) with the complementizer in the second clause (the non-parenthetical construction):

- (121) Wer; [_Ssagte t; [_Sdass [_SJakob wen anrufen würde?
Who said that Jakob whom call would?

Another construction in which the impossibility of extraction out of the lower clause would be unexplained in a non-parenthetical account is one in which the parenthetical clause is embedded. Consider the sentences in (122):

- (122)a) * Das ist [_{NP}der Junge; [_Sder; [_S(Hans glaubt) geht
t; nach Hause.

That is the boy who Hans thinks goes home.

- b) * Das ist [_{NP}der Junge; [_Sder; [_S(Hans sagt) gehe
t; nach Hause.

That is the boy who Hans says goes home.

- c) * Ich frage mich [wer; [_S(Hans glaubt) geht
t; nach Hause.

I wonder who Hans thinks goes home.

- d) * Ich frage mich [_Swer; [_S(Hans sagt) gehe t;
nach Hause.

I wonder who Hans says goes home.

In a non-parenthetical account, these sentences should be grammatical. The verb of the second clause (glauben, sagen) is final, as required by the presence of the relative pronoun in its Comp in (122a-b) and the wh-phrase in (122c-d). The lowest clause is in verb second word order,

presumably due to the trace occupying first position. In the parenthetical account, these sentences would be ruled out by the fact that the parenthetical clauses are not in the correct word order for parenthetical expressions, which is verb initial (unless the expression is sentence initial). In addition, the lower clause should have verb-final word order, since its Comp contains a wh-phrase. The equivalents of (122a-b), given in (123), are grammatical with this word order:

(123)a) Das ist _{NP} [der Junge; _S [der; _S [(glaubt Hans) t; nach Hause geht.

That is the boy who (thinks Hans) home goes.

b) Das ist _{NP} [der Junge; _S [der; _S [(sagt Hans) t; nach Hause gehe.

That is the boy who (says Hans) home goes.

Here, the second clause is parenthetical and the third clause, being the next clause in the syntactic structure, has verb-final word order due to the relative pronoun in Comp. Even with correct parenthetical word order, the equivalents of the indirect question constructions in (122) are ungrammatical, as shown in (124):

(124)a) * Ich frage mich _S [wer; _S [(glaubt Hans) t; nach Hause geht.

I wonder who (thinks Hans) home goes.

b) * Ich frage mich _s [wer; _s [(sagt Hans) t; nach Hause
gehe.

I wonder who (says Hans) home goes.

As can be seen in the English translations, these sentences are unacceptable due to the impossibility of inserting this type of parenthetical into an indirect question.

It seems, then, that there is substantial evidence showing that German does not allow complementizerless embedded clauses. Non-verb-final word order in an embedded clause indicates either that the higher clause is parenthetical or that the embedded clause has the status of a direct quote. Given this evidence and the fact that a non-parenthetical account would cause numerous problems for the analysis discussed here, I will adopt the parenthetical account.

3.4.2. Dialects with Wh-phrase Copying

In Dialect II of Romani and in some dialects of German a type of wh-construction is possible in which the wh-phrase itself appears in more than one Comp. [8] The construction occurs in relative clauses (even in German) as well as in interrogatives. In the German relative clause construction, it is the relative pronoun (a demonstrative element) which occurs twice. In the interrogative, the second wh-word may be replaced by the relative pronoun also. The constructions are illustrated in (125) and (126) in German and Romani respectively:

(125)a) Mit wem; [_Sglaubst du [_Smit wem/dem; [_SHans t;
spricht?

With whom do you think with whom/that Hans talks?

b) Das ist [_{NP}der Junge [_Smit dem; [_Sich glaube
[_Smit dem; [_SHans t; spricht.

That's the boy with whom (that) I think with whom
Hans talks.

(126)a) Kas; [_Smisline [_Skas; [_So Demîri dikhlâ t; ?
Whom do you think whom Demir saw?

b) Ake [_{NP}o çhavo; [_Skas; [_Smislinav [_Skas; [_So Demîri
dikhlâ t;.

Here's the boy whom I think whom Demir saw.

Note that these dialects also allow all the constructions discussed up to now and the facts are the same. This additional construction raises new questions. The status of the second wh-phrase should be determined. It may be a type of resumptive copy of the wh-phrase. On the other hand, it might be thought that the second wh-phrase is the true one, whereas the first one is a scope-marker with the full set of features, including Case. Note that with full NP wh-phrases the construction is not possible, as shown in (127)-(128):

(127)a) * Mit welchem Jungen; [_Sglaubst du [_Smit welchem
Jungen; [_SHans t; spricht?
With which boy do you think with which boy Hans
talks?

b) * Wessen Buch; [_sglaubst du [_swessen Buch; [_sHans
t; liest?

Whose book do you think whose book Hans is reading?

(128)a) * Save čhave; [_smislinea [_ssave čhave; [_so Demiri
dikhlâ t; ?

Which boy do you think which boy Demir saw?

b) * Kasqo lil; [_smisline [_skasqo lil; [_so Demiri
ćitinol t; ?

Whose book do you think whose book Demir is reading?

Apparently, full NPs cannot be "copied." Since Dialect II is the one which allows wh-movement to Top (but usually only in relative clauses), it might be thought that the second wh-phrase is in Top rather than in Comp. The fact that in the interrogative, a resumptive pronoun is not permitted in the same clause indicates that this is not the case:

(129) * Kas; [_smislinea [_skas; [_so Demiri dikhlâ le; ?

Whom do you think whom Demir saw him?

The German construction raises several problems for the analysis proposed up to now. First, Case inheritance is possible, for some reason, as shown by the grammaticality of (130a-b) as compared to (130c-d):

(130)a) Wen; [_sglaubst du [_swen/den; [_sHans t; sieht?
Whom do you think whom Hans sees?

b) Wer; [_sglaubst du [_swer; [_st; nach Hause geht?
Who do you think who home goes?

c) * Wen; [_sglaubst du [_st; dass [_sHans t; sieht?
Whom do you think that Hans sees?

d) * Wer; [_Sglaubst du [_St; dass [_St; nach Hause geht?

Who do you think that is going home?

Note that (130b) is not expected to be ruled out by the ECP, since the trace is properly governed by the lower wh-phrase. However, as in the case of (130a), it should be ruled out by the Case Inheritance Restriction. This seems difficult to explain, but a modification of the Case Inheritance Restriction in chapter 4 (section 4.1.5.3) will provide a possible solution.

A larger problem is that the P-Comp Requirement ((51)) is violated in this construction, but only in the case of tense-dependent clauses. Infinitivals behave in the usual manner. This is illustrated in (131):

(131)a) * Wen; [_Sversuchst du [_Swen/den; [_SPRO t; anzurufen?

Whom are you trying whom to call?

b) * Was; [_Sversuchst du [_Swen; [_SPRO t; anzurufen?
WHAT are you trying whom to call?

c) Wen; [_Swillst du [_Swen/den; [_SHans t; anruft?
Whom do you want whom Hans call?

d) * Was; [_Swillst du [_Swen; [_SHans t; anruft?
WHAT do you want whom Hans call?

This is further indication that the prohibition against wh-phrases in the Comp of an infinitival clause is stronger than in the case of a tense-dependent clause. There still

seems to be no straightforward way to account for the grammaticality of (131c) given the analysis proposed above. In any case, this construction definitely indicates that the wh-phrase in the top Comp is the true wh-phrase, the second one being a type of resumptive element which does not count, in some sense, in the wh-chain.

In summary, no conclusion has been reached regarding this construction. It seems best to consider the higher occurrence of the wh-phrase to be the true wh-phrase and the lower one to be an A'-resumptive pronoun. This latter element has the following properties of a wh-phrase: it counts as an overt wh-phrase for the Resumptive Pronoun Rule in Romani, it properly governs a trace in subject position (if this is necessary), and it appears to pass on Case to a higher wh-phrase in German. On the other hand, it in some sense does not count as a member of the wh-chain. In chapter 4, section 4.1.5.1, I will bring up this construction again. It will be seen that it poses additional problems and that, interestingly, it behaves the same way in German and in Romani.

Notes to Chapter Three

1. This fact is often overlooked in the literature. See Haider (1984) and van Riemsdijk (1983), where it is claimed that in some northern dialects, all extraction out of this type of clause is impossible. I have not encountered any speaker for whom the sentences in (3) are ungrammatical. The closest I have found is a degree of hesitancy in some speakers, for whom the sentences might be indicated as "?", but still would not have the ungrammatical status of the sentences in (2). Similarly, speakers who find (2a) acceptable still find it significantly worse than the sentences in (3). It seems then that these dialectal differences can be ignored, since the distinction holds in all cases.

2. The tense-dependency of a clause is indicated by its inability to appear on its own as a matrix clause and its inability to express tense distinctions. In German, the present subjunctive is not used in clauses which are tense-dependent in Romance. Instead, the present indicative, or in some cases the past subjunctive, occurs. Since both of these forms can stand on their own (the past subjunctive with the meaning of a conditional), this test is meaningless. It is the case, on the other hand, that tense distinctions cannot be expressed in such clauses. This is shown in the following example:

- (i) Hans will / wollte / hatte gewollt / wird wollen, dass
Jakob nach Hause geht / *ging / *gegangen ist /
*gegangen war / *gehen wird.
Hans wants/wanted/had wanted/ will want that Jakob
goes/went/has gone/had gone/will go home.

Infinitivals differ from tense-dependent clauses in that infinitivals are tenseless. They are in a sense time-dependent rather than tense-dependent. The two types have in common that tense cannot be independently expressed, so that it is not surprising that they pattern together in some cases.

3. The dative wem (to whom, interrogative)/dem (to whom, relative) behaves like the objective wen/den in requiring Case-inheritance. Sentences (i)-(ii) have the same status as those in (2):

(i) ?* Wem; [_Sglaubst du [_St; dass [_SHans t; das Buch gibt?

To-whom do you think that Hans is giving the book?

(ii) * Das ist [_{NP}der Junge; [_Sdem; [_Sich glaube [_St; dass
[_SHans t; das Buch gibt.

That is the boy to-whom I think that Hans is giving
the book.

4. Actually the restriction is stronger than this, since in a conjunction of more than two NPs, an intermediate NP may not be extracted, as shown in (i):

(i) * Kas; [_Sdikhlan [_{NP}e Arifa hem t; hem e Demire?

Whom did-you-see Arifa and and Demir?

5. It might be thought that French relative clauses exhibit a partial wh-movement structure, as shown in (i):

(i) Voilà [_{NP}la fille; [_Sque [_Sje crois [_Squi; [_St; est
arrivée hier.

Here's the girl{that}I think who arrived yesterday.
{WHAT}

The qui in the lower Comp would be the wh-phrase and que the scope-marker. (Note that que is homophonous with the complementizer and with the wh-phrase what.) The sentence would not violate the ECP, since the wh-phrase properly governs its trace. There would be several problems with this account. First, if qui is a wh-phrase, then the second que in (ii), in which the object is relativized, could also be a wh-phrase:

(ii) Voilà [_{NP}la fille; [_Sque [_Sje crois [_Sque [_Stu connais t;.

Here's the girl{that}I think {that} you know.
{WHAT} {whom}

If this were the case, however, the set of wh-phrases for relative clauses would be distinct from the one for interrogatives. The interrogative wh-phrase referring to a person is qui, not que. If the second que in (ii) were replaced by qui, the sentence would be ungrammatical. It is not uncommon for relative pronouns to be distinct from interrogative wh-phrases, but in this case the two sets would be marked for different features, which seems dubious. The form of the relativizer qui/que would depend on Case,

whereas the form of the interrogative qui/que would depend on animacy. Another problem is that partial wh-movement would, for some reason, not be possible with PPs, as shown in (iii):

- (iii) * Voilà _{NP} [la fille; _̩ [que; _̩ [je crois _̩ [avec qui; _̩
 [_̩tu as parlé t;.

Here's the girl WHAT I think with whom you talked.

(The sentence is grammatical with avec qui in the first Comp and que in the second.) It could be claimed that partial wh-movement is only a saving device in French. This would mean that (ii) would be analyzed as having the complementizer que in both Comps. Partial wh-movement would not be an option, since the construction is not ruled out by the ECP. Similarly, since the ECP does not rule out the extraction of PPs, (iii) is ungrammatical. Aside from the inelegance of saving devices in general, the problem with this is that this saving device would be limited to relative clause constructions. Partial wh-movement with interrogatives would be impossible, as shown in (iv):

- (iv) * Que; _̩ [crois-tu _̩ [qui; _̩ [t; _̩ est arrivé hier?

WHAT do you think who arrived yesterday?

Furthermore, the interrogative construction is possible with qui replacing que in (iv), as shown in (v):

- (v) Qui; _̩ [crois-tu _̩ [qui; _̩ [t; _̩ est arrivé hier?

Who do you think who arrived yesterday?

This means that, although partial wh-movement is not possible with interrogatives, the status of qui in the lower Comp in (v) still must be explained. It would seem wrong to attribute this to a different phenomenon from the one accounting for the qui in (i). It could be claimed that the structure in (v) involves a second type of partial wh-movement, in which copies of the wh-phrase appear in each Comp (see section 3.4.2 for discussion of this construction in German and Romani). The solution seems extremely inelegant, however. Not only is partial wh-movement restricted to serving a saving function, but the rule differs depending on whether the construction to be saved is an interrogative or a relative clause.

The analysis put forth in Pesetsky (1981) seems preferable. He claims that qui in both (i) and (v) is a coindexed complementizer. That is, the complementizer takes on the index of the trace of the wh-phrase which passed through its Comp (and later deleted). Its form changes from

que to gui and since it is now coindexed with the trace, it properly governs it. Pesetsky's analysis still has the problem of explaining why, when the object wh-phrase moves to Comp, it may not also coindex the complementizer (i.e., why the lower Comp in (ii) cannot contain gui). For this reason, Pesetsky also has to claim that the mechanism he proposes is a saving device only.

6. See Toman (1981) for discussion of a similar construction in Polish and Czech.

7. Actually, as Thiersch (1978) points out, there are parentheticals with matrix clause (verb second) word order, which he categorizes in a class of "true parentheticals." He argues that the other cases (e.g., "glaubte Hans", "thought Hans") are not really parenthetical (in any construction), since they are more dependent on the rest of the sentence. The examples he gives of true parentheticals containing verbs are "Gott sei Dank" ("thank God") and "es ist furchtbar zu sagen" ("it is awful to say"). It could be claimed that these distinguish themselves from the other type in being full S's, which would account for the verb second word order. In any case, it is true that the types of expressions discussed here (the "glaubte Hans" type) have a limited distribution, which is true of the English equivalents as well. This does not seem to me to be a reason for not considering the expressions parenthetical, however, especially since when they can occur, they can be said with parenthetical intonation. It does seem necessary to categorize parentheticals into two types, those which are independent and those which are to some degree dependent on the rest of the sentence.

8. My German data is actually from only one speaker, who is from the Cologne area.

CHAPTER FOUR

FURTHER DEVELOPMENT OF THE WH-CHAIN CONDITION

In this chapter the notion of wh-chain will be further developed through the investigation of other constructions. So far, the most important claim with respect to wh-chains has been that all types of wh-movement (full, partial, multiple) behave alike in that in each case a wh-chain must appear at S-structure. Constructions with extraposed sentential subjects, which are problematic, will be considered in section 4.1. Several accounts will be proposed and an explanation involving the ECP will be adopted. In section 4.2, further extraction phenomena will be dealt with, which will lead to the determination of the Wh-chain Condition in Romani. The Romani topicalization facts, discussed in chapter 2, will be returned to in section 4.2.4. It will be seen that the analysis developed in the preceding sections can handle these phenomena. Note that until this section, the Top position in Romani will be ignored for ease of exposition, as in chapter 3. In the final section, the question of S-internal structure discussed in chapter 2 will be briefly reconsidered. It will be determined to what extent the analysis in chapters 3 and 4 depends on the non-VP account.

4.1. The Role of Government in Wh-chains

4.1.1. Extraposed Sentential Subjects

Before these constructions are discussed, some clarification is needed with respect to word order. In chapter 2 it was observed that word order is relatively free in German and Romani and it was concluded that there is no VP node. In discussing extraposition constructions, the question arises of why these exist, since a subject clause should be able to be base-generated postverbally. (Recall that in German, clauses can appear postverbally, since they do not need Case.) In German, it is clear that the construction does exist, since the expletive es, corresponding to it in the English equivalent, appears obligatorily. Due to the flat structure of German, there is no structural subject position and therefore there will be no non-argument NP (expletive) unless it is in the position of a moved clause. [1] If the subject were base-generated in postverbal position and remained there, there would be no expletive. I will suggest that, as in Romani, there is a constraint on directionality of θ -role assignment, but applying only to subject θ -role. This would be that subject θ -role could be assigned only to the left. This would have no effect on subject NPs, which must occur to the left of the verb in any case in order to receive Case. A distinction would then be made between object and subject clauses, as required. The former could be base-generated on either side of the verb, but the latter only to the left.

Case Resistance Principle of Stowell (1981), which appears not to hold in Romani (see section 4.1.5.2). (3a), in which the object NP is preverbal, is unusual but not ungrammatical, as is (3b) with the preverbal object clause. This indicates that the directionality requirement on θ -role assignment cannot be violated in the case of clauses. The distinction between NPs and clauses is probably related to Case, but it is not clear how this should be formulated. In any case, given the assumption, it is clear why a construction with a postverbal subject clause must consist of extraposition. The clause could otherwise not receive subject θ -role. Indirect indication for extraposition in Romani is that the facts involved correspond to a great degree to those of German. If the structures differed in the two languages, it would be extremely difficult to explain this. I will, then, assume that the Romani construction is parallel to the German one. The S-structure of (2) would be as in (4), with an empty expletive:

(4) ex^i nane $\acute{s}ukar$ [_{$\bar{s}^i$} so [_{s} i Arifa marja e Demire

Before continuing, a second, superficially similar Romani construction should be discussed. This consists of a postverbal clause following a member of a class of modal-type verbs: valâni ("is-necessary"), isi ("will"), nane ("won't"), śaj ("can"), našti ("can't"). Except for valâni, these verbs are invariant in form, without any tense or agreement marking (not even the neutral third person

singular). Since valâni is the only one which is inflected, and because it subcategorizes for NPs as well as S's, it is the most revealing, and I will use it as an example. Isi and nane are also the verbs of the existential there constructions. Śaj and naśti can be used as modals in uniconditional constructions (indicated by the absence of the subjunctive marker te). These verbs have highly interesting and complex properties, which I will not attempt to work out here. Only those relevant to this discussion will be presented. The postverbal clause in these cases must be subjunctive, as opposed to the extraposition cases, which are indicative. (More will be said about this later.) To understand the construction better, the facts involving NPs, which were briefly illustrated in chapter 2, will first be considered. There are two possible constructions with valâni and an NP. In the first, valâni agrees with the NP, which is in the nominative Case. talo may occur and a dative NP is usually also present. In the second, the NP is in either the nominative or accusative Case and valâni does not agree with it. Instead, valâni is in the third person singular form, and talo may not occur. As in the first case, a dative NP is usually present. In both cases, the word order is free, but there is a preference for the NP to be preverbal in the first case (especially if the dative NP is omitted) and postverbal in the second. The examples in (5) are given with these word orders:

(5)a) *Ĵanav sosqe o čhave valânen (mange) (tale).*

I-know why the boys-NOM are-necessary (to-me) (MASC-PL).

(= "I know why the boys are necessary/useful (to me).")

b) *Ĵanav sosqe valâni (mange) o čhave/e čhaven (*talo/*tale).*

I-know why is-necessary (to-me) the boys-NOM/ACC (MASC-SG/MASC-PL).

(= "I know why I need the boys."/ "I know why the boys are needed.")

(The examples are introduced by *Ĵanav sosqe* in order to avoid any confusion with topicalization. None of the constituents of the lower clause are in Top, since they all follow the wh-phrase in Comp.) The sentences in (5) are felt to have approximately the same meaning, with the slight nuances indicated in the translations. I will claim that the difference may be due to a difference in θ -role. I am assuming that the first construction ((5a)) is the same as that of any intransitive verb. *o čhave* is the subject, agreeing with the verb and allowing *talo* agreement. The second construction poses certain difficulties, and I can offer only a partial account. Although the NP may be nominative, it does not agree with the verb. This indicates that the verb is somehow assigning Case even if it is morphologically equivalent to the nominative. The construction is somewhat similar to the French ergative

construction, which also lacks agreement, illustrated in (6):

(6) Il est arrivé trois hommes.

It is arrived three men.

Belletti (1985) claims that the verb in such constructions (as well as all ergative verbs) assigns partitive Case to the following NP, which is indicated by the obligatory indefiniteness of the NP. The partitive Case is inherent rather than structural, accounting for the lack of necessity of an external argument. The Romani construction would be similar in the sense that a verb appears to be assigning some special inherent Case. According to Belletti, it would not be partitive, however, since the NP can be definite, as in (5b). [3] Morphologically this Case would be realized as nominative or accusative. I will claim that in these constructions only one obligatory θ -role is assigned, which is the object θ -role. It is for this reason that the NP is preferred on the right. In configurational languages like French, although no other θ -role is assigned, the external argument position still exists and must be filled by an expletive. In Romani, no expletive would be posited in such constructions. The fact that most of the verbs in the valâni class are invariant may be a consequence of the fact that they never appear with an argument with nominative Case assigned by Infl. As was mentioned in chapter 2, the talo facts in these cases are unproblematic. Since there is no

The fact that talo cannot occur in (8b) would, as in (5b), be explained by the lack of an argument coindexed to Infl.

For the following discussion, the most important claim argued for above is that German constructions with postverbal subject clauses are derived by extraposition. The same is true of Romani postverbal indicative clauses (the nane sukar type), but not of postverbal subjunctive clauses (with predicates like valâni). In the latter construction, the postverbal clause basically has the properties of a complement clause. The difference is that the predicate assigns no subject θ -role and that the Case of the clause is inherent. In the following discussion, I will turn to the wh-movement facts of extraposed clauses. The valâni type will also be considered for purposes of comparison.

The full wh-movement facts with extraposed sentential subject constructions are as would be expected. As long as the Case Inheritance Restriction of German is not violated, full wh-movement is possible, as shown in (11)-(12):

- (11)a) ? Mit wem_i [_S ist es^j schade [_S t_i dass [_S Hans t_i spricht?

With whom is it too-bad that Hans is talking?

- b) * Wen_i [_S ist es^j schade [_S t_i dass [_S Hans t_i anruft?

Whom is it too-bad that Hans is calling?

c) Das ist _{NP} [der Junge; _S [mit dem; _S [es^j schade ist
_{S^j} [t; dass _S [Hans t; spricht.

That's the boy with whom it's too-bad that Hans is talking.

(12)a) ? Kas; _S [ex^j nane _S [́]sukar _{S^j} [t; so _S [o Demiri
mar[́]ja t; ?

Whom isn't [it] good that Demir hit?

b) Ake _{NP} [o [́]chavo; _S [kas; _S [ex^j nane _S [́]sukar _{S^j} [t; so
_S [o Demiri mar[́]ja t; .

Here's the boy whom [it] isn't good that Demir hit.

(11b) is ungrammatical because it violates the Case Inheritance Restriction. (11a) and (12a) are judged as unacceptable by some speakers, as is the English sentence in (13):

(13) ? Who is it too bad that John hit?

This is generally attributed to the pragmatic oddity of questioning out of a factive. However, for all speakers, there is a clear distinction between these and sentences like (11b) as well as other ungrammatical constructions which will be given in this discussion. For purposes of exposition, I will consider sentences like (11a) and (12a) to be completely grammatical (as most informants do, once they have accepted the pragmatic oddity) and will no longer indicate them with "?". The relative clause counterparts, exemplified in (11c) and (12b), are fully acceptable in any case, since the factivity problem does not arise.

It would be expected that partial and double wh-

movement are also possible in these constructions, since they have been analyzed as parallel to full wh-movement. However, this is not the case. The partial wh-movement equivalents of (11)-(12), given in (14)-(15) respectively, are ungrammatical.

- (14)a) * Was; [_Sist es^j schade [_{S^j} mit wem; [_SHans t;
spricht?

WHAT is it too-bad with whom Hans is talking?

- b) * Was; [_Sist es^j schade [_{S^j} wen; [_SHans t; anruft?
WHAT is it too-bad whom Hans is calling?

- (15)a) * So; [_Sex^j nane súkar [_{S^j} kas; [_So Demiri marja t; ?
WHAT isn't [it] good whom Demir hit?

- b) * Ake [_{NP}o chavo; [_Sso; [_Sex^j nane súkar [_{S^j} kas;
[_So Demiri marja t; .

Here's the boy WHAT [it] isn't good whom Demir hit.

(No partial wh-movement equivalent of (11c) was given, since partial wh-movement is never possible in relative clauses in German.) Similarly, double wh-movement is impossible in such constructions, as shown in (16)-(17):

- (16)a) * Wo; -_j [_Sist es^k schade [_{S^k} wen; -_j [_SHans t; t;
anruft?

Where is it too-bad whom Hans is calling?

- b) * Wessen Ansicht nach; -_j [_Sist es^k t; schade
[_{S^k} wen; -_j [_SHans t; anruft?
In whose opinion is it too-bad whom Hans is calling?

(17)a) * Kaj_{i-j} [ex^k nane súkar [kas_{i-j} [o Demìri
marja t_i t_j ?

Where isn't [it] good whom Demir hit?

b) * Kasqe_{i-j} [ex^k nane súkar t_i [kas_{i-j} [o Demìri
marja t_j ?

For-whom is [it] not good whom Demir hit?

In the (a) sentences, the two wh-phrases originate in the same clause, and in the (b) sentences in different ones.

There is no difference in grammaticality.

The extraposed clauses in (14)-(17) are all indicative. Before considering possible explanations of these facts, I will briefly present the facts of non-propositional clauses, which are unproblematic. In German, as is expected, partial and double wh-movement are ungrammatical in these cases, due to the P-Comp requirement:

(18)a) Mit wem_i [macht es^j dir Spass [[PRO t_i zu
sprechen?

With whom does it make fun to-you to talk?

(= "With whom do you enjoy talking?")

b) * Was_i [macht es^j dir Spass [mit wem_i [PRO
t_i zu sprechen?

WHAT does it make fun to-you with whom to talk?

c) Mit wem_i [ist es^j notwendig [dass [Hans t_i
spricht?

With whom is it necessary that Hans talk?

d) * Was ; [_sist es^j notwendig [_smit wem ; [_sHans t ;
spricht?

WHAT is it necessary with whom Hans talk?

(18a-b) illustrate the contrast between full and partial wh-movement in the case of infinitival clauses, and (18c-d) in the case of tense-dependent clauses. Partial and double wh-movement are possible, as is full wh-movement, with Romani postverbal subjunctive clauses. (Recall that these are not equivalent to the other cases discussed here, since the clause is base-generated postverbally.)

(19)a) Kas ; [_svalâni [_st ; [_so Demîri te dikhol t ; ?
Whom is-necessary Demir to see?

b) So ; [_svalâni [_skas ; [_so Demîri te dikhol t ; ?
WHAT is-necessary whom Demir to see?

c) Kaj ; -j [_svalâni [_skas ; -j [_so Demîri te dikhol t ; t_j ?
Where is-necessary whom Demir to see?

This is the expected pattern, since different types of wh-movement are behaving alike. It is, then, the indicative facts which are in need of explanation. In determining the cause of ungrammaticality in (14)-(17), two basic approaches are possible. Either the problem lies with the wh-phrase in the higher Comp or with the one in the lower Comp. In the following sections, two solutions, each following one of these approaches, will be discussed and further data will be presented.

4.1.2. The Wh-phrase - Expletive Account

Since the presence of the expletive (whether overt or not) distinguishes these constructions from others, it could be suggested that the problem involves the cooccurrence of the scope-marker or wh-phrase in the higher Comp and the expletive within the same S'. (It might be noted that this is what speakers feel "intuitively" to be the problem, although such judgments are often insignificant.) Of course, in a solution of this sort, the lower wh-phrase must play some role as well, since otherwise full wh-movement would not be distinguished from partial and double wh-movement. In the full wh-movement constructions, exemplified in (11)-(12) above, a wh-phrase also cooccurs with the expletive. In this case, however, there is a trace rather than a wh-phrase in the lower Comp. It may be, then, that, in the case of partial and double wh-movement, the higher wh-phrase is coindexed with the expletive. This would arise through the presence of a wh-phrase in the lower Comp. If Comp is the head of S', which is being assumed, and S' receives the index of its head, i.e., of the lower wh-phrase in this case, then the expletive will be coindexed with the higher wh-phrase. The S-structure of (14a) and (16a) would be as shown in (20) and (21) respectively.

(20) * was; [_S ist esⁱ schade [_{S'} mit wem; [_S Hans t;
spricht

(21) * wo;_j [_S ist es^{i,j} schade [_{S'} wen;_j [_S Hans t;_i t;_j anruft
Since the lower wh-phrase is coindexed to the clause, the

expletive, which is also coindexed to the clause, will have the same index. The scope-marker in the higher Comp is also coindexed with the wh-phrase. In the case of double wh-movement, the wh-phrases each carry a double index due to absorption.

One problem with this account is that several unjustified assumptions are made. The first is that the S' should receive the index of its head. Stowell (1981) made a similar claim, but in a different connection. In explaining why a trace in Comp is properly governed by the verb, which according to his analysis would obtain only under coindexing, he claims that the element in Comp supplies the index for the clause as a whole. It is not clear in his account why this is the case, however, since he presents it as a consequence of his analysis. His account may argue only for optional rather than for obligatory coindexing. Lasnik and Saito (1984) find it necessary to assume that all categories are coindexed with their heads. If this assumption were adopted, a distinction would still have to be made between full wh-movement on the one hand and partial and double wh-movement on the other. This can be achieved in a relatively straightforward manner. As in Stowell's account, the presence of the complementizer would prevent the coindexing of the wh-trace and the clause, since it, rather than the wh-trace, could be assumed to be the head of Comp. In the constructions under discussion, the

complementizer is always present with full wh-movement. The S-structure of (11a), for example, would be as in (22):

(22) mit wem; [_Sist es^j schade [_St; dass [_SHans t;
spricht

If it is assumed that S' must, for some reason, be coindexed with its head, it will be coindexed with the complementizer in this case. Since the clause and the wh-trace are not coindexed, neither will the expletive and the wh-phrase.

There would still be other problems with this account. If S' obligatorily carries the index of its head, then every partial and double wh-movement construction would violate the i-within-i condition (cf. Chomsky (1981)). According to this condition, a constituent may not be coindexed with a constituent which it contains (possibly with the exception of its head). In a partial or double wh-movement construction, the wh-phrases in Comp are coindexed. Since each S' takes the index of its Comp, an embedded clause will be coindexed with the clause containing it. This problem may not be important, since in recent accounts (cf. Chomsky (1986)) the i-within-i condition is dispensed with.

One further question arises with respect to the premises of this account. This involves the difference in types of indexing, which has so far been ignored. Whereas the indexing between the wh-phrases and between the wh-phrase in Comp and S' is one of cosubscripting, the indexing between the expletive and the clause is generally represented by cosuperscripting (cf. Chomsky (1981)). In

order to claim that the higher wh-phrase in (20)-(21) is coindexed with the expletive, the two types of coindexing would have to be considered the same. In other words, coindexing would hold between two elements if one had the same subscript as the other one's superscript. It is not clear that this holds, although there are other cases, such as the i-within-i condition, in which the distinction between the two types of indexing is not made.

Assuming that these various problems could be solved, the claim of this account would then be that a wh-phrase (including a scope-marker) may not be coindexed to an expletive in its clause. The difference between Romani indicative and subjunctive postverbal clauses would be accounted for unproblematically, since the latter construction contains no expletive. The S-structure of (19b) would be as in (23):

(23) so; [valâni [kas; [o Demîri te dikhol t;
 ₅ ₅ ₅

There are, however, facts which are problematic for this account. As will be discussed later on, the so in the higher Comp of the Romani relative clause construction, exemplified in (15b), is not necessarily the scope-marker in Dialect II, but would have to be the complementizer if the wh-phrase is in Top. In this case, no wh-phrase would be cooccurring with the expletive. As will be seen as more data are presented, there are other phenomena which this analysis would not account for. The analysis is also

undesirable on metatheoretical grounds. In addition to being incomplete, in that its premises are unjustified, its claim that a wh-phrase must not cooccur with a coindexed expletive is simply a stipulation. A filter such as (24) could be posited:

(24) * [₅ wh_i ex_i]

This filter, although somewhat reminiscent of Binding Theory, does not follow from it in any obvious way or from any other principle. Further investigation is, of course, necessary. If the filter were found to be part of UG, this analysis should be reconsidered. I will now turn to an alternative analysis based on the ECP. Whenever new data are presented, it will be noted whether Filter (24) would account for them.

4.1.3. The ECP Account [4]

An analysis based on the ECP, in addition to better accounting for certain data than Filter (24), does not have the metatheoretical problem of the latter. In this case, a universal principle, the ECP, would be responsible for restrictions on partial and double wh-movement, which is expected. In the ECP account, the ungrammaticality of the constructions in (14)-(17) is attributed to the wh-phrase in the lower Comp rather than to the one in the higher Comp.

If the constructions in (14)-(17) are ruled out by the ECP, then there must be an illicit empty category at LF. In the case of multiple questions with the second wh-phrase in situ, it is generally assumed that this element moves to its

scope position at LF. Given this, it seems that in double wh-movement constructions the second wh-phrase should move at LF from the lower Comp to its scope position. In the case of partial wh-movement, it could be claimed that all wh-phrases (at least true wh-phrases) must move to the [+wh] Comp at LF. A wh-phrase is apparently not tolerated in a [-wh] Comp at LF. This means that Lasnik and Saito's (1984) principle (184), stating that "a [-wh] Comp must not have a [+wh] head" could hold universally at LF in this form. After this LF movement, the structures of (6a) and (9a) would be as in (25) and (26) respectively:

- (25) * was; mit wem; [_s ist es^j schade [_{s^j} t; [_s Hans t;_i spricht
- (26) * wo_{i;-j} wen_{i;-j} [_s ist es^k schade [_{s^k} t_{i;-j} [_s Hans t_i t_j anruft

The empty category which the ECP would rule as illicit would be the trace left in Comp at LF.

Before discussing why the ECP would apply here and how these constructions distinguish themselves from various grammatical counterparts, one other assumption which is being made in this account must be pointed out. Since the relative clause construction patterns the same way as the interrogative one, it must be claimed that in this case too the wh-phrase obligatorily moves at LF to the Comp following the head. This would result in the structure in (27), corresponding to (15b):

(27) ake [o ^{NP}čhavo; [so; kas; [ex ^S nane ^Sšukar [t;
[o Demiri marja t;

The Comp of a relative clause is typically considered to be [-wh], due to the distribution of the complementizer that (cf. Baker (1970)). Lasnik and Saito (1984) do not discuss relative clauses at all. These are problematic for their analysis since, if the Comp is [+wh], their principle (183) would be violated in cases where a non-wh-phrase occupies the position, whereas, if it were [-wh], the possibility of a wh-phrase would be incorrectly ruled out by their principle (184). In general, it is not clear why the wh-phrase should have to move at S-structure or at LF, since the construction does not require a wh-phrase at all. The Wh-chain Condition as stated will handle the Romani constructions. According to condition (50a), a wh-phrase in situ (like any wh-phrase) must have a corresponding wh-chain at S-structure whose head is in the Comp from which it takes scope. In a relative clause, this would be the Comp following the head NP. Since the head of a wh-chain is always in a [+wh] Comp, the Comp of the relative clause must be [+wh] when a wh-phrase is generated. When no wh-phrase is generated, as in the Romani relatives introduced by so, the Comp must be [-wh], since a [+wh] Comp would require a wh-chain. This means that the Comp of a relative clause can have either feature, just like the Comp of a matrix clause. In the case of relative clauses, however, the difference would not result in a difference in interpretation, since

there is in any case an operator-variable relationship. English-type relative clauses with that in Comp are still problematic, since wh-chains are apparently formed (as shown by island facts). It was noted in section 2.1.3 of chapter 2 that the English that seems to behave like a wh-phrase for the Resumptive Pronoun Rule (to the extent that English has resumptive pronouns). In addition, relative clauses with that seem to violate the ECP, since that-trace constructions are possible. In general, there is little difference in behavior between relatives introduced by a wh-phrase and those introduced by that. It must be that the complementizer takes on some of the features of the deleted wh-phrase (possibly resembling Pesetsky's (1981) account of the that-trace cases, cf. footnote 5 of chapter 3). I will leave this problem open. More will be said about the Romani cases in section 4.2.4, where topicalization constructions will be considered.

Returning to the ECP, it must now be explained why the traces in Comp in cases like (25) and (26) are not properly governed. I will suggest that this can be attributed to the extraposition construction itself. I am assuming along with Baltin (1978) that the extraposed clause is adjoined to VP (or, when there is no VP, to S). Although proper government by the verb into Comp is usually possible, since Comp is the head of S', S' (and therefore its head) would be claimed not to be properly governed in the adjunction construction. It

has been claimed in several other accounts that the adjoined clause is not properly governed (cf. Stowell (1981) for English, Haider (1984) for German). The explanation for why proper government does not obtain in adjunction structures differs in different accounts. In section 4.2.2, an account of adjunction put forth in May (1985) will be adopted for independent reasons. This account will make precise why the adjoined clause is ungoverned. Note that this analysis contradicts Lasnik and Saito's (1984) claim, based on Japanese data, that only antecedent government plays a role in the case of a trace in Comp (i.e., that where antecedent government does not obtain, lexical government does not save such a trace). According to the analysis proposed here, lexical government is the determining factor, since the traces in question are antecedent-governed.

Assuming that the account presented so far is correct, the difference between the full wh-movement constructions, which are grammatical, and the corresponding partial and double wh-movement constructions must still be explained. It appears that in the case of full wh-movement, there is a trace in the ungoverned Comp, just as in the cases discussed above. This is the trace of the wh-phrase, as shown in (11a), repeated below as (28):

(28) (= (11a)) Mit wem; [_Sist es^j schade [_St; dass [_SHans
t; spricht?

With whom is it too-bad that Hans is talking?
If the extraposed clause is not properly governed, then the

trace in Comp cannot be claimed to be. There is, however, a difference between this case and those discussed above. This is that here the trace in Comp is created at S-structure rather than at LF. In several accounts, it has been claimed that unnecessary traces (i.e., those not needed to satisfy the ECP for another empty category or the Projection Principle) may be deleted (cf. Stowell (1981), Lasnik and Saito (1984)). In my analysis, since the Wh-chain Condition is a condition on representation, traces in Comp are necessary at S-structure. However, this requirement does not have to be met at LF. I will, therefore, suggest that traces in Comp created at S-structure may be deleted at LF, where the ECP applies. The traces created by LF, on the other hand, could not be deleted at this level, since, if this were so, the distinction between the two construction types would again be lost. This means that, unlike in Lasnik and Saito's system, traces would be an obligatory result of movement and could not be deleted at the level where they are created. The latter result may follow from the autonomy of components. Traces would have to be handled by the component in which they are created. An additional distinction between this account and Lasnik and Saito's is that in this account, the ECP would not apply at both S-structure and LF, but only at LF. Otherwise, traces could be marked as illicit at S-structure, in which case the

construction would be ungrammatical regardless of LF deletion. Certain of the data given in Lasnik and Saito could not easily be accounted for in this analysis, just as the data presented here could not be easily handled in theirs. Further research is necessary to remove these inconsistencies.

One other question regarding full wh-movement should be pointed out. If the extraposed S' is ungoverned, then the CED should preclude any extraction out of it. In section 4.1.4.2, it will be shown that there are other problems with the CED, and in section 4.2.1 an alternative will be proposed.

This account handles the distinction between Romani indicative and subjunctive clauses as well as Filter (24) does. Since, in the case of the postverbal subjunctive clause (exemplified in (19) above), no extraposition takes place, the clause is not adjoined to S, but is a sister of the verb and properly governed by it. Unlike in the adjunction cases, the trace left in Comp at LF is then properly governed. There is a similar situation in German involving the passive construction. Unlike in English, the German passive does not involve movement. This is expected, since Case assignment does not depend on position. When the verb has passive morphology, it does not assign accusative Case or subject θ -role, so that the argument with object θ -role will be assigned nominative Case (unless it is assigned inherent Case at D-structure). In matrix clauses, the

argument may move to the Comp-adjoined position, as usual, which causes the construction to resemble an English passive, but it should be kept in mind that it is no different from other cases of fronting to the Comp-adjoined position. As usual, the expletive es appears in the Comp-adjoined position if no other element does. Examples of passivization of an NP are given in (29) and of an S' in (30):

(29)a) Hans sah einen Jungen.

Hans saw a boy-ACC.

b) Es wurde ein Junge gesehen.

It was a boy-NOM seen.

(= "A boy was seen.")

c) Ein Junge wurde (* es) gesehen.

A boy-NOM was (it) seen.

(30)a) Alle glauben, dass Hans zu Hause ist.

Everyone believes that Hans is at home.

b) Es wird von allen geglaubt, dass Hans zu Hause ist.

It is by everyone believed that Hans is at home.

c) Dass Hans zu Hause ist, wird (* es) von allen geglaubt.

That Hans is at home is (it) by everyone believed.

The (a) sentences are active, and those in (b)-(c) are passive. In the (b) sentences, no fronting has taken place, and es occupies the first position. (Note that the verb does not agree with es but with the "new" subject, as usual,

which can be seen from examples with a plural subject.) In the (c) examples, the new subject is fronted, so that these resemble the English passive. Es, which is inserted only to fill the Comp-adjoined position, is not possible in these cases. When an element other than the subject is fronted, the occurrence of es is also impossible in the NP cases. This is expected, again since the Comp-adjoined position is already filled. Surprisingly, however, es may occur when another element is fronted in the S' constructions. These facts are illustrated in (31) for passivization of an NP and in (32) for the construction with S':

(31) Gestern wurde (* es) ein Junge gesehen.

Yesterday was (it) a boy-NOM seen.

(32) Im Moment wird (es) geglaubt, dass Hans nach Hause gegangen ist. [5]

At the moment is (it) believed that Hans went home.

The best explanation for this seems to be that the optionality of es in (32) really corresponds to two different structures. One possibility is for the clause to be base-generated postverbally and not to move. In this case, no expletive occurs (except to fill the first position). In the other case, the clause is base-generated preverbally, which is possible since it has object θ -role. It is assigned nominative Case and then extraposes into postverbal position. A coindexed expletive then obligatorily appears in the position from which it moved, as in other types of extraposition constructions. A string

like (30b), where the expletive occupies the Comp-adjoined position, could have either structure. In (32), on the other hand, the presence or absence of the expletive indicates the structure. When it appears, it is coindexed to the clause, which has extraposed to the S-adjoined position, and its omission indicates that no movement has taken place (aside from the fronting of another element, here im Moment, to the Comp-adjoined position). The ungrammaticality of (31) with es leads to the conclusion that NPs cannot extrapose to the S-adjoined position. Since the only derivation is then one in which the NP does not move, no expletive occurs, since another element, gestern occupies the Comp-adjoined position. If this account is accurate, it correctly predicts the wh-movement facts with clausal complements of passive verbs. Full wh-movement should be possible in any case (as long as the Case Inheritance Restriction is not violated). Partial and double wh-movement should be possible only when the clause remains in its initial, governed position, which is signaled by the absence of the expletive. When the expletive is present in a non-initial position, indicating that the clause originated preverbally and was then S-adjoined in an ungoverned position, these types of wh-movement should not be possible. The following examples show that these predictions are borne out:

(33)a) Mit wem; _s [wird (es^j) geglaubt [_s t; dass [Hans_s t; gesprochen hat?

With whom is (it) believed that Hans talked?

b) Was; _s [wird (* es^j) geglaubt [_s mit wem; [Hans_s t; gesprochen hat?

WHAT is (it) believed with whom Hans talked?

c) Wo;-j _s [wird (* es^k) geglaubt [_s mit wem;-j [Hans_s t; t; gesprochen hat?

Where is (it) believed with whom Hans talked?

Note that Filter (24) would handle these cases as well, since, in the ungrammatical constructions, a presumably coindexed expletive cooccurs with a wh-phrase.

4.1.4. Two Further Implications of the ECP Account

In this section, two sets of data which pose problems for the analysis proposed in the preceding section will be discussed in turn. The solutions which will be suggested have important theoretical implications.

4.1.4.1. Bridges for Government

The ungrammatical partial and multiple wh-movement constructions in (14)-(17) become better, or even grammatical in some cases, if they are embedded. (34)-(37) correspond to (14)-(17) respectively:

(34)a) ?* Was; _s [glaubst du [_s dass [es^j schade ist [_s mit wem; [Hans t; spricht?
WHAT do you think that it's too-bad with whom Hans is talking?

- b) ?* Was; [glaubst du [dass [es^j schade ist
[wen; [Hans t; anruft?
WHAT do you think that it's too-bad whom Hans is
calling?
- (35)a) So; [misline [so; [ex^j nane súkar [kas;
[o Demiri marja t; ?
WHAT do you think that [it] isn't good whom Demir
hit?
- b) Ake [o çavo; [so; [mislinav [so; [ex^j nane
súkar [kas; [o Demiri marja t;.
Here's the boy WHAT I think WHAT/that [it] isn't good
whom Demir hit.
- (36)a) ? Wo; -j [glaubst du [t; -j dass [es^k schade ist
[wen; -j [Hans t; t; anruft?
Where do you think that [it] is too-bad whom Hans is
calling?
- b) ? Wessen Ansicht nach; -j [glaubst du [t; -j dass
[es^k t; schade ist [wen; -j [Hans t; anruft?
In whose opinion do you think that it's too-bad whom
Hans is calling?
- (37)a) Kaj; -j [misline [so (i -j) [ex^k nane súkar [kas; -j
[o Demiri marja t; t; ?
Where do you think that/WHAT [it] isn't good whom
Demir hit?

(38)a) ?* Was;_S [meinst du [_S dass [_S es^j geglaubt wird
 [_{S^j} mit wem;_S [Hans t;_S spricht?
 WHAT do you think that it is believed with whom Hans
 is talking?

b) ? Wo;_S [meinst du [_S t;_S dass [_S es^k geglaubt
 wird [_{S^k} mit wem;_S [Hans t;_S t;_S spricht?
 Where do you think that it is believed with whom Hans
 is talking?

In this case, the verb of the second clause is believe,
 which is not factive.

The German sentences in (34) and (38) are still
 ungrammatical. This is to be expected, since the Wh-chain
 Condition is violated. The intermediate Comp is filled by
 the complementizer rather than by a wh-element. The
 ungrammaticality in these cases seems in some sense not as
 bad as in (14), in the way that a subadjacency violation
 compares to a violation of a stronger principle like the
 ECP. The sentences in (36) do not violate the Wh-chain
 Condition, since the intermediate Comp contains the trace of
 the wh-phrase in the higher Comp. The equivalents of (34)
 and (36) with a wh-phrase or scope-marker in the
 intermediate Comp are, again, ungrammatical. (39)-(40)
 correspond to (34a) and (36a) respectively:

(39) * Was;_S [glaubst du [_S was;_S [_S es^j schade ist
 [_{S^j} mit wem;_S [Hans t;_S spricht?
 WHAT do you think WHAT it's too-bad with whom Hans is
 talking?

(40) * Was_i-j_s [glaubst du [wo_i-j_s [es^K schade ist
 [mit wem_i-j_s [Hans t_i t_j spricht?
_{s^K} WHAT do you think where it's too-bad with whom Hans
 is talking?

This seems to indicate that the problem with (14)-(17) lies in the higher wh-phrase rather than the lower one, as in the wh-phrase - expletive account. When the intermediate Comp contains a complementizer rather than an overt wh-phrase, as in (34) and (36), the constructions are possible, as long as the Wh-chain Condition is met (and, even if it is not, the result is not as bad as the cases with a wh-phrase in that Comp.) The Romani sentences in (35) and (37) are all grammatical. The difference between the German cases in (34) and those of Romani in (35) may be due to a difference in the Wh-chain Condition. As was discussed in chapter 3, it may be that in Romani, unlike in German, it is not necessary that every Comp be filled by a wh-element. The Romani examples would be completely grammatical, then, because they do not violate the Wh-chain Condition. It is also possible, on the other hand, that the so in the intermediate Comps of the examples in (35) is the scope-marker rather than the complementizer, in violation of Filter (24). The construction would be parallel to the ungrammatical German example in (39). In this case, Romani would be expected to differ from German in that the equivalent of (40) would be grammatical as well.

Unfortunately, the intuitions about this sentence are unclear. (41) seems better than (17a) but worse than (29a):

(41) ?? So _{i-j} [misline _s [kaj _{i-j} [ex^k nane súkar _s [kas _{i-j} _s^k
[o Demiri marja t_i t_j ?

WHAT do you think where [it] isn't good whom Demir
hit?

At this point, it is not clear, therefore, whether the Romani data support or counterexemplify the wh-phrase - expletive account. In section 4.2, however, it will be argued that the so in the intermediate Comp in (35a) must be the scope-marker. This example would then violate Filter (24).

In any case, the facts are all problematic for the ECP account. If the S-adjoined clause is ungoverned, then it seems that the depth of embedding should not affect this. The only way to retain the ECP account would be to claim that the higher verb (glauben, mislinav in these cases) is somehow governing the lowest clause. This suggestion seems odd, but is supported by the fact that a matrix with a non-governing predicate does not affect grammaticality. The sentences in (42)-(43) are no better than those in (14)-(17):

(42)a) * Was _i [wird _s es _j geglaubt [dass _s [es _s^k schade
ist [_s^k mit wem _i [Hans _s t_i spricht?
WHAT is it believed that it's too-bad with whom Hans
is talking?

b) * Wo_{i;-j} [wird es^k geglaubt [t_{i;-j} dass [es^m
 schade ist [wen_{i;-j} [Hans t_i t_j anruft?
 Where is it believed that it's too bad whom Hans is
 calling?

(43)a) * So_i [ex^j smet inol tut [so_i [ex^k nane súkar
 [kas_i [o Demiri marja t_i ?
 WHAT does [it] bother you WHAT [it] isn't good whom
 Demir hit?

b) * Kaj_{i;-j} [ex^k smet inol tut [so_{i;-j} [ex^m nane
 súkar [kas_{i;-j} [o Demiri marja t_i t_j ?
 Where does [it] bother you WHAT [it] isn't good whom
 Demir hit?

c) * Ake [o chavo_{NP} [so_i [ex^j smet inol man [so_i
 [ex^k nane súkar [kas_i [o Demiri marja t_i .
 Here's the boy WHAT [it] bothers me WHAT [it] isn't
 good whom Demir hit.

In (42), the ungrammatical construction is embedded in the S-adjoined position of a passive predicate. In (43) it is embedded as an extraposed sentential subject itself. In these cases, unlike in (34)-(37), there is no higher governing verb and the constructions remain completely ungrammatical. This type of government over a clause seems difficult to allow formally, but in section 4.2.4 a solution will be offered. In the case of German, due to the ungrammaticality of (39)-(40), with a wh-phrase rather than a complementizer in the intermediate Comp, it would have to be claimed that the governing verb can either govern a

subjacent clause or skip it and govern a lower one. The ungrammaticality of (39)-(40) would be attributed to the fact that each of the two lower Comps contains a wh-phrase which will move and leave a trace at LF. The verb, glauben, can govern only one of these Comp positions, but not both, so that the ECP will be violated in either case. Note that in the case of (39), this implies that, whereas scope-markers may not move at S-structure, they must move to the [+wh] Comp at LF, leaving a trace, just like a true wh-phrase. More will be said about this in the next section. The grammaticality of the Romani examples in (35) indicates that this restriction might not hold in Romani. Unlike in German, the higher verb could govern both the clause subjacent to it and a lower one.

The data become more complicated when the predicate seem (scheinen, izgleda) is investigated. Seem behaves like predicates with extraposed sentential subjects in disallowing partial and multiple wh-movement. Examples are given in (44):

(44)a) Mit wem; [_Sscheint es [_St; dass [_SHans t;
gesprochen hat?

With whom does it seem that Hans talked?

b) ?* Was; [_Sscheint es [_Smit wem; [_SHans t;
gesprochen hat?

WHAT does it seem with whom Hans talked?

c) * Wo_{i;-j} [scheint es [wen_{i;-j} [Hans t_i t_j
angerufen hat?

Where does it seem whom Hans called?

(45)a) Kas_i [izglèda [t_i so [o Demìri marja t_i?
Whom does [it] seem that Demir hit?

b) * So_i [izglèda [kas_i [o Demìri marja t_i?
WHAT does [it] seem whom Demir hit?

c) * Kaj_{i;-j} [izglèda [kas_{i;-j} [o Demìri dikhlâ t_i t_j?
Where does [it] seem whom Demir saw?

d) Ake_{NP} [o çhavo_i [kas_i [izglèda [t_i so
[o Demìri marja t_i.
Here's the boy whom [it] seems that Demir hit.

e) * Ake_{NP} [o çhavo_i [so_i [izglèda [kas_i
[o Demìri marja t_i.
Here's the boy WHAT [it] seems whom Demir hit.

(The "?" in (44b) indicates that some speakers do not find partial wh-movement in these cases as bad as with other predicates or the passive construction.) Seem differs from the predicates discussed above in that the ungrammatical constructions are no better when embedded, as illustrated in (46)-(47):

(46)a) ?* Was_i [glaubst du [dass [es scheint [mit
wem_i [Hans t_i gesprochen hat?
WHAT do you think that it seems with whom Hans talked?

b) * Wo_i;-j [glaubst du [t_i;-j dass [es scheint
[wen_i;-j [Hans t_i t_j angerufen hat?
Where do you think that it seems whom Hans called?

(47)a) * So_i [misline [so_i [izglèda [kas_i [o Demìri
marja t_i ?
WHAT do you think WHAT [it] seems whom Demir hit?

b) * Kaj_i;-j [misline [so_i [izglèda [kas_i;-j
[o Demìri dikhlâ t_i t_j ?
Where do you think that [it] seems whom Demir saw?

c) * Ake_{NP} [o chavo_i [so_i [mislinav [so_i
[izglèda [kas_i [o Demìri marja t_i .
Here's the boy WHAT I think WHAT [it] seems whom
Demir hit.

As long as the constructions with seem can be claimed to involve extraposition, their behavior is unproblematic for the basic ECP account, unlike the cases discussed above (and could not be handled by Filter 24). However, it would be difficult to claim that seem represents the usual behavior whereas the cases discussed above are deviant. First, I have not found other predicates which pattern this way, except for various synonyms of izglèda in Romani and possibly es ist sicher ("it is certain") in German. Second, this predicate behaves deviantly in other respects. It is unclear why the construction should involve extraposition in the first place. Seem is generally assumed not to assign a subject θ -role. There is no evidence for it being a raising verb in Romani and only weak evidence in German (see Haider

explained. This will become clear in section 4.2.4, where this phenomenon will be returned to. It will be seen that only the seem cases are problematic. The ECP analysis should therefore not be abandoned due to these facts. Until section 4.2.4, I will assume the imprecise account of "bridging" discussed above. [6]

4.1.4.2. LF Comp-to-Comp Movement

Another problem with the ECP account arises when double questions with the second wh-phrase in situ are considered. It would be expected that, since the lower Comp contains at most the trace of the first wh-phrase, which can be deleted at LF, it would be unnecessary for this position to be governed. However, this does not seem to be the case, as shown by the ungrammaticality of the sentences in (49)-(50):

- (49)a) ?? Mit wem; [_Sist es^j schade [_St; dass [_SHans
welche Artikel t; schreibt?

With whom is it too-bad that Hans which articles is writing?

- b) ?? Wessen Ansicht nach; [_Sist es^j t; schade
[_Sdass [_SHans wen anruft?

In whose opinion is it too-bad that Hans whom is calling?

- c) ?? Mit wem; [_Swird es^j geglaubt [_St; dass
[_SHans welche Artikel t; schreibt?

With whom is it believed that Hans which articles is writing?

d) ?? Wem; [_swurde es^j t; geraten [_{3j} [_sPRO morgen
 wieviele Bücher aus der Bibliothek zu entwenden?

To-whom was it advised tomorrow how many books from
 the library to steal?

(50)a) ?? Kaj; [_sex^j nane súkar [_{3j} so [_so Demiri dikhlâ
 kas t; ?

Where isn't [it] good that Demir saw whom?

b) ?? Kasge; [_sex^j nane súkar t; [_{3j}so [_so Demiri
 dikhlâ kas?

For-whom isn't [it] good that Demir hit whom?

(The judgments given are the most common, although sometimes the constructions are found somewhat worse ("?*").) These examples represent a double question out of an extraposed sentential subject. In the (a) sentences, the first wh-phrase originated in the higher clause and in the (b) sentences in the lower one. Unlike the cases in which the second wh-phrase appears in the lower Comp at S-structure, the trace left by the second wh-phrase when it moves at LF is governed by the verb in these constructions. The ECP, therefore, should not rule them out. (49c), which would be grammatical without es, illustrates that the same pattern holds for extraposed passivized clauses. This also shows that the ungrammaticality in these cases could not be attributed to the oddness of a double question out of a factive (although, in any case, the constructions with one wh-phrase in each clause ((49b), (50b)) could be argued to be pragmatically more acceptable than a single wh-question

out of a factive). Example (49d) is from Haider (1984; his (35a)). In this construction, which is also grammatical without es, the passivized clause is infinitival. In previous discussion, this type of clause was not considered, since movement of the second wh-phrase to the lower Comp is independently ruled out by the P-Comp Requirement. In the in situ case, infinitival and finite clauses pattern alike.

Although these sentences are not as bad as their double wh-movement counterparts, they are still not considered grammatical, and this must be explained. Note that Filter (24) would not handle these cases, since the lower Comp contains no wh-phrase. It might appear that the only way to account for these data is by appealing to a theory in which the status of the domain containing the empty category, rather than that of the empty category itself, is the determining factor. One such theory is connectedness, first developed in Kayne (1983), which Haider (1984) revised so that certain phenomena in German would be better accounted for. Another principle which refers to a whole domain is the CED. However, if the facts in question are carefully examined, it becomes clear that neither connectedness nor the CED would account for all of them. In order to see this, extraction from two clause types, adjoined clauses and adverbial clauses, at the levels of S-structure and LF must be considered in English as well as German and Romani. The judgments are given in (51) with sample sentences:

(51) Judgments ("✓" = good)

	<u>German/ Romani</u>	<u>English</u>
a) ✓	✓	With whom is it too bad that Hans talked? / Mit wem ist es schade, dass Hans sprach? / Kaça nane 'sukar so o Demiri kerja làfi?
b) ??	✓	For whom is it too bad that Hans saw who? / Wessen Ansicht nach ist es schade, dass Hans wen sah? / Kasqe nane 'sukar so o Demiri dikhlâ kas?
c) *	*	From whom did you go home before Hans stole the money? / Von wem gingst du nach Hause, bevor Hans das Geld stahl? / Kas8ar gelân khere angle o Demiri te 'corol o love?
d) ✓	✓	Who went home before Hans saw who? / Wer ging nach Hause, bevor Hans wen sah? / Ko gelo khere angle o Demiri te dikhol kas?

I will continue to assume that adjoined clauses are ungoverned in all three languages. As has been shown in the preceding sections of this chapter, it seems that this

assumption is necessary to explain the German and Romani data. Stowell (1981) gives evidence supporting the assumption in English. In the case of the adverbial clause, I will assume, along with most analyses, that it is ungoverned in English. If the flat structure discussed in chapter 2 is correct for German and Romani, it could be argued that adverbial clauses are governed in these languages. In the following discussion, I will consider both possibilities.

The CED, which is an S-structure condition, accounts very poorly for these data. The grammaticality of (51d) in both language types is the only correct prediction. Since movement in this case is at LF, the CED would not rule it out. In (51b), movement is also at LF, so that, even if the language types differ in structure, the CED could not be responsible for the difference in grammaticality. One possibility would be to claim that the CED applies at LF in German and Romani. In order for the grammaticality of (51d) in these languages still to be accounted for, it would also have to be claimed that adverbial clauses are governed due to the flat structure. However, there would still be problems with the remaining sentences. The ungrammaticality of (51c), which is presumably due to the CED in English, would have to be accounted for in some other way in German and Romani, where the adverbial clause is governed. The grammaticality of (51a) would be problematic even without the German and Romani facts. Since the adjoined clause is

ungoverned, extraction from it should be impossible at S-structure. It seems then that the CED cannot account for these data. Due to the problem of (51a) and to the fact that adverbial clauses will be claimed to be governed in German and Romani, it will be suggested in section 4.2.1 that the CED be abandoned altogether, and a different account will be proposed for (51c).

In the version of connectedness proposed in Kayne (1983), it is not significant whether the clause containing the empty category is actually governed, but whether it is in a canonical government configuration. In languages like English, in which government is presumably rightward, this means that the clause may not be on a left branch, whereas in languages with leftward government (OV languages), the clause could not be on a right branch. In addition to constraining the distribution of empty categories at S-structure, connectedness also applies to wh-phrases in situ in multiple questions. The claim is that a wh-phrase in situ must be connected to the wh-phrase in Comp in the same way that a trace must be connected to its antecedent. Haider (1984) assumes that in German government is leftward, and shows that Kayne's version of connectedness is problematic for German. Even if government could be in either direction or if it were canonically rightward in German (as would have to be said about Romani, which could not be claimed to have canonical leftward government), there

would still be problems in accounting for the data in (51). First, as pointed out in Longobardi (1983), the ungrammaticality of (51c) would be unaccounted for in English, since the adverbial clause is on a right branch, allowing the trace to connect with its antecedent. In the case of German (but not Romani), it could be claimed that government is leftward, so that the ungrammaticality in German is predicted. However, it would seem incorrect for the facts in (51c) to be explained differently in the different languages, especially in the case of German and Romani, where the other facts are the same as well. In addition, if government is leftward in German, then (51a) and (51d) would be incorrectly predicted to be ungrammatical in this language. In the case of (51b), it would again have to be claimed that government is leftward in German. This would account for the difference between German and English but would leave the Romani judgment unexplained. It seems then that Kayne's version of connectedness does not account for the facts. Before continuing, I will consider the revision of Kayne's theory proposed in Haider (1984), since it was devised specifically with German in mind.

The most basic difference between Kayne's and Haider's versions of connectedness (which is the only one relevant to this discussion) is that in the latter the domain containing the trace or wh-phrase in situ must actually be governed. (Note that Longobardi also revised Kayne's theory in this way.) This, however, will solve only the problem of (51c),

in which the adverbial clause is ungoverned in English, although it is on a right branch. Since Haider assumes that government is leftward in German, the clause would be ungoverned in German as well, even though the structure is flat. However, if it is true that Romani also has a flat structure, it is unclear how the ungrammaticality of (51c) would be explained in that language, unless some additional requirement were made on government. More seriously, the grammaticality of (51d) seems to be unaccounted for in both language types. If the adverbial clause is ungoverned, then the *wh*-phrases could not connect. The ungrammaticality of (51b) in German and Romani is accounted for since the clause is ungoverned. However, the grammaticality of the English equivalent is unexplained. (51a) is unaccounted for in both language types. Haider does consider examples of this type in German, but overlooks this particular sentence type and assumes that the construction is ungrammatical. This will be discussed in section 4.1.5.3.

An alternative to appealing to connectedness or the CED would be to claim that, in addition to the ECP and possibly the CED, languages like German and Romani have a rule precluding extraction out of ungoverned clauses at LF (but not at S-structure). Since the rule would not hold of English, the difference in grammaticality in (51b) would be explained. (51a) would be unproblematic, since extraction is at S-structure. However, since (51d) is grammatical, the

adverbial clause must be governed in German and Romani, which prevents (51c) from falling under the CED. The fact that the ungrammaticality of (51c) would have to be accounted for in some other way is not particularly problematic, since (51a) is problematic for the CED in any case. A more serious problem is that such a rule is unattractive on metatheoretical grounds, being both language specific and a mere stipulation. It seems best then to abandon altogether the attempt to attribute the ungrammaticality of (51b) in German and Romani to the status of the clause containing the wh-phrase. Instead, I will return to the ECP account, in which only the position of the empty category itself determines grammaticality.

The only way the ECP could rule out the constructions in (49)-(50) is if there were an ungoverned trace at LF. This in turn would mean that LF movement would have to be obligatorily Comp-to-Comp, creating traces which would have to be properly governed. In terms of a chain, it could be claimed that a wh-chain is required at LF in cases of movement which takes place at that level. (Note that S-structure chains are often no longer Comp-to-Comp at LF, due to the deletion of intermediate traces.) If the condition were expressed as one on representation rather than on movement, then this would provide an independent explanation for the fact that LF traces cannot be deleted. It would then be possible to assume along with Lasnik and Saito (1984) that unnecessary traces could be deleted at any

level, including the one at which they were created (as opposed to the conclusion reached in section 4.1.3). These traces would be necessary due to the Wh-chain Condition. This issue of whether the constraint should be expressed as a condition on movement or on representation will be reconsidered in section 4.2.4 and in chapter 5.

If LF movement were Comp-to-Comp, then the sentences in (49)-(50) would be ruled out by the ECP. In each case the ungoverned Comp would contain the trace of the lower wh-phrase. This analysis has the additional advantage of making possible an explanation of the fact that these sentences are not as bad as their double wh-movement counterparts. It could be claimed that the requirement of LF Comp-to-Comp movement is not as strong as the ECP. The constructions in (49)-(50) would be derived by long distance LF movement of the wh-phrase in situ, in violation of the LF Comp-to-Comp movement requirement. If this requirement were followed, the trace created at LF would cause an ECP violation. This derivation would be completely ruled out. This claim will be important in explaining certain other data later on. Note that since the constructions in (49)-(50) are usually found to be better than violations of the Wh-chain Condition, it could be claimed that the LF condition is somewhat weaker than the Wh-chain Condition as well.

(49d) brings up an interesting fact. If this account

is correct, then LF movement is apparently required to be through the lower, ungoverned Comp, which is not a P-Comp. This means that at LF the distinction made in German between P-Comps and non-P-Comps would no longer hold. This may seem odd, and in section 4.1.5.3 a revision will be proposed which would cause the distinction to be retained at LF.

Returning to the sentences in (51), it can be seen that this account handles most of them if several assumptions are made. First, the difference in grammaticality in (51b) indicates that the requirement of LF Comp-to-Comp movement does not hold in English. The possibility of LF extraction out of an adverbial clause in German and Romani ((51d)) indicates that the clause is properly governed in these languages. As was said earlier, this can be attributed to the flat structure. (51a) is unproblematic, since movement is at S-structure. The ungrammaticality of (51c), however, is not handled by this account, again since extraction takes place at S-structure. The fact that it is ungrammatical in English as well also indicates that a separate rule must be involved. An alternative to the CED (which would be problematic for (51a)) will be proposed in section 4.2.1 to account for (51c).

Several objections can be raised at this point. One involves the question of how certain data given in the preceding section will be handled. (34a), repeated here as (52), was considered to be somewhat better than the same sentence without the top clause, due to the fact that the

trace of mit wem is governed by the higher verb:

- (52) (= (34a)) ?* Was;_j [_Sglaubst du [_Sdass [_Ses^j schade
ist [_Smit wem;_j [_SHans t;_j spricht?
WHAT do you think that it's too-bad with whom
Hans is talking?

According to the account proposed in this section, mit wem must move through the second Comp at LF, leaving a trace. In order for the ECP not to rule this out, the higher verb would have to be claimed to govern both of the lower Comps. However, it was concluded that this is not permitted in German, based on the ungrammaticality of (40), repeated here as (53):

- (53) (= (40)) * Was;_j [_Sglaubst du [_Swo;_j [_Ses^K schade ist
[_Smit wem;_j [_SHans t;_j t;_j spricht?
WHAT do you think where it's too-bad with whom
Hans is talking?

It must be, then, that (52) is derived by long distance LF movement, rather than by LF Comp-to-Comp movement. Recall that the result of violating the requirement on LF Comp-to-Comp movement is not as bad as an ECP violation. However, it may seem odd that (52) is not worse, since it violates the Wh-chain Condition in addition. It is not known how to assess the effect of multiple violations, and I will not address this matter here. These facts bring up a further question. (39), repeated here as (54), was considered to be ungrammatical for the same reason as (40) (= (53)):

(54) (= (39)) * Was;_S [glaubst du [was;_S [es^j schade ist
 [_S mit wem;_S [Hans t;_S spricht?
 WHAT do you think WHAT it's too-bad with whom
 Hans is talking?

As was mentioned earlier, in order for this to be ruled out in the same way as (53), it must be claimed that the second scope-marker in (54) moves at LF, leaving a trace, just like the true wh-phrase in (53). It might be thought that instead, the ungrammaticality of (54) could be explained by appealing to the LF Comp-to-Comp movement account. Mit wem would be claimed to move through the second Comp, and the higher verb could not govern both traces in the lower Comps. However, if this were true, (54) should have the same status as (34a), that of a violation of the requirement on LF Comp-to-Comp movement, which is not the case. It seems necessary, then, to retain the claim that scope-markers, like true wh-phrases, must move at LF. Independent support for this is the complete ungrammaticality of (55), which is the equivalent of (54) with the first two clauses in reverse order:

(55) * Was;_S [ist es^j schade [_S was;_S [Jakob glaubt [_S mit
 wem;_S [Hans t;_S spricht?
 WHAT is it too-bad WHAT Jakob thinks with whom Hans is
 talking?

Here the trace of mit wem in the lower Comp is governed by glauben. If it moved straight to the highest Comp, the sentence could be derived with only a violation of the

requirement on LF Comp-to-Comp movement, and the result should not be complete ungrammaticality. The facts, therefore, indicate again that the scope-marker moves, leaving an ungoverned trace in this case. The construction is completely ungrammatical, since the ECP is violated.

Returning to LF Comp-to-Comp movement, another objection is that such movement is generally not considered obligatory, due to the fact that S-structure island constraints can be violated at LF. This is true of German, as shown by the contrast in (56):

(56)a) * Mit wem; [_Sweisst du nicht [_Swo;_j [_SHans t;_j t;_j gesprochen hat?

With whom don't you know where Hans talked?

b) Wer; [_Sweiss t;_j nicht [_Swo;_j [_SHans mit wem t;_j gesprochen hat?

Who doesn't know where Hans with whom talked?

(Only the wide-scope interpretation of mit wem in (56b) is being considered, although narrow scope is possible.) In both cases, mit wem is extracted out of a wh-island, but (56b), in which this takes place at LF rather than at S-structure, is grammatical. However, in ruling out the S-structure case, both subjacency (or, in this account, the Wh-chain Condition) and the Doubly Filled Comp Filter are appealed to. Rather than concluding from the grammaticality of (56b) that long-distance movement is possible at LF, it could be assumed that movement is still Comp-to-Comp but

that the Doubly Filled Comp Filter does not apply at LF. In (56a), the wh-phrase wo in the second Comp prevents the creation of a wh-chain at S-structure, since wo and a wh-trace may not cooccur in Comp. At LF, on the other hand, this cooccurrence would be permitted. The question might be posed of whether the trace in the intermediate Comp of the LF representation of (56b) is governed, since it cooccurs in Comp with wo. If wo were claimed to be the head of Comp, then it might be that it, rather than the trace, would be governed. This question will be returned to in section 4.2.2, where the structure of Comp will be considered. Other island constructions give support to the LF Comp-to-Comp movement account. Multiple questions with a wh-phrase in situ in a relative clause seem worse in German and Romani than in English. In English, these are typically not completely grammatical either.

(57)a) ?? Wer; [_Slas t; [_{NP}Bücher; [_Sdie; [_SHans wem t; gab?

Who read books that Hans gave to-whom?

b) ?? Ko; [_St; ćitin'ja [_{NP}lila; [_Sso; [_So Demiri din'ja t; kasqe?

Who read books that Demir gave to-whom?

In these cases, LF Comp-to-Comp movement would result in an ungoverned trace in the Comp of the relative clause. It is problematic that LF Comp-to-Comp movement does not seem to hold universally. This question will be returned to in chapter 5, where it will be considered from the point of view of learnability, as well.

In summary, the following system for German and Romani has been arrived at in this chapter so far. The claim of chapter 3 that all types of wh-movement are constrained in the same way (i.e., by the Wh-chain Condition) can still hold despite the facts of extraposition constructions, in which it appears that partial and multiple wh-movement behave differently from full wh-movement. The difference can be attributed to the ECP, if it is assumed that all wh-phrases must move to their scope position at LF. As a result, partial and multiple wh-movement create traces at LF. If the unnecessary traces created at a certain level cannot be deleted at that level, but only at a later level, then the intermediate traces in Comp in partial or double wh-movement constructions, unlike in those of full wh-movement, are necessarily visible at LF. Since it is at this level that the ECP applies, the former construction types, but not the latter, will be ruled out. The fact that in some cases embedding ungrammatical sentences results in grammaticality (or a greater degree of it) makes it appear that certain types of predicates can act as bridges for government, but a more elegant account will be offered later on. The fact that double questions with the second wh-phrase in situ in a governed position within an ungoverned clause are only slightly better than those in which the second wh-phrase appears in an ungoverned Comp indicates that LF Comp-to-Comp movement is obligatory in German and

Romani. This in turn entails that the Doubly Filled Comp Filter is an S-structure condition and does not apply at LF.

4.1.5. Wh-movement in Three Additional Constructions

In this section, three separate constructions will be discussed, as they relate to the analysis developed up to this point. The first is that of wh-phrase copying, discussed in section 3.4.2 of chapter 3. Its behavior with ungoverned clauses will be considered. In the second section, preverbal sentential subject constructions will be briefly dealt with, since up to now only extraposed sentential subjects have been discussed. In the final section, the presence of the German expletive as indication of an ungoverned clause will be considered in more detail. The discussion will lead to revisions of both the P-Comp Requirement and the Case Inheritance Restriction.

4.1.5.1. Wh-phrase Copying and the ECP

In section 3.4.2 problems of this construction were pointed out. It was shown that the higher wh-phrase corresponds more to a true wh-phrase and the lower one to a type of copy of it. No other conclusion was reached there, however. In this section it will be shown that the construction behaves in a puzzling manner with respect to the issues discussed in this chapter as well.

It was shown in chapter 3 that the second occurrence of the wh-phrase somehow does not count in the wh-chain, since it can appear in a non-P-Comp in German. It might be expected then that it would be "ignored" at LF. This is not

the case, however, as shown by the ungrammaticality of the sentences in (58):

(58)a) * Das ist _{NP} [der Junge; _S [mit dem; _S [es _J schade ist
_{SJ} [mit dem; _S [Hans t; gesprochen hat.
 That's the boy with whom it's too-bad with whom Hans
 talked.

b) ?* Ake _{NP} [o çhavo; _S [kas; _S [ex _J nane súkar _{SJ} [kas;
_S [o Demiri dikhlâ t; .
 Here's the boy whom [it] isn't good whom Demir saw.

(Since Dialect I does not allow this construction at all, I will indicate only Dialect II judgments in this section.)
 These sentences seem to be ruled out in the same way partial wh-movement would be. The trace in Comp left by movement of the lower wh-phrase at LF is ungoverned. This means, then, that it must move at LF even though it may not count in the chain at S-structure. As in other cases, the seem facts further complicate the issue. In these cases, the wh-phrase copy does not appear to move at LF. The sentences in (59) are grammatical:

(59)a) Wen; _S [scheint es _S [wen; _S [Hans t; geschlagen
 hat?

Whom does it seem whom Hans hit?

b) Kas; _S [izglèda _S [kas; _S [o Demiri marja t; ?
 Whom does [it] seem whom Demir hit?

The partial wh-movement counterparts are ungrammatical, as is expected, since the trace of the wh-phrase is presumably

ungoverned at LF:

(60)a) * Was; [_Sscheint es [_Swen; [_SHans t; geschlagen
hat?

WHAT does it seem whom Hans hit?

b) * So; [_Sizglèda [_Skas; [_So Demìri marja t; ?

WHAT does it seem whom Demir hit?

The second wh-phrase, then, appears not to count at LF when following seem, but to count in other cases. I have no explanation to offer for this. Possibly, the phenomena will become clearer when more data are considered. In any case, the fact that the data presented so far pattern the same way in German and Romani indicates that they are significant. I will leave these problems open.

4.1.5.2. Preverbal (Unextraposed) Sentential Subjects

Up to this point, only postverbal sentential subjects have been discussed with respect to wh-movement. In general, preverbal sentential subjects behave as predicted, but there are some complications.

First, extraction (full wh-movement) out of a preverbal subject is possible in both German and Romani when the clause can appear in this position at all. It is in this latter respect that German and Romani diverge. According to Stowell (1981), clauses should never be able to appear in this position at S-structure due to the Case Resistance Principle, which prevents a Case-assigning category from appearing in a position to which Case is assigned. However, this principle seems to be violated in certain cases in

both German and Romani. [7] In Romani, sentential subjects of predicates like nane śukar ("isn't good"), which assign a θ-role to the left, are presumably generated preverbally. The clause may move to Top, but it may also remain in its base-generated position. In the latter case special intonation is necessary, but the construction is judged grammatical. This is then a violation of the Case Resistance Principle. These facts are illustrated in (61):

(61)a) ? Sosqe; [[[so [o Demiri gelo]]] nane
śukar t; ?

Why that Demir left isn't good?

b) [[[So [o Demiri gelo]]] [sosqe; [t; nane
śukar t; ?

That Demir left why isn't good?

c) ? Me janav [[[sosqe; [[so [o Demiri gelo]]]
nane śukar t; .

I know why that Demir left isn't good.

d) Me janav [[[so [o Demiri gelo]]] [sosqe;
[t; nane śukar t; .

I know that Demir left why isn't good.

In (61a) and (61c), the clause is in preverbal S-internal position, and in (61b) and (61d) in Top, as is indicated by sosqe ("why") in Comp. Full wh-movement is possible in these cases, at least when the clause is in S-internal position:

(62)a) Kas; [[[sc [o Demiri marja t;]]] nane s'ukar?
 Whom that Demir hit isn't good?

b) Me janav [[kas; [[[so [o Demiri marja t;]]]
 nane s'ukar.

I know whom that Demir hit isn't good.

As was discussed earlier, in constructions with valâni the clause may not appear preverbally in S-internal position because it does not have subject θ -role. Sentences like (61a) and (61c) with valâni are ungrammatical, whereas sentences with the clause in Top are better. The latter are not completely grammatical either, for some reason. These facts are illustrated in (63):

(63)a) * Sosqe; [[[[i Arifa te jal khere]]] valâni t; ?
 Why Arifa to go home is-necessary?

b) ? [[[[I Arifa te jal khere]]] [sosqe;
 [valâni t; t; ?
 Arifa to go home why is-necessary?

c) * Janav [[sosqe; [[[[i Arifa te jal khere]]]
 valâni t; .

I-know why Arifa to go home is-necessary.

d) ?? Janav [[[[i Arifa te jal khere]]] [sosqe;
 [valâni t; t; .

I-know Arifa to go home why is-necessary.

In (63a) and (63c), the clause is in preverbal S-internal position and in (63b) and (63d) in Top, as indicated by sosqe in Comp. Extraction out of a preverbal clause in this construction is impossible:

(64)a) ?* Kaj; [[[i Arifa te jal t;]]] [[valâni t;][?]
_{3; 3 s} _{3 s}
 Where Arifa to go [it] is necessary?

b) * Janav [kaj; [[[i Arifa te jal t;]]]
_{3; 3 s} _{3 s}
 [[valâni t;].
_{3 s}
 I-know where Arifa to go [it] is-necessary.

This indicates that extraction out of a clause which is itself in Top is impossible. This would be because the wh-phrase has no place to move. Even in relative clauses in Dialect II, where wh-movement to Top is possible, this is precluded. Probably a wh-phrase cannot move out of a clause which is in Top into a position in that same Top.

In German, the Case Resistance Principle is violated by infinitival clauses, which may appear in preverbal position. Extraction from these clauses is possible. Since these are not propositions, extraction of the direct object is possible as well:

(65)a) Ich weiss [dass [[[PRO diese Leute jeden Tag
_{3 s} _{3 s}
 zu sehen]] dir Spass macht.

I know that these people every day to see to-you
 makes fun.

(= "I know that to see these people every day is fun
 for you.")

b) Ich weiss nicht [wen; [[[PRO t; jeden Tag zu
_{3 s} _{3 s} _{3 s}
 sehen]] dir Spass macht.

I don't know whom every day to see to-you makes fun.

c) Mit wem; [_Sglaubst du [_St; dass [_S[_S[PRO jeden Tag t; zu sprechen]] mir Spass macht?

With whom do you think that every day to talk to-me makes fun?

Finite clauses, however, seem to be possible in preverbal position only in the matrix clause, as shown in (66):

(66)a) [_SDass Hans mit Jakob spricht] ärgert die Leute.
That Hans with Jakob is talking annoys the people.

b) * Ich weiss [_Swarum; [_Sdass Hans mit Jakob spricht] die Leute t; ärgert.

I know why that Hans with Jakob is talking annoys the people.

This means that such clauses can occur only in the Comp-adjoined position (which is not available in embedded clauses). This might indicate that the Case Resistance Principle applies to finite clauses, but not to infinitivals in German, for some reason. Extraction is impossible in constructions like (66a), as is illustrated in (67) with two possible word orders:

(67)a) * Mit wem; [_Särgert [_St; dass [_SHans t; spricht]] die Leute?

With whom annoys that Hans is talking the people?

b) * Mit wem; [_St; dass [_SHans t; spricht]] [_Särgert die Leute?

With whom that Hans is talking annoys the people?

(67a) would be ruled out for the same reason that (66) is, since here again the clause is not in the Comp-adjoined

position. (67b) is ungrammatical presumably because both the wh-phrase and the clause are in the Comp-adjoined position, which may contain only one element.

It should now be tested whether partial wh-movement is possible in the cases where full wh-movement is. There are only two of these: preverbal infinitivals in German ((65b-c)) and preverbal indicatives in Romani ((62)). In the German case, it is predicted that partial wh-movement is not possible, since the lower Comp is not a P-Comp. This is true, as shown by (68), corresponding to (65b):

(68) * Ich weiss nicht [_S was; [_S [_S wen; [_S PRO t; jeden Tag zu sehen]] dir Spass macht.

I don't know WHAT whom every day to see to-you makes fun.

In the Romani case, partial wh-movement is also impossible. The sentences in (69) correspond to those in (62):

(69)a) * So; [_S [_S [_S kas; [_S [o Demiri marja t;]]] nane sukar?

WHAT whom that Demir hit isn't good?

b) * Me janav [_S [so; [_S [_S kas; [_S [o Demiri marja t;]]] nane sukar.

I know WHAT whom Demir hit isn't good.

In order to account for this with the ECP, it would have to be claimed that the Comp of the embedded clause is not properly governed. However, as has been pointed out before, the subject position appears to be properly governed in

Romani. I do not know how to solve this problem. Possibly some crucial data have been overlooked. It might be relevant that the sentences in (62) are better than the equivalents without wh-movement in the lower clause, given in (61a,c). This might indicate that the cases in (62) are deviant in some way. In any case, I will leave this question open, without altering the analysis adopted so far.

4.1.5.3. The Expletive in German as a Determinant of Government

It was observed in section 4.1.3 that the passive construction differs with respect to whether it allows partial and double wh-movement depending on the presence of the expletive es. It was suggested that its presence (other than in first position) indicates that the clause was base-generated preverbally and then extraposed, and its absence that the clause did not move at all. This means that when the expletive is present, partial and double wh-movement (as well as any double question; see section 4.1.4.2) are blocked, since the clause is ungoverned. In addition, however, there is an effect on full wh-movement. Consider the sentences in (70):

- (70)a) ?* Wen;₅ [glaubt Hans [₅ t; dass [₅ Jakob t; anruft?
 Whom does Hans think that Jakob is calling?
- b) ?* Wen;₅ [wird geglaubt [₅ t; dass [₅ Jakob t; anruft?
 Whom is believed that Jakob is calling?

c) * Wen;_s [wird es^j geglaubt [_s t;_j dass [_s Jakob t;_j anruft?

Whom is it believed that Jakob is calling?

d) Wen;_s [wurde dir geraten [_s [PRO t;_j anzurufen?
Whom was to-you advised to call?

(= "Whom were you advised to call?")

e) * Wen;_s [wurde es^j dir geraten [_s [PRO t;_j anzurufen?

Whom was it to-you advised to call?

(70a) is ruled out by the Case Inheritance Restriction. For some northern speakers, this condition is weak, and in southern dialects the sentence is even grammatical. (70b) is the passive counterpart of (70a) in which no movement has taken place. As is expected, since the structure is basically the same, the facts are as in (70a) as well. The fact that (70c), the passive construction in which movement takes place, is ungrammatical could also be explained by the Case Inheritance Restriction. As in (70a-b), the Comp of the lower clause is a P-Comp. The problem is that the difference in grammaticality between (70c) and (70a-b) for southern speakers and some northern speakers is unaccounted for. It could be claimed that the Case Inheritance Restriction is stronger when the clause is ungoverned in addition to being a proposition. The facts in (70d-e) pose a much larger problem. Here, the construction is a passive, as in (70b-c), but the passivized clause is infinitival. (70d) is grammatical, as is expected, since the lower Comp

is not a P-Comp, so that the Case Inheritance Restriction is not violated. However, there is no way to explain the ungrammaticality of (70e), since the lower Comp is not a P-Comp here either.

Haider (1984) attributes the ungrammaticality of sentences like (70c) and (70e) partly to the fact that the clause is extraposed, and therefore ungoverned. (Actually, he uses a different type of construction to establish this, which will be discussed below.) In his account, the constructions in which es is omitted have the same structure. That is, the sentences in (70b-e) would all have an extraposed, ungoverned clause. The cases in which es does not occur are considered to contain an empty category in subject position, where the clause originated. It is entailed by Haider's version of connectedness that extraction out of ungoverned clauses is generally prohibited at both S-structure and LF. This prohibition can be circumvented in two ways. The first way applies to wh-phrases in situ, which may "connect" to each other, as in Kayne's (1983) analysis. [8] According to Haider, the second way to circumvent the prohibition on extraction out of ungoverned clauses applies to S-structure movement and is through the chain-transfer principle of Koster (1983). The empty category in subject position (a properly governed position according to Haider) would transfer government to the clause, and extraction would then be possible. However,

pronouns cannot transmit government, so that, if es appears in subject position, the extraposed clause will still be ungoverned. Note that Haider's analysis has in common with this one that postverbal subject clauses are considered to be ungoverned if es is present and governed otherwise. For Haider, this is due to the chain-transfer principle. In this account, as discussed earlier, it is due to the existence of two different structures, one in which the clause is base-generated postverbally (where es does not occur) and the other in which the clause is extraposed (where es is present). Haider's account is actually rather attractive and could probably be adopted here in favor of the positing of two structures. The problem would be that in Romani, which has no overt expletive, there would be no explanation for the wh-movement constructions with adjoined clauses which are ungrammatical. It is for this reason that the adjoined clause must be considered to be ungoverned in all cases.

There is one important problem with Haider's account of the facts in (70). This is that he appears to overlook the fact that extraction of PPs and adverbials is possible out of ungoverned clauses, which was illustrated in (51a) above. The equivalents of (70c) and (70e) with mit wem instead of wen, given in (71a) and (71b) respectively, are grammatical:

(71a) Mit wem; [_iwird es^j geglaubt [_jt; dass [_sJakob
t; spricht?

With whom is it believed that Jakob is talking?

b) Mit wem; [_Swurde es_S] dir geraten [_SPRO t_S; zu sprechen?

With whom was it to-you advised to talk?

This indicates that Case inheritance rather than extraction itself is involved here. I would suggest that a second, apparently stronger, condition be added to the Case Inheritance Restriction, blocking Case inheritance over ungoverned clauses. The rule given in (7) in chapter 3 would be revised to (72):

(72) Case Inheritance Restriction (German) (revised)

In the configuration ...x...[_S...y...]..., where S' is propositional or non-properly governed, x may not inherit Case from y.

This would account for the ungrammaticality of (70e), since the clause is ungoverned. If the government requirement is stronger than the propositional one, then the fact that (70c) and (70e) are worse than (70a-b) is explained. (70c) actually violates both parts of (72) since Case inheritance would be over an S' which is both propositional and ungoverned.

It would also be possible to state the Case Inheritance Restriction so that non-propositional, properly governed clauses would be the special case, rather than propositional and non-properly governed clauses. The restriction would have to be considered to apply generally (i.e., to all types of S') in the usual case. Non-propositional, governed

clauses would in some sense not count as S's. This could be stated as follows:

(73) Case Inheritance Restriction (German) (revised):

x may not inherit Case from y in the configuration
...x...[...y...]... unless S' is nonpropositional and
properly governed.

With this revision, it is harder to state the distinction between (70a-b) and (70c,e) in dialects where there is one. The rule would have to be considered to be weaker in cases where the S' is governed. On the other hand, (73) has certain advantages over (72). First, whereas it is unclear why the rule in (72) should apply specifically to properly governed and propositional S's, some account can be given for why nonpropositional, properly governed S's constitute an exception to the rule in (73). This type of clause is strongly dependent on the higher clause. It is both governed by the verb of the higher clause and tense-dependent or tenseless. It is this latter case which sometimes undergoes restructuring in Romance and is the environment for "wanna contraction" in English. Apparently, these types of S's often do not count as independent clauses. Furthermore, the fact that they are an exception in (73) can be derived from the P-Comp Requirement ((51) of chapter 3), if certain modifications are made. This seems problematic at first, since the P-Comp Requirement refers to all nonpropositional Comps, rather than only to those which are also governed. However, no problem would arise if the

P-Comp Requirement were revised to apply only in these cases, as in (74):

(74) P-Comp Requirement (German) (revised):

Governed non-P-Comps do not count as Comps in the Wh-chain Condition ((50) of chapter 3).

This revision has the consequence that ungoverned non-P-Comps will now count in the Wh-chain Condition. This means that in sentences like (70e) and (71b) a trace will occur in the intermediate Comp, unlike in the intermediate Comp of a governed non-P-Comp in sentences like (70d). For comparison, (70d) and (70e) are repeated as (75a) and (75b) respectively, with the newly proposed structure for (70e).

(75)a) (cf. (70d)) Wen; [_S wurde dir geraten [_S [PRO t; anzurufen?

b) (= (70e) * Wen; [_S wurde es^j dir geraten [_S t; [_S [PRO t; anzurufen?

The lower clauses in (75) are non-propositional, so that the only distinction between (75a) and (75b) is that the lower clause in the former, but not in the latter, is properly governed. According to (74), the lower Comp in (75b), but not in (75a), counts in the Wh-chain Condition, so that the Comp in (75b) must contain a trace, whereas the one in (75a) must not. Recall that the reason for disallowing the trace in cases like (75b) was not based on empirical evidence, but on considerations of generality. Since a wh-phrase may not appear in the Comp of (75b) (i.e.,

partial or double wh-movement is not possible), it was assumed that such Comps do not count in the Wh-chain Condition, so that a trace would not appear there either. In this way full wh-movement was treated the same way as other types of wh-movement. In (75b) a wh-phrase is also precluded in this Comp. However, in this case, this would be ruled out independently by the ECP. The trace would not affect grammaticality since, as in other cases of full wh-movement, it may delete at LF before the ECP applies. The reformulation of the P-Comp Requirement in (74), therefore, causes no problems for the data. It also has the advantage of restricting the P-Comp Requirement to cover the cases which the ECP does not. With this revision, the wh-chain in the grammatical (70d) ((75a)) is distinguished from those of the other sentences in (70), which are ungrammatical. The difference is that in (70d), the first member of the value chain is a wh-phrase rather than a trace. This is a consequence of the fact that the lower Comp does not count, due to the P-Comp Requirement. The Case Inheritance Restriction can now be reformulated as a condition on value chains, as in (76):

(76) Value Chain Condition on Cased Trace (German)

(revision of the Case Inheritance Restriction):

If in a value chain $V = (v_1, \dots, v_n)$, v_n is assigned Case, then v_1 must be a true wh-phrase.

(76) will apply to the case of a trace in S-internal position which is assigned Case (either at S-structure or D-

structure). As required, it will not apply to the trace of PPs or adverbs. Since (76) is a condition on value chains, it could be considered to be part of the Wh-chain Condition in German. The most important advantage of this reformulation of the Case Inheritance Restriction is that the reference to propositions in both the P-Comp Requirement and the Case-Inheritance Restriction, which up to now was accidental, is now explained. Another advantage of this account is that it could be claimed that the same Comps which do not count at S-structure (governed non-P-Comps) would also not count in LF Comp-to-Comp movement. Earlier, sentences like (70e), but with a second wh-phrase in situ (cf. (49d)), were problematic, since the lower Comp counted at LF but not at S-structure. Now, since the lower Comp is ungoverned, it counts at both levels. Finally, the revision of the Case Inheritance Restriction to a condition which does not involve Case inheritance solves one of the problems of the wh-phrase copying construction (discussed in section 3.4.2 of chapter 3 and in section 4.1.5.1 of this chapter). It was problematic for the Case Inheritance Restriction that Case inheritance apparently is not blocked in this construction. Example (130a) of chapter 3 is repeated here as (77):

(77) Wen_S; [glaubst du [wen/den_S; [Hans t_S; sieht?
 Whom do you think whom Hans sees?

Whereas (77) would violate the Case Inheritance Restriction,

since the higher wen inherits Case over a propositional S', it does not violate (76). The value chain is headed by a true wh-phrase, as required. Note that this is another case in which the lower wh-phrase counts as a wh-phrase in the chain.

There is a minor problem with the statement of the rule in (76). This is that in double questions absorption takes place, so that the wh-phrase in the lower Comp may be a doubly indexed operator which contains a wh-phrase other than the one coindexed with the cased trace. Such constructions are ungrammatical (as was observed in chapter 3, cf. (98)), but would not be ruled out by the rule as stated in (76). The construction is illustrated in (78a) (= (98) of chapter 3) and its S-structure is given in (78b):

(78)a) * Wen glaubst du wo Hans gesehen hat?

Whom do you think where Hans saw?

b) * $\begin{matrix} \text{wen}_i \\ \text{WH}_i-j \end{matrix} \text{] } \begin{matrix} \text{glaubst du} \\ S \end{matrix} \begin{matrix} \text{[[wo}_j \text{] } \\ \bar{S} \text{ WH}_i-j \end{matrix} \begin{matrix} \text{[Hans} \\ S \end{matrix} \\ t_i \quad t_j \quad \text{gesehen hat}$

The value chain for t_i in this case would be (WH_i-j, t_i) . Since the element dominated by the abstract operator is a true wh-phrase, the operator itself would also be considered a true wh-phrase, and the rule as stated in (76) would be satisfied. For this reason, the rule will be revised as follows:

(79) Value Chain Condition on Cased Trace (German) (final revision):

If in a value chain $V = (v_1, v_2)$, v_2 is assigned Case, then v_1 must be an overt true wh-phrase or must dominate a wh-phrase coindexed to v_2 .

With (79), sentences like (78) would be ruled out, since the wh-phrase dominated by the operator (wo) is not coindexed to the trace. In constructions where absorption does not take place, the rule applies as before. The word "overt" was added to exclude the abstract operator, which is a non-overt wh-phrase.

(74) and (79) are two separate rules, each of which is language specific, applying in German, but not in English or Romani. It may be that the two rules are part of the same parameter setting. Theoretically, it seems, however, that there could be languages with one but not the other. A language with (79) but not (74) would not allow any wh-movement beyond the lowest clause when the trace is Case-marked. A language with (74) but not (79) would allow movement out of a clause, but would not allow wh-phrases to appear in non-P-Comps. Further investigation is required to determine whether such languages exist. All that can be suggested based on the evidence from German is that rule (74) directly affects the consequences of rule (79).

One other set of data involving the expletive should be presented. In certain active extraposition constructions the expletive appears to be optional, as in the passive

cases. However, in these cases, es may be omitted only when an "impersonal dative" is present. Otherwise, es is obligatory. This is illustrated with the verb scheinen ("seem") in (80):

(80)a) Jetzt scheint * (es) [_sdass [_sHans weggegangen ist.
Now seems (it) that Hans left.

b) Mir scheint (es) jetzt [_sdass [_sHans weggegangen ist.
To-me seems (it) now that Hans left.

In (80a) es is obligatory, which is the usual case in extraposition constructions. (Recall that seem behaves like an extraposition predicate in German.) In (80b), in which the dative mir occurs, es is optional. Intuitions vary considerably and are often unclear as to which predicates allow es to be omitted when the dative occurs. This also varies depending on the sentence, and the construction seems better when embedded. Some examples are given in (81):

(81)a) Ich weiss [_sdass [(es) dir scheint [_sdass [_sHans weg
ist.

I know that (it) to-you seems that Hans is gone.

b) Ich weiss [_sdass [? (es) dir Spass macht [_s [PRO
Klavier zu spielen.

I know that (it) to-you makes fun to play the piano.

c) Ich weiss [_sdass [?? (es) ihnen klar ist [_sdass [_sHans
Jakob geschlagen hat.

I know that (it) to-them clear is that Hans hit
Jakob.

- d) Ich weiss [_S dass [_S ??? (es) dir wichtig ist [_S dass
 [_S Hans Jakob geschlagen hat.
 I know that (it) to-you is important that Hans has
 hit Jakob.
- e) Ich weiss [_S dass [_S ?* (es) dir notwendig ist [_S dass
 [_S Hans dich anruft.
 I know that (it) to-you is necessary that Hans call
 you.

The intuitions are not always as indicated here, but are generally in this direction. Interestingly, wh-movement phenomena tend to behave as in the passive constructions, as if the presence of es indicates whether the clause is governed in these cases as well. (Intuitions are even less clear here, however.) For example, extraction of a direct object is precluded when es is present, but possible when it is omitted. Extraction of a PP is permitted in both cases. This is shown in (82):

- (82)a) Das ist [_{NP} das Klavier; [_S das; [_S (* es) mir Spass
 macht [_S (t;) [_S PRO t; zu spielen.
 That's the piano that (it) to-me makes fun to play.
- b) Das ist [_{NP} das Kind; [_S mit dem; [_S (es) mir Spass macht
 [_S (t;) [_S PRO t; zu sprechen.
 That's the child with whom (it) to-me makes fun to
 talk.

It appears, then, that the Value Chain Condition on Cased Trace ((79)) is applying here as though the postverbal clause were governed when es is omitted. The value chain in

(82a) with es would be (t_i , t_i') in violation of the condition. Without es, the value chain would be (das_i , t_i), if the clause is governed, since the P-Comp Requirement would disallow a trace in the lower Comp. Another example is partial wh-movement, which is impossible with es and seems better without it, as illustrated in (83):

(83)a) * Was_i [scheint es_i dir_i [wen_i [Hans t_i geschlagen hat?

WHAT does it seem to-you whom Hans hit?

b) ? Was_i [scheint dir_i [wen_i [Hans t_i geschlagen hat?

WHAT seems to-you whom Hans hit?

Here again, the construction without es, as opposed to the one with it, is behaving as though the clause is governed. (83a) would be ruled out because the trace of wen left in Comp at LF would violate the ECP. In (83b), this trace would be governed. The difficult question here (which would be problematic for any account) is what the structure is in the cases where es is omitted. When es is present, it would be claimed that the clause was base-generated in subject position and extraposed, which should be the only possible derivation. It may be that certain extraposition predicates marginally allow an alternative structure in which the clause is assigned object, rather than subject, θ -role. The clause may then be base-generated on the right and is governed. This is easier with some predicates than others. The fact that it is best with scheinen may be significant,

since the construction resembles the English-type seem construction, in which the clause has object θ -role and there is no subject θ -role. However, it would still not be explained why this is possible only with a dative NP. It must be that this alternative structure consists of the verb assigning not one, but two, object θ -roles, both obligatory. The verb would assign inherent (dative) Case to the NP. The presence of es would then indicate the usual extraposition construction, in which the clause is ungoverned. In this case, the second argument would be optional. The absence of es would indicate the marginal alternative, in which the clause is governed. This would account for the fact that the data pattern with those of governed clauses in the latter case.

4.2. The Wh-chain Condition in Romani

In this section an analysis will be proposed to handle the facts of wh-movement with relative and adverbial clauses in both German and Romani. This will lead to the determination of the exact nature of the Wh-chain Condition and the Doubly Filled Comp Filter in Romani, which until now have not been made precise. Once this has been achieved, this together with the ECP account of the preceding section will enable an analysis of topicalization in Romani to be arrived at. This will be the subject of the final part of this section.

equivalents. The impossibility of extraction out of preverbal subjects in English would have to be handled separately.

Since it must be an S-structure condition that rules out these constructions, it is likely that the Comp of the embedded clause plays a role. It was concluded in section 4.1.4.2 that the Doubly Filled Comp Filter does not apply at LF (since in German and Romani LF movement must be Comp-to-Comp). If it were claimed that the Doubly Filled Comp Filter were responsible for the ungrammaticality of (84)-(85), then, these would be correctly distinguished from cases of the same type of extraction at LF, which are grammatical (cf. (52d)). Assuming that the subordinating conjunctions introducing the lower clauses appear in Comp, it could be claimed that they may not cooccur with a trace. Wh-movement through the Comp at S-structure would, then, be precluded. There are several problems with this. One is that the Doubly Filled Comp Filter does not preclude the cooccurrence of a trace and the complementizer. The complementizer differs from the conjunctions in that it is meaningless. As Lasnik and Saito (1984) point out, it would therefore be possible for it to be inserted at S-structure rather than at D-structure. This, however, would not help here, since the Doubly Filled Comp Filter applies at S-structure. It would, therefore, have to be claimed that it treats the complementizer differently from the conjunctions.

A larger problem, which seems to undermine this analysis, is that certain conjunctions may be followed by an infinitival clause in German, as shown in (86):

- (86)a) Ich bin nach Hause gegangen $\begin{smallmatrix} \text{[ohne} \\ \text{\_S} \end{smallmatrix}$ $\begin{smallmatrix} \text{[PRO} \\ \text{\_S} \end{smallmatrix}$
einen Brief an Hans zu schreiben.

I went home without a letter to Hans to write.

- b) Ich bin nach Hause gegangen $\begin{smallmatrix} \text{[um} \\ \text{\_S} \end{smallmatrix}$ $\begin{smallmatrix} \text{[PRO} \\ \text{\_S} \end{smallmatrix}$
einen Brief an Hans zu schreiben.

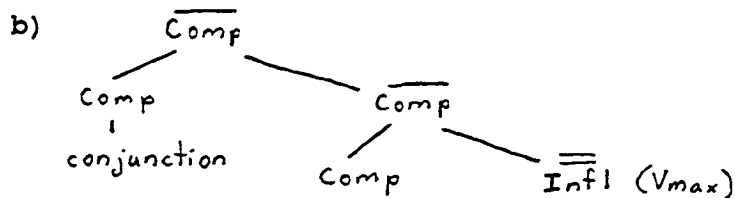
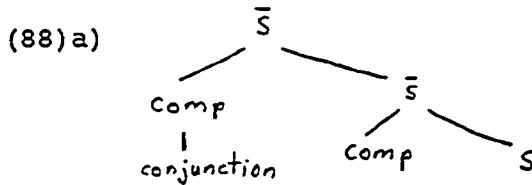
I went home in order a letter to Hans to write.

Since the Comp in these cases is a governed non-P-Comp, wh-movement would be expected to skip it. This would predict that extraction in these cases would be possible. This is not the case, however, as shown by the ungrammaticality in (87):

- (87)a) * An wen; $\begin{smallmatrix} \text{[bist du nach Hause gegangen} \\ \text{\_S} \end{smallmatrix}$ $\begin{smallmatrix} \text{[ohne} \\ \text{\_S} \end{smallmatrix}$
 $\begin{smallmatrix} \text{[PRO} \\ \text{\_S} \end{smallmatrix}$ einen Brief t; zu schreiben?
To whom did you go home without a letter to write?

- b) * An wen; $\begin{smallmatrix} \text{[bist du nach Hause gegangen} \\ \text{\_S} \end{smallmatrix}$ $\begin{smallmatrix} \text{[um} \\ \text{\_S} \end{smallmatrix}$
 $\begin{smallmatrix} \text{[PRO} \\ \text{\_S} \end{smallmatrix}$ einen Brief t; zu schreiben?
To whom did you go home in order a letter to write?

This suggests that the structure is more complex than has been assumed. Possibly, the conjunction appears in a separate Comp dominated by a higher S'. The structure would be as in (88a), or, in terms of X-bar theory, as in (88b):



The lower Comp could then be a P-Comp, but the one containing the conjunction would be claimed not to be. This Comp would be special in that only a conjunction may fill it, but it would count in the Wh-chain Condition. Wh-movement would then be impossible, since the trace could not cooccur with the conjunction but this Comp could also not be skipped. There are a few complications with this account. One is that the lower Comp position is empty in these cases even when the clause is not infinitival. Actually, in both German and English there is a case in which it could be claimed that a complementizer does appear in this Comp. This is the so that construction (so dass in German). It would be argued that so is the conjunction in the Comp position of the higher S' and that that/dass appears in the lower one. (The same would be true of in order that/for and in that in English.) Note that in the Romance languages, the sequence conjunction - complementizer often occurs. In

Romani it is expected that no complementizer appears in this position, since the clause is always subjunctive in these cases, and such clauses are never introduced by a complementizer. In German, in the case of a finite clause, the Comp would have to be specified as [-wh] even when empty, so that Infl would move to the verb in final position (since the word order is verb final; see chapter 2).

Romani poses a different problem for this account. (82b) and (83b) are presumably ruled out due to the fact that a wh-trace may not occur in Comp with angle ("before"). However, since Romani allows island violations of any length in full wh-movement, it seems that in this language the Wh-chain Condition does not require every Comp to be filled. If this were the case, then there would be no way of ruling out long-distance movement in these constructions. The wh-chain would consist of two members, the wh-phrase in the [+wh] Comp and the trace in S-internal position. The only way for the Doubly Filled Comp Filter to be able to rule out the construction would be to claim that the Wh-chain Condition is as in German (without the P-Comp Requirement). In order to account for the possibility of island violations, it would be further claimed that the Doubly Filled Comp Filter does not apply to the cooccurrence of a trace and a wh-phrase, unlike in German. (82b) and (83b) would then be ruled out the same way as the German and English equivalents. With this account, the problems posed

in chapter 3, where it was observed that partial wh-movement seems more restricted than full wh-movement in Romani, are handled. It was shown that in partial and some multiple wh-movement constructions, a Comp filled by a wh-phrase may not intervene between the Comp containing another wh-phrase and the one containing the scope-marker of the latter or a wh-phrase linked to it by absorption. The sentences in (57) of chapter 3, illustrating the partial wh-movement facts, are given here as (89), with the S-structure assumed by this analysis:

- (89)a) ? Kas; [_Sna Jane [_St; sosqe; [_So Demiri mislinol
t_j [_St; so [_Smarj^um t; ?
Whom don't you know why Demir thinks that I-hit?
- b) * So; [_Sna Jane [_Ssosqe; [_So Demiri mislinol t_j
[_Skas; [_Smarj^um t; ?
WHAT don't you know why Demir thinks whom I-hit?

In (89a) the Wh-chain Condition is satisfied, since there is a member of the chain headed by kas in every Comp. In (89b), on the other hand, if scope-markers are assumed not to move (as was concluded in chapter 3), then so was base-generated in the highest Comp, and there is no trace in the Comp of the middle clause. The Wh-chain Condition is, therefore, violated. The facts with subjunctive clauses given in (58a-b) of chapter 3, which indicate that a scope-marker must appear in every Comp, are in accordance with this account. This is expected, since the Wh-chain Condition does not allow a Comp to be skipped. Note that

the revision of the Doubly Filled Comp Filter in Romani still does not permit two wh-phrases to cooccur in Comp, unless they have the same scope, in which case absorption takes place (see chapter 3). For this reason, it is also not possible for a second scope-marker to be base-generated in the intermediate Comp of a construction like (89b), as illustrated by the ungrammaticality of (90):

- (90) * So; [na _S Jane [so; _S sosqe; [o Demiri mislinol t; _S
 [kas; _S [marj'um t; ?
 WHAT don't you know WHAT why Demir thinks whom I-hit?

In (90) the Wh-chain Condition is met, but the intermediate Comp violates the Doubly Filled Comp Filter. [9]

The multiple wh-movement construction illustrated in (91b) of chapter 3 is also handled by this analysis. This example is repeated here as (91), with the S-structure proposed above. (Judgments and structure refer to the double direct question (wide-scope) interpretation. The single direct question (narrow scope) interpretation is possible in (91) but does not bear on this discussion.)

- (91) ?* Ko; -j [t; _S puçhlâ tut [kaj _S [misline [kas; -j _S
 [o Demiri dikhlâ t; t_K ?
 Who asked you where you-think whom Demir saw?

Here kaj interrupts the wh-chain consisting of ko and kas. The fact that the construction becomes grammatical when the lower wh-phrase moves to the highest Comp gives support to the claim that the cooccurrence of a trace and a wh-phrase

in one Comp (without absorption) is allowed in Romani. As was pointed out in chapter 3, the counterpart of (91) ((92b) of chapter 3), repeated here as (92a), is not a good example, since it poses processing difficulties. (92b), with only two clauses and both wh-phrases originating in the same clause, is a better example and illustrates the same point:

(92)a) ?? [_{whi-j} Ko kas] [_s t_i pučhlâ tut [_s T_{i-j} kaj_k
 [_s misline [_s T_{i-j} so [_s o Demiri dikhlâ t_j t_k ?
 Who whom asked you where you-think that Demir saw?

b) ? [_{whi-j} Ko kaça] [_s o Demiri pučhlâ [_s T_{i-j} kaj_k
 [_s t_i khelja t_j t_k ?
 Who with-whom Demir asked where danced?

(= "With whom did Demir ask where who danced?"

(appropriate answer: "Demir asked where Bill danced with Mary."))

In (92a), the trace of kas is in the intermediate Comp along with kaj, and in (92b) the trace of either ko or kaça cooccurs with kaj. There is a possible problem with the analysis, however. Since a trace may cooccur with a wh-phrase in Comp, a construction like (91), but in which the wh-phrase in the highest Comp originates in the lowest clause, should be grammatical. It is not clear that this is the case. There does not seem to be much of a contrast between (93) and (91), for example:

- (93) ?* Kaça_i;-j₅ [o Demiri puçhlâ tut [T_i;-j₅ kaj_k [misline
[ko_i;-j₅ [t_i khel'ja t_j t_k ?

With-whom did Demir ask you where you-think who danced?

(Again, the narrow scope interpretation is possible.) In (93), unlike in (91), a wh-trace (the trace of kaça) presumably can occur in the intermediate Comp, so that the Wh-chain Condition is met. I have no explanation for the lack of a contrast. It may be that the complexity of the constructions is responsible. Since the analysis does account for the simpler cases and most of the complex ones, I will consider it to be accurate.

Some further evidence for this analysis is provided by the construction exemplified in (94):

- (94) * So_i [ex_i^j nane súkar [so_i [o Demiri mislinol
[kas_i [dikhlûm t_i ?

WHAT isn't-[it] good WHAT Demir thinks whom I-saw?

In this construction, the lower Comp, but not the second one, is governed. If the Wh-chain Condition did not require every Comp to be filled by a wh-phrase, then the so in the second Comp would be the complementizer rather than the wh-phrase. The sentence would not be predicted to be grammatical, since LF movement must be Comp-to-Comp, so that a trace of kas would appear in the ungoverned Comp at LF. However, the sentence could also be derived by violating the Comp-to-Comp requirement rather than the ECP. Since this requirement is presumably weaker (see section 4.1.4.2., where the same construction is discussed in German), the

indicates that there is no conjunction Comp slot, rather than a non-overt conjunction, which seems to be the case in Romani, then the construction should be grammatical, as opposed to its counterpart with "in order."

Recall that, as was noted in chapter 3, the relative clause equivalent of (84b) with the complementizer, so, in Comp, rather than a wh-phrase, is grammatical in both dialects of Romani. The equivalent of (84b) is given in (96):

(96) Ake _{NP} [o čhavo; [so _S [gelûm khere [angle _S [[te _S _S
marav (le;).

Here's the boy that I-went home before to hit (him).
If (84b) were ruled out by a condition on movement, then (96) could easily be explained. Since it is not derived by movement, as argued in chapter 2, it is predicted to be grammatical. The Wh-chain Condition handles this equally well, however. This condition applies only if there is a [+wh] Comp or a wh-phrase in the construction. If the Comp of the relative clause can be either [+wh] or [-wh], as was suggested earlier, then the condition will not affect relative clauses unless a wh-phrase is generated. In (96) there is no wh-chain at all and none is required. It should be noted that (96) is preferred with the resumptive pronoun. This is probably part of the general tendency for it to be more preferred the greater the distance (in length as well as depth) between it and the head of the relative.

Partial and multiple wh-movement are not possible in

these constructions, as shown in (97)-(98):

(97)a) * Was; [_Sgingst du nach Hause [_Sbevor [_Swen; [_SHans
t; anrief?

WHAT did you go home before whom Hans called?

b) * So; [_Sgelân khere [_Sangle [_Skas; [_Ste mare t; ?
WHAT did you go home before whom to hit?

(98)a) * Wer;-j [_Sging t; nach Hause [_Sbevor [_Swen;-j [_SHans
t; anrief?

Who went home before whom Hans called?

b) ?? Ko;-j [_St; gelo khere [_Sangle [_Skas;-j [_So Demiri
te marol t; ?

Who went home before whom Demir to hit?

In these constructions, the wh-phrase has moved to the lower Comp and a scope-marker appears in the higher one. They are ruled out by the Wh-chain Condition, since a Comp, the one containing the conjunction, is skipped. Note that (98b) is not as bad as the other examples in (97)-(98). This is probably because the wh-phrase kas could be in situ rather than in Comp, due to the freedom of word order in Romani. The order object - subject - verb is unusual but possible when the object is emphasized. In this case, this would be extremely odd pragmatically. The sentences in (97)-(98a) would be equally as bad, and (98b) completely ungrammatical, if the order of the conjunction and the wh-phrase were reversed. In this case, the Doubly Filled Comp Filter (specifically, the rule stating that the conjunction Comp

can be filled only by a conjunction) would be violated, since the wh-phrase would cooccur with the conjunction. As would be expected, the Romani "in order to" construction, in which the conjunction Comp is not generated, allows partial wh-movement:

- (99) So; [_Sbucinʃan e Demire [_Skas; [_Ste dikhe t; ?
 WHAT did you push Demir whom to see?

The double question construction with one wh-phrase in situ, exemplified in (51d), should be reconsidered at this point. It must be claimed that wh-phrases can move through the conjunction Comp at LF, due to the requirement that LF movement be Comp-to-Comp in these languages. The LF representations (at the point following wh-movement) of the German and Romani sentences in (51d) would be as in (100):

- (100)a) wer; wen; [_Sging t; nach Hause [_St; bevor [_St;
 [_SHans sah t;
 b) ko; kas; [_St; gelo khere [_St; angle [_St;
 [_So Demiri te dikhol t;

In order for the construction not to be ruled out, both of the traces left by LF movement must be governed. This seems problematic for this account, since the higher S', which is a maximal projection, should be a barrier to government. The lower Comp would then be ungoverned. A similar problem will arise in section 4.2.4, where the Top position in Romani will be discussed. A solution to the problem will be proposed there which will account for this one as well.

In this discussion, various conclusions have been

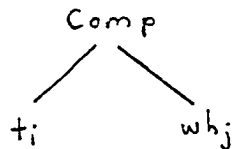
reached. To sum up, the system would be as follows. The impossibility of extraction out of adverbial clauses is accounted for by the Wh-chain Condition rather than by the CED, which is dispensed with. This involves attributing a structure to these constructions in which the conjunction occupies a separate Comp position dominated by a second S'. Only a conjunction could occur there. This leads to a significant conclusion about Romani. This is that, rather than the Doubly Filled Comp Filter operating as in German and English and the Wh-chain Condition being different (i.e., less restrictive), the opposite would hold. The Wh-chain Condition would be as in German and English in requiring that every Comp contain a wh-element. Romani differs from these languages in that the Doubly Filled Comp Filter does not apply to the cooccurrence of a trace and a wh-phrase. This analysis of Romani permits the apparent difference between full and partial wh-movement, observed in chapter 3, to be explained. Full wh-movement appears to skip Comps due to the weak form of the Doubly Filled Comp Filter. Since scope-markers are always overt, partial wh-movement does not appear to skip Comps. Note that other parts of the Doubly Filled Comp Filter are the same in Romani as in English and German. It is the case in all three languages that a wh-phrase and a complementizer may not cooccur. The same is true of two wh-phrases, except when they have the same scope in Romani, in which case they

undergo absorption. In German, absorption also occurs but does not permit the Doubly Filled Comp Filter to be circumvented. The Filter will be discussed further in chapter 5. In section 4.2.3, extraction out of relative clauses will be dealt with. It will be seen that the analysis developed in this section provides a good explanation for the facts in question. Before turning to this, I will address the question of the structure of Comp raised in chapter 3 (section 3.2). Now that the Romani Wh-chain Condition has been determined, this problem can be reconsidered.

4.2.2. The Structure of Comp

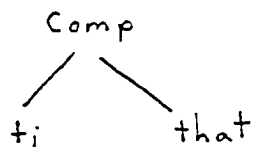
In order for a wh-chain to be well formed, each element must c-command the next, a general requirement on chains. In the preceding section, it was concluded that Romani allows one Comp to contain both a wh-phrase belonging to one chain and a wh-trace belonging to another, as in (89a). It must be that in such cases both wh-elements c-command into the lower clause, since otherwise they could not both be elements of a chain. Unlike the case of two wh-elements which belong to the same chain, absorption does not take place here. For this reason, the structure could not consist of a branching Comp. It was pointed out in chapter 3 that for the same reason, a Comp containing a wh-trace and a complementizer cannot be branching. The structures in (101) are incorrect:

(101)a) *



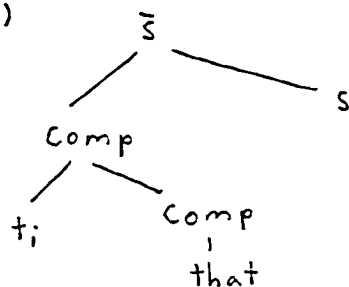
where t_i and wh_j cannot undergo absorption without violating the Wh-chain Condition (i.e., when they belong to two different chains, indicated by the presence of two [+wh] Comps)

b) *



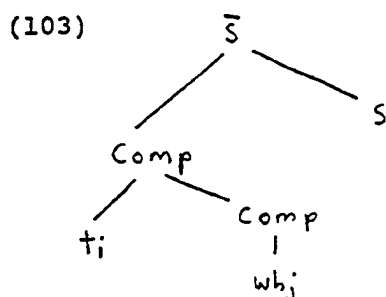
It must be then that the constructions involve adjunction to Comp. In case (101b), the complementizer would be in Comp (whether inserted at D-structure or S-structure) and the wh-trace would be adjoined, as in (102):

(102)



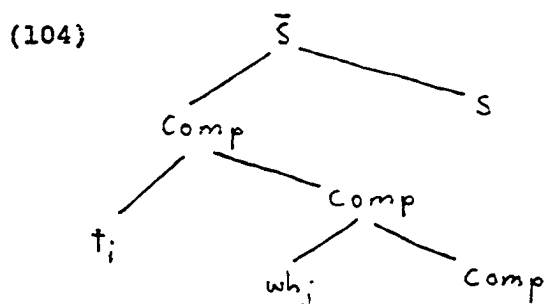
However, some modification is still necessary, since the wh-trace still does not appear to c-command into S. The first branching node dominating it is still Comp. It seems best to adopt a modification of the notion "node" (or "projection") in adjunction structures proposed in May

(1985). May suggests that in adjunction structures the node created by adjunction is in some sense not distinct from the original node, but rather that they will be members of a single projection. In this way, adjunction will be structure-preserving, like other movement. It follows that in order to be dominated by such a projection, an element must be dominated by all of the member nodes of the projection. In (102), that, but not t_i, is dominated by Comp. This in turn has an effect on c-command, since it is defined in terms of the notion "dominate". In (102), that would not c-command into S, since the first branching node dominating that is Comp. The wh-trace, on the other hand, would c-command into S, since Comp does not dominate it at all, and the first branching node dominating it is S'. With this modification, the structure in (102) would then behave as desired. [10] The Romani construction with both a wh-trace and a wh-phrase in Comp is still problematic. If the structure were as in (103), parallel to (102), the wh-phrase would still not c-command into S, although the wh-trace would.



Unlike the complementizer in (102), the wh-phrase (wh) in

(103) must be part of a wh-chain and therefore must c-command into S, just like the wh-trace. A solution to this would be to claim, as in Chomsky's earlier work, that all wh-movement to Comp could consist of adjunction to Comp, even if Comp contains no (overt) complementizer. The structure in question could then be as in (104), rather than as in (103):



In this way, the Comp projection would dominate neither t nor wh, so that both would c-command into S, which is the desired result. In languages like German and English, in which the cooccurrence of a wh-trace and a wh-phrase are ruled out by the Doubly Filled Comp Filter in any case, adjunction would not be necessary (at least not at S-structure).

This analysis has certain ramifications which should be considered. One is that the Doubly Filled Comp Filter, which up to now has been left imprecise, restricts the cooccurrence of elements "in" Comp, regardless of whether they are actually dominated by the Comp node. The Filter makes no distinction then between the basic Comp position

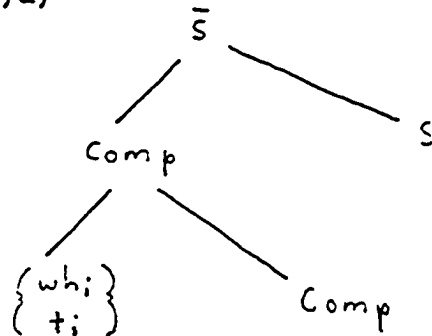
- b) Infl (together with the verb) does not count in the Doubly Filled Comp Filter.
- c) Infl (together with the verb) must not be the only element contained in Comp.

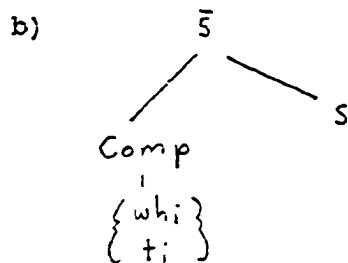
(107a) accounts for the fact that if the [$\bar{t}$ wh] feature is subcategorized and therefore occupies the basic Comp position, Infl must move out of Comp. It may not cooccur with the [$\bar{t}$ wh] features in the basic Comp or move to a Comp-adjoined position. (107b) is necessary to allow a Comp-adjoined wh-phrase to occur in Comp with Infl (and the verb). (107c) ensures that another constituent or the expletive es will be in the Comp-adjoined position, so that the verb will be second. The fact that only one constituent may be adjoined to Comp in this case would be handled by the Doubly Filled Comp Filter. If (107) holds of all verb-second languages, it would be part of the parameter specifying that Infl is base-generated in Comp.

As was mentioned in chapter 3, the that-trace effect in English cannot be explained by lack of c-command given the above account. I will propose that the index of Comp is involved in this phenomenon. It could be claimed that antecedent government obtains only under government by a coindexed head. Since Comp is the head of S', it qualifies as an antecedent governor for a trace in subject position as long as it is coindexed with this trace. This means that the presence of that in Comp must prevent the index of the wh-phrase (or trace) in Comp from being assigned to Comp.

This would be achieved by claiming that the head of Comp is the element directly dominated by the Comp projection. In (103), for example, the head of Comp would be wh_j, whereas in (102) it would be that. In the latter case, Comp would not be assigned an index and would, therefore, not properly govern the subject position. The grammatical case in which that is not present still must be considered. In this case, the possibility of adjunction, as in (108a) would not allow proper government to obtain, since the wh-phrase or trace would not be dominated by Comp. This is not a problem, since substitution is also possible. The substitution structure, given in (108b), allows grammaticality unproblematically. In this case, the wh-phrase or trace is the head of Comp, which receives its index and properly governs the trace in subject position.

(108)a)





Note that this account of Comp indexing is similar to the one proposed in Lasnik and Saito (1984), in that when the complementizer that is not present, the wh-element is the head of Comp and Comp receives its index. However, as was said earlier, Lasnik and Saito's account differs from the one given here in several other respects. Their claim that the ECP applies at S-structure as well as LF allows them to make a distinction between the government of subject and adjunct traces. In this way, they explain why the that-trace effect does not obtain in the latter case. In the analysis given here this fact is not accounted for. I will leave this problem open.

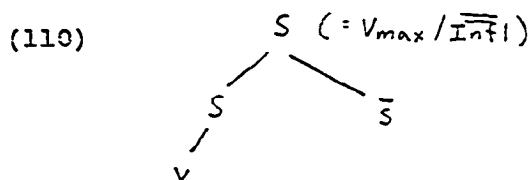
At this point, the question posed in section 4.1.4.2 of the government of traces in Comp should be returned to. It was observed there that as a result of LF Comp-to-Comp movement, a trace can cooccur with a wh-phrase in Comp at LF. (56b) is repeated here as (109a), with its LF representation given in (109b):

(109)a) (= (56b)) Wer; [_S weiss t; nicht [_S wo; [_S Hans
mit wem t; gesprochen hat?
Who doesn't know where Hans with whom
talked?

b) mit wem_K wer; [_S weiss t; nicht [_S t_K wo;
[_S Hans t_K t; gesprochen hat

Given the account proposed above, t_K is not the head of Comp. The problem is that although it is not the head, it must be governed by the higher verb. It is therefore necessary to claim that once the head of a maximal projection (in this case, Comp) is governed, all the elements contained in the head, regardless of whether they are heads, are also governed. There is no intervening maximal projection to block such government, so that the only question is whether this is the correct interpretation of the statement allowing heads of maximal projections to be governed. I will assume that it is, since the data are then accounted for unproblematically.

One final consequence of this analysis, which does not involve Comp, should be noted. Up to now, it has been assumed that VP-adjoined (or S-adjoined) clauses are ungoverned, but it has not been made clear exactly why this should be so. As May (1985) points out, this would follow from his analysis of adjunction structures, adopted here. The construction would be as in (110):



Since S (or V_{max}) is a maximal projection which does not dominate the clause but does dominate the potential governor V, government does not obtain.

4.2.3. Extraction Out of Relative Clauses

As in English, it is impossible to question or relativize out of a relative clause in German and Romani, as illustrated in (111)-(112):

- (111)a) * Mit wem; [_Sliebst du [_{NP}den Jungen; [_Sder;
[_St; t; tanzte?

With whom do you love the boy who danced?

- b) * Das ist [_{NP}das Mädchen; [_Smit dem; [_Sich liebe
[_{NP}den Jungen; [_Sder; [_St; t; tanzte.

That's the girl with whom I love the boy who danced.

- (112)a) * Kaça; [_Smangea [_{NP}e čhave; [_Sko; [_St; khel'ja t; ?
With-whom do you like the boy who danced?

- b) */ Ake [_{NP}i čhaj; [_Skaça; [_Smangava [_{NP}e čhave; [_Sko;
[_St; khel'ja t; .

Here's the girl with-whom I-like the boy who danced.

(The Dialect II judgments will be ignored here and returned to in section 4.2.4.) In the case of German, this can be accounted for by the Wh-chain Condition, since the Comp of the relative clause is skipped. In addition, extraction out

of NPs is always blocked in German. It was stated in (55) of chapter 3 that in German an NP boundary may not interrupt a scope chain or a value chain. The question, then, is how the Romani facts should be accounted for. As was observed in chapter 3, extraction out of conjoined and possessive NPs is possible. This means that there is no prohibition against an NP boundary intervening between the members of a value chain. The Wh-chain Condition also seems not to handle the relative clause cases, since the cooccurrence of a wh-phrase and a trace is permitted in Comp, unlike in German. The S-structure of (112a) could be as in (113), in which every Comp contains a member of the chain headed by kaça:

- (113) * kaça; [_S mangea [_{NP} e çhave; [_S t; ko;
 [_S t; khel'ja t;

There is, however, a difference between this case and extraction out of possessive and conjoined NPs. This is that in the former the NP boundary interrupts the scope chain, whereas in the latter it interrupts the value chain. This can be seen by comparing the structure in (113) to that of (114):

- (114) Kas; [_S dikhlân [_{NP} t; hem e Demire?
 Whom did you see and Demir?

It could be assumed, then, that Romani does have the restriction on scope chains that an NP boundary may not intervene. The only difference between German and Romani regarding wh-chains is then that in German there is an

additional restriction on what may intervene between the members of the value chain. The part of the Wh-chain Condition referring to scope chains would then be the same in German, Romani and English. It would be as in (50c) of chapter 3 with the added prohibition on an intervening NP boundary. This would be stated as in (115):

- (115) In the structure $\dots a_i \dots [\dots a_j \dots]$, where a_i, a_j are members of a scope chain, $\alpha \neq \text{NP}$.

German and English would in addition have a condition on value chains, as in (116):

- (116) In the structure $\dots v_1 \dots [\dots v_2 \dots]$, where v_1, v_2 are members of a value chain, $\alpha \neq \text{NP}$.

This account of the Romani relative clause construction would not be possible if it were not required that every Comp contain a member of the chain. Otherwise, long-distance movement would create a chain in which the NP boundary does not interrupt the scope chain but only the value chain. There would be no way of ruling this out, since condition (116) does not hold in Romani, as evinced by the possibility of extraction out of conjoined and possessive NPs.

The construction mentioned in chapter 3 consisting of relativization out of a relative with so in the higher Comp should be brought up again here. These constructions are possible in both dialects, as in the case of adverbial clauses within relative clauses, discussed in section 4.2

(cf. (96)). This is illustrated in (117):

(117) Ake _{NP} [o čhavo; _S [so _S [dikhlûm _{NP} [e čhia; _S [ko;
_S [t;_j mangol (le;).

Here's the boy that I-saw the girl who likes (him).

This is expected, since, when no wh-phrase is generated and there is no [+wh] Comp, no wh-chain is required.

Up to this point, the Top position in Romani has been ignored in this chapter. In the next section, it will be shown how the ECP account together with the Wh-chain Condition handles the facts involving the Top position, and, in particular, wh-movement to Top in Dialect II. The Dialect II judgments in this section will be accounted for there.

4.2.4. The Top Position in Romani

Before wh-movement to Top in Dialect II is considered, the question of whether the Top position itself causes any problems for the proposed analysis will be addressed. In order for a partial or multiple wh-movement construction to be grammatical, the wh-phrase in Comp must be governed, so that its trace will be governed at LF. The question, then, is whether the Top position interferes with this. According to the definition of government given in chapter 1, maximal projections are barriers to government. This means that if S'', as well as S', is a maximal projection, it would block government of S' and therefore Comp. It could be suggested that S'' is a projection of S'. Then Comp would be the head of S'' and would be governed when S'' is. The problem is

that Top would not be governed, since it would be the specifier, rather than the head, of S''. It will be shown below that Top, as well as Comp, must be governed. Due to this, Top must be the head of S'' (i.e., S'' = Top').

Another possibility would be to narrow down the notion of barrier to exclude S''. The problem is similar to the one raised in section 4.2.1 involving the adverbial clause constructions. There it was a problem that S' would block government of the lower S'. In both cases, the problem is that the construction has a head (Top or Comp) which is unable to serve as the lexical governor of the complement (S'). It seems that due to this, the maximal projections (S'' and S') are not barriers to government. Intuitively, the complement in these cases (S') is not really the complement of the element in Top or Comp. This may be due to the fact that the category of these heads is not set, but varies depending on what element, if any, moved there. I will suggest then that S'' and S' are maximal projections but do not block government due to the nature of their heads. The definition of government would be revised as follows:

(118) α governs γ in the structure $[_\beta \dots \gamma \dots \alpha \dots \gamma \dots]$

where,

a) $\alpha = X^0$

b) where ϕ is a maximal projection with an invariant head, if ϕ dominates γ then ϕ dominates α .

This would solve the problem of the adverbial clause constructions, since both Comps will be governed. This would also have the result that in all constructions where S' is governed, both Top and Comp will be governed.

Consider the partial wh-movement constructions in (119):

(119)a) So; [_Smisline [_S[kas; [_S[o Demiri dikhlâ t; ?

WHAT do you think whom Demir saw?

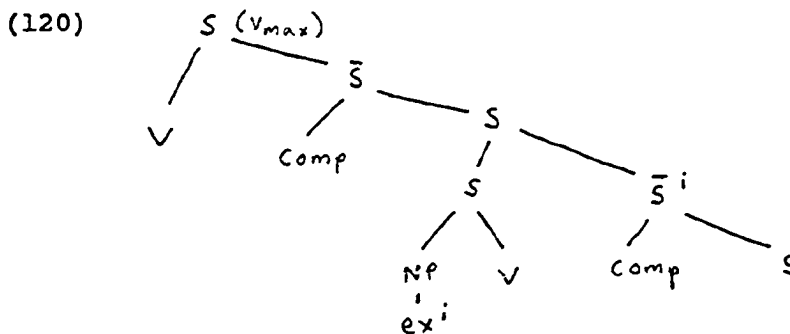
b) So; [_Smisline [_S[o Demiri; [_S[kas; [_S[t; dikhlâ t; ?

WHAT do you think Demir whom saw?

In both cases, kas is governed by the verb misline, and its trace will be governed at LF, as is required. In (118a) the Top position is empty, whereas in (118b) it contains the NP o Demiri. The Top position is also governed in both cases, although this has no consequences here. It might be objected that, if the matrix verb governs Top, it would assign Case to an NP in Top position, incorrectly giving it a second Case. This same argument could be made about the wh-phrase in Comp, however. Stowell (1981), in arguing that Comp is the head of S', claims that Case is not assigned to an NP which already is Case-marked. [11]

Before continuing the discussion of Top, I will briefly digress to point out an attractive consequence of the revised notion of government. This combined with May's analysis of adjunction, presented in section 4.2.2, can account for the basic data of the bridging constructions, which were left unexplained in section 4.1.4.1. It seems that a verb is able to skip over a clause to govern a lower

clause which is normally ungoverned because it is extraposed. It was unclear why government could skip a clause. With the modifications made above, this is the expected result and can be explained without the notion of skipping. As was pointed out at the end of section 4.2.2, S (or Vmax) does not dominate the extraposed clause according to May's account. It is for this reason that the clause is usually ungoverned. It has now been claimed that S' is not a barrier to government. This means that if the S' dominating the S containing the extraposed clause is governed by a higher verb, this verb, in addition to governing its complement, will govern the extraposed clause. In other words, both the higher S' and S (or Vmax) are "skipped", the former because it is not a barrier to government and the latter because it does not dominate the clause. The construction is diagrammed in (120):



Both Comps will be governed by the higher verb in this case. There is still a problem in explaining the German facts. Recall that in German only one of the two Comps, but not

d) */ Ake [[o 'chavo; [[so [mislinav [kas;
 _{NP} _S _S _S
 [[dikhlum le;
 _S _S

Here's the boy that I-think whom I-saw him.

The presence of the resumptive pronoun indicates that the wh-phrase is in Top rather than in Comp. In chapter 2 this difference in behavior between interrogatives and relative clauses was left as a stipulation. Given the analysis proposed in this chapter, it is possible to find an explanation for this. The Wh-chain Condition has been claimed to apply if a Comp is [+wh]. In an interrogative construction the Comp is always [+wh], so that there is no way of circumventing the Wh-chain Condition. (123a-b) are ruled out because the required wh-chain is incomplete in that it does not contain a wh-phrase, since the latter is in Top rather than in Comp. In addition, the lower Comp is skipped in the representations in (123a-b). However, it could be possible for the wh-phrase to move to Top through Comp, so that a trace would appear in Comp. This is, therefore, not a cause of ungrammaticality. Top is apparently distinct from Comp regarding the Wh-chain Condition, although both are A'-positions to which wh-movement is possible. Since Top is in a sense invisible to the Wh-chain Condition, wh-movement to Top is always ruled out in interrogatives.

Relative clauses differ from interrogatives in that the Comp can be specified as [-wh]. For this reason, the Wh-chain Condition affects relative clauses only if a wh-phrase

is generated. As has been pointed out earlier, constructions like those in (124), with the complementizer in Comp and no wh-phrase, occur in both dialects:

(124)a) Ake $\begin{bmatrix} \text{[o} \\ \text{NP} \end{bmatrix}$ $\begin{bmatrix} \text{chavo;} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[so} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{dikhlûm} \\ \text{S} \end{bmatrix}$ (le;).

Here's the boy that I-saw (him).

b) Ake $\begin{bmatrix} \text{[o} \\ \text{NP} \end{bmatrix}$ $\begin{bmatrix} \text{chavo;} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[so} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{mislinav} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{[so} \\ \text{S} \end{bmatrix}$ $\begin{bmatrix} \text{dikhlûm} \\ \text{S} \end{bmatrix}$ (le;).

Here's the boy that I-think that I-saw (him).

In (123c-d) a wh-phrase was base-generated, but it moved to Top rather than to Comp. If (50a) of the Wh-chain Condition were revised to require a wh-chain when a wh-phrase appeared in a Comp or S-internal position, rather than in any case where a wh-phrase is base-generated, then the grammaticality of (123c-d) could be accounted for. The claim would be that, since Top is not the type of position which contains elements of a wh-chain, when a wh-phrase does appear there, it does not trigger the Wh-chain Condition, but is, in a sense, invisible to it. The empty category left in S-internal position after movement of a wh-phrase to Top would not be interpreted specifically as a wh-trace, but rather as a variable bound by an element in Top. It, therefore, would also not be expected to trigger the application of the Wh-chain Condition. It would have to be held that in addition, scope-markers cannot be generated in Top. This could follow from the claim that scope-markers can be interpreted only as members of a wh-chain. The sentences in (123c-d) would be

exactly like those in (124) in this respect. Note that the so in the higher Comp of (123d) would have to be claimed to be the complementizer rather than a scope-marker, since the scope-marker would be visible to the Wh-chain Condition.

Before continuing to examine the Romani facts, it should be pointed out that this account makes necessary a slight modification in the German P-Comp Requirement. With this account, (a) of the Wh-chain Condition ((50) of chapter 3)) is revised to refer only to wh-phrases in Comp or in S-internal position, rather than to any wh-phrase in the structure. The revised statement of (a) would be as in (125):

(125) revision of (a) of the Wh-chain Condition:

For every [+wh] Comp x, there is a wh-chain at S-structure, such that its head is contained in x; and for every wh-phrase y in S-internal position or contained in Comp, there is a wh-chain at S-structure whose head is contained in the Comp from which y takes scope.

(Note that the more precise term "contained in" is also added.) The P-Comp Requirement states that governed non-P-Comps do not count as Comps in the Wh-chain Condition. However, they must count in (125), since otherwise a wh-phrase could move to a governed non-P-Comp and would not be constrained by the Wh-chain Condition. For this reason the P-Comp Requirement should be restated so that governed non-P-Comps would count in (125), but not in the rest of the Wh-

chain Condition, as in (126):

(126) P-Comp Requirement (German) (final revision):

Governed non-P-Comps do not count as Comps in (b-e) of the Wh-chain Condition ((50) of chapter 3)).

Returning to the Romani facts, it can now be explained why Dialect II allows relativization (but not interrogation) out of relative and adverbial clauses, unlike Dialect I.

The sentences in (127) would have the structures indicated:

- (127)a) */ Ake $\left[\begin{smallmatrix} \text{[o} \acute{\text{c}}\text{havo;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[kas;} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[dikhlûm} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[e} \acute{\text{c}}\text{hia;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[ko;} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[t;} \\ \text{S} \end{smallmatrix} \right] \text{ mangol (le;)}.$
Here's the boy whom I-saw the girl who likes (him).
- b) */ Ake $\left[\begin{smallmatrix} \text{[o} \acute{\text{c}}\text{havo;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[kas;} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[gelûm khere} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[angle} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[te marav (le;)} \\ \text{S} \end{smallmatrix} \right].$
Here's the boy whom I-went home before to hit (him).
- c) */ Ake $\left[\begin{smallmatrix} \text{[o} \acute{\text{c}}\text{havo;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[so} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[gelûm khere} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[kas;} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[angle} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[te marav (le;)} \\ \text{S} \end{smallmatrix} \right].$
Here's the boy that I-went home whom before to hit (him).

Since the wh-phrase is in Top, the Wh-chain Condition does not apply. The constructions are on a par with those in

(128), in which no wh-phrase is generated at all:

- (128)a) Ake $\left[\begin{smallmatrix} \text{[o} \acute{\text{c}}\text{havo;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[so} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[dikhlûm} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[e} \acute{\text{c}}\text{hia;} \\ \text{N} \text{ NP} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[ko;} \\ \text{S} \end{smallmatrix} \right] \left[\begin{smallmatrix} \text{[mangol (le;)} \\ \text{S} \end{smallmatrix} \right].$
Here's the boy that I-saw the girl who likes (him).

b) Ake [[o čhavo; [[so [gelûm khere [[angle
_{N NP} _S _S _S
[[te marav (le;).
_S _S

Here's the boy that I-went home before to hit (him).

In (127c) the wh-phrase appears in the Top of the adverbial clause rather than in the highest Top of the relative clause. This shows that a Top position appears to the left of the conjunction Comp and that it is governed. The latter fact is expected, since adverbial clauses are presumably governed. Constructions with other types of topicalization out of adverbial clauses, such as in (129), support the positing of a Top position to the left of the conjunction Comp:

(129) Gelûm khere [e čhave; [angle [[te marav t; .
_S _S _S _S
I-went home the boy-ACC before to hit.

(= "I went home before hitting the boy.")

It is difficult to determine whether there is a second Top position between the conjunction Comp and the lower Comp, since there is no overt complementizer in these constructions. The wh- facts indicate that there is not, since a wh-phrase may not appear there.

Sentence (58c) of chapter 3, which showed that partial wh-movement is, for some reason, not possible in a relative clause if it contains a non-final subjunctive clause, poses a problem here as well. (58c) is repeated here as (130):

same way as wh-movement, possibly along the lines of Chomsky (1977), but recast in the more recent framework.

Now that the nature of the relative clause construction with topicalization has been made more precise, the question of LF movement of the wh-phrase in Top can be returned to. It has been claimed that the Comp in such cases is [-wh]. This means that the reason for LF movement is not to fulfill the requirement that a [+wh] Comp be filled. It must be that a larger principle requires that wh-phrases appear at LF in the position from which they take scope. In this case, this would be a position c-commanding the whole relative clause. The next question is which position it is. If it is Comp, then a [-wh] Comp would be filled by a wh-phrase at LF, in violation of Lasnik and Saito's (1984) principle. It may be that movement is not to Comp, but to Top in these cases. This could be consistent with the claim made above that the Top position is in a sense distinct from Comp, which is the position relevant to wh-chains. A further question is whether LF movement of a wh-phrase in Top can be long distance. There is evidence indicating that it can. (131) is the relative clause equivalent of the ungrammatical interrogative in (94), where the clause containing the one with the wh-phrase is ungoverned:

- (131) */ Ake [[o čavo; [[so [ex^j nane súkar [[so
[o Demìri mislinol [kas [[dikhlûm (le;).
Here's the boy that [it]-isn't good that Demir thinks
whom I-saw (him).

In Dialect I, (131) is ungrammatical, due to the fact that the so in the second Comp, which has to be a scope-marker, leaves an ungoverned trace at LF, as in the case of (94) in both dialects. In Dialect II, the wh-phrase can be in Top, in which case so would not be a scope-marker, but the complementizer. Given the facts discussed above, kas must move at LF. If it moved through the Top position of the ungoverned clause, the sentence would be ungrammatical due to the ungoverned trace. Its grammaticality indicates that movement is long distance in this case. It seems that this is a general property of movement to Top, since the same is true at S-structure.

Although the wh-phrase in Top is invisible to the Wh-chain Condition, it is visible in other respects. First, relative clauses must be introduced by a complementizer or a wh-phrase. (132) is ungrammatical for this reason:

- (132) * Ake [o'chavo; [[dikhlu'm (le;).
NP S S
Here's the boy I-saw (him).

The Comp position of (123c) is empty (although the complementizer may appear there optionally) just as in the case of (132). In (123c), however, kas appears in Top. This means that the Top position "counts" to fulfill this requirement. It is also visible to the recoverability

requirement. Compare the sentences in (133):

(133)a) Ake $\begin{bmatrix} \text{[o} & \acute{\text{c}}\text{havo;} & \text{[} & \text{[so} & \text{[dikhlûm} & \text{[} & \text{[e} & \acute{\text{c}}\text{hia;} \\ \text{NP} & & \text{S} & \text{S} & \text{S} & \text{N} & \text{NP} \end{bmatrix}$
 $\begin{bmatrix} \text{[} & \text{[ko;} & \text{[} & \text{t;} & \text{kheI}^{\text{f}}\text{a} & * & \text{(leça;)} & \text{]} \\ \text{S} & \text{S} & \text{S} & \end{bmatrix}$

Here's the boy that I-saw the girl who danced (with-him).

b) */ Ake $\begin{bmatrix} \text{[o} & \acute{\text{c}}\text{havo;} & \text{[kaça;} & \text{[} & \text{[dikhlûm} & \text{[} & \text{[e} & \acute{\text{c}}\text{hia;} \\ \text{NP} & & \text{S} & \text{S} & \text{S} & \text{N} & \text{NP} \end{bmatrix}$
 $\begin{bmatrix} \text{[} & \text{[ko;} & \text{[} & \text{t;} & \text{kheI}^{\text{f}}\text{a} & & \text{(leça;)} & \text{]} \\ \text{S} & \text{S} & \text{S} & \end{bmatrix}$

Here's the boy with-whom I-saw the girl who danced (with-him).

(133a) without the resumptive is ungrammatical, presumably because the θ -role of the NP is irrecoverable. In both dialects, the resumptive pronoun makes the sentences grammatical. (133b), on the other hand, is grammatical in Dialect II without a resumptive pronoun. This shows that the wh-phrase in Top counts for recoverability. A third way that wh-phrases in Top are visible is that they must be fronted at LF, as was discussed above.

So far, it has been shown that a wh-phrase may move to Top in Dialect II, as long as the position is governed and the Wh-chain Condition is not violated. One additional fact should be noted. A wh-phrase may not appear in the Top of an NP or in the Top of a relative clause. This is illustrated in (134):

(134)a) * Ake $\begin{bmatrix} \text{[o} & \acute{\text{c}}\text{havo;} & \text{[} & \text{[so} & \text{[dikhlûm} & \text{[kas;} & \text{[e} & \acute{\text{c}}\text{hia;} \\ \text{NP} & & \text{S} & \text{S} & \text{S} & \text{N} & \text{NP} \end{bmatrix}$
 $\begin{bmatrix} \text{[} & \text{[ko;} & \text{[} & \text{t;} & \text{mangol} & \text{t;} & \text{]} \\ \text{S} & \text{S} & \text{S} & \end{bmatrix}$

Here's the boy that I-saw whom the girl who likes.

b) * Ake [[o čhavo; [[so [dikhlûm [[e čhia; [kas;
_I _N _{NP} _S _S _S _N _{NP} _S
[ko; [t; mangol t; .
_S _S

Here's the boy that I-saw the girl whom who likes.

This is not due to the fact that the wh-phrase is not in the highest Top of the relative clause. Examples like (122) and (127c) show that this is not necessary. It must be, then, that the wh-phrases in (134) are ungoverned. The sentences in (134) would then be ruled out in the same way as (122). The trace left at LF would be ungoverned. In the case of (134b), it would be claimed that the relative clause, and therefore its Comp, is ungoverned. This seems unproblematic, since the head of the relative clause is actually an NP, a maximal projection, rather than an N. This is a peculiarity of the relative clause construction. The head of this NP could not govern outside of it. The case of (134a) is somewhat more difficult. It seems that, since the matrix verb governs the NP head of the relative, it should govern the Top as well. This problem can be solved by considering the status of Top and N''' in terms of X-bar Theory. Since only heads are governed, it would suffice to claim that Top is not the head of N'''. Unlike S'', N''' would not be a projection of Top, but of NP. The NP would therefore be the head of N''', and its head, the head of the relative clause, would be governed. Top, on the other hand, would be a specifier and would therefore not be governed.

The analysis seems, then, to handle well the facts

involving the Top position. One question which should be considered is that of quantifier raising. Quantifiers may appear in Top positions which are presumably ungoverned, as, for example, in (135):

- (135) Ake $\left[\underset{\text{NP}}{\text{sa e } \acute{\text{c}}\text{haven}}; \left[\underset{\text{NP}}{\text{i } \acute{\text{c}}\text{haj}}; \left[\underset{\text{S}}{\left[\underset{\text{S}}{\text{so}} \left[\underset{\text{S}}{\text{t}} \right] \text{mar}^{\text{f}}\text{a t}; \right.} \right. \right. \right. \right. \\ \text{Here's all the boys-ACC the girl-NOM that hit.} \\ (= \text{"Here's the girl that hit all the boys."})$

In (135) sa e chaven appears in the Top of an NP, which is an ungoverned position. Since I have not investigated quantifier raising in Romani at all, it is unclear whether this is problematic. If there are cases in which quantifier raising takes place out of the Top position, it would have to be claimed that the QR rule does not apply in the same way as LF wh-movement. Otherwise, an ungoverned trace would be left at LF as a result of QR. Similarly, focused constituents may occur in ungoverned Tops, as illustrated by the relative clause construction in (136):

- (136) Ake $\left[\underset{\text{NP}}{\text{E DEMIRE}}; \left[\underset{\text{NP}}{\text{o } \acute{\text{c}}\text{havo}}; \left[\underset{\text{S}}{\left[\underset{\text{S}}{\text{so}} \left[\underset{\text{S}}{\text{t}} \right] \text{mar}^{\text{f}}\text{a t}; \right.} \right. \right. \right. \right. \\ \text{Here's DEMIR the boy that hit.} \\ (= \text{"Here's the boy that hit DEMIR."})$

Again, if there were a case in which movement of the focused constituent took place at LF, the structure would be ruled out unless this applied differently from LF wh-movement. I will not investigate these questions here.

In this section, various conclusions have been reached. First, the X-bar status of the Top constructions has been

determined. S'' is a projection of Top, whereas NP, rather than Top, is the head of N''' . It was claimed that neither S'' nor S' are barriers to government, which also nicely handles the bridging constructions. The Wh-chain Condition can explain the facts involving wh-movement to Top in Dialect II. A wh-phrase in Top is not visible to the Wh-chain Condition, which allows a wh-phrase to appear in Top in relative clauses, including cases of relativization out of a relative or adverbial clause. Wh-movement to Top is not possible in interrogatives because in this case there is a [+wh] Comp, so that the Wh-chain Condition applies. This shows that Comp and Top are distinct entities. The fact that a wh-phrase may not occur in an ungoverned Top indicates that wh-phrases in Top are fronted at LF. The position to which they are fronted is probably Top, and movement in this case appears to be unbounded. Since the Wh-chain Condition has been revised in various ways in this chapter (as well as in chapter 3), it is given in (137) in its final form. The Value Chain Condition on Cased Trace is included in the conditions on value chains. In cases where a condition has been shown to be language specific, this is indicated.

(137) Wh-chain Condition (final revision)

- a) For every [+wh] Comp x , there is a wh-chain at S -structure, such that its head is contained in x ;

and for every wh-phrase y in S-internal position or contained in Comp , there is a wh-chain at S-structure whose head is contained in the Comp from which y takes scope.

- b) The chain $W = (w_1, w_2, \dots, w_n)$ is a wh-chain iff $W = C \cup V$, where C is a scope chain and V is a value chain.
- c) $C = (a_1, a_2, \dots, a_n)$ is a scope chain iff
- (i) $\forall a_i, 1 \leq i \leq n, a_i$ is in Comp
 - (ii) $\forall a_i, 1 \leq i \leq n, a_i$ is a wh-phrase or a trace
 - (iii) $\forall a_i, 1 < i \leq n, a_i$ is A' -bound in its Comp category
 - (iv) a_1 is a wh-phrase in a [+wh] Comp
 - (v) $\forall a_i, 1 \leq i \leq n$, if a_i is a scope-marker, then $(a_i, a_{i+1}, \dots, a_n)$ must contain a true wh-phrase
 - (vi) $\forall a_i, a_j, 1 \leq i \leq n, 1 \leq j \leq n$, in the structure $\dots a_i \dots [\dots a_j \dots, \alpha \neq \text{NP}$
- d) x is a Comp category for an element in Comp_K iff there is a Comp_j c-commanding Comp_K , such that x is the minimal S' dominating Comp_j and Comp_K , and there is no $\text{Comp}_i, i \neq j, k$ such that x dominates Comp_i unless Comp_K c-commands Comp_i .
- e) $V = (v_1, v_2)$ is a value chain iff
- (i) v_1 is in Comp
 - (ii) v_2 is a trace in S-internal position

- (iii) if Comp; c-commands v_1 , then it either c-commands or contains v_2 .
- (iv) in the structure $\dots v_1 \dots [\dots v_2 \dots, \alpha \neq \text{NP}]$
(German, English; not Romani)
- (v) if v_2 is assigned Case, then v_1 must be an overt true wh-phrase or must dominate a wh-phrase coindexed to v_2 (German; not Romani, English)

4.3. The Configurationality Question

It was suggested in chapter 2 that German and Romani are non-VP languages, and this has been assumed throughout the discussion. It seems clear that the languages are not true non-configurational languages like those discussed in Hale (1982). However, they could be claimed to be configurational, as German is in many analyses. The purpose of this section is to show which parts of the analysis of the wh-phenomena depend on the assumption that German and Romani have no VP. It will be seen that the assumption has little bearing on the analysis, except in two cases, where it plays a larger role.

The Wh-chain Condition, introduced in chapter 3, would not be affected by the existence of a VP, since the VP would not break a wh-chain. The lack of subject-object asymmetries and the fact that the subject appears to be properly governed (at least in Romani and some dialects of German) could be attributed to a property of Infl which allows it to be a proper governor. The analysis of the

basic wh-movement facts then could hold independently of the non-VP account.

This is true as well of most of the analysis in this chapter. The extraposition constructions would consist of adjunction to VP rather than to S (or Vmax). The extraposed clause would still be ungoverned. The distinction between these constructions and those with postverbal complement clauses could also still be made. In German, in order to avoid positing extraposition in both cases, it would still have to be claimed that Case assignment is directional. The complement of the verb could then be generated on either side, but NPs would appear only on the left to avoid a violation of the Case Filter. In this respect, the non-VP analysis seems somewhat more attractive than the configurational one. Directionality can play a major role in non-VP languages in any case, so that it is not surprising that Case assignment is directional. In a configurational language, it is also usually the case that the head of a projection is generated in a fixed order with respect to its complements. Possibly, a better account of this would be found if the configurational analysis were made more precise. The distinction between extraposed clauses and clauses generated postverbally was also made in the case of passive and ergative verbs. The difference in structure is indicated by the occurrence of the expletive, which is in turn indicated by the overt es in German and the possibility of talo in Romani. It was claimed that in the

non-extraposition cases there is no expletive at all. If the languages were configurational, there would have to be an expletive in all these constructions, since there has to be a subject position. Rather than the distinction being between the occurrence or nonoccurrence of the expletive, it could be between the coindexing or noncoindexing of the expletive with the postverbal clause. Coindexing would obtain only in the case of extraposition. The possibility of talo in Romani and the necessity of the overt es in German would then be determined by this. This is another case in which the non-VP analysis seems somewhat superior. It is a consequence of the structure that there is no es in German and that talo cannot occur in Romani. With the configurational analysis, a talo rule for Romani and an overttness rule for German would have to be posited. In any case, the ECP analysis of the wh-facts works either way, as long as the postverbal clause can be claimed to be ungoverned in the ungrammatical cases and governed in the grammatical cases.

There are two cases which would be problematic with a VP analysis. The first is the grammatical double question construction with an adverbial clause (e.g., the German and Romani equivalents of "Who left before calling who?"). It was suggested that the trace in Comp left at LF by LF Comp-to-Comp movement is governed by the verb due to the flat structure. In a configurational language, the adverbial

clause is presumably not in the VP, so that this trace would not be governed. The grammaticality of the construction would then be unexplained. It would have to be claimed that in German and Romani the adverbial clause is for some reason dominated by the VP. It might be claimed that this is true of all languages, but this would raise various questions. It should be kept in mind, however, that obligatory LF Comp-to-Comp movement, which is what necessitates such an analysis, is itself questionable. Possibly if a different account were found, it would be compatible with a VP as well as a non-VP analysis.

The second case which would be problematic for a configurational account is the explanation given in the preceding section of the bridging constructions, in which a verb appears to govern a lower clause by skipping over one. This was explained by the claims that S is not a barrier to government and that V_{max} does not dominate the extraposed clause and therefore also does not block government. If the languages were configurational, there would be an intervening S node dominating the VP. Government would then be blocked, since according to the proposed analysis, S is a barrier to government. The bridging phenomenon would then be left unexplained.

In general, when S-internal structure has an effect on wh-phenomena, the non-VP account seems superior. Since it also accounts for other facts, it seems to be well-justified. However, if good reasons are found for

considering German and Romani to be configurational, only a small part of the analysis put forth here would be affected.

Notes to Chapter Four

1. There are two German constructions with es which appear to be problematic, in that es is obligatory although no extraposition should be involved. The first is with scheinen ("seem"). It will be suggested in section 4.1.4.1 that scheinen may differ from seem in that a subject θ -role is assigned. The other construction is the existential geben ("give"), in which the NP is in the accusative Case. Es is obligatory, as illustrated in (i):

(i) Gestern gab * (es) einen Tanz.

Yesterday gave (it) a dance-ACC.

(= "Yesterday there was a dance.")

Belletti (1985) claims that the Case assigned to the NP is actually the inherent partitive Case, which in German is homophonous with the accusative. This is unproblematic for the account here and actually seems necessary, since if accusative Case were assigned, there should be an external argument according to Haider's Realization Principle (see chapter 2). The problem is the presence of es. Since German presumably has a flat structure, there is no external position and, therefore, no reason for an expletive at all. The only solution is to assume that es in this case is a quasi-argument, just like the subject of weather verb constructions, which is also obligatorily es. In these cases, the verb assigns a type of partial subject θ -role. As is pointed out by Safir (1985), for whom the es of the es gibt construction is also problematic, it cannot bind PRO, as is illustrated in (ii):

(ii) ?* Es gab eine Menge Leute ohne Streit zu geben.

It gave a crowd [of] people without [a] fight to give.

("There was a crowd of people without being a fight.")

This is unexplained if es is a quasi-argument, since quasi-arguments can bind PRO, as in weather verb constructions (in which es is obligatorily present), illustrated in (iii):

(iii) Es regnet ohne zu schneien.

It rains without snowing.

Some bilingual speakers do find the German sentence in (ii)

better than the English equivalent, which is why I have given the German as "?*". However, the fact that (ii) is not parallel to (iii) is problematic for the claim that the es in es gibt is a quasi-argument.

Note that Safir, who assumes that German has a VP, claims that es (along with pronouns in general) must be overt when it has a θ -role. With the exception of the extraposition constructions (which are complicated by the fact that Safir's judgments do not agree with mine), his claim is equivalent to the one made here, although the explanations are different. According to this account, the expletive is overt because German is not a pro-drop language (whatever is responsible for this). Unlike Safir, I am claiming that there is no non-overt expletive in German. When there is no θ -role, there is no element at all, since German has a flat structure and therefore no external position. For this reason, the expletive appears only when it has a θ -role. In Safir's account, the general rule of pro-drop languages (of which he claims German is one) is that elements without θ -roles do not have to be overt. Languages like Italian, which in addition have a clitic system, can have non-overt arguments as well. The analysis given here seems superior to Safir's, since Safir has no explanation for the cases where the expletive must not be overt, as he points out.

2. Actually, Travis, who assumes that German has a VP, proposes that certain types of expletives are null and others overt in German. This is part of a hierarchy of elements which she posits as a universal. Different languages make the overt/non-overt distinction at different points on the hierarchy. Since I am assuming that German is flat, in some of the cases where Travis claims that there is a non-overt expletive, I would claim that there is none at all. In other cases, she seems to be assuming different facts or overlooking certain data. For example, she states that the expletive in the clausal passive construction and in the "raising" construction must be non-overt. As will be discussed later on, the overt expletive is possible in my dialect in the passive case. As for the "raising" case, which I assume refers to scheinen (seem), I believe that the overt expletive is obligatory in all dialects, except in a certain construction, which will also be dealt with in this chapter. Travis also seems to overlook the es gibt ("it gives") existential construction, which was discussed in footnote 1 of this chapter.

3. This would be problematic for Belletti, who claims that ergative verbs assign only partitive Case. In the case of the existential isi, the Case of the argument could be claimed to be partitive, since the indefiniteness requirement holds. In this case, the morphology is equivalent to the nominative Case. The accusative is

deleted, then, the matrix verb should be able to skip the second clause and govern the trace of mit wem, and the sentence should not be ruled out. Actually, it should even be completely grammatical, since the S-structure Wh-chain Condition would be fulfilled as well. It would have to be claimed that, for some reason, the trace or the word order prevents the second clause from acting as a bridge. Again, the problem would not arise if the matrix clause were parenthetical. In this case, it would be correctly predicted that (i) should behave like (14a), since parenthetical expressions, not being part of the syntactic structure, could not govern.

7. One such case is the Romani construction with a postverbal complement clause. These clauses are governed and can receive Case. According to the Case Resistance Principle, such clauses should extrapose. If this were the case, however, the distinction between these constructions and the subject extraposition cases would be destroyed, and the analysis proposed above would be undermined. (Note that in the German equivalents, this problem does not arise, since Case is not assigned to postverbal complements at all.) Stowell does propose that clauses headed by a wh-word NP do not count as Case-assigners and, therefore, do not extrapose. It could then be claimed that the crucial cases under discussion here are unproblematic, since they all involve partial or double wh-movement. However, clauses headed by pied-piped wh-phrases do count as Case assigners, so that these should extrapose and the problem would again arise. In addition, since Stowell did not consider partial and double wh-movement constructions, it is difficult to determine how the lower clause in these cases would be categorized, since the Comp is both [-wh] and headed by a wh-word. Possibly such clauses would count as Case assigning categories. It seems best to conclude that the Case Resistance Principle is completely inoperative in Romani. German poses a different problem. Although the Case Resistance Principle seems to apply in certain cases, the closely related requirement that clauses as well as NPs be in a Case marked chain is violated, as pointed out in footnote 12 of chapter 2.

8. As Haider points out, triple questions, as opposed to double questions, are possible in these constructions even when es occurs, as shown in (i):

(i)a) * Wem; [_S wurde es_j t; geraten [_S [PRO morgen wen
anzurufen?

To-whom was it advised tomorrow whom to call?

b) ? Wem; [_Swurde es_j t; von wem geraten [_S [_SPRO
morgen wen anzurufen?

To-whom was it by whom advised tomorrow whom to call?

This distinction, which is an attractive aspect of the connectedness analysis, is not captured by the account given here, unfortunately.

9. Note that two wh-phrases with different scopes may occur in sequence in Dialect II, although, probably due to processing difficulty, such constructions are marginal. This is as would be expected, since wh-movement to Top is possible in this dialect (in relative clauses). One wh-phrase would be in Comp and the other in Top, as shown in (i):

(i) */? Ake [_{NP}o čhavo; [_S [_Sso [_Sna janav [_Skas; [_Ssosqe;
[_So Demiri mislinol t; [_S [_Sso [_Smarjum t;.

Here's the boy that I don't know whom why Demir thinks
that I-hit.

(= "Here's the boy whom I don't know why Demir thinks
that I hit.")

Wh-movement to Top will be discussed in detail in section 4.2.4.

10. Note that May's general analysis differs in several respects from the one proposed here, one difference being that c-command refers only to maximal projections. Since this is not necessary here and would lead to certain complications, c-command will continue to refer to all nodes.

11. Howard Lasnik (p.c.) pointed out that this poses a potential problem in explaining the ungrammaticality of sentences like (i):

(i) * I know [_Swho; [_S t; to leave.

CHAPTER FIVE

QUESTIONS OF PARAMETERS AND LEARNABILITY

It has been seen that German and Romani pattern alike with respect to various wh-movement phenomena. This is not surprising given the EST framework, in which it is claimed that all grammars conform to a set of universal conditions. On the other hand, it has also been shown that German and Romani differ from each other, and both from English in certain respects. The differences were attributed to various differences in the grammars, but there was little discussion of this in terms of parameters. In this chapter, some parameters will be proposed to account for some of the differences. The related issue of learnability will also be discussed. It will be assumed that there is an initial setting for each parameter and that the settings are changed based on positive evidence only. Other languages will be mentioned, although only tentative suggestions can be made without a detailed study of the facts. In general, this discussion will be speculative and is meant merely as a basis for future research.

5.1 Absorption

It was proposed in chapter 3 that the possibility of partial and multiple wh-movement is a consequence of absorption taking place at S-structure as well as at LF. This follows from the Wh-chain Condition, according to which a wh-chain must appear at S-structure (in languages with S-

structure wh-movement). In the case of multiple wh-movement, the Wh-chain Condition would be violated if absorption were not possible. It is claimed that absorption is also involved in partial wh-movement. For partial wh-movement to be possible, it is also necessary to have a scope-marker in the lexicon. The fact that German does not allow partial wh-movement in relative clauses would be attributed to such a gap in the lexicon. I am assuming that a scope-marker will be present in the lexicon only if absorption is possible at S-structure. It follows that any language which allows partial wh-movement will also allow multiple wh-movement, since the latter should be possible as long as absorption may apply at S-structure.

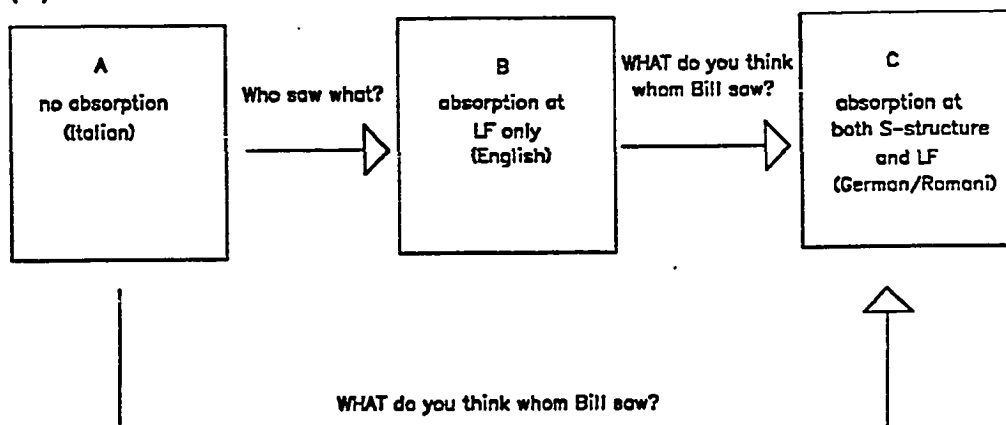
There are languages which seem to have partial wh-movement only to a small extent. In Serbian, for example, the construction is not possible with more than two clauses and is said with an intonation break. This would probably be better analyzed as two interrogatives rather than as partial wh-movement. It seems likely that this represents a historical progression. In any case, these languages would not necessarily be analyzed as allowing absorption at S-structure. Languages which clearly allow partial wh-movement, but only in a limited set of cases, are more problematic. An example may be Afrikaans, in which it seems to be possible only with PPs (and only with the wh-phrase-copying structure of the type discussed in section 3.4.2 of

chapter 3; cf. du Plessis (1977)). In order to determine whether the phenomenon is really parallel to German and Romani partial wh-movement, it would be necessary to consider more data and to do a thorough analysis. Here, such cases should simply be noted as potential problems.

A case in which the absorption account could handle the facts nicely is Italian. In Italian, multiple questions are apparently impossible (cf. Rizzi (1982)). It would be claimed that in Italian absorption is not permitted at any level, which would rule out the possibility of multiple questions. The three possible parameter settings would then be: no absorption at any level (Italian), absorption only at LF (English), and absorption at both S-structure and LF (German/Romani). Assuming that this parameter is not linked in some way to another one (i.e., is not set based on the setting of another one), it would be claimed that the initial setting is as in Italian. This way positive evidence would cause the parameter to be reset in learners of English or German/Romani type languages. In the case of English, the setting would be changed once it was learned that multiple questions are possible. In the case of German and Romani, the setting could either be changed directly from the initial one to the correct one or could pass through the English setting. The latter case would occur if the child first became aware of English-type multiple questions (e.g., "Who saw what?"). The setting could be changed directly to the correct one if the child first

became aware of partial wh-movement constructions. The fact that there are two possible paths to the correct setting indicates that development could differ depending on the order in which constructions are heard. It may be that the interaction of several parameters prevents this from being the case. It may also be that the related question of how children become aware of a given construction is involved (cf. Hyams (1983) for discussion of this question in reference to the null-subject parameter). Lasnik and Crain (1985) point out that if parameters are independent of each other, the order in which constructions are noticed would not affect the final result. I will not concern myself with these questions here, but will concentrate only on what the settings might be and what the possible paths of development are. The absorption parameter could be diagrammed as in (1), with the arrows indicating development, and the sentences exemplifying the construction which would cause the change:

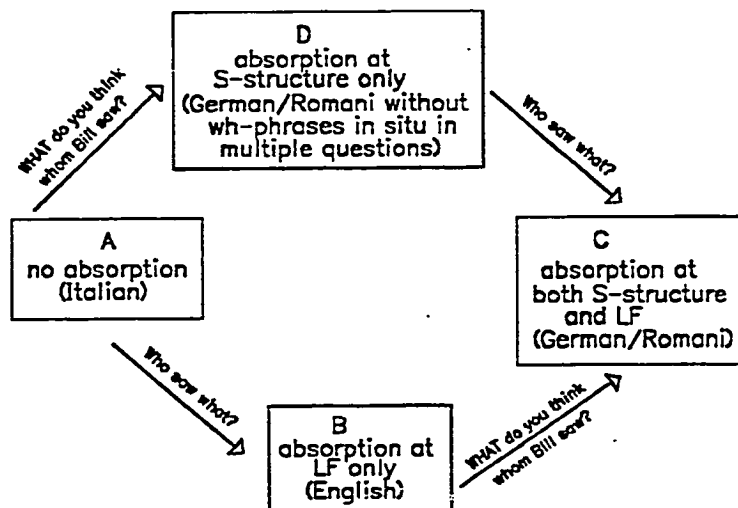
(1)



There is a problem with the English setting. The question is what prevents the English-learning child who has become aware of multiple questions from incorrectly setting the parameter to C, in a sense overgeneralizing absorption. If this occurred, there would be no positive evidence to inform the child of the error. This type of problem commonly arises in first language acquisition study and indicates that certain settings may be more difficult to reach in some sense. A solution to the problem is to assume a subset principle (cf. Berwick (1985)), according to which a setting like B, which represents the subset of another setting (C in this case), is always chosen before the latter. The idea is that when a new construction is noticed, a minimal inference is made. Note that I am avoiding the terms "marked"/"unmarked" to avoid confusion with other notions of markedness, such as cross-linguistic frequency or some theory of simplicity internal to grammar, which do not necessarily coincide with path of development. The child's noticing constructions like "Who saw what?" would cause the setting to change to B, but not to C, given this system. C would be reached only if partial wh-movement were also noticed. It would still be possible for the setting to change directly from A to C. This would occur if partial wh-movement were noticed prior to or simultaneously with multiple questions. It may be that there is a fourth setting on this parameter, namely absorption at S-structure only. The result would be a language with multiple (and

maybe also partial) wh-movement, but without English-type multiple questions, i.e., without wh-phrases in situ in multiple questions. In this case, the parameter would be as in (2):

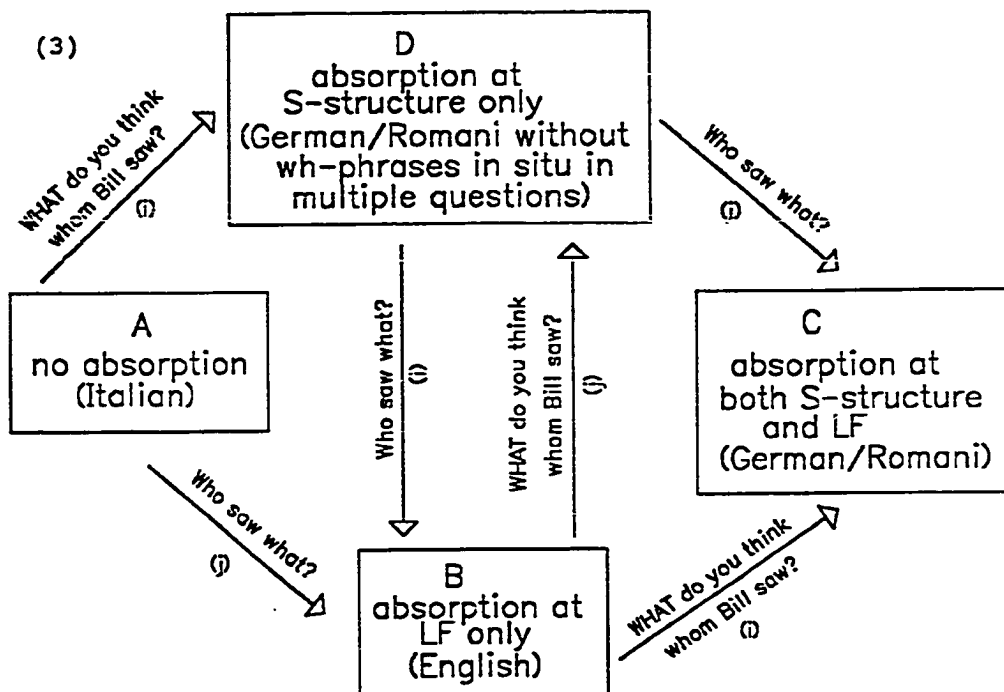
(2)



In this case, the setting would be changed directly from A to C only if both constructions (multiple questions with wh-phrases in situ and partial or multiple wh-movement) were noticed simultaneously, which may not be possible. In any case, C is a difficult-to-reach setting, since it represents the union of D and B. By representing the paths of development as in (2), an assumption is being made. This is that, in addition to the subset principle, there is a principle preventing the language from shrinking as the grammar changes, in the sense that all actual evidence dealt with by an earlier grammar must be dealt with by a new

grammar (although not necessarily in the same way). Otherwise, a principle of minimal inference would predict that there would be paths from D to B and from B to D in (2). If having reached setting B, for example, the construction "WHAT do you think whom Bill saw?" were noticed, the subset principle would predict that the setting would change to D, rather than to C, which is larger than D. In this case, the evidence which had triggered the parameter to be set to B, namely the construction "Who saw what?", would not be handled by the new grammar with setting D. This construction is, in a sense, lost. A principle stating that all actual evidence which was previously accounted for must be handled would preclude such a situation. Such a principle would have the effect of distinguishing the initial setting from settings arrived at based on actual evidence. This is because all of the constructions which could be generated with the initial setting (which is not determined by actual evidence, since it is the innate setting) could be lost in a change of setting. In the case of (2), this would not occur, since the initial setting is minimal. An example of a case where this property of initial settings is evident will be seen further below. This assumption, although it seems to be tacitly made in many discussions of acquisition, is actually rather unattractive. It entails that as the grammar changes, constructions are independently being stored up. A change

in settings could not be based solely on the present grammar and some new evidence, but it would have to be known in addition which data of the present grammar are based on actual evidence. As was pointed out to me by Robert Fiengo (p.c.), the assumption is actually not necessary. Instead, it could be held that the change to a new setting can lose old constructions, including those which had previously been noticed. In (2), then, there would be paths between D and B. To avoid an infinite loop, it could be claimed that a previous setting is never returned to, an assumption which is also often made. In this case, if the setting in (2) is changed from B to D, for example, on noticing "Who saw what?" again, the parameter will change to setting C, rather than returning to B. The result for a German/Romani learning child would be the same as in (2), but with an extra path. This could be diagrammed as in (3), with the letters below the arrows indicating which path of development the arrows belong to:



This gives the same final results as (2), since path (j) might end at B, but never at D, since the "Who saw what?" construction is in the language and will be noticed again. Similarly, path (i) could end at D, but never at B.

Although I will assume that the system represented in (3) is the accurate one, I will diagram the system as in (2) in the remainder of this chapter for purposes of exposition.

Up to now, I have been considering only languages which have syntactic wh-movement. I will follow Huang (1982a, b) in assuming that languages like Chinese which lack wh-movement at S-structure have wh-movement at LF. There are also languages like Iraqi Arabic (cf. Wahba (forthcoming)), Belauan (cf. Georgopoulos (1984)) and French which apparently allow both possibilities. In these languages, the scope of a wh-phrase in situ does not have to be marked by another

wh-phrase at S-structure. In French, unlike in English, a wh-phrase in a single question (and all the wh-phrases in a multiple question) may remain in situ. Unlike in Chinese, the wh-phrase may also move. This is shown in (4):

(4)a) Qui as-tu vu?

Whom have-you seen?

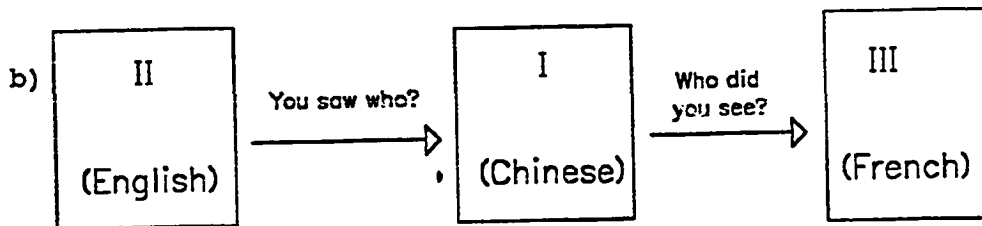
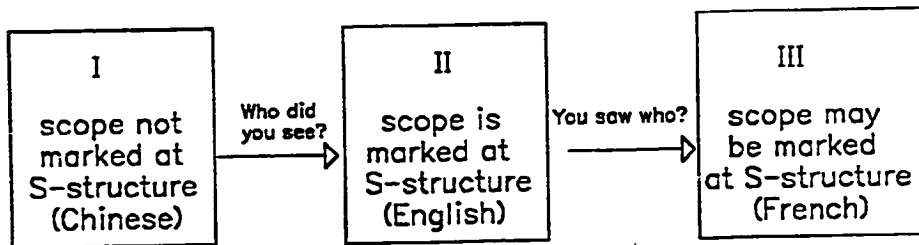
b) Tu as vu qui?

You have seen who?

(4b) is not necessarily an echo question. Note that in French the construction in (4b) is limited to direct questions, so that French may not be a good representative of a language type which allows wh-movement at both levels. In Iraqi Arabic, the construction is possible in indirect questions as well, which shows that such languages exist. I will continue to consider French to be in this class. The parameter setting in these cases would presumably be the difficult-to-reach one since it is the union of the other two. In this case, it is unclear whether the initial setting is the English one or the Chinese one. Either way, positive evidence is available to change the setting. I will consider the three settings to be the following: I - scope is not marked at S-structure by a wh-phrase (Chinese), II - scope is marked at S-structure by a wh-phrase (English), and III - scope may be marked at S-structure by a wh-phrase (French). In all three cases, scope is (also) marked at LF. Note that since the Wh-chain Condition specifies

that wh-movement occurs at S-structure ((137a) of chapter 4), the scope-marking parameter could be seen as a parameter determining whether the Wh-chain Condition applies. In Chinese it would not, whereas in English it would apply obligatorily, and in French optionally. However, it would be necessary to make precise that the non-application of the condition implies that there is no wh-movement at S-structure at all, and not that an improper chain is formed. The two accounts would be basically equivalent, and I will continue to refer to the parameter in terms of scope-marking. The parameter would be diagrammed as in (5a) if the initial setting is as in Chinese, and as in (5b) if it is as in English:

(5) a)



For purposes of exposition, I will assume (5a) in the rest of the discussion. Note that this is a case of the type

referred to earlier, in which the change from the initial setting to the next one causes a construction to be lost. In (5a), the initial setting would allow "You saw who?", whereas setting II does not. The subset principle would prevent the setting from changing directly to III, which includes I and II. If this were not the case, the English learning child would not be able to arrive at the correct setting, since there is no positive evidence for changing from III to II.

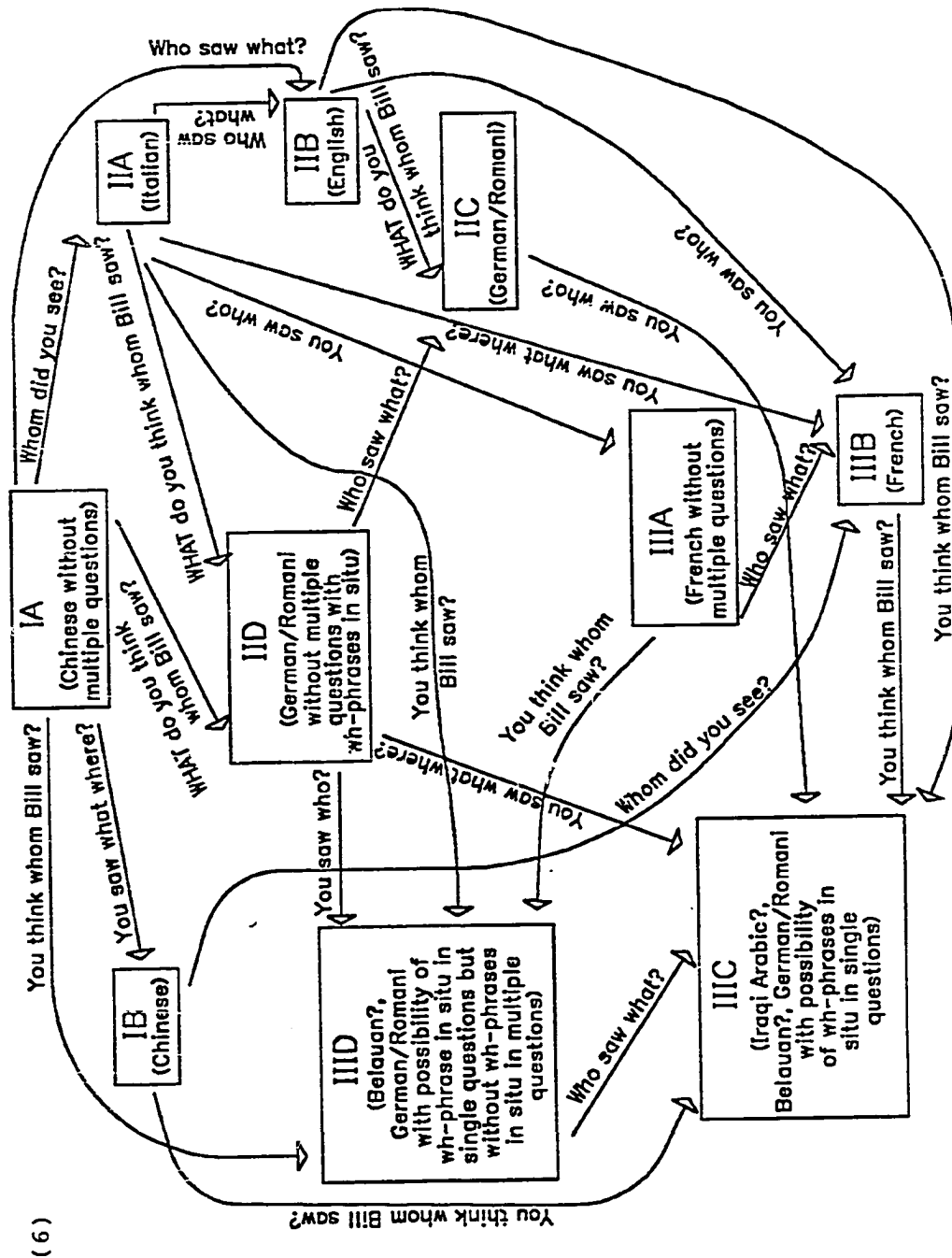
The question which arises at this point is how the scope-marking parameter ((5)) interacts with the absorption parameter ((2)). It might be thought that the absorption parameter is relevant only to languages with setting II on the scope-marking parameter. However, it seems plausible for there to be a language like Chinese but with no multiple questions. This would mean that neither absorption nor syntactic wh-movement occurs, which would result from setting A of the absorption parameter combined with setting I of the scope-marking parameter. Similarly, it seems that there could be a language like French, but with no multiple questions. The settings in this case would be III on the scope-marking parameter and A on the absorption parameter. Two of the combinations would not be possible, or would be equivalent to other combinations and would therefore not occur. One of these is the combination of I and D. This would be a language like Chinese but with absorption only at

S-structure. Since at S-structure there would never be any elements to undergo absorption, this would be equivalent to IA. A similar case is the combination of I and C. In this case, absorption applies at both S-structure and LF but there would never be any elements to undergo absorption at S-structure. This would then be equivalent to IB, with absorption only at LF. If setting D of the absorption parameter were combined with setting III of the scope-marking parameter, the result would be a language like German or Romani, but with the possibility of a wh-phrase in situ in single questions (since scope does not have to be marked at S-structure) and without this possibility in multiple questions (since absorption is not possible at LF). The combination of settings III and C would be the same, except that multiple questions with wh-phrases in situ would be allowed.

These last two possibilities (IIID and IIIC) might be used to account for the problematic cases of Iraqi Arabic (cf. Wahba (forthcoming)) and Belauan (cf. Georgopoulos (1984)). Apparently, in these languages, wh-phrases can remain in situ, as in Chinese, but may also move to the [+wh] Comp or to any intermediate Comp. In the latter case, the [+wh] Comp (as well as other intermediate Comps) appears to be empty, which would violate the Wh-chain Condition. Since I am not familiar with the facts, it is impossible to give an analysis. A suggestion can be made, however, as to how the construction could be accounted for without contra-

dicting the Wh-chain Condition if the construction is a case of partial wh-movement. If Iraqi Arabic and Belauan allow multiple wh-movement, then the construction in question appears to be partial wh-movement without a scope-marker. I will suggest that instead there are scope-markers in every Comp, in accordance with the Wh-chain Condition, but they are non-overt. In chapters 3 and 4, it was claimed that scope-markers are always overt at S-structure. It may be that this is true only in languages with setting II on the scope-marking parameter. In these languages, scope-marking is always overt, so that it makes sense that scope-markers must also be overt. Iraqi Arabic and Belauan, on the other hand, are like French in that scope-marking does not have to be indicated at S-structure at all. In such a language, it seems that there would be nothing odd about non-overt scope-markers. Since Iraqi Arabic allows English-type multiple questions, it would have the combination of settings III and C. Belauan would either be the same or, if it does not allow this construction, it would have III and D.

All of the possible combinations of the settings of the two parameters are diagrammed in (6). The possible paths of development are indicated by arrows with examples of constructions which would cause the changes. Since I am assuming that the initial setting of the scope-marking parameter is as in Chinese (I), the initial combination is given as IA.



The paths of development represented in (6) all adhere to the subset condition, in that as little as possible is inferred from each construction. As was said earlier, it may be that some of the possible paths are prevented due to other factors. In any case, the constructions which trigger the changes are all relatively basic, so that this system does not predict that it will take a long time to reach the correct setting. On the contrary, if other factors are not involved, the development in this case should proceed so quickly that the stages will not be evident, and there would be no apparent differences among children who take different paths. The representation of the parameters as given here has not been claimed to be accurate. In any case, the facts of several languages indicate that this system cannot be exhaustive. As was mentioned earlier, French does not allow the *wh*-phrase to remain in situ in single indirect questions, but only in direct questions. This might mean that there is a weaker variant of setting III. The Polish facts discussed in Lasnik and Saito (1984) seem problematic. There is a construction similar to partial *wh*-movement without an overt scope-marker. According to this system, Polish should have settings IIIC or IIID. However, Polish does not allow *wh*-phrases in situ, not even in multiple questions. Possibly a thorough analysis would show that the construction in question does not involve partial *wh*-movement. In any case, Polish seems to be a language type

not represented in this system. Another such example is Hungarian, discussed in Horvath (1981), in which wh-phrases move to an S-internal focus position in some cases. In addition, crosslinguistically, scope-marking elements do not always behave like German and Romani scope-markers. In Iraqi Arabic, there are overt elements in certain cases which mark the scope of wh-phrases in situ as well as of wh-phrases in Comp, and are not always themselves in Comp. The representation of the parameters given here is merely meant to illustrate how such a system might operate.

5.2. The Doubly Filled Comp Filter

It has been claimed that Romani differs from German and English in that it allows a trace to cooccur in Comp with a wh-phrase, in violation of the Doubly Filled Comp Filter. As was suggested in chapter 4, this could be interpreted as a different parameter setting if the Filter were considered to be parameterized. This does not seem difficult, since the Filter has several parts and languages have been noted to differ with respect to them. Spanish, like Romani, apparently allows a trace and a wh-phrase to cooccur (cf. Torrego (1984)). Old English and certain modern Germanic languages allow the complementizer to cooccur with a wh-phrase. It has also been claimed in the case of some languages that two (or more) wh-phrases can cooccur. (However, given the analysis of Romani proposed here, it would have to be shown that in a language which apparently

allows the cooccurrence of two wh-phrases, this does not occur only when they are dominated by an abstract operator and that it is not the case that one of them is actually in a Top position.) As was suggested in chapter 4, the fact that the complementizer may cooccur with a trace in English and many other languages could also be seen as resulting from one of the settings of the parameter. The initial setting would be represented by the Filter in its most restrictive form, as in (7):

(7) Doubly Filled Comp Filter:

Only one constituent may be contained in Comp.

(In this discussion, I will ignore the special properties of the verb-second languages, mentioned in chapter 4.) The other settings would be represented by the Filter in less restrictive forms. These would consist of the exclusion of one or more of the cases to which the Filter in its strongest form would apply. These would be as in (8a-d) and any combination of (8a-d):

(8) Doubly Filled Comp Filter:

Only one constituent may be contained in Comp

- a) not counting the complementizer when it cooccurs with a trace (English, German, Romani, Spanish).
- b) not counting a trace cooccurring with a wh-element (Romani, Spanish).
- c) not counting the complementizer when it cooccurs with a wh-phrase (Old English).

d) not counting a wh-phrase when it cooccurs with another wh-phrase.

(In the case of (8b), I am assuming that the possibility of more than one trace and that of a trace and a wh-phrase are part of the same phenomenon.) It seems likely that there is a dependency between some of these. For example, languages with (8b) probably also have (8a) (as in the case of Romani and Spanish). Similarly, (8c) probably implies (8a), and (8d) may imply all the others. It may be that in a sense wh-phrases are stronger than complementizers and traces. The complementizer-trace combination would then be the weakest and the combination of more than one wh-phrase the strongest. If this were true, then instead of all of the possibilities represented by (8a-d) and the possible combinations of them, the number of parameters would be reduced to the five given in (9):

(9)a) Only one constituent may be contained in Comp.

b) (a) not counting a trace when it cooccurs with the complementizer (English, German).

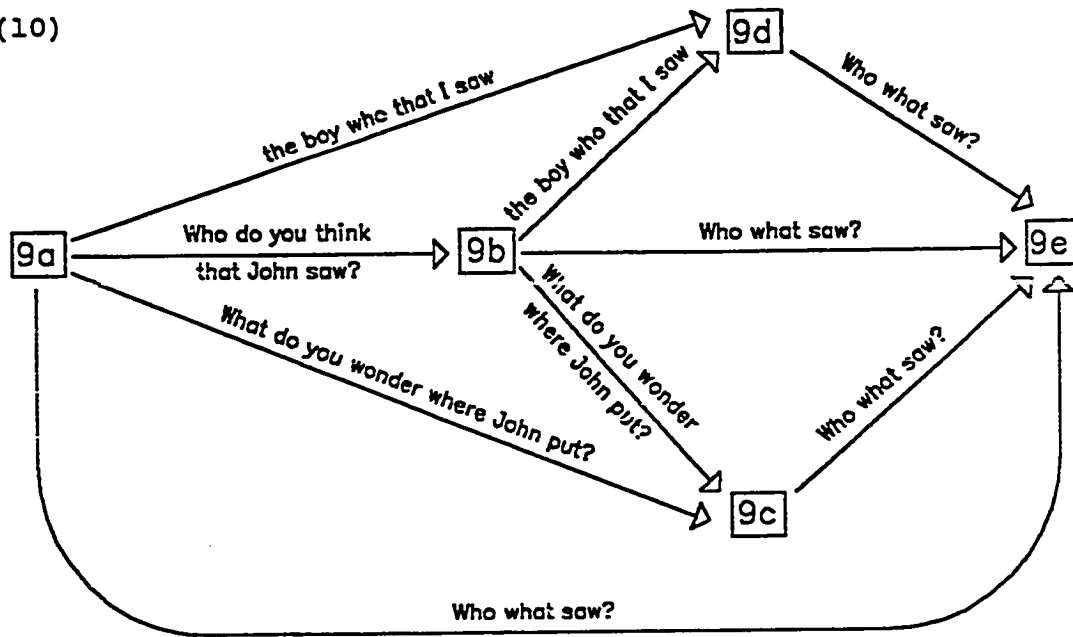
c) (a) not counting traces (Romani, Spanish).

d) (a) not counting the complementizer (Old English).

e) (a) not counting wh-phrases or traces (= no filter).

The paths of development according to the subset principle would then be as in (10):

(10)



Even assuming this limited number of possibilities, several questions of learnability arise. First, it may seem dubious that it is necessary to notice a construction as complex as "What do you wonder where I put?" in order to arrive at the correct grammar. In addition, in a language with a Top position, the setting could not be changed based on the relative clause construction, "the book which I wonder where you put", unless it had already been determined that wh-phrases do not move to Top. If wh-phrases are permitted to move to Top (which presumably occurs only in relative clauses and not in interrogatives, due to the Wh-chain Condition), as in Romani Dialect II, the relative clause construction could be analyzed as an instance of topicalization rather than as the cooccurrence of a trace

and a wh-phrase in Comp. In Romani Dialect II, both possibilities exist. In Bulgarian, as discussed in Rudin (1982), it seems likely that wh-movement to Top is possible and that the cooccurrence of trace and a wh-phrase is not. This would explain why in Bulgarian the relative clause version of the construction in question is possible, whereas the interrogative is not (but see Rudin for an alternative analysis). The problem is how, on noticing the relative clause construction, "the book which I wonder where you put," the child knows which parameter to change, the topicalization parameter to a setting allowing wh-movement to Top (which would be correct for Bulgarian) or the Doubly Filled Comp Filter parameter to setting (9c), allowing the cooccurrence of a wh-phrase and a trace in Comp (which would be correct for Dialect I of Romani). If no other factors were involved, it would have to be claimed that when no decision can be made based on a construction, no change is made until further evidence is available. In this case, the relative clause construction would trigger no change in a child learning Romani Dialect I, since it cannot be determined which parameter to reset. In the case of Dialect II, it is likely that before the relative clause construction is noticed, it will have already been established that wh-movement to Top is possible based on simpler constructions like "the boy who I saw him". The relative clause construction "the book which I wonder where you put" will then not trigger any change in the grammar,

since it can be analyzed as wh-movement to Top. In both dialects, the Doubly Filled Comp Filter parameter will not be reset to (9c) until the interrogative construction, "What do you wonder where I put?", is noticed. This account is undesirable and it would be preferable if the facts could be explained by an interaction of these parameters with others. The same type of problem, involving the same construction, will arise in section 5.3, where it will become even clearer that the account given here cannot hold.

A similar problem occurs with setting (9e) of the Doubly Filled Comp Filter. Although "Who what saw?" is a simple construction, it is not clear that this would not be just a case of S-structure absorption, which it is presumably in Romani. Again, it may be that such a construction does not trigger a change without further evidence. In the case of Romani, it is established based on other evidence (partial wh-movement) that there is S-structure absorption. There is then no reason to reset the Doubly Filled Comp Filter on noticing the construction "Who what saw?".

5.3. The Wh-chain Condition

In this section, differences across languages with respect to the Wh-chain Condition will be discussed. Only languages with scope-marking at S-structure will be considered, since these are the ones to which the Wh-chain Condition presumably applies (or, if the application or non-

application of the Wh-chain Condition is itself the parameter, as was mentioned earlier, it is those languages with the positive value that will be discussed here.)

In the preceding chapters, there were two cases in which languages differed with respect to the Wh-chain Condition. One is the requirement that an NP boundary may not intervene in a value chain ((137eiv) of chapter 4), which does not hold in Romani, and the other is the Value Chain Condition on Cased Trace ((137ev) of chapter 4), which holds in German, but not in English or Romani. I will propose that, whereas value chains differ across languages, the conditions on scope chains do not. This would mean that although parameters involving value chains would have to be set, those involving scope chains would contain only one setting. This is a strong claim, which, if true, would have the result that the class of possible grammars would be reduced. The claim is consistent with the languages discussed here (including Iraqi Arabic and Belauan, which show apparent violations of the conditions on scope chains, if the account suggested in section 5.1 is tenable). The wh-movement facts of Spanish, discussed in Torrego (1984), nicely conform to this hypothesis. In Spanish a wh-trace can cooccur in Comp with a wh-phrase or with a complementizer. The presence of the trace causes verb preposing, making the construction easy to identify. Torrego shows that the wh-movement facts give evidence for the bounding nodes being S' and NP rather than S and NP in

Spanish. The relevant fact is that in a structure with wh-movement over several clauses, verb preposing is optional in the lowest clause, but obligatory in each higher clause, as illustrated in (11):

(11)a) (?) A quién; [_Screes [_St; que [_Sno sabe María
[_Spor qué; [_SJuan escribió tantas cartas t; t; ?
To whom do-you-think that doesn't know Maria why Juan
wrote so-many letters?

b) (?) A quién; [_Screes [_St; que [_Sno sabe María
[_St; por que; [_Sescribió Juan tantas cartas t; t; ?
To whom do-you-think that doesn't know Maria why
wrote Juan so-many letters?

c) * A quién; [_Screes [_Sque [_SMaría no sabe [_St; por que;
[_Sescribió Juan tantas cartas t; t; ?
To whom do-you-think that Maria doesn't know why
wrote Juan so-many letters?

In terms of subjacency, this is explained by the fact that movement from S-internal position over S' to the next higher Comp does not violate subjacency. Since it is possible for the wh-phrase to pass through the lower Comp, verb preposing is optional. Subsequent movement must not skip a Comp, since otherwise more than one S' node would be crossed. In terms of the Wh-chain Condition, the fact that after the first movement, a Comp cannot be skipped would be predicted by the condition on scope chains that each element must be A'-bound in its Comp category ((137civ) of chapter 4). The

fact that the first Comp can be skipped indicates that the condition on value chains that a Comp cannot be skipped ((137eiii) of chapter 4) is weakened in Spanish. It would have to be stated that one Comp, but no more, may be skipped in a value chain. The fact that extraction out of adverbial clauses is impossible would be due to the fact that the lower clause contains two Comp positions in this case. Note that the Spanish data were what motivated the distinction between (137ciii) and (137eiii) of the Wh-chain Condition. If they had been stated together as a condition on wh-chains, then the Spanish data would be difficult to account for. Spanish then provides another example of a difference in value chains, where the scope chain is the same across languages. Since in Spanish, wh-movement out of complex NPs is not possible, it would be claimed that the condition on value chains that an NP boundary may not intervene ((137eiv) of chapter 4) would hold, as in English (and unlike in Romani).

Although the Spanish data support the hypothesis of a universal scope chain condition, the analysis raises a problem of learnability similar to those brought up in the previous section. The Spanish learning child on noticing the construction "To whom don't you know why John wrote the letters?" without verb preposing presumably resets the value chain parameter to allow one Comp to be skipped. The problem is that a Romani learning child noticing the same construction must not reset the value chain parameter, but

instead must reset the Doubly Filled Comp Filter parameter to allow the cooccurrence of a trace and a wh-phrase in Comp. The question is what prevents the wrong parameter from being reset in the case of Romani. It could be proposed, as in the preceding section, that due to the indeterminacy, the construction does not cause any change in setting until further evidence is encountered. The Spanish learning child would reset both the value chain parameter and the Doubly Filled Comp Filter parameter after noticing both the construction with and the one without verb preposing. The problem is that in Romani, although further positive evidence exists, it is too complex for the development of a grammar to depend on. Assuming that the value chain parameter in question has only two settings: no Comps are skipped, and no more than one Comp is skipped, clear evidence for the possibility of the cooccurrence of a wh-phrase and a trace in Romani is a construction consisting of wh-movement over two [+wh] Comps. This would be a sentence like "What do you wonder who Bill asked where John bought?", which is grammatical in Romani. The construction must be analyzed with the trace of what and the wh-phrase together in Comp, if value chains never skip more than one Comp. Once the Doubly Filled Comp Filter is reset in this way, there is no evidence for resetting the value chain parameter in addition, and this correctly does not occur. This solution is untenable, however, since the crucial

construction is probably rarely, if ever, encountered. It may be that certain parameters are stronger than others. In this case, the value chain parameter would be stronger than the Doubly Filled Comp Filter parameter. Evidence which theoretically could indicate a change in either parameter would always cause the latter, rather than the former, to be reset. This would also resolve another indeterminacy caused by the existence of both parameters, involving setting (9b) of the Doubly Filled Comp Filter. This setting is presumably arrived at through the construction "Who do you think that John saw?" However, it seems that this construction could also trigger a resetting of the value chain condition to allow one Comp to be skipped (which would be incorrect for English, German and Romani). If the value chain parameter were stronger than the Doubly Filled Comp Filter, this would not occur. This hypothesis predicts that there is no language which allows a Comp to be skipped in the value chain but does not allow a trace to cooccur with a wh-phrase (or a complementizer) in Comp. However, Italian appears to be a direct counterexample to this. In Italian, a trace in Comp does not cause verb preposing. Rizzi (1982) argues that in cases like "John, who I wonder where you saw," which are grammatical in Italian, the intermediate Comp does not contain the trace of the higher wh-phrase. Evidence for this is the ungrammaticality of cases like "John, who I wonder who Bill asked where Fred saw," which would be grammatical if traces could cooccur with wh-phrases

in Comp. Rizzi concludes that Italian differs from English in this respect only in having S' rather than S as a bounding node. In terms of wh-chains, it would be claimed, as in the case of Spanish, that the value chain condition is weakened to allow one Comp to be skipped. Italian differs from Spanish, on the other hand, in that it does not permit the cooccurrence of a trace and a wh-phrase. The proposal that the value chain parameter is stronger than the Doubly Filled Comp Filter parameter, therefore, cannot hold. On noticing the construction "the boy who I wonder where John saw", the Italian learning child must reset the former parameter and the Romani learning child the latter one. Italian might be considered to pose a larger problem than Romani, since it appears that there could be no positive evidence at all in Italian, not even of a complex nature, which would show that resetting the value chain condition is necessary. It may be that Italian is actually not a good representative of a language which has a weaker value chain condition, since the island violations are not permitted in interrogatives. Rizzi attributes this to the fact that multiple questions do not occur in Italian either. Given the account proposed here, this explanation could not hold, since the two phenomena are distinct. The fact that multiple questions do not occur is due to the lack of absorption. This is independent of the value chain condition or the Doubly Filled Comp Filter parameters, which

determine whether a Comp can be skipped or moved through. In addition, as pointed out to me by Robert Fiengo (p.c.), most of the examples of the construction given in Rizzi (1982) are with non-restrictive relative clauses. Restrictive relative clauses do not seem to admit island violations as easily. If there are other languages which are like Italian, but allow the construction more generally, then it must be that other factors play a role in determining the settings in these cases. In any case, it seems that aside from the problem of learnability, which would arise in any account, the facts of languages which are claimed to have S' as a bounding node can be handled in terms of wh-chains as well.

5.4. LF Comp-to-Comp Movement

In this section, I will return to LF Comp-to-Comp movement, discussed in chapter 4. It seems necessary to claim that LF movement is obligatorily Comp-to-Comp in German and Romani, but not in English. This poses two questions. One question is what type of constraint this is, and the other is how it is learnable. It seems undesirable for the constraint on LF to be one on movement, whereas the one on S-structure (the Wh-chain Condition) is on representation. The Wh-chain Condition cannot be claimed to hold at LF, since unnecessary traces created at S-structure can be deleted. In addition, the chain created by LF movement is different from an S-structure wh-chain, at least in that its final member can be in Comp rather than in S-

internal position. The condition on LF representation would have to be stated to apply only to chains created at LF. Since S-structure traces can be deleted, the condition would apply to all structures with a trace in Comp. The position of the final member of the chain would have to be left unspecified, since it could be S-internal or any Comp. The problem is that a trace in S-internal position at LF could have been created at S-structure, in which case no wh-chain is required at LF, or it could be a result of LF movement, in which case such a chain is required. This would make a condition on representation difficult to state. If this problem were overcome, the condition would resemble the Wh-chain Condition, in that wh-chains created by LF movement would be required to have a member in every Comp from the [+wh] Comp down to the final member. Unlike at S-structure, all the members of such a chain except the first would have to be traces. This is due to the claim (supported by the ECP facts in partial wh-movement constructions) that Lasnik and Saito's (1984) rule stating that a [-wh] Comp must not contain a wh-phrase holds universally at LF. Except for this rule, the condition on wh-chains created at LF, even if it could be stated elegantly, is not universal. This is the second and larger problem with LF Comp-to-Comp movement.

It should be noted that LF movement has been claimed to obey subadjacency in various other accounts. According to Pesetsky (1985), Japanese wh-movement, which is at LF, is

constrained by subjacency. Wahba (forthcoming) argues that LF wh-movement in Iraqi Arabic is constrained by subjacency, including the Wh-Island Constraint. This latter fact indicates that some form of the Doubly Filled Comp Filter might apply at LF in addition. It seems then that languages differ with respect to the freedom of LF movement. On the other hand, it might be that if the facts were carefully examined, the differences would turn out to be smaller than they appear. In English, the island constructions with wh-phrases in situ in ungoverned clauses (especially those embedded in NPs) are not always completely grammatical (cf. (58) of chapter 4). This indicates that the difference may be one in strength of the LF Comp-to-Comp requirement. Even in German and Romani, this requirement is not as strong as the ECP. Whatever the differences are, the learnability problem arises if there is no positive evidence for the learner. In this case, if the initial setting were the most restrictive, then there could be positive evidence for changing it. However, as in several cases discussed above, the constructions seem too complex. The initial setting might require a wh-chain similar to the one created at S-structure. The type of construction which would trigger a change would be one containing a wh-phrase in situ more than one clause away from the [+wh] Comp from which it takes scope. For example, the construction "Who left before John saw who?" would indicate that long distance movement is possible at LF (if it had already been determined that the

language has a hierarchical structure). It seems more likely that there is a dependency between S-structure phenomena and LF movement. To differentiate German and Romani from English, for example, it could be claimed that languages which allow S-structure absorption must have LF Comp-to-Comp movement. Once the S-structure parameter is set, the LF one would automatically follow. In this case, the claim seems dubious, since there is no obvious relationship between S-structure absorption and LF Comp-to-Comp movement. It is this type of statement which should be looked for, however.

5.5. Summary

In this chapter some of the analysis in the preceding chapters was briefly considered in terms of parameters. In most cases, plausible possibilities for parameters and their settings can be proposed. The absorption parameter determines whether a grammar allows multiple questions and, if so, whether it allows multiple wh-movement. This parameter interacts with the scope-marking parameter to specify grammars further with respect to wh-phenomena. The differences in languages involving the Doubly Filled Comp Filter can easily be stated in terms of a parameter. It was hypothesized that the Wh-chain Condition is present in every language with S-structure wh-movement and, further, that scope chains do not differ across languages. The conditions on value chains, on the other hand, appear to be

parameterized. Given this assumption, it seems that languages which have been considered to have S' as a bounding node could be handled in terms of wh-chains. The issue of learnability is more difficult. Even assuming the subset condition, many problems arise. Possibly, once a number of parameters are worked out with more certainty, some of the problems will disappear. It is likely that dependencies hold between certain parameters which are still obscure at this point.

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