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Acknowledgments

The present book is a strongly revised version of my dissertation ('Discourse dependent DP (de-)placement' under the direction of Gisbert Fanselow and Bernhard Drubig). It was written in the years 1994/1995 and printed in 1996 as issue 39 of the 'Groninger Arbeiten zur germanistischen Linguistik'. Since then, a lot of changes have been made. A remaining problem is the terminology. In this book I have used the same notions as in my dissertation. It should be noted that the notions of 'topic' and 'comment' here are not without problems. As far as one can speak of a standard use of these notions, their meaning diverges from it. A detailed characterization of this book's use of the terms 'topic' and 'comment' is laid down and explained explicitly throughout all chapters.

Many people have helped me to arrive at the proposals laid down in this book. It goes without saying that it would have been impossible to accomplish this work without ongoing inspiration from numerous friends and colleagues. I name them here in alphabetical order. Thus, thanks to Werner Abraham, Peter Ackema, David Adger, Artemis Alexiadou, Kai Alter, Daniel Büring, Diana Cresti, Elisa di Domenico, Sylke Eichler, Hans Martin Gärtner, Dieter Gasde, Brigitta Haftka, Ken Hale, the late Karl Erich Heidolph (†), Helen de Hoop, Angeliek van Hout, Roxana Ibsen, Gerhard Jäger, Uwe Junghanns, Ursula Kleinhenz, Wolodja Klimonow, Inga Kohlhoff, Karen Lattewitz, Paul Law, Sylvia Löhken, Christine Maaßen, Karine Megerdoomian, Josep Quer, Henk van Riemsdijk, Jeff Runner, Maaike Schoorlemmer, Kerstin Schwabe, Peggy Speas, Michal Starke, Markus Steinbach, Anatoli Strigin, Anne Vainikka, Enric Vallduví, Sten Vikner, Ralf Vogel, Chris Wilder, Susanne Winkler, Ilse Zimermann.

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List of frequent abbrevations

ACD	=	Antecedent Contained Deletion
Agr	=	Agreement (morphology)
AS	=	Argument Structure
CE	=	Contrastive Element
GQ	=	Generalized Quantifier
GT	=	Generalized Transformation(s)
LCA	=	Linear Correspondence Axiom
LI	=	Linguistic Inquiry
LF	=	Logical Form
MH	=	Mapping Hypothesis
NFC	=	Novelty-Familiarity-Condition
NS	=	Nuclear Scope
QR	=	Quantifier Raising
RC	=	Restrictive Clause (in Chapter 6: Relative Clause)
RM	=	Relativized Minimality
UG	=	Universal Grammar
UTAH	=	Universal Theta Assignment Hypothesis
>	=	Precedes Linearly

Introduction: Some philosophical reflections

In this introduction I intend to present a rather philosophical background for the theory of language in general and of the theory of topic and comment which I am going to develop in the present work in particular.

In introductory books whose aim it is to present the Chomskyan theory of Generative Grammar, the language faculty is presented as a mental organ which belongs to the genetic equipment of the human race. This inheritable system is called Universal Grammar (UG). It is claimed that UG is an autonomous system which interacts with other conceptual modules, for example logical deduction or the treatment of concepts. UG thus is considered to be a specific module which is responsible only for the generation of linguistic structures. The viewpoint that the base for the acquisition of a language is something innate is largely accepted nowadays. Natural language is such a complicated system that it has been keeping generations of scholars busy describing and explaining it. And there is still little agreement among them how to analyze the one or other phenomenon. Hence it would be very surprising that all normally intelligent children acquire such a complex system without much effort, and from a very restricted input of data, if there were not a base which enables them to do that. Thus there should be no doubt about the innatness of the main factors that guide language acquisition. The question that I want to address here is whether the language faculty as such is genetically fixed or if there is a more general base for UG. There is a debate among generative linguists whether there is a mental organ exclusively responsible for language or if UG is just an instantiation of a more general cognitive module (for the latter point of view see Koster (1987) Haider (1993a, 1994b) and especially Fanselow (1991, 1992b) and also some current papers by Chomsky himself). These authors considered the possibility that the innate system is rather some general faculty which they call 'Formal

Competence' (after Chomsky 1980) and which goes beyond the specificity of UG. In their opinion, grammar is just an accidental use of this 'Formal Competence' which is not biologically necessary. They show that some principles of UG, if formulated slightly more general, may cover other principles that are effective in other mental processes as well. Since this is of some importance, let me give an example. In the classical Government and Binding framework (GB) (Chomsky 1981), there were slightly less then ten principles which determine what output of a generation procedure is grammatical. To these principles belong:

(1) a. X-bar theory
b. Case filter
c. Empty Category Principle (ECP)
d. Binding Principles A, B, C
e. Control theory
f. Theta-criterion etc.

The binding principles under (d) are supposed to act as filters for what sort of nominal phrase may or may not appear in what position. With respect to the referential force, the theory distinguishes three types of NPs: the so-called R-expressions, pronouns, and anaphors. R-expressions have referential force of their own. They carry a lexical noun in them which has semantic content. R-expressions are NPs or DPs like *my aunt Christa, this book, a handsome linguist...* Pronouns are referentially dependent. They act as variables and need an R-expression as antecedent, or must be identifiable within the situative context. Pronouns are NPs, DPs or D^0 elements like *it, someone, you, my, that...* While it is still possible for pronouns to get interpreted through the situative context, anaphoric pronouns need a linguistic antecedent which bears a close relationship to them. Anaphors may never appear alone and are elements like *myself, each other* or Latin *suus* (special possessive form). Their distribution is restricted to certain structurally determined positions.

The restrictions of the different nominal expressions classified above are called the A, B, C of Binding Theory.

(2) Binding Principles

Principle A
An anaphor must be *bound* in *its governing category.*[1]
Principle B
A pronoun must not be bound (i.e. must be free) in its governing category.
Principle C
An R-expression must be free everywhere.

It has been noted that principle B, as it stands, is not very much in the spirit of the theory in which it constitutes an integral part. Whereas most grammatical principles require locality in order to be applicable, principle B is the only one which excludes the existence of a structural relationship within a locally defined domain. Principle B prohibits binding of a pronoun within its governing category. Therefore it would be better to have a theory that does without such an odd principle. Let us have a look at the motivation for the formalization of Principle B. It has been formulated to cover the data in (3) vs. (4).

(3) Anna_i hates herself_i

(4) *Anna_i hates her_i

The ungrammaticality of (4) shows that the pronoun in object position cannot be construed coreferentially with the subject as it is the case with the anaphors in (3). There are also empirical problems with this principle, however. English is a language that is very rich in reflexive forms. Many languages, however, do not have such a complete paradigm of reflexives. In German, for example, only third person (pro-)nouns distinguish pronouns from reflexives. All other persons do not make a morphological distinction.

(5) *Anna_i haßt sich_i.*
Anna hates herself

1. I assume that the reader is familiar with the technical terms 'bound' and 'governing category'. An element is bound if it is c-commanded by a co-indexed element. 'Governing category' means the minimal domain containing a subject, thus a local domain. I am aware that a reader who does not know what 'bound' means, can hardly understand what c-command is. Thus the brief definition does not clarify much in that case. However, a detailed knowledge about Binding is not necessary in order to be able to follow the ongoing discussion. What is crucial here is that a governing category is a local domain, and that local domains are structural spheres where specific conditions must be fulfilled.

*$Anna_i$ *haßt* sie_i.
Anna hates her
$Anna_i$ *haßt* sie_j.
Anna hates her

(6) *Ich hasse mich.*
I hate *mich*
'I hate myself.'

(7) *Anna haßt mich.*
Anna hates *mich*
'Anna hates me.'

As (7) shows, *mich* cannot be an anaphor. It is not bound. Therefore it must be a pronoun. As such, however, it should be excluded in (6), which it is not. Bavarian is even poorer in reflexive forms than Standard German. As most languages German (and its variety Bavarian) makes use of different pronouns when addressing people. Friends, relatives and so on are addressed by *du*, which is the second person singular pronoun, when there is only one addressee. When there are more, the pronoun *ihr*, which is second person plural, has to be used. The formal way of addressing people is to use *Sie*, which is derived, in function though not in form, from the third person plural. As mentioned above, third person (pro-)nouns have different forms for pronouns and pronominal anaphors in Standard German. Bavarian, however, does not have a special reflexive form for the polite, i.e. formal form. It simply uses the pronoun form.

(8) *Stellen Sie sich bitte vor; ...* (Standard German)
imagine you 'yourself' please PART (yourself = reflexive form)
'Please, imagine...'

(9) **Stellen Sie Ihnen bitte vor; ...* (Standard German)
imagine you 'you' please PART (you = pronominal form)

(10) *Stelln's Eana voa ...* (Bavarian)
imagine'you.CL you PART (you = pronominal form)

Thus, languages have more or less complete pronoun-anaphoric paradigms. Some languages hardly have any anaphoric pronoun (reflexive) forms at their disposal. The generalization seems to be that if there exists an anaphoric form it must be used in the relevant context; if there is no special morphological anaphoricity marking, a usual pronoun may be used. The principle B

requirement does not hold. Pronouns may be bound in their governing category without any problem if there is no corresponding anaphoric form. Anaphoric forms are more specific than pronouns. They are more informative in that they necessarily carry with them the information about coreferentiality with a c-commanding NP in their governing category. Thus the distribution of pronominal and anaphoric forms seems to be constrained by some other rule than principle B. Fanselow (1991: 272) proposes that it can be derived from an independent constraint which he calls the Proper Inclusion Principle (PIP):

(11) PIP:
If in a structure Σ, there are two possibilities A and B that compete with each other for the assignment of some feature (or referential index) it is impossible to apply A in Σ if A's domain of application is a proper subset of B's domain of application.

The domains that allow for pronouns are a superset of the domains that allow for the appearance of anaphors. Thus a pronoun is excluded where a reflexive pronoun with the same reference is possible. The advantage Fanselow attributes to his PIP is that it is no longer a specific syntactic principle. He shows that some of the principles mentioned above are reducible to extra-syntactic, more general constraints as well. These constraints are likely to be principles of our 'Formal Competence'. Interestingly, many of them apply in other cognitive domains as well. The PIP, for example, is very similar to the Elsewhere Condition in phonology (Kiparsky 1982). This condition says:

(12) Elsewhere Condition:
Rules A, B in the same component apply disjunctively to a form ϕ if and only if
i. The structural description of A (the special rule) properly includes the structural description of B (the general rule)
ii. The result of applying A to ϕ is distinct from the result of applying b to ϕ. In that case, A is applied first, and if it takes effect, then B is not applied.

Thus the Elsewhere Condition says that if in a phonological process two rules are applicable: Use the more specific one.

Another cognitive domain which is not purely linguistic, i.e. syntactic, where some related version of the Proper Inclusion Principle has been

proposed as well, is communication strategy. Grice (1975, 1978) formulates a couple of rules which are obeyed under unmarked circumstances of conversation. His Cooperative Principle contains a quantity maxim which requires that, within an act of communication, the speaker make his/her contribution as informative as possible. For example, from an answer like 'Erika has three kids', which is a reply to the question 'How many children does Erika have?', the hearer can (or even must) infer that Erika has only three kids. This inference is a consequence of the Gricean maxim of quantity which makes the listener assume the speaker to be as informative as possible. Factually, the sentence 'Erika has three kids' is still true if she has four or eleven kids. The quantity maxim says, apart from the pure information a sentence conveys, that there is an implication that the statement that is contained in the sentence is the most specific information the speaker has evidence for. This makes inappropriate all other sentences which just truthconditionally imply the truth of the fact that Erika has three kids, i.e. 'Erika has four kids' for example. These sentences would fall in the superset domain which is ruled out by Fanselow's Proper Inclusion Priciple.

A similar case which comes from the field of concept uses is one Fanselow gives himself. An object like □ is usually categorized as a square, not just as a rectangle. The set of rectangles is clearly a superset of the set of squares.

If it can be shown that all the language specific principles listed above can be reduced to more general constraints that determine other cognitive domains as well, the idea of UG as a language specific module must yield to a more general theory. Lately, especially since Chomsky's 'Minimalist Program' (Chomsky 1992, but also already 1989), economy is considered to be one of the major constraints that condition language generation. Ideally, economy is to be understood as an independent notion. *Economy* means least effort, most effective use of capacities, lack of (too much) redundancy, taking the best advantage of resources, etc. These principles are at work in many systems different from language as well. It is more than just likely that (some of) these principles are also effective in other cognitive domains.

Such an insight helps to understand other — though perhaps — related phenomena which are usually taken to have something magic. In the theory argued for in this introduction, natural language (UG) is just a *specific* instance of our mental capacity named 'Formal Competence'. There are several other systems that appeal to similar principles: systems that — like language — consist of a limited base of 'things' and rules — and yet — due

to recursiveness give rise to a possibly unlimited number of states (grammatical sentences in the case of language). Such systems are as serious things as mathematics and logic, or as pleasant things as games (chess) and music.

Under normal circumstances every child is exposed to an environment where language is an integral part of life. Thus every child learns at least the language that is spoken around him/her. Some children happen to be exposed to one of the other systems just mentioned more intensively and earlier in their life than the majority. This may be because they have very ambitious parents (Mozart) or because they are growing up in social systems where drill and talent selection play an important role in education, or because they just get to learn numbers and basic arithmetical operations in a very early stage. Equipped with the innate 'Formal Competence' they internalize the specific characteristics of the respective system as effortlessly and with the same ease everybody learns his mother tongue. That way the world produces what lesser mortals call geniuses: people that seem to (and actually do) invent melodies according to the laws of harmony within shortest time (Bach, Mozart, Rossini), people like Karpov or Kasparov and others, who play against 50 other gifted chess players or highly intelligent computers at the same time and still beat them, or those people (mental arithmetic geniuses like Arno Schmidt and many others) who perform in circus tents or entertainment shows and astonish the audience by their ability to multiply three and four digit numbers, or compute square roots of very big numbers (mental abacus) faster than the entertainer with a machine. All these people, it seems, have access to the principles of the 'Formal Competence', and succeeded to exploit them for one more system than 'only' the command of their mother tongue. (For an interesting overview of the so-called 'expertise phenomena' see Mandl et al. (1991) and the references quoted therein, especially Hatano's work (Hatano et al. 1987) on the mental abacus expertise — which can be considered to be a nice confirmation of the given, rather speculative argument).

Thus under the view promoted and adopted here, language — or more specifically UG — is not autonomous anymore. It might now be seen as something that is determined by the principles of 'Formal Competence' which, however, is not 'Formal Competence' per se. If the very abstract 'Formal Competence' is what governs (almost) all our cognitive processes, then there is much more possible interaction between the structural representation and its meaning. I want to claim that it is the 'Formal Competence'

which 'translates' the object of communication into a code we call natural language. Let us assume there is something a human being wants to convey to another human being (or sometimes even to him-/herself or an imaginary creature), this may be some vague thought, a wish, a warning, something witnessed, etc. Since our physiology (the articulatory perceptual system) is made for producing and receiving sounds, we are able to use acoustic signals to transmit this. Our 'Formal Competence' is asked to map this something which is supposed to be communicated to someone else from the 'fuzzy thoughts', wishes and so on to a string of sounds.[2] What the system of 'Formal Competence' does by solving this task is to generate language. Under such a theory, the function of language determines its form massively. This way, functional and structural (i.e. generative) linguistics are not contradictory anymore. The sense behind the existence of languages is to communicate. Natural language can then be seen as the outcome of peoples' wish or need of communicating something provided by the general system of 'Formal Competence'. In this sense I want to understand — although in a misinterpretative manner — Chomsky's claim from 1972: 119.

'There is, of course, no doubt that language is designed for use'

The present book is an investigation of the syntax of the encoding of sentence functional perspective. It examines the question of whether there is a mapping between discourse representation and syntactic structure, i.e. whether different information packagings of an utterance are reflected through different structural representations of a sentence; and if so, what this mapping looks like. The present book is organized as follows. In Chapter 1 I mainly present the most influential theories about sentence functional perspective. I sketch their advantages and drawbacks and conclude this chapter with a more detailed presentation of two relatively recent proposals about how syntax reflects the old : new articulation of a sentence which I

2. Fanselow states that the rules of 'Formal Competence' are not functionally motivated. This is certainly true. No reasonable person would claim that, among other things, language is constrained by economy principles because people want to be effective in their use of language or because economy already conditions the topics people talk about. The principles of 'Formal Competence' are rather determined by the material structure of our brain. Language, however, can and should be viewed as partly functionally determined since it is the output of the system of 'Formal Competence', whose task (function) it is to materialize the wish of communication.

consider as the immediate ancestors of the theory which I develop in the following chapters. The first important approach is Diesing's Mapping Hypothesis (1992), which splits the structural tree of a sentence into a domain where presupposed (discourse-old) material is mapped and a domain where discourse-new material is licensed. The second approach is de Hoop's theory of Case[3] (de Hoop 1992). This theory claims that noun phrases which can be characterized as being the anchor in the conversation get assigned a different Case from noun phrases that are discourse-new or do just not act as anchoring expressions.

Chapter 2 is concerned with the structure of the German VP. It will be argued that the VP is the syntactic domain of the comment which contains the assertion of the sentence. I will show that discourse-new material is base generated in the VP and remains there. The neutral order of VP internal constituents gives us a clue to the thematic hierarchy. I will show that, although the German data seem confusing at first glance, the underlying structure is very simple and uniform and can be considered as a further confirmation of a universal thematic hierarchy.

Chapter 3 deals with derived representations. It is concerned with transformations that apply to the base order whose structure was elaborated in Chapter 2. I will show that a certain class of arguments leave the base position while others do not. The trigger for this movement (scrambling) is the discourse status of the constituents. My claim is that scrambling is triggered by a [+Topic] feature.

In the following chapter, Chapter 4, I argue that the relevant movement operation leads into the specifier of an agreement projection. It is in this chapter where I propose a new discourse-syntax mapping. Furthermore, Chapter 4 deals with the intonational side of scrambling and related processes and tries to offer solutions to some theory-internal, but also generally acknowledged problems.

Chapter 5 brings more evidence from many typologically different languages, which reinforces the claim that arguments which behave as topics trigger the activation of agreement projections.

3. Throughout the whole book I will capitalize the word Case when I am talking about the linguistic concept. I do this because 'Case' is a crucial notion in the given and I want it not to be mistaken with the homophonic word 'case' meaning 'instance'.

Chapter 6 focuses on a special property of topical constituents. It shows that topics act as weak islands for extraction out of them. One proposal of Chapter 6 is called the 'Generalized Specificity Condition'. This condition is an abstraction over several up to now rather independent constraints on movement and linkage.

General remark

Although 'movement' is one of the words used most frequently in this book, the present work is not intended as an endorsement for a derivational approach. The theory presented here is independent of the issue 'derivational versus representational'. Every use of the term 'movement' could easily be transferred into a representational chain dependency. Despite the derivational vocabulary, it will be apparent at various places in this book that I have more sympathy for a representational approach to the nature of grammar.

CHAPTER 1

Discourse dependent tree splitting

1.1 Word order and intonation

The basic form in which language shows up is in speaking. Any other encoding of communication, e.g. sign language, writing, morsing and so on, are derived systems. One of the major goals of linguistics is to explain how meaning is encoded in the sound waves our speech organs produce. To put it differently, it is one task of linguists to formally describe how a string of sounds (phonetic form of an utterance, PF) is related to what this physical object is supposed to mean (the utterance's logical form, LF). Taking into consideration the material nature of the phonetic side of language, there are basically two ways of encoding linguistic information. As already stated above, spoken language is manifested as a consequence of sounds that are mapped onto abstract phonological representations. A string of sounds is mapped onto phonemes, which in turn are grouped together and analyzed as morphemes that play some role in a structure of a higher level called syntax. This side I would like to call the linear side. Grammatical phenomena that fall under it are word order, complex word formation, affixation patterns and so on. The second kind of information a linguistic utterance can bear is provided through its 'melodic' shape. Thus not only the grouping of segments that linearly follow each other, but also things like accentuation, pitch, and intonation play an important role in encoding and decoding information. This is the suprasegmental side. Whereas the first, the linear side, has been the area of syntactic research from the beginning — which lies in the nature of syntax — the second one, i.e. the suprasegmental side as an important field in information structure was discovered later and has since then lead the life of a stepchild (notable, inspiring exceptions are Cinque 1993; Reinhard 1995 and most recently Zubizarreta 1998). It was rather the phonologists

who discovered syntax as a useful domain of investigation than syntacticians who found interest in phonology (especially since Selkirk's dissertation from 1972).[1] This book will not be an attempt of integrating phonology into syntactic theory; luckily this issue is becoming nowadays more and more attractive to both syntacticians and phonologists (see the work mentioned above). My intention is to show that the phenomenon of information packaging makes intensive use of both sides. Languages differ, with respect to which side is preferred over the other, to mark the parts of a sentence as new and old information. One example that illustrates that very nicely is narrow focus. Let us abstract for a moment from sophisticated semantic analyses of narrow focus and assume with Szabolcsi (1981) that narow focus induces an exhaustivity interpretation. That means that the focused constituent denotes the only entity that satisfies the open proposition provided by the rest of the sentence (= background). Languages like English mark (narrow) focus almost exclusively by prosodic means; i.e. contrastively focused constituents get stressed (1). The exhaustivity reading is triggered by the phonological, suprasegmental shape of the utterance. Example (2) is a possible paraphrase of (1), see below.

(1) Mary gave JOHN the book.[2]

(2) It is John that Mary gave the book (to).

Other languages identify a narrowly focused constituent only by means of the structural position of that constituent. Such a language is Hungarian. There the focused phrase must be moved to some position where it is immediately followed by the finite verb. This position is called the focus position.

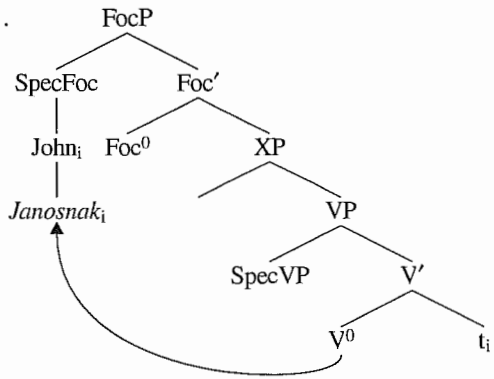
(3) *JÁnosnak adta Mari a könivet.*
John-DAT give-PAST-3SG Mary the book-ACC
'It is John that Mary gave the book (to).' (= (1))

1. For a detailed overview over the syntax : phonology connection see the introductory chapter in Kleinhenz (1997).

2. Throughout this book I will use capital letters to indicate phonological stress. I will try to only capitalize the accentuated (designated) syllable. This is not always possible, however. Occasionally, when I quote from papers on languages which I do not speak, the whole word may be capitalized.

In view of the idea that natural languages differ only superficially, it would be desirable to assign to both sentences the same underlying structure. That means that the English stress pattern (suprasegmentally encoded) and the Hungarian word order (linearly encoded) should give rise to identical abstract representations. One way of doing that is to assume a level of logical form (LF). This is the way the Principle & Parameter approach and its offsprings handle it. In minimalist terms, one would say that in Hungarian the (head of a) focus phrase is associated with a strong feature. That means that overt movement of a constituent into the specifier position has to take place before spell-out. In English, the principle Procrastinate is at work (Brody 1995). This principle says that no movement occurs unless there are driving forces. These are not active in English, thus the focused phrase remains in its base position. Nevertheless, in order to express the same as the Hungarian sentence means, in English the focused constituent has to move to the same position at the level of LF. The result then would be the same for both languages: the focused phrase, in order to be properly interpreted, sits in its designated position which is SpecFoc[3] from where it binds its trace in the base position:

(4) ...



3. Here the term 'focus phrase' is used to make reference to a functional projection within the extended projection of the verb. It should not be confused with the use where the term refers to an arbitrary *constituent* which gets a contrastive interpretation and must be linked/moved to a scopal position. Thus, the first use could be compared to the *projection* of C^0, the latter use may be compared to a *wh-constituent*.

This way both sentences come out the same. Linear and intonational information lead to the same output at LF.

Apart from that, one should bear in mind that in the unmarked case languages do not use the one or the other strategy for information packaging exclusively. Natural languages are rather mixed systems with more or less strong preference for either. It seems to be the case that so-called non-configurational languages use word order much more than configurational ones do. The latter stick much more to intonational encoding. Nevertheless, even English, which almost exclusively uses the prosodic strategy, has the option of clefting, which is almost identical to Hungarian focus movement (cf. Kiss 1996; Meinunger 1997).

(5) It is... that Mary gave to book (to).

This sentence resembles much more the Hungarian one. Apart from that, it is some sort of disambiguated variant of (1) since (1) has one more reading than (2) and (3). On the other hand, also in the Hungarian example (3) *JÁnosnak* is the phonologically most accentuated word. Thus, also Hungarian does not solely resort to word order.

1.2 The encoding of sentence functional perspective

In the introductory chapter, the exchange of information has been characterized as the main function of language. As a coherence strategy, sentences normally contain some known element(s) about which the speaker wants to convey some new information to the hearer. For a felicitous communication it is necessary that there be some common knowledge to both speaker and hearer.[4] This common knowledge which increases during the conversation serves as anchor for new information entering the discourse. The fact that (declarative) sentences can be split into some sort of anchor part on the one hand, and some other part containing the new information on the other, has been the research topic for generations of linguists. In the following, I will

4. This common knowledge may be minimal and is trivially given. Both speaker and hearer always know about each other's existence. Under normal circumstances, they also know about the situation around them. Thus, they are aware of some aspects of the nonlinguistic context of their communication.

give a very short overview of the main proposals. More detailed information about the different trends of sentence functional perspective can be found in Vallduví (1992) and references quoted therein.

Theme–Rheme

One split that goes back to Amman's (1928) 'Thema' and 'Rhema' is the division of a sentence into theme and rheme. This approach, however, is not very concrete about definitive criteria of the relevant parts. It merely says that there is some old, vehicular part (theme) which is opposed to the new, informative part (rheme).

Topic–Comment

This split, according to Vallduví, belongs to the more influential ones. The term which is more important is topic. Comment is the rest. Mathesius (1915) refers to the topic as that part of the sentence the speaker wants to give some information about. Thus, the topic constituents induce some aboutness feeling.

(6) Pavarotti | is the best tenor of this century.

(7) Those Tosca recordings with Carreras as Cavaradossi | I would never buy.

Reinhard (1982) integrates this idea into a more developed theory. For her, topics represent file cards (in the sense of Heim 1982, see below) under which new information is to be stored. She also gives some tests to identify topics. Just to mention the most famous one: *as for* constructions in English. A constituent is a topic if it can be left detached and preceded by *as for* without introducing an informationally different structure from the input sentence. Thus the preposed constituent in (7) is a topic since it is (almost) equal to (8) in terms of information packaging.

(8) As for those Tosca recordings with Carreras, I would never buy (any of) them.

Halliday (1967) is more restrictive in what may be considered a topic. For him, it is crucial that a topic be sentence initial (in English). This is in accordance with the aboutness idea since initial constituents occupy an outstanding position from which some address status follows intuitively.

Focus–Open proposition

The opposition focus–open proposition is also a very delicate issue. The literature on the phenomenon is very confusing, and this short paragraph cannot clarify this confusion. However, I want one distinction to come out clear: the distinction between informative or presentational focus on the one hand, and contrastive focus on the other. This distinction seems to me to be crucial, although there are claims that there is no real distinction between the two. As for information focus or presentational focus (which is not always distinguished from contrastive focus) the history of linguistics offers a set of complements, i.e. open proposition is not the only name for the rest of the sentence. There are as various notions as *presupposition* (mainly in early generative grammar: Chomsky 1971; Jackendoff 1972 among others), the already mentioned *open proposition* (especially in the functionally oriented work by Prince 1981, 1986), *shared knowledge* or *background* — used in other domains even often synonymously with the other notions. In most of these studies 'focus' refers to the informative part of the sentence. It can be singled out by substracting from the relevant declarative sentence everything which can be reconstructed from the discourse, whether linguistic or situative. Informative focus is that part of the sentence that pushes the conversation ahead (cf. the discussion in Section 1.4.2). Contrastive focus on the other hand is used to single out and identify a specific set of entities, namely those and only those of which the presupposition holds (especially Rooth 1985). In order to distinguish these notions of focus, several tests have been developed. The most successful ones are the exhaustivity tests by Szabolcsi (1981). She provides contexts and constructions that give different truth conditions for either focus. The reader is referred to this seminal work or to the well written presentation of these ideas in Kiss (1996). There it is argued that presentational focus, which is the domain of new information, is associated with a canonical, base-generated position — presumably the result of focus projection (see below) whereas contrastive focus is associated with operator movement of a focus phrase to a designated scopal position (very much in the sense of Chomsky 1972 who makes no distinction between the two types of focus). This view will also be the one promoted here in this book. Yet, in order to get more contrast in the terminology I will use the notion of focus only in the contrastive and therefore quantificational sense.

The new information focus will be called 'comment'. For more on the distinction and illustrative examples see Section 1.4.2.

1.3 Vallduví's tripartition

Vallduví (1992) observed that neither the topic–comment, nor the focus–open proposition accounts could capture the twofold information encoding. The former accounts provided some techniques to single out the topic of a sentence, but they were unable to tell the old, given part of the sentence from the informative one.

(9) These CDs Mathias bought only for his FRIEND.

These accounts could say something about the topic–comment articulation. Thus, they are able to identify the pre-subject object as topic of the sentence. They are, however, unable to localize the informative part of the sentence. The comment is considered an atomic entity which does not split any further.

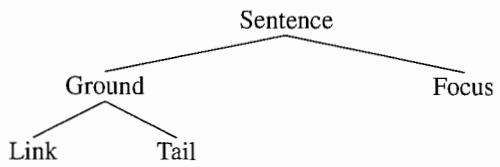
The focus–open propositions accounts on the other hand are only able to tell what new information the sentence introduces, that is that the background consisting of the verb *buy*, its agent and theme arguments plus the past tense information are shared knowledge. The new is the focus associated with the focus sensitive particle *only*: *for his friend*. The marked word order in the background cannot be explained.

Vallduví successfully combines both accounts and comes up with a tripartite division of sentences. He calls his solution the 'trinominal hierarchical articulation'. He first adopts the focus–open proposition proposal and divides the sentence into old and new information. The results of this splitting are called focus and ground. The ground is of course the old part. This in turn is splittable one more time, namely in the prominent topic element(s) and the informationally less important other material. The topic element he calls 'link', the other elements which do not introduce an aboutness feeling are called 'tail elements'. Their task is to facilitate the retrieval of the information from the focus part into the file card of the topic (link). Thus the Vallduví splitting looks like in the sketches in (10)–(11).

(10) Sentence = { focus, ground }
Ground = { link, tail }

The sentence can be analyzed:

(11)



These CDs | Mathias bought only | for his FRIEND.

1.4 Topic–comment structures

1.4.1 *Partee's proposal — Recursiveness in focus-background splitting*

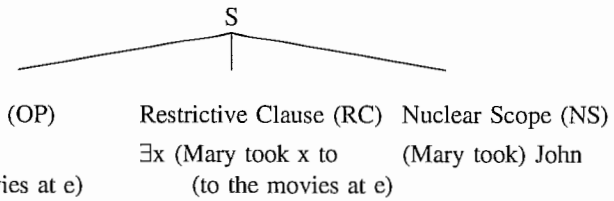
Partee (1991) proposes that the informational task of a sentence can be represented as a structure involving quantificational properties. Since Heim (1982) it is common practice in linguistics to analyze quantified constructions as tripartite structures. Quantification involves a Generalized Quantifier which has two arguments, one of which is called the Restrictor (restrictive clause), the other one the Nuclear Scope (matrix).[5] Assuming that most focus-sensitive constructions are quantificational, she tries to show that, in general information, packaging can be analyzed as an instance of quantification. She proposes that the topic[6] part be mapped into the restrictive clause, whereas the focus part be mapped into the nuclear scope. Thus, for a sentence that contains a quantificational element anyway, where the focus serves to identify the nuclear scope, she gives the following analysis.

(12) Mary always took $[\text{JOHN}]_F$ to the movies.

5. More about the theory of Generalized Quantifiers see Section 1.4.3.1.2.

6. Her notions of topic and focus are rather intuitive and lack concrete definitions. She writes: "...very informally, I take the core of the notion 'topic' to be roughly characterized by such expressions as 'old', 'given', 'known', 'what the sentence is about', 'anchor' (for the hearer). Equally vague, the 'comment' is then the 'new part', or what is being said about the topic."

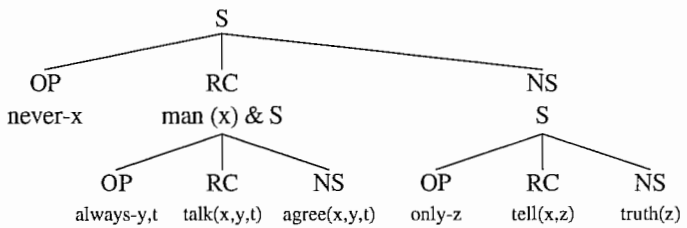
(13)



Since not every sentence is organized this simply (one classical quantifier, one easily identifiable focus on one constituent and the rest of the sentence) and also in order to somehow incorporate the Prague School theory of Communicative Dynamism, Partee proposes that, concerning sentence functional perspective, these tripartite structures are recursive. That means that the restrictive clause which contains the topic of the sentence may be further split into an operator, another restrictive clause and one more nuclear scope. The same is valid for the matrix nuclear scope. Accordingly, the more complex sentence (14) is represented in (15).

(14) A man who always agrees with whoever he is talking to never tells only the truth.

(15)



I will argue that not every sentence contains a quantificational statement, i.e. there are sentences where the notions of restrictive clause and nuclear scope should not be applied. (These non-quantificational sentences even represent the normal, unmarked case.) However, what I agree with from Partee's proposal is the formalization of the idea that the 'old, anchoring', i.e. topic part, as well as the new part (focus) are not necessarily atomic, but that they again might be the input to some further informationally induced division.

1.4.2 *A formal account of topic–comment structures (Krifka 1991/92)*

In a certain sense, Partee's idea of recursiveness is also found in Krifka (1991/92), who develops a theory of topic–comment structures which comes close to what will be taken as semantic base for the present, rather syntactic book. There exist in the linguistic theory two different uses of the notion focus. Both refer to a related, yet different phenomenon. This fact complicates the discussion since it is very important to distinguish the one from the other. One notion of focus, which mainly goes back to the Prague school and has been overtaken by Partee and Vallduví, considers focus as the informative part of the sentence, i.e. what Partee describes as "the 'new' part, or what is being said about the topic" and what Vallduví defines as I_S (information of the sentence). I_S is the propositional content (p_s) of a sentence that makes a contribution to the hearer's knowledge store (K_h). This use of the term focus will not be the one used in the present book. The grammatical phenomenon to which Partee and Vallduví refer as focus will henceforth be called (focus of the) comment (see above). The notion of focus will be used in the sense of Rooth (1985) and others. For him, focus is understood as the instantiation of one alternative out of a set of other pragmatically salient, potentially equal possibilities. These alternatives constitute the P-set (or actually the C-set). For instance, the sentence

(16) Marcus likes MEN.

asserts that Marcus is a gay man. The alternatives of the C-set that are made salient and excluded at the same time by uttering this sentence are women, and if pederasm is not considered to be too farfetched, children. Thus in the sense of focus-as-exhaustiveness operator (Szabolcsi 1981), focus is understood as *contrastive* focus. Focus in the above sense (comment) does not have to be contrastive.[7]

(17) Pavarotti sang an aria with a high C.

7. Rochemont (1986) also uses the notion focus. However, he is very careful with the different meanings of this word and therefore calls the one 'contrastive focus' and the other one, which is named 'comment' in this book; presentational focus (Definitions in Rochemont 1986, pp. 64–67). A very detailed and excellent discussion of the differences between contrastive and informational focus can be found in Kiss (1996).

In a very sophisticated semantic theory where text progression consists of elimination of possible words, this statement could be understood as elimination of all worlds in which Pavarotti did not sing an aria with a high C. Thus any statement contrasts with its negation. I believe, however, that neutral assertions are not intended to express the non-truth of their negations. The fact that those worlds are excluded after uttering a sentence is just an automatic consequence. Contrastive focus constructions, however, have the intention of eliminating alternatives. Here it is important to emphasize that Rooth talks about a pragmatically determined set of alternatives. Pragmatics thus tells us what may be considered a meaningful alternative. Thus, in the above example (16), a normally intelligent, adult person of most cultures nowadays draws the conclusion that the sentence is about sexual preferences. This enables him/her to construct a set of alternatives for which the focus is not true. These alternatives must be possible entities towards which one may be sexually attracted. The sentence is not a statement about anything Marcus might like. Only the pragmatically salient alternatives (sexual objects) are eliminated. One would not have the feeling of a contradiction if some sentences later the same person claims that Marcus likes gin, Verdi operas and tennis (also without a focus sensitive word like *also,* for example). The Pavarotti sentence on the other hand does not induce the generation of a P- or C-set. At any rate, I cannot think of any pragmatically meaningful contrast.

Another difference has to do with a phenomenon called focus projection. It is a well known fact that one and the same sentence may contribute more or less information to the conversation according to the context. Thus the sentence:

(18) Frank read a book about Italian cuisine.

may be a felicitous answer to the following questions:

(19) a. What did Frank read a book about?
b. What did Frank read?
c. What did Frank do?
d. What happened (in the mean time when I was gone)?/Why don't you go out anymore?

Depending on the question, the information that the (response) sentence carries varies. In case (18) is the answer to the first question (19a) least informative. Only the specification of the object is new. If it is the answer to

the last question, the information is maximal. This is only possible with neutral sentences and can be represented as follows:

(20) $[_F$ Frank $[_F$ read $[_F$ a book $[_F$ about Italian cuisine]]]]

Focus projection is not easily possible in constructions involving contrastive focus (cf. Chapter 4, Section 4.5.3).

Krifka (1991/92) uses the term focus in the alternative semantic sense. He argues that the simple focus-background splitting (where focus is understood in the Prague school sense), is not able to account for some puzzling cases. Sentence (21) can be an answer to (22) as well as to (23).

(21) SUE KISsed John.

(22) Who did what to John?

(23) What happened to John?

As answer to (22), the sentence contains a multiple focus (Sue and kissed). This is an unproblematic case. As an answer to (23) however, the sentence raises a problem for compositional semantics. *Sue* and *kissed* form no syntactic constituent at any level of representation. This makes it impossible to single out the focus in order to lambda abstract over it. Krifka therefore introduces one more splitting induced through information packaging-topic–comment structures. He analyses *John* as topic and *Sue kissed* as comment. As can be read off from his definitions below, the topic–comment analysis is not an alternative proposal to a background–focus splitting. According to his proposal, topic–comment is the prior split. This then may be/is the input for further focus–background splitting:

(24) (Krifka's (1991/92: (70a–c))

a. ASSERT ($\langle_T\lambda X.\langle\alpha,\beta\rangle, \gamma\rangle$) maps a common ground[8] c to a common ground c′, where $c' = c \cap [\lambda X[\alpha(\beta)]\ (\gamma)]$. Felicity conditions:
   - $c' \neq c$, $c' \neq \varnothing$, and there are salient Y, $Y \approx \beta$, $Y \neq \beta$ such that $\lambda X[\alpha(Y)]$ could have been asserted of γ;
   - γ is a possible topic in c.

b. ASSERT ($\langle_T\lambda X.\alpha, \langle\beta,\gamma\rangle\rangle$) maps a common ground c to a common ground c′, where $c' = c \cap [\lambda X.\ \alpha\ (\beta(\gamma))]$. Felicity conditions:

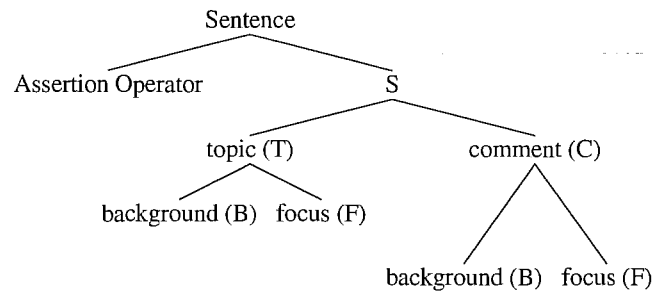
8. Common ground should be understood here as the shared knowledge between speaker and hearer.

   - $c' \neq c$, $c' \neq \varnothing$;
   - $\beta(\gamma)$ is a possible topic in c, and there are salient Y, $Y \approx \gamma$, $Y \neq \gamma$ such that $\beta(T)$ is a possible topic in c as well.

c. ASSERT ($\langle_T\lambda X.\langle\alpha,\beta\rangle, \langle\gamma,\delta\rangle\rangle$) maps a common ground c to a common ground c′, where $c' = c \cap \lambda X.\ \alpha\ [(\beta(\gamma))]$. Felicity conditions:
   - $c' \neq c$, $c' \neq \varnothing$, and there are salient $Y \approx \beta$, $Y \neq \beta$ such that $\lambda X[\alpha(Y)]$ could have been asserted of $\gamma(\delta)$;
   - $\gamma(\delta)$ is a possible topic in c, and there are salient Y, $Y \approx \delta$, $Y \neq \delta$ such that $\beta(Y)$ is a possible topic in C as well.

The formulas state that the topic as well as the comment may have a focus and a background part. In (a), β, which creates the P-set Y, is the focus part of the comment; in (b), γ is the focus part of the topic and (c) covers a structure where β and δ induce P-sets for the comment and topic respectively. Thus, (c) gives rise to a complex structured meaning which can be structurally represented as (25), which resembles the Partee analysis very much.

(25)



This allows for a very straightforward analysis of the following sentence:

(26) The OLD man came in GRAY pants.

as

(27) [The $[old]_F$ man]$_T$ [came in $[gray]_F$ pants]$_C$.

This sentence implies that there must be at least one young man and a pair of pants which is not of gray color in the common ground of speaker and hearer. Such a case, which is not that marginal in communication, can by no means be captured in a simple binomial splitting theory. There are however less complicated constructions. The Pavarotti sentence beneath is much simpler.

There are no alternatives to the topic, nor to the comment. This sentence therefore does not contain a (contrastive) focus, but counts as a neutral statement. It just splits into a simple topic and comment part without focus.

(28) $[\text{Pavarotti}]_T$ [sang a aria with a high C]$_C$

Jäger (1993) claims that the topic(s) as well as the comment contain a focus. For the theory he develops there, it is crucial that there always be alternatives around, in the topic as well as in the comment. This seems to me to be due to the model theoretic framework. In dynamic semantics, the meaning of a sentence is an update, i.e. a function from contexts to contexts. One kind of context change may be seen as elimination of possible worlds. However, as I have already said, it seems to me that it is not the main task of a sentence to eliminate possible worlds, but to add information to the hearers knowledge store.[9] Thus I stick to Krifka's idea where topic and comment may, but need not have to, have internal focus–background articulations. Krifka explicitly states: '...topic–comment structures are labeled pairs $\langle_T \alpha,\beta\rangle$, where α is the comment and β is the topic. Both *α and β may be simple*,[10] or they may contain focus–background structures.'

1.4.3 *Two immediate precursors of the theory defended in this book*

1.4.3.1 *Diesing's mapping hypothesis*

1.4.3.1.1 *Indefinites as variables: Heim's approach.* Heim (1982) investigates the (non-)quantificational force of indefinites. Since Russell (1905), it was relatively uncontroversial among semanticists and language philosophers that indefinite NPs should be analyzed as existential quantifiers. Heim, however, discovers and discusses contexts in which indefinites do not seem to behave like existential quantifiers.

(29) a. A contrabassist usually plays too loudly.
b. Most contrabassists play too loudly.

9. In Jäger (1995), the claim that topics must contain a focus has been given up.

10. Italics added.

(30) a. If a violinist plays a solo, the audience often leaves the room.
b. In many situations in which a violonist plays a solo, the audience leaves the room.

The sentences in b. show that the given indefinites should not be analyzed as existential quantifiers. They seem to get their non-existential quantification from the context (quantificational adverbs, quantifiers that bind them unselectively, *if*-clauses...). Heim then proposes that indefinites are not inherently quantified, but introduce variables into the logical representation. That means that indefinites do not have quantificational force of their own. They must receive the relevant interpretation by association with some operator. The default case is *existential closure*. For illustration:

(31) a. A singer found a mushroom.
b. $\exists_{x,y}$ [singer (x) & mushroom (y) & x found y]

In (31b), *a singer* and *a mushroom* are not understood as existential quantifiers themselves, but they introduce variables. These must be bound. If there is no other quantifier available, this binding job is done by an existential quantifier which is automatically inserted by prefixing the $\exists$ symbol to the formula. This default operation, which has got something of a deus-ex-machina device, is called existential closure. One of the big advantages was that Heim's theory could explain the use of pronouns in the famous donkey sentences. One requirement on bound pronouns is/was that they be c-commanded by the operator they are linked to. This requirement is obviously not satisfied in sentences like

(32) Every farmer who owns a donkey beats it.

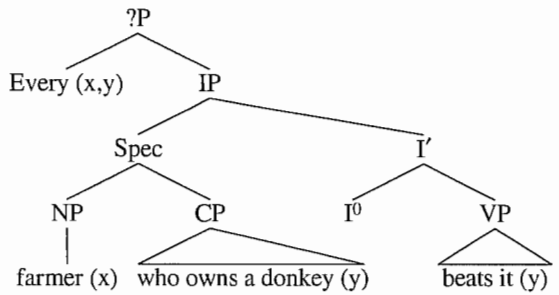
(33) If a farmer owns a donkey, he beats it.

In no syntactic theory is there an analysis where the NP *a donkey* c-commands the pronoun *it* at any level. One proposal of Heim's thesis that has become very famous was the idea of unselective binding. As stated above, indefinites introduce variables which must be bound. This binding may be done by any appropriate quantifier. In the examples (32) and (33) *a donkey* gets universally quantified (together with *a farmer* and the situation). Thus, in both sentences there is a universal quantifier around which binds the farmers as well as the donkeys. The quantification is over farmer–donkey pairs, and thus we get the representation in (34)

(34) $\forall_{x,y}$ [[farmer(x) & donkey(y) & owns(x,y)] → beats(x,y)][11]

In this logical representation, every variable is bound correctly. One may also think of a representation which is closer to the syntactic structure of the sentence. If we adopt some version of Quantifier Raising (QR) (May 1985), we just raise the quantifier *every* to a position where it c-commands everything. From there then, a link may be established between the indefinite object *a donkey* (and also the subject) and the pronoun *it*. The y in *Every (x,y)* then c-commands the y in *beats (y)*. See (34′).

(34′)



In the two representations above, I have already made use of another important proposal that has become standard in linguistics: the tripartite structure of quantification.

1.4.3.1.2 *Generalized quantifiers*. Quantification is the result of the presence of a Generalized Quantifier (GQ). The article by Barwise and Cooper (1981) was a milestone in the field of model theoretic semantics. Barwise and Cooper show that the universal and the existential quantifier of predicate logic are not sufficient for an analysis of quantifying expressions in Natural Language. They show that quantification in natural language is always *restricted* quantification. GQs denote families of sets of individuals. For example, the quantifier *most*. If applied to a noun it gives sets. For example,

11. In my way of presenting things it looks as if (32) and (33) have the very same meaning, since they are both represented as in (34). This is not the case. (34) seems to be an adequate representation of (33) only. I am well aware of the proportion problem. However, in order not to confuse with reflections that are not important here, I treat them as the same for the moment.

let's take the Girona Summer School (1994) as discourse universe and the following sentences as true in this world.

(35) Most students were syntacticians.

(36) Most students came from Europe.

(37) Most students went to the party.

The denotation of most students is different in every sentence. The set which is referred to in (35) contains only syntacticians. The set in (36) contains Margret, Ruben and Sylvia, who came from England, the Netherlands and Germany, respectively. They, however, are phonologists and as such they are excluded from being a member of the first set. Thus the set of individuals the quantifier most+NP refers to differs with respect to the predicate it is being applied to. All possible sets, i.e. collections of individuals (which satisfy the definition given below) are the denotation of *most*. Barwise and Cooper analyze GQs as a two-place relation between two sets. These two sets are called the arguments of the GQs. In the examples above, the sets are given by the NP complement of the quantifier *most*, i.e. *students* on the one hand (set A); and by the VP predicate on the other (set B), i.e. the set of syntacticians, Europeans and people who went to the party. The semantics of *most* is that if both argument sets are intersected, the intersection A∩B must contain more contain more members than there are members within the (sub-)set A–B:

(38) semantics of most:
most $N = \{ X \subseteq E:$[12] $\mid |N| \cap X \mid > |N| - X \mid \}$
or: $most_E$ AB iff $|A \cap B| > |A - B|$

That means that the set of students (in Girona) who were syntacticians must contain more members than the set of students who were not syntacticians (i.e. phonologists in the case of Girona). Now let us go back to the claim that quantification in Natural Language is always restricted quantification. If one tried to represent the meaning of Natural Language quantifiers like *most* with the tools from predicate logic, one would have two connectives for the arguments at one's disposal; namely & and →. It can be shown that neither the one nor the other would bring the desired result:

12. E = Discourse Universe.

(39) Most linguists are crazy.

(40) $most_x$ [linguist (x) & crazy (x)]

(41) $most_x$ [linguist (x) → crazy (x)]

It is very easy to show that (40) is a wrong formula for (39). One may imagine a discourse frame with 20 people. Five of them are linguists, and among them four are crazy. This scenario would be described intuitively correctly by (39). According to (40), however, the sentence should be false, since (40) says that most individuals are linguists (and crazy). Thus for (40) to be true we need more that 10 linguists. This is not what *most* means. Now, consider (41). If two linguists out of the five are crazy, the sentence is felt to be a false statement. According to (41), however, it should be true. The formula says that mostly, if some individual is a linguist, he or she is crazy. This statement is true for all the 15 non-linguists (+ the two indeed crazy linguists); thus the sentence should be true, although it goes against intuitions. The problem lies in the non-sensitivity of predicate logic to the object language. Natural language quantifiers however carry a presupposition. They presuppose that the A set be non-empty and that it defines the set of entities, it is quantified over. This means more or less that there must be something accessible in the discourse over which it is possible to quantify. These elements of the A set thus restrict the quantification. They say what the quantification is about. Barwise and Cooper then propose the following notation, which has gotten rid of '&' and '→'.

(42) $most_x$ [linguist (x)] [crazy (x)]

As shown before, Heim (1982) proposes a tripartite structure to account for constructions involving quantification. She divides the logical representation of a quantifica-tional statement into:

(43) i. a non-selective quantifier
ii. a restrictive clause (RC), and
iii. a nuclear scope (NS)

The restrictive clause (RC) contains the set the quantifier quantifies over. This way Barwise and Cooper's requirement of restricted quantification is incorporated. For something to appear in the RC, the existence of instantiations it refers to in the model is presupposed. The nuclear scope (NS) is the domain of existential closure. Thus indefinites which introduce variables and

have no proper quantificational force get bound by ∃ (under their narrow scope reading).

(44) Every good linguist wrote a bad article.

(45) $Every_x$ [good linguist (x)] ∃y [bad article (y) & wrote (x,y)]
quantifier RC NS

This sentence is true, iff for all value assignments to the variable x that make the RC true, there is a value assignment to y that makes the NS true: thus for every linguist there should be (at least) one bad article the linguist wrote at some time.

1.4.3.1.3 *The mapping hypothesis.* Diesing discusses in her thesis differences in the interpretation of indefinites (Diesing 1992a, b). It is clear from the previous sections that the interpretation of an indefinite NP depends on whether the variable that the indefinite introduces gets bound by a GQ or by ∃. In the former case, the NP must sit in the RC and therefore be presuppositional. In the latter case, existential closure applies and the NP gets an existential interpretation, which is also called the weak reading. Many sentences are ambiguous with respect to how the indefinites contained in them are to be interpreted. One case Diesing discusses is:

(46) Firemen are available.

This sentence is ambiguous in three ways. The following interpretations are possible:

(47) $\exists_x$ [firemen (x) & available (x)]

(48) $Gen_{x,t}$ [fireman (x) & some time (t)] [x available at t]

(49) Gen_t [some time (t)] $\exists_x$ [firemen (x) & x available at t]

(47) means that (at some point in time) there were some firemen available. This existential reading on the subject goes together with an episodic interpretation of the statement. (48) says that it is a general property of firemen that they are always available. This sentence is a generic statement about firemen and does not have an episodic reading. (49) means that at any time, there are firemen available. Thus bare plurals (in English) may have a generic reading (when appearing in the RC), or an existential reading (when

appearing in the NS). By looking at German data, Diesing observes that some factors determine that only either the one or the other reading is available. Consider (50) and (51)

(50) *...weil ja doch Kinder auf der Straße spielen*
since PART children on the street play
'...since there are children playing in the street'
$\exists_x$ [child (x) & play in the street (x)]

(51) *...weil Kinder ja doch auf der Straße spielen*
since children PART on the street play
'...since (in general) children play in the street'
Gen_x [child (x)] [play in the street (x)]

A well known fact from Carlson (1977) is that one type of predicates only combines with the generic reading. This type he calls *individual level predicates*. In contrast to *stage level predicates* (the other type) they do not allow for episodic readings. Diesing shows that in German, individual level predicates do not provide the two ordering possibilities in (40) and (41). Only the order subject > PART gives a grammatical output:

(52) *...weil Skorpione ja doch giftig sind*
since scorpions PART piosonous are
'... since scorpions are poisonous'

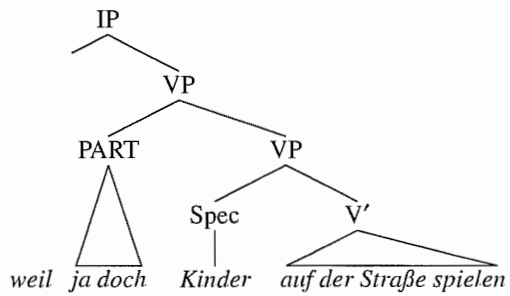
(53)*?*...weil ja doch Skorpione giftig sind*
since PART scorpions poisonous are

Assuming that (i) sentential adverbials and particles mark the VP boundary and (ii) the subject VP internal hypothesis (Fukui and Speas 1986; Koopman and Sportiche 1988), which provides (at least) two subject positions, Diesing claims that generically interpreted bare plural subjects occupy SpecIP whereas existentially quantified ones are located in SpecVP. This theory provides a nice syntax–semantics mapping. Since generics go into Heim's RC, and existential closure applies to the NC, Diesing proposes the Mapping Hypothesis (MH), which states:

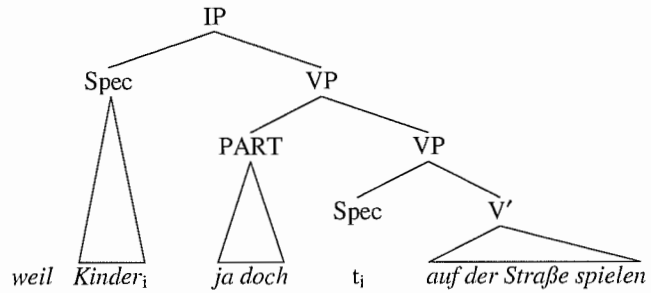
(54) Mapping Hypothesis:
Material from the VP is mapped into the nuclear scope.
Material from the IP is mapped into the restrictive clause.

This gives the following representations for the sentences (50) and (52) from above:

(50′)



(52′)



1.4.3.2 *De Hoop's theory of weak and strong Case*

Whereas Diesing's work is mainly concerned with subjects, de Hoop (1992) concentrates on direct object DPs. She observes that in some languages direct objects may appear in two different morphological Cases. This morphological difference is linked to a semantic one which more or less parallels Diesing's findings with respect to subject positions. For illustration, look at some Turkish data, taken from Enç (1990):

(55) *Ali bir piyano-yu kiralamak istiyor.* (Turkish)
Ali one piano-ACC to rent want
'Ali wants to rent a certain piano.'

(56) *Ali bir piyano kiralamak istiyor.*
'Ali wants to rent a (non-specific) piano.'

In example (55), where the object bears overt accusative morphology, the piano must be interpreted de re, i.e. referentially (therefore the gloss *a certain piano*). There must be an accessible piano in the discourse frame. Example (56) just states that Ali wishes to posses a piano, he doesn't care about a specific one and it might be that there are even no pianos available (de dicto). In that case, one cannot speak of a referential use.

De Hoop classifies NPs as being either weak or strong. Strong basically means what Diesing characterizes as presuppositional. For some reason de Hoop rejects this deductive, more abstract characterization and gives a list of what is supposed to count as strong (de Hoop 1992: 50):

- referential
- partitive
- generic
- generic collective

De Hoop claims that when an NP has a strong reading, it must be semantically analyzed as a generalized quantifier. Since she uses a model-theoretic framework that has its roots in the semantic work of Montague, mainly Partee's Type-shifting theory (Partee 1987), she assigns those NPs the $\langle\langle e,t\rangle,t\rangle$ status. Her hypothesis then is that there is a relation between strong and weak readings of NPs on the one hand and the type of Case assignment on the other. She argues for the existence of two types of structural Case, namely strong Case, which is assigned at S-structure, and weak Case, licensed at D-structure. De Hoop argues that strong Case can be viewed as type shifter. Objects bearing weak Case, which they get assigned at D-structure, are to be analyzed as existential expressions or predicate modifiers with the model theoretic status of e or $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$, respectively. This is a weak point in her theory. As she correctly observes, there is no trivial one-to-one mapping between Case assignment and NP interpretation. It seems to be the case that weakly interpreted NPs never get assigned the so called strong Case. Purely existentially interpreted object NPs always bear the morphologically weak Case. However, strong NPs may show up with weak Case morphology sometimes. This is linked then to another distinction. When an unambiguously strong NP (definite NP, or by *each* and similar quantifiers quantified expression) shows up with morphologically weak Case, the interpretation of the sentence must be atelic. Thus, the aspectual information overrides the

weak–weak : strong–strong correlation. In order to save her generalization (de Hoop 1992: 91 (100)):

(57) An object bears strong Case if and only if it has a strong reading

she is forced to say that strong NPs in atelic sentences are not really strong NPs. She lumps them together with weak NPs, denies their quantificational force and characterizes them as predicate modifiers. On the one hand, this is the right thing to do; on the other hand this weakens her generalization considerably. It leaves a subclaim which can be characterized as:

(58) Weak NPs must get assigned weak Case
NPs getting assigned strong Case must be semantically strong

This rest contains an undesirable fashion of generalizing over things. In the first part, semantic seems to tell what morphology should do; in the second part, morphology seems to determine semantics. Later I will develop a theory where the observations come out in a less stipulative manner.

1.4.4 *Focus theory and focus projection*

In this section I want to shortly outline the idea of focus projection (Selkirk 1984). Later I will argue that I assume focus projection to only apply in a very restricted domain. However, it is a very influential theory and since I refer to it very often, either directly or through other theories which are based on its core mechanism it seems to me advantageous to present its main idea here. (Section 4.4.3 in Chapter 4 is more detailed and critical.)

The theory of focus in general is concerned with the relation between intonation and the information packaging of the sentence. According to Pierrehumbert (1980), the intonational shape of a sentence consists of one or more pitch accents, which are realized on the most prominent syllable of a phonological word. In Selkirk's theory, a sentence with its pitch accent(s), which is a purely phonological phenomenon, is the input to the so-called Basic Focus Rule. This rule directly assigns a syntactic feature [+F] to the element which carries the pitch accent. 'This theory of focus is extremely liberal since pitch accent assignment is extremely liberal, entailing that in principle any lexical item in a sentence can be assigned a focus feature.' (Winkler 1994: 202).

Focus (feature) here means new information. Now it is clear that in most

cases the new information that a sentence delivers is larger than just the element bearing the pitch accent. This is the point where Selkirk's rule of focus projection comes into play. The element with the pitch accent, hence carrying the focus feature is called the focus exponent. This exponent may send the feature to the next dominating nodes in the syntactic tree. The rules which govern this process are the following (Selkirk 1994: 207):

(59) a. F-marking of the head of a phrase licenses F-marking of the whole phrase
b. F-marking of the internal argument of a head licenses the F-marking of the head

Under a focus theoretic view, a sentence like (60) (taken from Winkler 1994: 190) is many ways ambiguous. The new information may stretch from only the complement of the object [the presidential debate] to the whole VP being focus.

(60) she $[_{VP}$ watched $[_{DP}$ a $[_{NP}$ return $[_{PP}$ of $[_{DP}$ the $[_{NP}$ presidential $[_{N^0}$deBAte]]]]]]]
[+F] [+F] [+F] [+F] [+F] [+F] [+F]

The pitch accent is assigned to the N^0 *debate*. By the Basic Focus Rule this element gets the syntactic feature [+F]. Now, the projection may start. (Disregarding the syntactic position of the adjective,) (59a) ensures that N^0 may project the feature to NP. Since NP is an (internal) argument of D^0, (59b) allows that [+F] can project to DP. This step iterates up to VP, DP is a complement of P, PP of N, and NP or DP is the internal argument of the verb.

It is easy to imagine that focus projection is not possible if the feature is to be spread higher not respecting the projection line, i.e. only heads or true complements may transmit the focus feature.

1.5 Summary

In this chapter I presented the most influential theories about the encoding of sentence functional perspective. I have shown that a binominal partition of the sentence in an 'old part' and a part which contains the new information is not complete and thus not sufficient.

CHAPTER 2

The structure of the German VP

2.1 Configurational and non-configurational languages: The typological classification of German

It is a well known fact of linguistic typology that the word's languages differ with respect to word order. There are languages that are very liberal with the ordering of clausal constituents, and there are languages that are not. Suppose there is a sentence with a verbal head, two complements, and an adjunct, then one has four major constituents (V, Arg1, Arg2, Adj). Under certain circumstances, some of these liberal languages allow for 4!, i.e. all possible 24 different orderings of V, Arg1, Arg2, Adj. Sometimes even more possibilities arise since these languages very often exhibit a grammatical phenomenon called 'discontinuous constituents' (Hale 1983; Russell and Reinholtz 1995; Baker 1996). This allows for the possibility that one of the categories may split, giving rise to an even bigger number of linear word order possibilities. One term used to classify these languages is 'non-configurational', which means that the grammatical function of a category cannot be read off from its position within the sentence. A typical example that has been the object of investigation by generative linguists is Walpiri (cf. again Hale 1983 among others). But also less exotic languages allow for enormous freedom of occurrence among the sentence's major constituents, see a detailed description and analysis of Russian in Adamec (1966), and a more recent paper by Junghanns and Zybatow (1995).

On the other hand, there are languages which impose very strong restrictions on the ordering of sentential constituents. These languages are called configurational. A relatively well studied example is Chinese. Also English, certainly the best described natural language, counts as a relatively good example of this language type. The very interesting work of Bickerton

(1981) shows that Creole languages, which are offsprings of languages of every possible typological type, are very strict in the ordering of their constituents.

German, as most languages, falls somewhere in between the two poles. There are a few demands on the linearization that must be fulfilled; among them is the verb second phenomenon which demands that the second position be occupied by the finite verb, i.e. there can and must be only one constituent that precedes the verb in main clauses (German is a so-called V2 language). In subordinate sentences, relative and interrogative XPs (*wh*-constituents), and complementizers must occupy the initial position of the sentence while the finite verb is located at the end (only finite complement or adjunct sentences and some marginal heavy XPs may follow the inflected verb). The traditional typological partition of the German sentence looks like in (1) (taken and slightly modified from Haftka 1993, who bases it on work by Drach 1939 and Engel 1988)

(1)

'Vorfeld' (pre-field)	– *'linke Satzklammer'* (left clausal bracket)	*'Mittelfeld'* (middle-field)	– *'rechte Satzklammer'* (right clausal brecket)	*'Nachfeld'* (post-field)
	C^0 = – finite $Verb_{mcl}$[1] – complementizer$_{sbcl}$		– finite $verb_{socl}$ – stranded verbal particles	

(1) illustrates that the positions of the verb and related material (auxiliaries, complementizers) are well-defined and divide the German sentence into its 'fields'. Other constituent types are freer. That means that most adjuncts or arguments can appear in the pre-field position, or may occupy any position of the middle-field. Like in all other languages, there are restricting factors which determine where a phrase may or may not appear.

To say that German is a language somewhere in-between the non-configu-rational and configurational languages is not a satisfactory statement, however. Therefore one has formulated distinguishing criteria and tried to

1. mcl = main clause, sbcl = subordinate clause.

classify German accordingly. A very detailed analysis is to be found in Fanselow (1987: Chapter 1). A large part of Fanselow's dissertation is devoted to the question of whether German has a VP or not. The answer Fanselow gives is yes. He furthermore shows that the existence of a VP in German cannot be learnt, and therefore concludes that all languages must have a VP. This shows that in some sense, all languages display a configurational property. A related point is addressed in Büring (1993). In the same vein as there I would like to show that there is no real free word order in German. The position of every element obeys constraints that must be satisfied. In my opinion, these constraints are either purely grammatical (verb movement, clitic and weak pronoun placement) or pragmatically determined (order of non-pronominal, non-verbal constituents).[2] This book is mainly concerned with the investigation of the trigger for constituent positions.

2.2 Lexical and functional categories

I will base my assumptions about natural language structures on the idea that there are two types of categories which are stored in the mental lexicon and enter the computational system (cf. Introduction) in exactly the same way. This means that the lexicon feeds the grammar with entities that act as heads which project according to X-bar theory. The two types of categories comprise lexical categories on the one hand, and functional categories on the other. This division is not very controversial.[3] Therefore I will only give a short characterization here.

Lexical categories are those entities that are called content words in traditional grammars (see Haspelmath 1994 for a nice discussion). Lexical

2. It would be nice if one could reduce the nature of the constraints to one underlying source. As I have argued in the introductory chapter to the present book, grammar and pragmatics could be considered as phenomena which need not be autonomous and completely distinct from each other. Thus, I think that a unitary explanation is possible. However, for the time being I do not see a reasonable solution.

3. At least according to Haspelmath (1994), the binary classification lexical vs. functional categories is considered to be standard within the generative framework. Non-generative, more functionally oriented approaches try to establish a more sophisticated categorization where the categories are located on a scale with increasing functional use (grammaticalization). I will ignore these approaches here.

categories have some meaning of their own, i.e. they bear some descriptive content. As opposed to functional categories, lexical categories (may) have arguments. Relatively recent neurolinguistic research has shown that the grammatical theoretic concepts of verbal and nominal have a biological base (Damasio & Damasio 1992). If these notions are considered to be features that can be assigned the values + and –, one gets a matrix with four instantiations of possible combinations. These four combinations can be considered as a tentative feature based approach to characterize the four lexical categories.

(2)

nominal	+	–	+	–
verbal	–	+	+	–
	noun	verb	adjective	adverb/ preposition

Since Chomsky (1970), these four categories count as the lexical categories. One should bear in mind, however, that this view is not a very intuitive and therefore a rather less serious proposal. Nevertheless, I think it is an elegant and reasonable approach and any challenges that blame this approach for being too narrow minded come up with other proposals that complicate the matters in an inappropriate way (especially Zimmermann 1988).

Another distinctive, characteristic criterion apart from independent meaning and the capacity of theta-role assignment is their property as an open class. Open classes refer to that part of the vocabulary of a language which is subject to permanent change in the sense of new-creation, formation, reactivation, and disappearing of items. Prototypical examples of lexical words are: *animal, blues, (to) sing, (to) give, intelligent, happy, inside.*

Functional categories are traditionally called auxiliary words or morphemes. As for the characterization of functional categories I will adopt the defining properties listed by Abney (1987: 64–65):

(3)
1. Functional elements constitute closed lexical classes.
2. Functional elements are generally phonologically and morphologically dependent. They are generally stressless, often clitics or affixes, and sometimes even phonologically null. (They do not have to be words.)
3. Functional elements permit only one complement, which is in general not an argument.

4. Functional elements are in general inseparable from their complement.
5. Functional elements lack 'descriptive content'.

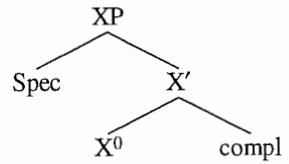
Prototypical elements are determiners, auxiliary verbs, complementizers, also tense morphemes, and agreement affixes (*the, a, would, are, that, if, -ed, -s*).

2.3 The base order: The projection of heads and arguments

2.3.1 *Some assumptions about the syntactic encoding of argument structure — a syntax for lexical decomposition grammar*

As in Grimshaw (1990), I will assume that lexical heads are the most deeply embedded heads within an extended projection. By some process similar to Chomsky's Generalized Transformations (GT) (Chomsky 1992), these heads, which are themselves X^0 elements, take a complement (internal argument) which must be a phrase of the category XP. Together they form the X#-level. By further application of GT, another phrase (XP) can be added which closes the projection.[4] This phrase is called the specifier.

(4)



If we assume that lexical heads carry information about their categorial status, the lexical projection becomes integrated into the structure of appropriate functional categories.[5] These categories are hierarchically ordered and

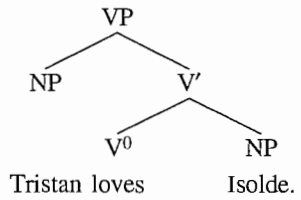
4. In Kayne's restriction on X-bar theory (Kayne 1993b), a head together with its complement already forms a maximal projection. GT may adjoin one more XP to the head+complement complex. Thus, adjunction and specification fall together. I think that this idea is not unmotivated. However, for the sake of clarity I will use the more familiar, traditional X^0, X′, X^{max} notation.

5. Some researchers propose that lexical categories are not specified for a categorial class (for example Steinitz 1994). This means that the lexical entry of an element does not say if the item is a noun or a verb. Under such an approach, only the functional structure above the lexical

the deepmost functional head subcategorizes for the lexical projection.

(5) illustrates how structure (4) can be filled with concrete linguistic material using an ordinary transitive verb. The verb takes the direct object, projects to V′, and then this complex combines with another NP, the subject, and gives VP. (This viewpoint incorporates the idea that that the subject is base generated VP internally (Fukui and Speas 1986; Koopman and Sportiche 1991).

(5)



Matters become more complicated when dealing with verbs that take more than two arguments and/or when secondary predication is involved. Here I will adopt a theory which is based on the idea of binary branching (Kayne 1984), on shell structures (Larson 1988), on a syntactic treatment of lexical decomposition and the theory of ordered argument structure (Grimshaw 1990). As for lexical heads, I will assume that they can be decomposed into semantic primitives consisting of universal predicates like CAUSE, POSSESSION, BECOME ... and lexeme specific atomic predicates. These primitives can be thought of as X^0 elements that are hierarchically ordered, obey certain selectional requirements and independently project specifiers and complements. For example, the verb *to give* could be decomposed into the basic predicates POSS and CAUSE with their arguments.[6] *To give* denotes an action where someone (x) causes that someone else (y) gets to possess

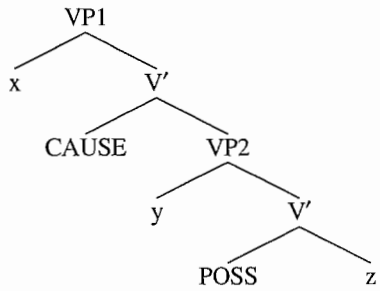
projection decides about the nature of the head's category. I think that this is the correct approach. However, this issue is of no relevance here.

6. In Section 2.8 I will show that POSS is actually a derived primitive. For our purposes here, however, it suffices to analyze it as an atomic predicate. Also, I am aware of the fact that there are several analyses of GIVE with respect to argument projection. Thus, for example, Haider (1992) and Speas (1990) assign this verb different conceptual structures. All this should not matter here. In the following sections I will try to show what argumental dependencies are involved.

something (z). The latter relation (the one between y and z) is tighter and, in some sense, this relation refers to a state which is the result of what x CAUSEs. This lexical decomposition can be illustrated by a syntactic tree such as (7) for a sentence like (6):

(6) John(x) gives Mary(y) flowers(z).

(7)



This tree is nothing else than another notation for the representation (8) given in Stiebels (1994).[7]

(8) λz λy λx λs CAUSE(x, BECOME (POSS (y,z))) (s)

The verb *to give* can be understood as the lexical result of the incorporation of POSS (into BECOME) into CAUSE. The λ-prefix is a sort of placeholder for the arguments. S is a variable over the situation, which one can ignore here. One minor difference concerns the presence of the additional predicate BECOME. It would be no problem to incorporate it by integrating into our structure one more verbal head. The only blemish this entails is the fact that BECOME counts as a one-place predicate which would not project a specifier. This is not bad however. The second possibility is that one could argue that BECOME licenses the Davidsonian argument. This argument is characteristic for verbs which refer to a process. Verbs denoting a state would not have BECOME as a lexical subpart. Thus, it could act as the

7. The example is, of course, not Stiebels' own invention. The notation in (5) is standard in lexical semantics. However, there is no classical, standard book that I could quote where these ideas about lexical composition are given within this notation. Therefore I chose one random dissertation using the relevant framework and looked into the introductory chapter where the basic theoretic background is laid down.

argument identified by Kratzer (1989) as responsible for the stage-level vs. individual-level predicate distinction.

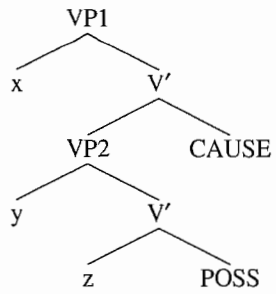
If the approach outlined above is adopted, it comes as a consequence that Haider's mechanism of theta-role discharge does not work for German and other head final languages (Haider 1992, 1993a, b). He observes that the VP-internal serialization of indirect object, direct object and PP is always IO > DO > PP. What differs is the position of the verb; some languages have it in front of the given arguments, some have it at the end. Since his 'Basic Branching Conjecture' states that all (basic) projections are right branching, there is no rightward head-to-head movement possible in his framework. Empty verbal heads are licensed in head initial languages only, and the verb, which is base generated in the deepmost verbal position, must move up to link all the arguments ((9), much like in (7)). In languages like German, the final verb licenses all arguments to its left by having them all in its government domain (10) (discharge along the projection line ←).

(9) $[V_i$ [IO $[e_i$ [DO $[e_i$ PP]]]]]

(10) [IO [DO [PP V]]]
←←←←←←↩

Thus, if we assume — contrary to Haider's proposal — that German projects arguments in the same way head initial languages do, we get a structure like in (7), but probably right headed:

(11) *(weil damals) viele Eltern(x) ihren Kindern(y) Süßigkeiten(z)*
since then many parents their children sweets
schenk(ten)
gave
'since that time many parents used to give sweets to their children'



This is the first assumption. The second one is immediately based on the first, and concerns the status and the hierarchy of the arguments.

2.3.2 *On deriving an argument hierarchy*

I propose that a predicate takes a certain argument, and licenses a specific XP in its specifier. For example, CAUSE takes some projection of a state or process as its complement and licenses a causer in its specifier position. If it is assumed that the semantic primitives select each other in a certain order, and that they license specific arguments in their specifier position, it follows that the X-bar scheme projects a thematic hierarchy. This claim is much in the spirit of Grimshaw (1990). Grimshaw develops the idea of ordered argument structure, arguing that argument structure (AS) is not a collection of unordered thematic roles, as had been assumed previously. She claims that AS is instead an ordered representation over which relations of prominence are defined. That means that the arguments of a verb (or of lexical categories in general) obey some principle that orders them, i.e. establishes a hierarchy, and that principle is prominence. Knowing that there are hypotheses of hierarchy that propose almost every permutation possible, Grimshaw gives the following one, with which I partly agree:

(12) (Agent (Experiencer (Goal/Source/Location (Theme))))

However, unlike in the theory sketched above where theta roles are connected to semantic primitives, in Grimshaw's theory AS contains no information about particular theta roles, but only information about the relative prominence of the arguments. Grimshaw explicitly states that she assumes the goal to be more prominent than the theme. This, however, is a point of debate. In

the list of hierarchies given in Speas (1990), only 3½ of 8 proposals locate the goal argument higher then the theme. However, Grimshaw provides several arguments for her ranking (for a detailed argumentation see her book (Grimshaw 1990; or Meinunger 1995b). Very strong empirical support which Grimshaw does not consider comes from word order facts in so-called non-configurational languages. In constructions that represent the unmarked word order — whatever notion of 'unmarked' is adopted — the canonical linearization is subject > indirect object > direct object. To mention only a few investigations covering typologically very different languages: Adamec (1966) for Russian, Mahajan (1990) for Hindi, Kural (1992) for Turkish, Joppen and Wunderlich (1994) for Basque, Megerdoomian (1995) for Armenian.

2.4 What is the basic word order (in German)?

It is not very clear what the notion 'basic word order' is supposed to mean, and consequently it is even less clear how it can be defined. Hardly anybody disputes that the agent argument is located very high in the thematic hierarchy and thus is located furthest away from the deepest head position within the verbal phrase. Concerning the ordering among other arguments (and adjuncts), no agreement can be found. One controversy concerns the relative order of dative and accusative objects.[8] It has been claimed for German that all possible rankings are attested (Höhle 1982; for a revival cf. Haider 1992). All possible rankings means: (i) dative is higher than accusative, (ii) accusative is higher than dative, and (iii) neither ranks over the other, i.e. both are mutually exchangeable. The variants i–iii chosen in a given instance are claimed to depend on the nature of the verb.

(13) i. *abgewöhnen, beibringen, verweigern, zutrauen...*
wean administer deny to think somebody is able
ii. *aussetzen, unterziehen, zuführen*
expose submit to bring to
iii. *geben, zeigen, empfehlen*
give show recommend

8. Clearly, the question of whether dative ranks over accusative is not identical to the question of whether goal ranks over theme. However, the questions are related.

Indeed, at first glance this division seems to be well motivated. A speaker given these verbs and asked to build sentences with them, is highly likely to order the arguments in the way the classification predicts. That means that, whereas in sentences with verbs of class I dative objects will precede accusative ones, sentences with class II verbs will show the reverse order. Sentences that contain class III verbs will come with both orders. This is of course not sufficient for the given classification.

2.5 Focus projection as a diagnostic for basic word order

Höhle (1982) takes the superficial orderings found with German bitransitive verbs merely as a point of departure, and he develops a test to justify his tripartite classification. This test is based on a proposed correlation between basic word order and maximal 'focus spreading' on the one hand, and derived word order and narrow focus on the other. Thus, Höhle claims that focus projection is possible for base generated structures, but impossible for derived orders. (For the mechanism of focus projection see paragraph 1.4.4. and Chapter 4.) In the present book too, it will be assumed that this conjecture is basically correct. However, I think that one has to be very careful in treating focus projection as a reliable test. The reason will come clear below. But first, let us consider the facts. The examples are taken from Haider (1992). (See endnote 9 to this chapter, 'spreading' means 'focus projection'.)

(14) a. *daß Carl*-NOM *die Lösung*-ACC *fand* (spreading)[9,10]
that Carl-NOM the solution-ACC found
b. *daß die Lösung*-ACC *Carl*-NOM *fand* (no spreading)

(15) **class I**
a. *daß er seiner Frau*-DAT *sein Geld*-ACC *nicht gönnte* (spr.)
b. *daß er sein Geld*-ACC *seiner Frau*-DAT *nicht gönnte* (no spr.)
'that he grudges his wife his money'

9. These examples are taken from Haider (1992). That's why no changes have been made. For reasons of consistency with the use of terminology in this book, I will use 'focus projection' instead of '(focus) spreading'.

10. To save space, glosses and/or translations inferable from preceding examples are henceforth omitted.

class II

c. *daß er seine Kinder*-ACC *ihrem Einfluß*-DAT *aussetzte* (spr.)
d. *daß er ihrem Einfluß*-DAT *seine Kinder*-ACC *aussetzte* (no spr.)
'that he exposed his kids to her influence'

class III

e. *daß er seiner Frau*-DAT *sein Geld*-ACC *gegeben hat* (spr.)
f. *daß er sein Geld*-ACC *seiner Frau*-DAT *gegeben hat* (spr.)
'he gave his money to his wife'

(14) uncontroversially shows that the nominative must precede the accusative to make focus projection (spreading) possible. The fact that the subject must precede the object to allow for an all-new sentences is carried over to the spreading possibilities in the double object examples from (15). However, the contrasts in (15) are less clear. Nevertheless, I take them to be real, but not to show what they are claimed to show. The error lies not in the evaluation of their acceptability, but elsewhere: namely in the misunderstanding of the relation between questions and focus projection in possible answers. It is simply not the case that an answer to a *wh*-question only consists of the open proposition delivered by the question plus the (exhaustive) instantiation of the open proposition. It is very well possible for the answer to contain more material, for example in order to facilitate storage of new information. The answer to a question of the sort 'What happened?'/'What's the matter?' need not necessarily be an all-new sentence. A structured proposition in form of a categorial statement can also be a possible answer. A sentence like 'Aunt Lisa died' may have different information packagings. It can be a thetic statement, i.e. an all new sentence. In English, theticity of a one-argument clause is achieved by putting the main stress on the head of the argument. In that case the intonation pattern is:

(16) Aunt LIsa died.

It is also possible for the term *aunt Lisa* to be used to refer to someone about whom it is being asserted that she died. In that case, the expression *aunt Lisa* is (more) salient, and the stress goes on the verb. This is the intonation of a categorial statement.

(17) Aunt Lisa DIED.

Nevertheless, (17) is a possible answer to a what-happened-question. There is no necessary identity between the open proposition set by the question and the presupposed material in the answer. Otherwise, what-happened questions would only be allowed in situations where the speakers have no common ground at all, which is rarely, if ever case. As I will show later, this kind of equation leads to premature conclusions. It is true that presupposed material from the question cannot be used as the focus of the corresponding answer.

(18) A: What happened to aunt Lisa?
B: *Aunt LIsa died.

However, it does not follow that everything contained in the answer which does not belong to the question must be focus or new information. Let me give another example:

(19) A: (Why is Mary angry with Paul?) What did he do?
B: The day before yesterday, he slept with Marianne.

This dialog does not have the slightest flavor of oddness. The question asks for some action of Paul's that explains Mary's anger. The answer to that is his sex with Marianne, encoded in the VP [$_{VP}$ slept with Marianne]. For some reason, B choses to be more explicit, giving the time of the action. The sentence initial position of the temporal adjunct, together with an intonation pattern that puts secondary stress on the adjunct, but primary stress on *Marianne* (no bridge accent!) indicates that the temporal information encoded in 'the day before yesterday' is a (non contrastive) topic. Thus we have two constituents that are not in focus, but only one of them is delivered by the linguistic context, namely *Paul = he*. The second one, which contains a deictic expression, can still be easily accommodated. Thus, we see that it is not completely correct to consider question-answer pairs as a reliable diagnostics for focus projection. Given a question and a felicitous answer, one cannot claim that all the material which is contained in the answer which is missing in the question must be new information and hence in the range of focus projection. So, why this long discussion? (15f) claimed that focus projection is possible where accusative precedes dative. However, focus projection was established there on the basis of question-answer felicity. Thus, (15f) is regarded as a possible answer to a question 'Was hat er gemacht?' (What did he do?). With the wrong theory about the focus projection test outlined above, this then leads to the conclusion that every constituent

(including the verb), but *er*, must be focus. This, however, is not the case. I shall claim that the accusative argument in this case must be discourse related and focus does not spread over it. I argue that the focus projection capacities of class I verbs are not different from class III verbs. And, therefore, the contrast between (15b) and (15f) seems to me to be spurious.

2.6 The strict word order hypothesis

In this section I will show that there is a clear and more reliable test for showing that dative is ranked higher than accusative (for both class I and class III verbs). As will be shown later, material that is being introduced into the discourse frame stays in its base position. Thus we have to examine the order in which new material organizes. Since DPs containing ordinary nouns do not yield conclusive evidence, we have to look for something else. Ordinary DPs are not conclusive because even indefinite DPs can easily obtain a presuppositional reading. However, with unstressed indefinite articles they are almost perfect indicators of what we are looking for. Presumably, the best way of showing the linear order of arguments is to use indefinite pronouns that cannot or can hardly have a presuppositional reading. Such elements are (unstressed) *jemand, niemand, etwas, nichts, einer* ('somebody, nobody, something, nothing, a/one') and their phonologically reduced forms *'was*, *'ner*. Sentences constructed with these pronouns reveal that verbs of class I behave exactly as verbs of class III, in that the dative object must precede the accusative one.

(20) **class III**

a. *weil er jemandem (et)was* { *gezeigt* / *gegeben* / *empfohlen* / *erklärt* / *geschickt...* } *hat*

since he somebody-DAT something-ACC {shown, given, recommended, explained...} has

b. **weil er (et)was jemandem* { *gezeigt* / *gegeben* / *empfohlen* / *erklärt* / *geschickt...* } *hat* (reverse order)

The same is of course the case with class I verbs, which is already predicted by Höhle's theory.

(21) **class I**

a. *weil er jemandem (et)was* { *abgewöhnt* / *verweigert* / *beigebracht* / *zugetraut* / *verübelt...* } *hat*

since he somebody-DAT something-ACC {weaned, denied, taught, blamed...} has

b. **weil er (et)was jemandem* { *abgewöhnt* / *verweigert* / *beigebracht* / *zugetraut* / *verübelt...* } *hat*

(reverse order, i.e. ACC > DAT)

As mentioned above, (unstressed) indefinite NPs behave similarly, though the facts are more complicated here. The order ACC > DAT itself is not ungrammatical, and the unmarked stress always falls on the verb adjacent argument. In this sense (22/23a) and (22/23b) are equally good. What distinguishes (22/23a) from (22/23b) is that the former may serve for focus projection whereas the latter cannot. However, as I have argued, the focus spreading test is not appropriate. So I propose that (22/23b) get starred when the intended reading is one where the indefinite objects are introduced into the discourse frame.

(22) **class III**

a. *weil er einer Frau eine ROse geschenkt hat*
since he a woman-DAT a rose-ACC given has
'since he gave a rose to a woman'

b. **weil er eine Rose einer FRAU geschenkt hat*

(23) **class I**

a. *weil er einem Freund ein LIED beigebracht hat*
since he a friend-DAT a song-ACC tought has
'since he taught a song to a friend'

b. **weil er ein Lied einem FREUND beigebracht hat*

I have shown that class I and class III are not different with respect to argument projection and that it is therefore inappropriate to speak of two different classes.

Let us now turn to class II. If we apply our test to the verbs of this class, we find that the base order is indeed ACC > DAT, However, I have to admit that the ordering test with indefinite pronouns does not work very well here.

(24) **class II**

a. *weil ich auf der Party niemand(en) jemandem vorgestellt habe*
since I at the party nobody-ACC somebody-DAT presented have

b. **/??weil ich auf der Party niemandem jemand(en) vorgestellt habe*

Yet, we may have one argument as a full DP (instead a pronoun like 'niemand'). The claim is that the relevant indefinite pronouns must be in their base position. Thus it does no harm if the linearly following argument is a structured DP and the indefinite pronoun precedes it. The data become uncontroversial again since indefinite pronouns must stay in their base position, hence the indefinite DP too.

(25) a. *weil er jemanden einer schweren Prüfung unterzog*
since he somebody-ACC [a difficult exam]-DAT submitted

b. **weil er einer schweren Prüfung jemanden unterzog*

(26) a. *weil sie niemanden einer großen Gefahr aussetzen würde*
since she nobody-ACC [a big danger]-DAT expose would

b. **weil sie einer großen Gefahr niemanden aussetzen würde*

Thus, while there is no justification for positing three classes, it may be necessary to distinguish two: DAT > ACC and ACC > DAT. Nevertheless I would like to maintain the claim that DAT > ACC holds underlyingly. The ACC > DAT order can be seen as a mere epiphenomenon similar to what is going on with the so-called ill-behaved experiencer verbs (for a discussion of this story see Grimshaw 1990 and Belletti and Rizzi 1988; Pesetsky 1990 and Meinunger 1995c).

2.7 Some parallelisms with experiencer verb constructions

Generally, arguments should be projected uniformly (UTAH: Baker 1988) and according to Grimshaw's hierarchy (8). One class of experiencer verbs — the *fear* class (or Belletti and Rizzi's *temere* class (1988)) — is well-behaved. That means that the experiencer, located higher in the hierarchy, becomes the subject of the sentence; the theme, located deeper, becomes the object.

(27) Lohengrin fears Elsa's question.

(28) Salome likes Jochanaan.

However, the second class — the *frighten* class (Belletti and Rizzi's *pre-occupare* class) — is ill-behaved

(29) Alberich frightens the Nibelungs.

Here the experiencer appears as a postverbal object, and the theme occupies the subject position. Grimshaw presents a way out of the dilemma by proposing that there is not only one scale of hierarchy but, at least two. She shows that the ill-behaved verbs have something to them which the other class lacks, namely the causative element, which is brought out by the paraphrase (30) of (29).

(30) Alberich causes the Nibelungs to experience fear.

Grimshaw proposes that the causal structure of a predicate also defines a hierarchy, just as the thematic structure does, a hierarchy in which the cause argument is most prominent:

(31) (cause (....))

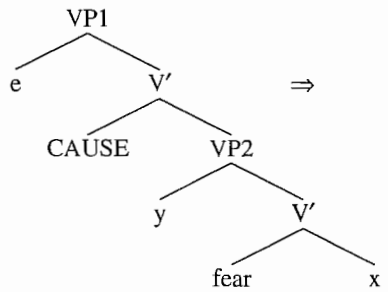
She claims that the causativity hierarchy overrides the other one(s) and imposes a structure where the causer is the most prominent argument. Another way of capturing the difference between the two classes is suggested by Pesetsky (1990). In his theory too, *frighten* is not equal in meaning to *fear* with the theta-roles in the reverse order. The difference lies in the additional causative component which the well-behaved class lacks, but the ill-behaved class exhibits. This can be represented in the following representation:

(32) a. like/fear: λxλy [x E y]

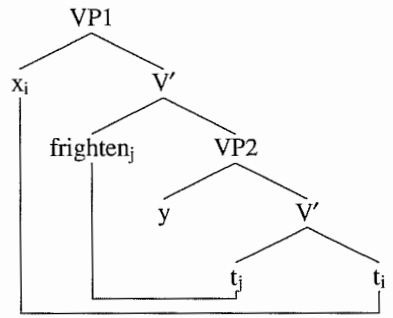
b. please/frighten: λxλy [y CAUSE [x E y]]

If this notation, taken from Haider (1992), is translated into a syntactic tree of the kind of (7), we get a specifier position where the causer is licensed in the topmost argument position. Instead of making the lambda prefix unselectively bind two variables, we can handle the difference syntactically by assuming movement, an equivalent dependency between the two positions of the e and x in (33):

(33)



(33′)



Thus, just as 'GIVE' might be analyzed as 'CAUSE + POSS', one might consider 'FRIGHTEN' to be composed of CAUSE + 'FEAR'.

2.8 The DAT > ACC > DAT/PP asymmetry

I would like to claim that this kind of argument (position) manipulation can be fruitfully carried over to the bitransitive verb asymmetry. It has been observed that (in German) there is a tendency for the non-theme objects of

bitransitive verb when they are +animate or +human, to be realized as dative objects (34a), (35a). On the other hand, when the object is not animate or human, it is likely to be expressed in a directional PP (34b), (35b) (see Kaufmann (1993) among others). Another difference that Kaufmann overlooks is the fact that in the animate case the dative object appears preferably before the accusative object; in the inanimate case, the PP must appear after the accusative object.

(34) a. *Sie schickte ihrer Tante ein BUCH.*
she sent [her aunt]-DAT [a book]-ACC
b. *Sie schickte das BUCH an die Bibliothek.*
she sent the book-ACC to the library

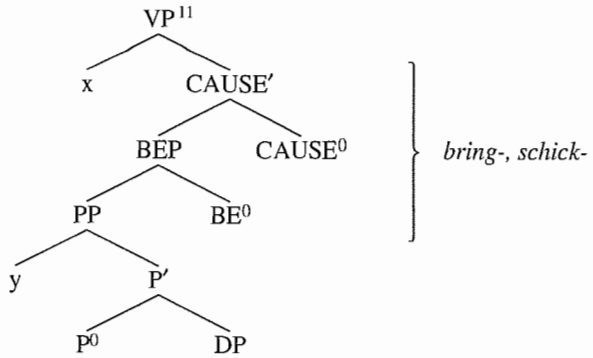
(35) a. *Sie brachte ihrem Vater einen KUchen.*
she brought [her father]-DAT [a cake]-ACC
b. *Sie brachte einen KUchen ins Büro.*
she brought a cake into+the office

I would like to claim that this realization pattern is not primarily the interaction of animacy or humanness, but that the difference is mediated through a distinction concerning the interaction of the atomic predicates. In the beginning of this chapter, I assumed POSS(ESSION) to be an atomic predicate. Now, I will argue that it is of some advantage to analyze it as a derived one. Therefore, I will adopt a view of argument structure similar to that found in Speas (1990) and of the have-be alternation much like in Kayne (1993a). My claim is that many bitransitive verbs either refer to a relation between a theme and the theme's location, or express a process (or a state) in which the dative argument possesses, or comes to possess, the theme. I furthermore claim that the former relation (location) is underlying and the latter (possession), which contains more information, is derived. As for the constructions with a locational (secondary) predication, I assume that the lexically decomposed structure looks like:

(36) [x CAUSE [... BE [y [IN/AT/ON z]]]]

Thus for *bringen* (to bring) and *schicken* (to send) with a prepositional complement, we would have a tree structure like in (37).

(37)



This is the representation for sentences like (34b) and (35b). At this point, comes Kayne's idea (which goes back to earlier work by traditional grammarians, Benveniste 1966) becomes relevant. For Kayne *have* is derived via incorporation of a preposition into *be*. Transferred into my theory of lexical head decomposition, this means approximately that the deepmost locational P^0 incorporates into the primitive BE. This process results in the POSSESSION relation. Exactly as with the experiencer verbs, the head movement within the VP triggers movement of the most embedded argument. In our case it is the former complement of the preposition which becomes the specifier of POSS. (The overt preposition disappears and a possession relationship is created. See also Kayne.)[12]

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11. For the sake of harmony I will assume that in German also the VP internal atomic predicates project head-finally. This makes the trees appear somewhat less familiar. Nevertheless I think that this is not an insurmountable problem for the reader.

12. Interestingly there is another fact that could be used as additional evidence for the analysis. This fact is the relation between dative Case and possession. It is well known that there is no one-to-one correspondence between morphological Cases on the one hand and thematic roles on the other. However, it is equally well known that both are more than just loosely related. In any case, in many languages that have morphological dative, this Case is often assigned to the possessor in a process similar to the one discussed here. For example in Hungarian (discussed in Szabolcsi 1981 and discussed anew in Kayne 1993), the possessive construction consists of a copula (BE) and a single DP containing the possessor and the possessee. When the whole DP is definite, the possessor can remain in situ carrying nominative Case, but in other cases it must or can move to the left to some specifier position where it gets assigned dative Case. Something similar also happens in my non-standard dialect of German. A DP expressing a possessive relation may come in two variants:

Semantically, this means that the 'former' locative argument becomes the possessor. Thus, my claim is that the possession relation is not a semantic primitive, but that it is a result of verb phrase internal changes. Thus:

(38) [x CAUSE [e ... BE[y [IN / AT / ON z]]]][13] ⇒

[x CAUSE ...[z [POSS y]]]

(i) *der Garten von der Ingrid* having the structure $[_{DP}\ D^0\ [_{NP}\ N^0\ [_{PP}\ P^0$ POSSESSOR]]]
the garden of the Ingrid

(i) somehow corresponds to the base variant in (36) involving a PP. The other, more natural, variant is (ii) where the possessor has been moved to some specifier position where it appears in dative Case. The D^0 element shows agreement with the phrase in the specifier position with respect to gender. Here, the dative's function is to mark the possession relation:

(ii) *meiner Mutter ihr Garten* having the structure $[_{DP}$ $POSSESSOR_{DAT}$ $[D^0\ [_{NP}\ N^0\ t]]]$
my-DAT mother her garden

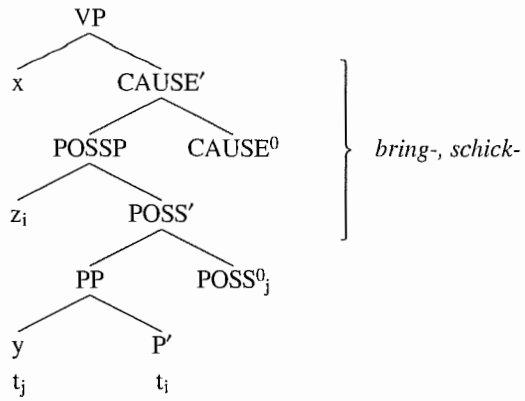
Also sentences that refer to possession relations make use of dative Case as possessor marker. In my variety of German, it is very common to express possession by a copula (BE) with two satellite DPs (I don't want to call them arguments). If the possessee is definite, it is likely to appear in nominative case. The possessor then carries dative Case:

(iii) *Dieser Garten ist meiner Mutter.*
this garden-NOM is my mother-DAT
'This garden belongs to my mother.'

Thus, the link of POSS and a dative DP in its specifier seems to be motivated by arelated, though different construction across languages (again see Kayne 1993a and Benveniste 1966).

13. For a similar though different analysis and the relation between preposition (particle) incorporation into the primitive BE coupled with the derivartion of a bitransitive verb structure see den Dikken (1995), mainly Chapter 3.

(39)



This analysis is corroborated by the following facts. The tendency to dativize a +animate/+human DP alluded to above is only an epiphenomenon. There is no ban on having an +animate/+human DP within a PP construction.

(40) *weil ich ein BUCH zu meinem Vater gebracht habe*
since I a book to my father brought have

(41) *weil ich das FAHRrad zu meiner Tante geschickt hatte*
since I the bicycle to my aunt sent had

However, the meaning is different from the corresponding DAT > ACC construction. (40) and (41) do not tell us anything about possession. (40), for example, expresses that I brought some book to my father's residence. My father needn't even know of the book. In (41), there is not the slightest hint that the aunt becomes the possessor. On the other hand, the corresponding DAT > ACC constructions make a POSS reading much more likely.

(42) *weil ich meinem Vater ein BUCH gebracht habe*
since I my father a book brought have

(43) *weil ich meiner Tante das FAHRrad geschickt habe*
since I my aunt the bicycle sent have

(42) strongly suggests that now my father owns the book. However, my claim is not that POSS necessarily expresses ownership. It merely means that someone is in the (perhaps temporary) possession of something. For example, (43) does not necessarily mean that the ownership of the bicycle changes

from mine or someone else's to my aunt's. However, the sentence says that my aunt is somehow in *conscious possession* of the bike. This is not the case with the PP construction in (41). That sentence might describe a situation where I have sent a/my bike to my aunt's address in Paris. However, for the time being my aunt doesn't live there and I know that. The only reason for my sending action was that I want to go to Paris and did not want to take the bike with me in the train. Since I don't trust left-luggage offices, I wanted to pick up my bike at my aunt's place rather than at the station. In such a case, my aunt need not know anything about that. (43) cannot be used to describe such a situation.

This theory is also partly corroborated by the fact that the DAT > ACC vs. ACC > PP alternation is not freely allowed. It is not the case that to every DAT > ACC order there is a corresponding ACC > PP order. This possibility seems to me to be limited to the case with verbs where the non-accusative object can receive a locative reading. For verbs, where this is not possible, the ACC > PP construction sounds awkward.

(44) a. ok*weil ich es meiner Mutter* { *gezeigt* / *empfohlen* / *erklärt* / *zugetraut* / *verübelt...* } *habe*[14]
'since I showed, recommanded, explained...it to my mother'

b. **weil ich es an meine Mutter/zu meiner Mutter* { *gezeigt* / *empfohlen* / *erklärt* / *zugetraut* / *verübelt...* } *habe*

14. Now, my argumentation could be used against me. What I did was dealing with the opposition possession vs. location. Now, I am using the lack of a locational reading with the given verbs as an argument for the lack of the ACC > PP construction. So far, so good. However, if matters were that simple, my narrow minded opposition predicts that with the given verbs, we should only get a reading where POSS plays a role. This, however, is not the case. Here we do not get any (sub)relation which could be identified as POSSESSION. Thus, what I have to say is that my theory of location to possession change does not explain every DAT > ACC ordering. This, however, has never been my claim. What I claim is only that it covers a considerable part.

Now the reader might wonder why I have spent so much effort on the DAT > ACC vs. ACC > PP alternation. The answer lies in the DAT > ACC vs. ACC > DAT problem which was alluded to above, but for which a solution has still not yet been given. The following discussion revives this problem.

Above, I have shown that there is no DAT > ACC vs. DAT > ACC & ACC > DAT distinction, i.e. class I and class III collapse. The long discussion about the DAT > ACC vs. ACC > PP distinction was intended to prepare for the next verb class collapse; namely, I shall claim that the 'ill-behaved' class II verbs are hidden ACC > PP verbs. To put it in other words, the dative argument of ACC > DAT verbs (class II) is actually (the remnant of) a PP. The argumentation will not be very semantic. The only thing I want to mention is that also Müller (1993: 204, fn. 3) admits that the dative arguments of verb II class verbs do not act as goals. I want to go further and say that the datives denote something local. Let us consider the verbs of class II. Haider (1992) gives the following examples:

(45)	*aussetzen*	to expose so to sth
	ausliefern	to extradite
	entziehen (!)	to take away from
	unterziehen	to submit
	unterwerfen	to subject
	zuführen	to bring to

We can add:

vorstellen	to introduce
vorziehen	to prefer
unterordnen	to subordinate
angleichen	to assimilate
nachbilden	to copy, to replicate
nachempfinden	to adapt
anlagern	to adjoin...

All these verbs, with one exception, can be morphologically decomposed into a verbal stem and a local preposition (underlined). The only exception *entziehen* can easily be shown to be misplaced here. Even people who accept the Höhle-Haider test of focus projection admit that the order must be dative > accusative.[15] Considering this fact my claim then is that ACC > DAT verbs are ACC > PP verbs where the (local) preposition has been incorporated into the verb. The visible result is a ACC > DAT linearization.

2.9 Short summary

If all the ideas collected, composed and developed above are combined, we arrive at a rather simple picture. The base structure of the German verb is:

(46) $[_{VP}$ SU [IO [DO [PP verb]v]v]v]

This is the lexical projection which forms the input to further operations. As hinted at above, the lexical projection is the complement of a functional projection which itself is again the complement of some other functional projection. The next chapter will be dealing with some phenomena that trigger changes in word order with respect to the base order which is represented in (50).

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15. A: *Und was hast du dann gemacht?*
A: And what did you do then?
B: *Dann habe ich dem Wasser die GIFTstoffe entzogen*
then have I [the water]-DAT [the poisonous substances]-ACC away-taken
B: Then I depoisoned the water.

Also my test of testing the order of indefinite pronouns / or DPs shows that *entziehen* is an ordinary DAT > ACC verb:

(i) ok*weil ich jemandem etwas entzogen habe*
since I someone-DAT something-ACC away-taken have
(ii) **weil ich etwas jemandem entzogen habe* (reverse order)

For this problem and the very same data, see also a very interesting paper by Steinbach and Vogel (1995), which was written after I had finished this part. There it is shown that things might even be more complex.

CHAPTER 3

A trigger for scrambling

3.1 Scrambling and scrambling theories

Now I will address what I called 'further operations' in the preceding chapter. As I said, in principle any constituent — argument or adjunct — may appear in any position in the middle field.

(1) a. *daß die Frau der Nachbarin gestern*
that the woman-NOM the neighbor-FEM.DAT yesterday
den Hund gegeben hat
he dog-ACC given has
'that the woman gave the dog to the neighbor yesterday'

b. *daß die Frau der Nachbarin den Hund gestern gegeben hat*
c. *daß die Frau den Hund gestern der Nachbarin gegeben hat*
d. *daß der Nachbarin den Hund gestern die Frau gegeben hat*
e. *daß die Frau gestern der Nachbarin den Hund gegeben hat*
f. *daß gestern die Frau der Nachbarin den Hund gegeben hat*
g. *daß der Nachbarin die Frau gestern den Hund gegeben hat*
h. *daß der Nachbarin gestern die Frau den Hund gegeben hat*
i. *daß gestern der Nachbarin die Frau den Hund gegeben hat*
j. *daß die Frau den Hund der Nachbarin gestern gegeben hat*
k. *daß der Nachbarin die Frau den Hund gestern gegeben hat*
l. *daß der Nachbarin den Hund die Frau gestern gegeben hat*
m. *daß den Hund die Frau der Nachbarin gestern gegeben hat*
n. *daß den Hund der Nachbarin die Frau gestern gegeben hat*
o. *daß die Frau gestern den Hund der Nachbarin gegeben hat*
p. *daß den Hund die Frau gestern der Nachbarin gegeben hat*
q. *daß den Hund gestern die Frau der Nachbarin gegeben hat*
r. *daß gestern die Frau den Hund der Nachbarin gegeben hat*
s. *daß gestern den Hund die Frau der Nachbarin gegeben hat*

t. *daß der Nachbarin gestern den Hund die Frau gegeben hat*
u. *daß den Hund gestern der Nachbarin die Frau gegeben hat*
v. *daß gestern der Nachbarin den Hund die Frau gegeben hat*
w. *daß gestern den Hund der Nachbarin die Frau gegeben hat*
x. *daß den Hund der Nachbarin gestern die Frau gegeben hat*

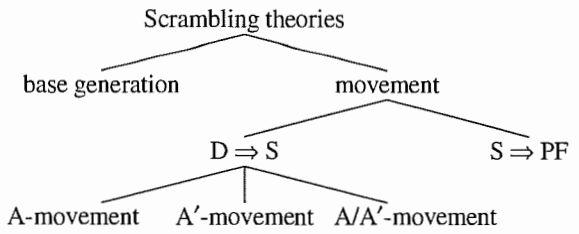
In (1) above, all possible permutations of constituents that are possible in a subordinate sentence with a verb that takes three arguments and an adjunct are listed. The paradigm illustrates the potential freedom of order. However, it is not always possible to re-arrange the constituents in this fashion. Moreover, although all the examples are grammatical, some sound more acceptable then others. Considered out of context, they can be arranged on a scale of decreasing acceptability, with example a. the most natural, and x. the most bizarre. However, I shall argue that these sentences should not considered in terms of a markedness hierarchy. I will claim that every sentence has a linguistic and a non-linguistic context, and that according to these contexts the relevant sentence may or may not sound appropriate. Another factor is the fact that (ordinary) writing cannot convey the intonational shape of the sentence. (1) is a paradigm where the relevant constituents are all definite. In other examples, where there are indefinite expressions involved, and if intonation is encoded, it turns out that moving constituents around can result in unacceptable structures.

(2) a. *weil der Chefdirigent niemals jemanden lobt*
since the director never somebody praises
'since the never praises anybody'
b. **weil jemanden niemals der Chefdirigent lobt*

This chapter sheds some light on what happens when the order of constituents in a sentence is different from the base order, see Chapter 2. This issue has long been a central question in syntactic theory. A technical term for the derivation of a linearization of constituents which is different from the base order is *scrambling*. Scrambling as a linguistic term originates from Ross' dissertation (1967), where proposed a universal scrambling rule was proposed to account for the derivation of different constituent linearizations. However, not every process that takes a constituent from its base position and moves it to some other place in the syntactic tree is called scrambling. For example, the movement of a *wh*-constituent to the sentence initial

position is not scrambling; neither is the movement of some arbitrary constituent to the position immediately preceding the finite verb in a German main clause. These movement types are clear cases of $\overline{A}$-movement. Another instance of non-scrambling is the movement of an underlying object to the subject position (i.e., passive in English, subjects of unaccusative verbs) or the raising of a noun phrase into the subject position of a verb like *to seem/ scheinen*, or an epistemic modal. These movement types are referred to as A-movement. Although both types of movement have in common that they put a constituent into a position which is different from the one where it has been base generated, there are many differences between A- and $\overline{A}$-movement. Since A- and $\overline{A}$-movement are the classical movement operations, they did not really tolerate other movement types next to them. And hence, the derivation of the different word orders in the German middle field had to be either an instance of A- or of $\overline{A}$-movement. In the literature one can find argumentations for both approaches to scrambling in German and in general. Hard-core proponents for an $\overline{A}$-approach to scrambling in German are Webelhuth (1984/85, 1989) and Müller (1993). Fanselow (1990a, b), Moltmann (1991), de Hoop (1992) and others argue for an A-movement analysis. However, it has become generally recognized that the state of affairs on the data is more complicated, as scrambling does not easily fit into either classification without problems. Some recent proposals suggest that scrambled phrases may act as A and $\overline{A}$ binders simultaneously (Webelhuth 1992; Rosengren 1994). In order to avoid a classification at all it has also been proposed that scrambling does not belong to the core of grammar. Williams (1984) characterizes it as a stylistic rule and localizes it at some very marginal place between s-structure and PF. Other researchers argue against a movement analysis altogether. For them, all occurring linearizations can be base-generated, leaving neither space, nor need for movement operations. That free constituent order is a base-structure phenomenon is argued for by Haider (1990 for example) and recently in a series of publications by Fanselow (1992, 1995). In the latter, Fanselow even introduces the term 'anti-scrambling'. Thus the picture that emerges can be illustrated by a tree diagram, adopted from Grewendorf and Sternefeld (1990: 7).

(3)



At first glance it looks as if only one of the devices can be the correct one. However, I will argue that not all rearrangement operations of constituents belong to the same movement type. Hence, the linearization process is not the result of a single sort of movement, and that each of the proposals is correct to some extent. Thus, if scrambling is understood as the generator of the possible linearizations it should not be analyzed as the instantiation of one single type of movement. Nevertheless, my claim will be that most movement operations that affect the base order and derive word order variations in the middle field are instantiations of A-movement.

3.2 A survey of the semantic impact of scrambling–positions and corresponding interpretations

The type of movement I will mainly be concerned with is illustrated in the examples (4) to (7). In the preceding chapter I have argued that all (verbal) arguments and only arguments are base generated inside the VP. This implies that material which is not subcategorized by the verbal head cannot be located within the VP (for a different, but not incompatible view see Chapter 4, Section 4.5.3.4). Thus, adjuncts, particles and other non-argumental elements can be used as a good structural indicator for whether movement of one of the arguments has taken place or not. For the moment I will not be concerned with what the position of this non-argumental material is. It also seems that every linguist who uses the position test favors a different element which most likely is of a different status and hence

should occupy a different position.[1] However, what matters is the relative position towards the shifted arguments.

(4) *weil wahrscheinlich niemand gearbeitet hat*
since probably nobody worked has
'since probably there was nobody working'

(5) *weil der Chef wahrscheinlich noch gearbeitet hat*
since the boss probably still worked has
'since probably the boss was still working'

(6) *weil wir oft ein Lied singen mußten*
since we often a song sing must
'since we often had to sing a song'

(7) *weil wir ein Lied oft singen mußten*
since we a song often sing must
'since we often had to sing a (specific) song'

In (4) and (6), the arguments are arguably in their base position, which is SpecVP and the sister to V^0, respectively. In (5) and (7), the arguments have been moved away from their base position. I will claim that in (5) the subject has moved to SpecAgrS, and that in (7) the object has moved to SpecAgrO. (It has been proposed that SpecAgr positions are A-positions where the Case of the arguments is checked (Chapter 4, Section 4.2 and Chomsky 1992).

It is an established fact that the different positions trigger different interpretations. Take the sentences in (6) and (7), for example. In (6) *ein Lied* gets a non-referential interpretation. Here, 'non-referential' is used in the

1. For example, Diesing makes intensive use of the particle *ja doch*. This seems to me to be a bad choice since the intuitions with this element are rather shaky. Even Diesing herself must admit the position of *ja doch* is not completely fixed and then starts to move the particle around. The Dutch linguists (de Hoop 1992, Neeleman 1994) often use the temporal adverbial *gisteren* (= yesterday). This seems to me to be a better candidate. Still, there are some difficulties. If we take an approach to argument structure as developed by Kratzer (1989), *gisteren* could be considered an instantiation of the Davidsonian argument, and hence would belong to the verb's argument frame. Since I want an indicator which should clearly be a VP external element, I do not choose *gestern* or another temporal adverbial. In Meinunger (1992) I used the negative element *nicht* (= not). Later I will show that the syntax raises problems with that option, too. I therefore will mainly use adverbs that act as operators such as quantificational *oft* (= often) or modal *wahrscheinlich* (= presumably, probably).

sense of Meinunger (1992), i.e. *ein Lied* does not refer to a specific song. The sentence merely says that we were often forced to be singing (some song or other). This sentence can hardly be followed by a sentence like 'Wir haben das Lied gehaßt' (We detested the song) where the definite DP is intended to refer to the discourse referent introduced by *ein Lied* in (6), which is in the scope of a propositional adverbial. This is not the meaning of (7). The most salient interpretation of (7) is that there is a specific song which we had to sing over and over again. Under this reading, the referent of *song* may easily be picked up by a subsequent definite DP. The string in (7) has another possible interpretation according to which there is a list of songs and one out of the list used to belong to our obligatory, constant repertoire. Under this reading also, it is perfectly normal for referents of the *song* to be picked up by a definite description in a following utterance.

The following subsection gives a detailed and fairly exhaustive description of DPs, their distribution and the corresponding readings.

The noun phrase-types I considered are (i) indefinite DPs, specifically noun phrases introduced by a singular indefinite article, bare plurals, singular mass nouns, and indefinite pronouns; (ii) noun phrases with weak determiners; (iii) definite full NPs and definite pronouns and (iv) QPs, i.e. noun phrases introduced by a strong quantifier. The following examples illustrate the pattern with direct objects. We will see that the picture that emerges is completely parallel with subjects and indirect objects.

3.2.1 *Indefinites*

– *indefinite singular NPs*

(8) *sie weil bestimmt schonmal eine Sinfonie gehört hat*
she since surely already a symphony heard has

The only reading of *eine Sinfonie* available is the purely indefinite existential reading. De Hoop (1992) claims that simple unscrambled indefinite object are completely ambiguous between a weak and a strong reading. This claim is denied here: as we will see later, it is not impossible for an unscrambled indefinite to get a strong interpretation. This, however, is a marked option and requires special circumstances. If the indefinite is scrambled, the weak existential reading disappears. In this, I agree with the

claim of de Hoop and others: indefinites with a purely weak interpretation cannot undergo scrambling.

(9) *weil sie eine Sinfonie bestimmt schonmal gehört hat*

(9) is nevertheless ambiguous. Under one interpretation, the speaker wants to convey the information that (s)he knows about some symphony for which it is very likely that the addressee has listened to it at some time. Under this reading, the speaker normally has a specific symphony in mind that (s)he could probably name, say Beethoven's Ninth. Following de Hoop, let's call this the referential interpretation. (9) can have a second reading which is somewhat less obvious. Under this interpretation, which I shall call the partitive reading, the sentence describes a situation where the speaker presupposes a set of symphonies, of which one is likely to be known to the subject of (9), i.e. *sie*. It might seem that the two interpretations are non-distinct from each other, but there are reasons to believe that they are distinct. Whereas under the referential reading, there must be a specific referent which should be known to the speaker, this need not be the case with the partitive interpretation. The latter only states that there must be such a symphony, no matter which one. This reading becomes more accessible when the indefinite is preceded by an element like *mindestens* (at least).

(9′) *weil sie mindestens eine Sinfonie bestimmt schonmal gehört hat*
since she at least one symphony surely already heard has

Scrambled indefinites can have yet another reading, hard to distinguish in (9), but apparent in (10):

(10) *weil der Boss einen Familienvater wahrscheinlich nicht entläßt*
since the boss a familyfather probably not fires

In its most natural interpretation, *einen Familienvater* in (10) is interpreted as generic. The meaning of the sentence can then be paraphrased with: if someone has to care for a family, the boss will probably not fire him. In this reading, the indefinite need not refer to a concrete person. Carlson (1977) proposes that generics refer to kinds, thus the sort of reference is more abstract.

So far, we have seen four different interpretations of indefinites. The weak existential reading is triggered in the base position. Outside the VP boundary, the indefinite DP can get a referential, a partitive or a generic

reading.[2] In (9) to (10) examples were given and their most likely interpretation was discussed. Other readings are also obtainable, e.g. in (10) *einen Familienvater* can also be interpreted referentially or partitively. In German, this ambiguity is resolved by the intonational contour assigned to the indefinite DP. The referential or partitive reading is triggered by stressing the indefinite article as in (10′). Thus,

(10′) *weil der Boss EInen Familienvater wahrscheinlich nicht entläßt*[3]

Under this intonational pattern the generic interpretation described above for (10) cannot arise. However, while a stressed indefinite determiner typically signals referential or partitive interpretation, those interpretations are also possible when the determiner is not stressed. There are cases where the head noun of the complex indefinite noun phrase is accented and a partitive interpretation nevertheless arises. Consider a situation where a set (*junge Leute* (young people)) of individuals has already been introduced into the preceding discourse. In the relevant sentence the head noun of indefinite DP refers to a subset (*Mädchen* (girls)) of the previously introduced (super) set.

(11) *Vor dem Kino standen viele junge Leute.*
in front the cinema stood many young people
(In front of the cinema there were many young people standing around.)
Ich sah,
I realized
wie der Türsteher ein MÄDchen immer wieder zurückschickte
how the door guard a girl always again back-sent
(that the door guard kept sending back a girl)

Given the context, the girl (*ein Mädchen*), which has been scrambled over the quantificational adverbial, must be understood as denoting a girl belonging

2. De Hoop (1992) also talks about a generic collective reading. It is not clear whether this reading should really be kept apart from the ordinary generic reading. Since the so-called generic collective reading is only possible with cardinal and other weak quantifiers, but not the indefinite article, it is not of much interest here anyway.

3. The use of capital letters as indicator for stress is not meant to be exhaustive, i.e. for (10′) I do not claim that the capitalized syllables are the only ones that carry a pitch accent. For these constructions to be grammatical, there must be at least one more syllable in the sentence that carries a pitch accent as well. We return to this issue later.

to the group of young people introduced by *'viele junge Leute'*. In this respect it is interpreted partitively, and still the head noun can be stressed. (Stressing the determiner is also possible under the partitive interpretation. There is a slight difference, however: it must then be the case then that there is more than one girl in the group and it is very likely that for them it is the case that they were not being sent back. This need not be the case for the stress pattern in (11)).

For the generic reading the article must be unaccented and the head noun gets stressed:

(12) *weil der Boss einen FaMIlienvater wahrscheinlich nicht entläßt.*

The interpretation is

(12′) Generally$_x$ [father (x)] [it is probably not the case that the boss fires x][4]

No other stress pattern is possible.

Another reading open to indefinites in the base position deserves mention — call it the 'narrow focus interpretation'. Even if it has a referential, partitive, or generic reading, an indefinite DP preferably stays in the base position if it is contrastively stressed (especially in subordinate clauses):

(13) *weil sie wahrscheinlich EIN Schwein geschlachtet haben.*
since they probably a pig slaughtered have
'since they probably slaughtered one of the pigs'

Cases such as this display a complex quantificational structure: This case is discussed in more detail in connection with (cf. see below).
Let us now move on to

– *bare plurals*

Bare plurals are plural indefinites. Like English and unlike French, German does not have simple overt plural indefinite articles. The behavior of bare plurals in subject position German is described in detail in Diesing (1992a, b). Here I only want to briefly consider the data with respect to object position. As Diesing (1992: 107) observes: 'In the case of the VP-internal or

4. An additional interpretation would be *wahrscheinlich* (probably) having wider scope than in the formula in (12′). This is immaterial here, however.

unscrambled order, the most neutral interpretation of the indefinite object is the existential closure interpretation.'

(14) *daß Stefan immer Bücher über Insekten liest*
that Stefan always books about insects reads
'that Stefan always reads book about insects'

The semantic representation is:

(15) always$_t$ [t is a time] ∃x [x = a book about insects & Stefan reads x at t]

In the scrambled version, the reading is different. The bare plural must be interpreted as generic.

(16) *daß Stefan Bücher über Insekten immer liest*

The corresponding semantic representation is:

(17) always$_{t,x}$ [t is a time & book about insects (x)] [Stefan reads x at t]

Diesing underlines this contrast with examples where the meanings of the verb strongly favors only one interpretation. Thus, she claims that verbs of creation (*write, build, draw*) do not allow for object scrambling because their semantics is such that the object referent only comes into existence as a result of the action described by the relevant verb. As a consequence, the existence of the object cannot be presupposed, and hence must be asserted. Assertion of existence is done by existential closure which according to the Mapping Hypothesis applies to the VP (Chapter 1, Section 1.4.3.1). Hence the contrast between (18) and (19).[5]

(18) *weil Brigitta immer Artikel über Scrambling schreibt*
since Brigitta always articles about scrambling writes

(19) **weil Brigitta Artikel über Scrambling immer schreibt*

5. Object scrambling is not always blocked with verbs of creation. If a manner adverbial is used to modify the verb, the verb loses its need of an object which must be being created.

(19′) *weil Brigitta Artikel über Scrambling immer in aller Eile schreibt.*
since Brigitta articles about scrambling always in all hurry writes

Then the scrambled object gets a generic interpretation just as normal objects of verbs of using, how Diesing calls the other class of transitive verbs. See also de Hoop's (1992) Chapters 3.1.4 and 3.1.5.

The opposite case occurs with experiencer verbs. In Kratzer's theory of stage- and individual level predicates (1989), the former are distinct from the latter by having an additional spatio-temporal argument. The relevant experiencer verbs must be analyzed as lacking this argument. Diesing's argumentation proceeds as follows. According to Milsark's (1974) prohibition on vacuous quantification, a quantificational element must always be associated with something that it quantifies over. Suppose we have a sentence with a transitive experiencer verb and a quantificational adverb, whose the subject cannot be quantified over, and which contains no other quantifiable adjunct. In that case, one expects that an indefinite object must scramble. The reason is that there is no other element that could serve a target of the quantification, there is no (silent) spatio-temporal argument available. As a consequence, in such sentences accusative objects must be scrambled.

(20) *weil ich eine Wagneroper immer mag*
since I a Wagner opera always like
'since I always like a Wagner opera'

(21) **weil ich immer eine Wagneroper mag*

With quantificational adverbs like 'immer', the only interpretation available to the object is the generic one.

– *singular mass nouns*

Singular mass nouns show similar behavior to bare plurals. In almost every case, bare mass nouns stay in the base position.

(22) a. *weil er niemals Butter nimmt*
because he never butter takes
'since he never takes butter'
b. *weil sie immer Staub wischt*
since she always dust wipes
'since she always does the dust'

Some researchers argue for an incorporation analysis of all adjacent mass noun–verb sequences. The position taken here is that although (22b) is a good candidate for an incorporation structure, incorporation is not the inevitable fate of verb-adjacent mass nouns.

With verbs for which it is hard to get a reasonable alternative for the object to satisfy de Hoops and de Swarts principle of contrastiveness (de Hoop and de Swart 1990), scrambling leads to odd sentences. *Take* is such a 'poor verb'. Consider also *Staub wischen,* this is a unit where the verb leaves little space for contrastiveness.

(23) a. ??/**weil er Butter immer nimmt*
b. ??/**weil er Staub immer wischt*

Yet there are other cases where scrambling sounds quite acceptable. In such cases some other element serves to satisfy the requirement of informativity, i.e. fulfills the principle of contrastiveness, for example in (24) and (25).

(24) *weil er Tee schon immer gerne getrunken hat*
since he tea already always gladly drunk has
'since he has always liked to drink tea'

(25) *weil er Staub immer auf seine Bestandteile untersucht*
since he dust always of its components examines
'since he always analyses dust concerning its components'

Like bare plurals, scrambled mass nouns must then be interpreted generically.

Another subclass of singular determinerless nouns is found with verbs that are almost completely void of any intrinsic semantic content. Examples include the nouns in correlations like: *Hunger haben*, literally hunger have = 'be hungry'; *Freude haben* = have fun; *Feuer geben*, lit. fire give = 'have a light for someone', or 'to attack someone'; *Spaß machen*, lit. fun make = 'to be joking/kidding'; etc.

These verbs do not allow for their arguments to scramble.

(26) **weil er Hunger immer hat*

(27) **weil er Feuer wahrscheinlich gibt*

(28) **weil er Spaß manchmal macht*

– *indefinite pronouns*

The last class of indefinites to be considered are the indefinite pronouns: *jemand* (someone/somebody), *niemand* (nobody), *einer* ((some)one), *keiner* (none), *etwas* (something), *nichts* (nothing). These all yield well-formed sentences when they appear in the base position:

(29) a. *weil ich wahrscheinlich jemanden treffen werde*
b. *weil ich wahrscheinlich niemanden treffen werde*
c. *weil ich wahrscheinlich einen bekomme*
d. *weil ich wahrscheinlich keinen bekomme*
e. *weil ich wahrscheinlich etwas essen werde*
f. *weil ich wahrscheinlich nichts essen werde*

In all the examples in (29) an existential reading is possible. Under this reading the indefinites are within the scope of *wahrscheinlich*, and in the cases with an implicit negation (29b, d, f) the existential operator has narrower scope than the negation. However, (29a–d) also seem to allow for a wide scope interpretation, where 'wide scope' is understood as the specific reading. In (29a), for example, *jemand* can refer to a specific individual and thus not be affected by the propositional adverb. Yet, it is not clear whether we are dealing here with a true case of specificity. If the sentence is embedded in the type of structure classically used to test for specificity, intuitions seem to disallow a wide scope reading:

(30) *Peter bestreitet die Behauptung, daß Hans (wahrscheinlich)*
Peter denies the claim that Hans (probably)
jemanden umgebracht hat.
somebody killed has

Here, *jemand* can hardly be forced to refer to a specific individual. Example (29) merely says that Peter denies the claim that Hans is probably a murderer. Thus, it could be argued that indefinite pronouns are never specific. This would be a strong claim, which could then be used to account for the observation[6] that scrambling of these pronouns leads to ungrammaticality in most cases.

(31) a′. **weil ich jemanden wahrscheinlich treffen werde*
b′. **weil ich niemanden wahrscheinlich treffen werde*

6. If this claim was to be maintained, an explanation would be needed for the fact that *jemand* in (30a) seems to be able to be interpreted specifically. One explanation could be that the wide-scope interpretation is a special case of the narrow-scope reading, namely when all the non-referential variable assignments happen to go to one unique element (see Reinhardt 1982). However, although the idea seems appealing, I do not adaopt the position that indefinite pronouns like *jemand* can only be interpreted existentially.

d′. **weil ich keinen wahrscheinlich bekomme*
e′. **weil ich etwas wahrscheinlich essen werde*
f′. **weil ich nichts wahrscheinlich essen werde*

Scrambling of *einen* (someone) gives a grammatical result. In this case both the pronoun and some element following it must be accented in the so-called bridge accent pattern.

(32) *weil ich EInen wahrscheinlich beKOmme.*

The string (32) gets an interpretation where *EInen* has a partitive reading, thus it means something like, one out of a larger set I will get. Maybe, the referential interpretation is possible too. In any case, (31) excludes the purely existential interpretation.

3.2.2 *Noun Phrases*

Weakly quantified noun phrases constitute the next class to be considered. Many linguists would not distinguish these from indefinites, and indeed there is no real semantic difference between them. If weakness is understood in the sense of Milsark (1974), indefinites from just one instance of this class. Milsark defines weak noun phrases as those which are allowed to occur within *there-be* sentences: in this respect, indefinites pattern with other weak noun phrase:

(33) There is / are { a boy / somebody / several / four men / many women / no elephants } girls in the park.

Strongly quantified expression are ungrammatical within the scope of there.

(34) *There is / are { everybody / each man / most pigs / all teachers / both sisters } in the yard.

(For the semantic differences between weak and strong quantifiers see the discussion in de Hoop (1992) Chapter 1 and the references quoted therein, also Chapter 1 of this book.)

The reason for distinguishing indefinites from weak quantifiers here is rather methodological than semantic. Firstly, indefinites are not marked as such in many languages. There are languages that (morpho-syntactically) do not distinguish between definite and indefinite DPs, in fact his is true for the majority of languages. We have also seen that there is no indefiniteness marker for German and English plurals. However, all languages use quantifying expression such as *many, few, three* and so on. The second difference is that simple indefinites have a reading which weak quantifiers lack, namely the generic one (putting de Hoop's generic collective reading aside). Also the referential reading is much harder to get for indefinites, though it is not excluded.

Let us now consider to the facts. The most prominent reading of unscrambled weakly quantified noun phrases is the existential interpretation. The full ambiguity of unscrambled weak DPs concerning the interpretation as existential or partitive, which is claimed by de Hoop for Dutch, does not hold for German:

(35) *weil sie immer vier Kühe besamen*
since they immer four cows inseminate
'since they always inseminate four cows'

According to my own and other informants' intuitions, (35) cannot have a partitive reading, unless there is a bridge accent with one accent on the object and the other one on the verb. Thus, *vier Kühe*, may be interpreted partitively only under the stress pattern in (36) or (37).

(36) *weil sie immer VIER Kühe beSAmen(, der Rest wird vom Bullen direkt besprungen)*
(... the other ones are covered by the bull directly)

(37) *weil sie immer vier KÜhe beSAmen(, die Schafe und Ziegen werden...)*[7]
(...the sheep and goats are...)

It is argued below that if a transitive verb carries a pitch accent, the direct object must have been scrambled. Thus, if a partitive reading is forced,

7. However, for (37) to sound appropriate, we need a very farfetched situative context.

scrambling must have taken place. As a consequence, in (36) the object is no longer in its base position. The fact that it does not occur before the quantificational adverb is due to scope reasons. There are also variants, in which the weak NP precedes the adverb.

(38) *weil sie VIER Kühe immer beSAmen.*

(39) *weil sie VIER Kühe IMmer besamen.*

The contrast between (38) and (39) on the one hand, and (36) on the other is that in the former *VIER Kühe* has wide scope with respect to *immer*, while in the latter this is not the case. The interpretational difference thus lies in the fact that in (38) and (39), it is always the same four cows out of a larger set that are always inseminated. (36) simply states that it is always four non-specific cows out of a larger set that are inseminated. This means that I would analyze de Hoop's cases of partitive reading in situ as string vacuous scrambling. We now move on to consider definites.

3.2.3 *Definites*

– *full definite DPs*

One of the most influential treatises on definiteness is Heim (1982), which develops the theory of File Change Semantics. A central part of this is the Novelty-Familiarity-Condition (NFC): 370) says:

(40) 'For a formula ϕ to be felicitous w.r.t. a file F it is required for every NP in ϕ that
i. if NP_i is [–definite] then $i \notin Dom(F)$;
ii. if NP_i is [+definite], then
a. $i \in Dom(F)$, and
b. if NP_i is a formula, F entails NP_i'

The NFC is a semi-formal felicity filter that imposes requirments on the occurrence of definite and indefinite NPs in discourse. Clause (i) states that an indefinite noun phrase opens a new file card, i.e. introduces into the discourse frame a new referent and therefore must not have an antecedent in the preceding discourse. Clause (ii) expresses that a definite NP must refer to an individual that has already been introduced into the discourse frame before, thus it must be known to speaker and hearer from the preceding discourse.

In a theory very similar to the theory developed in this book, Adger (1993) proposes that familiar argumental DPs have to be moved into the specifier positions of agreement heads. Adger follows Heim's NFC exactly in claiming that definites must be familiar. Adger's formulation (Adger 1993: 87) is:

(41) 'Suppose something is uttered under the reading represented by ϕ and the discourse preceding ϕ has resulted in a discourse structure F. F contains a set of DRs, *U*. Then for every DP *D* in ϕ it must be the case that
Novelty Clause: there is a DR associated with D and
Familiarity Clause: If *D* is definite or in a Spec–Head relationship with Agr, then the associated with *D* is $\subseteq$ a DR a DR in *U*.'

If Adger's proposal were correct, we would expect that definites must scramble. At first glance this seems to be born out. An unscrambled definite sounds very marked in its VP-internal position.

(42) ??*weil Otto wahrscheinlich schon die Kühe gefüttert hat*
since Otto probably already the cows fed has
'since Otto probably already fed the cows'

The scrambled version gives a perfect sentence.

(43) *weil er die Kühe wahrscheinlich schon gefüttert hat*

However, the facts are not this simple. In a discussion of word order in the German middle field, Büring (1993) discusses one reading where (42) would sound appropriate. This is the case when the object gets a narrow focus interpretation and is (heavily) stressed.[8] Under this reading, the cows are contrasted with the other animals in the farm that Otto could possibly have fed, but probably hasn't yet. When a definite gets a narrow focus reading, it is almost necessarily familiar. This is already a challenge to Adger's theory which by implication excludes familiar DPs in the base position. As a matter

8. I would deny that the object has to be *heavily* stressed. In most configurations where the object stays in a verb adjacent position it is very likely to get a pitch accent anyway (cf. Chapter 4, Section 4.4.3.2). From there then focus may project. Normally, the stress pattern is not different with narrow focus with respect to larger focus spreading. For a different, but as far as the stress pattern is concerned, identical view see Jacobs (1992). Still, it is true that very heavy stress facilitates a narrow focus reading and this is it what Büring needs.

of fact, narrowly focused definites in base position are frequently attested phenomenon in German sentences. (See also Lenerz (1977) investigations of the DAT > ACC order. Lenerz observes that if both the direct and the indirect object are definite, the order ACC > DAT is only permitted if the DAT object gets a contrastive interpretation. Transferred into my theory from Chapter 2 where the (true) dative objects are base generated higher then the accusative objects, this means that the accusative object has undergone scrambling whereas the dative still remains in its VP-internal position. There it gets the narrow focus interpretation.)

There are yet more objections that can be raised. As has been observed by Heim and many others since, there seem to exist quite a few exceptions to the NFC. She refers to Hawkins (1978), who lists eight usage types of definites, only two of which obey the NFC. One counterexample concerns the so-called *novel definites*. Consider the German sentence (44), which exemplifies Hawkins' 'immediate situation' use:

(44) *(Paß' jetzt endlich auf,) weil du sonst den FUSSgänger*
be-careful now finally PART since you otherwise the peDEStrian
umfährst.
run-over
'Watch out, 'cause otherwise you're gonna knock out the pedestrian.'

In (44) the definite object has not been scrambled, yet the sentence is still grammatical. Moreover, *der Fußgänger* does not get the narrow focus reading which is predicted by Büring's claim. In the scrambled version (45), the referent of the object must be apparent to both speaker and listener. The action of knocking him down is the only new information that the sentence conveys.

(45) *(Paß' jetzt endlich auf,) weil du den Fußgänger sonst*
be-careful now finally PART since you the pedestrian otherwise
UMfährst.
run-over

As indicated, not only does the position of the object change, but also the host of the main stress.

Jäger (1995) provides a very nice account of which definites fall under Heim's NFC and which do not. Jäger divides definite DPs into anaphoric

definites on the one hand, and (directly) referential definites on the other.[9] Anaphoric definites are DPs which refer to an entity which must have been introduced into the discourse before. Referential definites are those DPs which are novel in the discourse, but which can easily be perceived by speaker and hearer. They are called referential because they refer directly to an entity linking to a DP from the preceding discourse and getting their referential interpretation via that antecedent. Jäger assumes that the semantic contribution of the definite article is a uniqueness requirement, and that anaphoric and referential definites are distinct in the following way (Jäger 1995: 79).

(46) ...Both (anaphoric and referential definites, A.M.) carry a uniqueness condition. In the case of the anaphoric variant, this condition governs the mapping from the discourse markers to pegs, and in the case of the referential reading, it governs the interpretation of the peg in the model.

For someone who is not familiar with these notions from dynamic semantics, (46) says that anaphoric definites require that there be a single file card in the discourse frame (at the time of the utterance) to which the relevant definite DP can/must be linked. Referential definites require that there be one such entity at most (where 'at most' means in the relevant model which, in the unmarked case, is the real world). According to Jäger, this is the reason why ordinary appellativa sound odd in the unscrambled position whereas DPs referring to worldwide unique entities may sound good. Jäger's examples are:[10]

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9. As usually, the terminology is a disturbing factor. In work by Donnellan (1974 resp.: 1966), definites are divided into referential definites and attributive definites. In his work, referentiality means something else than in Jäger's work. Referential definites are noun phrases that refer to a concrete individual, whereas attributive definites have the so-called 'whoever-is-the-so-and-so' reading.

(i) Smith's murderer is insane.

In the attributive use, the speaker does/need not know who Smith's murderer is, (s)he only concludes (i) from the insanity property from the brutal manner of the killing and the fact that Smith did not deserve this execution. In the referential reading, the murderer is a person at hand about whom it is said that (s)he is insane, maybe independently of the crime. This use of the term 'referential definite' is completely different from the Heim-Jäger use.

10. Jäger's original sentences are V2 main clauses. For reasons of consistency of representation, their subordinate transforms are given here.

(47) *weil Peter das Buch wahrscheinlich gelesen hat.*
since Peter the book presumably read has
'since, presumably, Peter read the book'

(48) ???*weil Peter wahrscheinlich das Buch gelesen hat.*

(49) *weil Peter die Bibel wahrscheinlich gelesen hat.*
since Peter the Bible presumably read has

(50) *weil Peter wahrscheinlich die Bibel gelesen hat.*

In fact this contrast holds only partly. It might be true that proper names or other unique expressions like *die Sonne* (the sun), *der Papst* (the Pope), *der US Präsident* (the President of the United States) make relatively good base position occupants; however, since communication is always restricted to a certain context which is not the whole universe, ordinary definite descriptions in unscrambled position are frequently just as good as name-like expressions.

(51) context:
Warum ist deine Frau wieder nicht zum Gottesdient gekommen?
'Why has your wife repeatedly not gone to church service?'
answer a:
weil sie wahrscheinlich wieder die Fenster geputzt hat
since she presumably again the windows cleaned has
answer b:
weil sie wahrscheinlich den Hund ausgeführt hat
since she presumably the dog walked has

In (51) we see that an unscrambled definite does not only sound fine, the answers given in (51) are in fact obligatory with the definite in this position, so long as 'the windows' and 'the dog' have not been mentioned before. *Fenster* and *Hund* are clearly ordinary appellative expressions. What matters is that these expressions are not linked to any previously introduced discourse referent. As a consequence, 'the windows' and/or 'the dog' must be accessible to the hearer by his/her knowledge about the speaker's world and the hearer must know that there are specific windows belonging to the speaker and only one dog. If the speaker had two equally salient houses with windows and/or several dogs, the sentences would not be felicitous. Thus, Jäger's uniqueness requirement with respect to the model holds, but the contrast between name-like expressions on the one hand and appellativa on

the other is made very by the fact that pragmatics very often heavily restricts the domain of a model.

– *definites in idioms*

Another slightly different case concerns VP internal definites in idioms and related expressions, in which the definite object and the verb form such a close unit that they can hardly be separated. For these constructions, one could use de Hoop's terminology and speak of a 'part-of-the-predicate reading' for the strong object (although de Hoop invents this notion for other constructions). The neutral variants of such sentences have the definite in its base position.

(52) a. *weil er wahrscheinlich wieder die Pferde scheu macht*
since he probably again the horses shy makes
'to put the cat among the pigeons'
b. *weil sie ihm wahrscheinlich wieder die Leviten gelesen hat*
since she him probably again the Levites read has
'read the riot act'
c. *weil er wahrscheinlich wieder die Katze aus dem Sack gelassen hat*
since he probably again tha cat out the bag left has
'let the cat out of the bag'

When the definite object is scrambled, the idiomatic reading disappears (or is only marginally obtainable). The examples (53 a and c) are not ungrammatical, but one has the feeling that here it is being played with language and that this playing obliterates the 'normal rules' of grammar.

(53) a. *weil er die Pferde wahrscheinlich wieder scheu macht*
(??? for the idiomatic reading, ok. for the literal one)
b. ???*weil sie ihm die Leviten wahrscheinlich wieder gelesen hat*
c. *weil er die Katze wahrscheinlich wieder aus dem Sack gelassen hat*
(??? for the idiomatic reading, ok. for the literal one)

A final possibility, but one still worth mentioning, is the fact that also in German definites may be interpreted as generic expressions. For this reading to be triggered, the definite DP has to be in the scrambled position.

(54) *weil der Bauer die Ratte schon immer gejagt hat*
since the farmer the rat already always hunted has
'since the farmer has always been hunting the rat'

(54) is of course ambiguous between an 'normal' anaphoric reading and a generic one. If the generic reading is to be obtained in the base position, the noun phrase must be interpreted as being focused, i.e. the kind *rat* must be contrasted with other kinds for which the background does not hold.

(55) *weil der Bauer schon immer die Ratte gejagt hat (, und nicht die Maus)*
'since it is the rat the farmer has always been hunting (, and not the mouse)'

As stated above, definite DPs in scrambled position form the unmarked case. In this position, they signal that the entity to which they refer is known to both speaker and hearer by previous introduction into the discourse frame.

– *definite pronouns*

Definite pronouns can only occur in the base position when they bear (heavy) stress and receive a contrastive interpretation. These pronouns are called strong pronouns (see Cardinaletti and Starke 1993–94).

(56) *weil du wahrscheinlich nur IHN kennst(, SIE war noch nie hier)*
since you presumably only HIM knows SHE was never here
'since you probably know only him(, she's never been here.)'

(57) **weil du wahrscheinlich nur ihn KENNST.*

(58) *weil ich schließlich DEN(da) genommen habe(, und nicht DEN)*
since I finally THIS(here) taken have and not THAT
'since I finally took this one, and not that one.'

(59) **weil ich schließlich den(da) geNOmmen habe*

Non-stressed (weak) and phonologically reduced (clitic) pronouns always appear higher than any VP related position.

(60) *weil ich ihn wahrscheinlich gestern noch nicht hätte erkennen können.*
since I him presumably yesterday still not had recognize could
'since yesterday presumably, I could not yet have recognized him'

I will not commit myself to suggesting where non-strong pronouns move. In several respects these pronouns behave differently from full DPs (for interesting proposals see the work of Cardinaletti and Starke). What is relevant here is that there can be no pronoun in a VP-internal position, unless it is narrowly focused. In this respect, pronouns are distinct from full definite DPs, where some non-narrow-focus readings in situ can be obtained. Semantically definite pronouns obey Heim's Prominence Condition. The Prominence Condition is a stronger version of the NFC in so far as it does not leave room for adjustment mechanisms (accommodation etc.). Pronouns must have a direct linguistic antecedent, or refer to a situationally present entity. In no sense can they be novel.

3.2.4 *Strong quantificational noun phrases*

The final class of noun phrases to be considered here is the class of so-called strong quantifiers, i.e. noun phrases that contain a quantifier like *every, each, most* in English (i.e. those noun phrases that are not allowed to occur in there-be sentences). These are the classic examples of Generalized Quantifiers. Barwise and Cooper (1981) proved that quantification in natural language is always restricted quantification, i.e. a quantificational statement can only made about something which serves as the anchor for the quantification. In Heim's theory of tripartite structures (also in Heim 1982) this anchor, also called the 'live-on' property, is mapped into the restrictive clause of the quantifier. Thus, strong noun phrases seem to impose a presupposition requirement, i.e. strong determiners presuppose the existence of the set of entities the noun refers to (cf. Chapter 1, Section 1.4.3.1.2). In this respect they resemble definites, which themselves are often analyzed as strong noun phrases. Taken together with Diesing's Mapping Hypothesis, here repeated as (61), these consideration lead to the prediction that strongly quantified noun phrases always scramble.

(61) Mapping Hypothesis:
Material from the VP is mapped into the nuclear scope.
Material from the IP is mapped into the restrictive clause.

As with definite DPs, scrambling of strongly quantified noun phrases forms the unmarked case.

(62) *weil er jedes Schaf wahrscheinlich schon einmal geschoren hat*
since he every sheep presumably already once shorn has
'since presumably he alraedy shore every sheep once'

(63) ???*weil er wahrscheinlich schon einmal jedes Schaf geschoren hat*

(62) includes a classical quantificational structure, which can be formally paraphrased by:

(62′) ∀x [sheep (x)] *P* ∃t [t a time & he shore x at t] (*P* = probability operator)

As indicated by the judgment in (63), the sentence is not fully deviant if the quantifier fails to scramble. Moreover, with certain verbs, sentences with non-scrambled strongly quantified objects sound pretty acceptable. This is the case when the predicate has a non-telic interpretation.

(64) *weil er bestimmt schon mal jeden Studenten gelangweilt hat*
since he certainly already once every student bored has
'since at some time or other he has certainly bored every student'

(63) says that it is very likely that once there was a situation such that he bored every student in his lecture. Thus, the sentence is not about every student in the first place, but about a situation in which every student was concerned. This reading can be formalized (approximately) as (64′):

(64′) *P* [∃t [t = time & he bored every student at t]]

Scrambling of the object would create an interpretation parallel to (62′). The reason why (63) sounds so strange is that one can hardly imagine that someone can shear all sheep at once. However, it is not completely impossible to get this reading. As is well known, German *alle* (just like English *all*), is different from *jeder* (*every*, respectively) in many respects. One such difference is that an 'alle NP' can get a plural collective reading very easily. Under this interpretation, *alle Schafe* (all sheep) has a reading very similar to *die Schafe* (the sheep), awhereby the quantificational force of *alle* gets a 'minor weight'. I will explain below what 'minor weight' means.

(65) *weil er wahrscheinlich schon einmal alle Schafe geschoren hat*

The meaning of (65) is analogous to that of (64) — it is likely that there exists one situation where he came to shear all the sheep.

(65′) *P* [∃t [t = time & he came at t & he shore all sheep at t]]

Here, telicity is not at issue. The man came one time just to do some

shearing on each of the sheep. Under this interpretation (63) could also be considered to be (more or less) acceptable. (62) on the other hand says that there were many situations, most likely as many as sheep (∀ scopes over ∃) where he shore them such that the sheep were completly shorn as a result.

Further parallelism between definite DPs and strong noun phrases concerns their behavior under narrow focus. We have seen that narrowly focused definite DPs remain in situ. The same applies to strong quantifiers.

(66) *weil er wahrscheinlich die MEIsten Kühe kennt*
since he presumably the MOST cows knows
'since he probably knows most (of the) cows'

(67) *weil er immer JEde Kuh besamt*
since he always Every cow insaminates
'since he always insaminates every cow'

When the strong determiner is stressed, scrambling gives a degraded result.[11]

(68) ??*weil er die MEIsten Kühe wahrscheinlich kennt*

(69) ??*weil er JEde Kuh immer besamt*

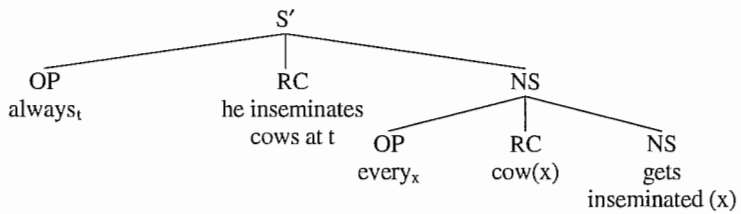
In the cases of (66) and (67), the interpretation is not as trivial as for the ordinary quantificational statement in (62). In these sentences, focusing creates a more complex structure. If we follow Partee (1991) (see also Chapter 1) the focus-background structure of a sentence can be represented in Heim's theory of tripartite structure of quantification. The operator is a focus sensitive element, the background is mapped into the restrictive clause and the focus is mapped into the nuclear scope. This leaves us with two instantiations of quantification in a sentence like (67), namely

(70)	operator	restrictive clause	nuclear scope
i.	$always_t$	when he inseminates cows at t	he inseminates every exemplar at t
ii.	$every_x$	cow (x)	gets inseminated (x)

11. The degraded grammaticality holds only when the sequence following the stress on the determiner does not contain another pitch accent. A hat contour may save the grammaticality. In this case, however, the interpretation is different, and the focus on the determiner becomes a secondary one. Apart from that, (68) and (74) do not sound completely ungrammatical. This is so because (some) German (dialects) marginally allow(s) for overt focus movement.

This double quantification does not pose a problem for Partee's theory since it allows for recursivity of quantificational structures. Thus, similarly, even a bit simpler than in her example ((14/15) from Chapter 1, Section 1.4.1 of this book) the representation is:

(71)



What this sentence shows is that the information packaging is more prominent than the universal quantification over cows. The quantification is only a subpart which is almost faded out. The sentence no longer counts (primarly) as a quantificational statement about *every sheep*. This is what I meant by 'minor weight'.

3.3 Overview

(72)

	VP external interpretation	VP internal interpretation
singular indefinite article	– referential – partitive (– generic)	– mainly ∃ – narrow focus
bare plurals	– generic	– mainly ∃
singular mass nouns	– ??/* (– generic, if at all)	– mainly ∃ (incorporation)
indefinite pronouns	– *	– mainly ∃
weak determiners	– partitive – referential (– generic collective)	– mainly ∃
definite DPs	– mainly anaphoric	– mainly referential and/or – (if not so, atelic interpretation of the sentence, see below) – narrow focus – parts of idioms – generic
definite pronouns	– always	– only narrow focus
(strong) QPs	– quantificational statement	– narrow focus – quantification secondary – (atelic interpretation of the sentence, see below)

This table summarizes the whole preceding section and discussion of the data. Only the facts on direct objects have been illustrated, but exactly the same pattern obtains with subjects and indirect objects as well.

3.4 The common property of scrambled constituents: The [+Topic] feature

We have now reached a point where it becomes possible to identify a common property of all the occurrences in one or the other column. The facts that are summarized in the table have been known for some time, and hence it does not come as a surprise that there are several proposals on the market, all of them are very similar. First, there is Diesing's Mapping Hypothesis which claims that VP external material is mapped into the restrictive clause and base material is mapped into the nuclear scope. As pointed out by de Hoop (1992), the main problem which the Mapping Hypothesis (MH) fails to account for is that under the relevant conditions, strong, i.e. quantificational noun phrases need not scramble. Another possible weakness is that the MH is primarily concerned with quantifiers, whereas it is not clear whether all noun phrases that undergo scrambling should be analyzed as such.[12] For example, it has been argued (Partee 1987) that proper names need not (always) be quantificational, and yet they frequently undergo scrambling. The MH remains silent on that issue. De Hoop's proposal is not very different from Diesing's MH. One of the advantages of de Hoop's proposal is that it recognizes that strong DPs do not necessarily undergo scrambling. 'Strong DP' is here to be understood as a term for noun phrases which occur with a quantifier like *every* or *most*, which, however, do not act as true quantifiers, but as predicate modifiers. Under this reading, de Hoop tries to account for the atelic readings which so often arise when the argument remains its base position.

A proposal which comes very close to mine is developed in Adger (1994) and in some sense also in Anagnostopoulou (1994). Adger's formulation of the Novelty-Familiarity-Condition was given in (40). Adger's proposal boils down to the claim that agreement projections act as hosts for familiar DPs. With some refinement, this idea will also form the core of my proposal. My critique of Adger was mainly based on his assumption that definite DPs are always familiar. In this respect Anagnostopoulou's analysis is superior. Anagnostopoulou shows that novel definites do not trigger

12. Despite this criticism, the view that every scrambled noun phrase should be analyzed as a quantifier will be adopted adopted in Chapter 6, when extraction facts are discussed.

(object) agreement (which is one instantiation of activating AgrPs). Thus, as we have seen, definites may be anaphoric or novel, and only anaphoric definites are familiar. Under this perspective it becomes reasonable to link familiarity rather than definites in general to AgrPs. However, all these proposals seem to suffer in one respect. They all ignore the fact that narrow focus on a DP which otherwise should scramble, or trigger clitic doubling, or something along these lines blocks this behavior. I have shown that DPs can refer to discourse old entities or can still trigger quantificational (sub) structures and yet remain in their base position because this is the position where they get the narrow focus reading. For this reason, I want to adopt a proposal by Jäger (1995). Jäger argues that a syntactic feature [+Topic] causes scrambling of DPs in German (p. 70, example (16)):

(73) In German, full DPs bearing the feature [+Topic] scramble obligatorily while DPs lacking this feature remain in situ.

However, a topic may have an embedded focus only if there is another focus within the comment. If a sentence contains only one focus feature, that focus must be placed within the VP. Thus if a constituent is supposed the only focal, contrastive interpretation in the clause, it must be placed within the VP — no matter what its quantificational status is. This explains why DPs without the[+Topic] feature do not scramble in the sense discussed above. They either remain in situ undergo other types of movement. The notion of 'topic' as it is used in this book will be explained in the following section.

3.4.1 *What is a possible topic?*

> Unfortunately, the term 'topic' has been used in the literature with a multiplicity of denotations. This has led to important misunderstandings.[13] (Vallduví 1992: 30)

Almost everyone who has worked in the field of information structure echoed this observation of Vallduví's. The term topic has several, different use; the intriguing thing is that these uses are similar and therefore difficult

13. This section is intended to exclude some of these alternative understandings. I am using the term in a sense which is not the use of the majority of linguists. However, I think it is legitimate as long as the intended meaning is laid down explicitly. This is the aim of this section.

to separate. Some authors are very concrete in defining what they mean by 'topic', others are not (see also Chapter 1, Section 1.2). There is one use of the term however, that has become standard in the syntax literature. Topics are sentence initial, thus topics occupy the first position in the clause. This is a reasonable (working) definition. However, this notion does not correspond to all what is meant here with the term *topic*. Thus, constituents that move to the preverbal position in German main clauses need not be topics in my sense, see examples (74), (75); and on the other hand scrambling which may apply to a number of constituents, may identify a constituent which is closer to the end of the sentence than to the beginning (76) as a topic.

(74) *Zucker hat er keinen genommen.*
sugar has he none taken
'As for sugar, he didn't take any.'

(75) *Langsam sollten wir die Party verlassen.*
slowly should we the party quit
'It's time to leave the party — I think.'

(76) *weil die Sekretärin ihrem Chef den Kaffee sicher bald bringt*
since the secretary her boss the coffee certainly soon brings
'since surely, the secretary will bring her boss the coffee soon'

Topics in the sense intended here must be familiar. This requirement already excludes a topic interpretation of sentence initial manner adverbials (as well as other constituents that cannot refer at all). Furthermore, topics are commented on. This idea is formally expressed in Krifka's formulas from Chapter 1, Section 1.4.2. A declarative statement consists of an assertion of something new which is being said about a topic, whereby 'something new' is a pre-theoretical description for the notion of context enrichment ($c' \neq c$). As a consequence, topics act as an anchor in the conversation for the new information to be linked the to old information. As is clear from my adoption of Krifka's theory, I do not understand focus as new information, but as a process that singles out a constituent and contrasts it with possible alternatives (i.e. the phenomenon of narrow, contrastive focus). In my theory, the new information comes within the comment. The comment thus is the range of the so-called focus projection. That means that in traditional terms, focus cannot spread over topics. Topics must be outside the domain of focus projection. I will claim that the VP is the domain of the comment, and

scrambling is necessary for topics in order to end up in a position which is outside the range of focus projection. This implies that focus may not freely spread as arbitrarily high as possible; rather the domain of new information is fixed and everything which is not new information must escape from this domain. This is a rather controversial claim, for some problems see below.

3.4.2 *Anaphoric DPs are not automatically topics*

Following Jäger (1995), I claim that [+Topic] is a syntactic feature which is assigned to constituents. This assignment is subject to certain restrictions (a topic must have an antecedent in the discourse frame). However, these restrictions still leave some freedom for the assignment. Contrary to Jäger, and to all the other proposals discussed above, I will argue that topics must be familiar. This does not hold in reverse, i.e. familiar DPs must be topics and therefore scramble. Jäger states (Jäger 1995: 71):

(77) Full definite DPs lacking the feature [+Topic] are interpreted referentially, while definites bearing this feature are interpreted anaphorically.

This statement excludes familiar definite DPs in unscrambled position. As we have already seen, narrowly focused DPs do not scramble. This is a fact also recognized by Jäger. What Jäger denies, however, is that there are VP internal definite DPs which refer to entities which already have a file card and are not narrowly focused. Such DPs, according to the rule given in (73), must introduce a create a new peg (file card). What Jäger and others overlook is the fact that there are some DPs that are not focused and do have an antecedent in the discourse, and nevertheless need not move. In these cases it depends on the speaker whether (s)he wants to use the DP as a topic or not. Consider (78):

(78) context:
Es war so romantisch: die Sonne schien, der Hund lag in seiner Hütte, die Kühe grasten friedlich auf der Weide. Peter ging wohlgelaunt ins Haus. Aber als er wieder rauskam
a. *war auf einmal der HUND verschwunden*
b. *war der Hund auf einmal verSCHWUNden*
(context:
It was so romantic: the sun was shining, the dog was lying in his hut, the cows were gently grazing. Peter went into the house in a good

mood. But when he came out again
a′. the DOG had disappeared — all of a sudden.
b′. all of a sudden the dog had disaPPEARed.)

Here I am not giving glosses. Later I will argue that what German does by scrambling plus intonation, English often does by intonation alone. The intuitions are the same. The context creates a file that in DRS box notation looks like:[14]

(79)

w x Y z
sun (x) shining (x) dog (y) lying in his hut (y) cows (Y) gently grazing (Y) Peter (z) went into the house (x)

Then, in both alternative continuations a and b, *der Hund* is understood as the individual introduced into the discourse before prior to (79). The interpretation is slightly different, although there is no difference in the truth conditions. The a/a′-examples mainly describe a new situation in which surprisingly the dog is gone. In the b/b′-examples, *der Hund/the dog* are used as topics, and the dog's disappearance is asserted. This is possible since there is an entry for the dog in the preceding DRS. The DP acts as an anchor, and then the new information follows. This new information consists in the fact that the dog no longer present. Thus, we see that under certain circumstances the speaker may choose between alternative modes of presentation (information packaging). Scrambling applies only when the DP which refers to the relevant individual is used as a topic.

14. The DRS box is of course a simplified one. A more complex and adequate one should say something about the temporal setting, and also about discourse referents for the house, and in the German version *die Weide*. (Maybe, the whole DRS should be in the scope of a 'romantic operator'.) However, what is important to me is that *der Hund/the dog* which are picked up in the a/a′ sentences already have an entry in the input box.

3.4.3 *A better account for atelicity than de Hoop's*

With this in mind, we may also explain what de Hoop (1992) calls the part-of-the-predicate reading (Section 1.4.3.2). She observes that in some languages the interpretation of objects depends on the morphological Case they bear.[15] Languages like Finnish or Greenlandic Eskimo have two different cases to mark the direct object. The rough correlation which leads de Hoop to the formulation of her Case correspondence corollary is that objects with a weak existential, indefinite interpretation get assigned the Case; strong, i.e. definite or other presuppositional objects the other. Yet, there are those curious constructions where a strong object occurs in the Case which is normally reserved for weak noun phrases. These constructions are characterized by an atelic interpretation. Thus, '... weak Case on the object seems to be a matter of either weakness of the object or of irresultativity of the predicate' (de Hoop 1992: 92). De Hoop proposes that when the strong object receives weak Case, it is not interpreted as a true argument, but a predicate modifier. In other words, the object bearing weak Case is not a quantifier with scope over the predicate, but integrates into the meaning of a complex predicate, thus it gets a part-of-the-predicate reading. How can this be captured in theory advocated here? My claim is that topics scramble whereas, non-topics do not. Following de Hoop, I claim that non-topics bear a closer relation to the verb than topics. As suggested above, non-topics stay in the base position where they are interpreted as a part of the comment, thus they form an integral part of the new information. For describing situations where some action is being performed to an argument that already has a discourse referent, which however must be integrated in the action, scrambling leads to oddness.

(80) context:
Peter bekam zu seinem Geburtstag einen Fußball, einen Tennisschläger, eine Puppe und viele Süßigkeiten geschenkt. Eigentlich wollten ihn seine Eltern zum Sport animieren, waren dann aber enttäuscht,
a. *weil er den ganzen Abend die Puppe rumgezerrt hat*
b.??*weil er die Puppe den ganzen Abend rumgezerrt hat*

15. This fact and its formal implementation will be discussed at length in the following chapter of the given book. The examples de Hoop discusses are to be found there as well.

(context:
At his birthday Peter got a soccer ball, a tennis racket, a doll and many sweets. Actually his parents wanted to stimulate him to do some sport, but then they were disappointed because he was busy with the doll all evening
a′. because he the whole evening the doll deal-with
b′. ???scrambled version)

Again, the context before the crucial sentence is construed in a way that the doll has an antecedent in the discourse.[16] Nevertheless, not only is scrambling un-necessary, it even leads to oddness. The information is such that Peter's playing with the doll causes his parents' anger, it should not be understood as a statement about Peter and the doll. As de Hoop's correlation predicts, the sentence with the definite in situ gets an atelic interpretation. In the concrete example (80), this interpretation might also be forced by the adverbial 'den ganzen Abend' (the whole evening). However, the atelicity has also been observed in other constructions involving no durative adverbials. So, what should be the reason for de Hoop's correlation? A nice proposal is to be found in Jäger (1993). Since Jäger makes different assumptions about the semantics of topics which are distinct from the proposal here in a crucial way, I have to carry out some changes:

Unlike the English Present Perfect, the German '*Perfekt*' is ambiguous between a perfective or imperfective interpretation. This ambiguity, however, often dissolves under scrambling or special stress pattern, witness the contrast between (81) and (82).

(81) *weil ich oft die Bibel gelesen habe*
since I often the Bible read have
'since I was often reading (in) the Bible' (imperfective)

(82) *weil ich die Bibel oft gelesen habe*
since I the Bible often read have
'since I read the Bible through many times' (perfective)

16. (85) is one more example where Jäger's claim can shown to be too strong.

The argumentation runs as follows. A sentence like (83) with *die Bibel* in base position is ambiguous.[17]

(83) *weil ich doch die BIbel gelesen habe*
since I PART the BIble read have

(83) could be a novice's answer at the abbot's question 'Why didn't you go to church service yesterday?'. In this case, the unmarked atelic reading arises. The novice might communicate something like: well, every day we have to do some religious practices, but not all of them, and instead of going to church service I decided to spend the time reading (in) the Bible. The same sentence (83) could however also be an answer to an abbot's question to a young man who wants to join the order 'Why do you think we should include you in our order?'. In this situation the sentence is interpreted telically. The young man seeks to portray himself as someone who has read, hence knows the Bible. Thus, the (a)telicity of the sentence is a result of the context. The questions determines what the actual content of the answer sentence can be. In the first interpretation, the reference time counts as a topic. The question sets the temporal context to a specific reference time, namely yesterday. If we assume with Kratzer (1989) that READ is three place predicate (agent, theme, Davidsonian argument), we get a representation likee (84).

(84) $\exists x$ [I= (x) = agent & = topic
$\exists t$ [yesterday (t) = Davidsonian argument & = topic
read (x, the Bible at t)]] = comment

Under this representation, the time counts as a topic. Our common sense ontology treats time as a linear, two-dimensional, infinite continuum. The setting of a concrete reference point (or period) then provides alternative times, namely all time points outside the reference time on the time axis, and for all those time points it is not clear (even very unlikely) whether the comment holds. As a consequence, we must infer:

(85) (84) & $\exists$ t′ [t′ ≠ yesterday] & ~ [read (I, the Bible at t′)]

17. I will ignore here the additional interpretations that arise if narrow focusing of the object is intended. Here, only the telic and the atelic interpretation are at issue.

As a consequence we get time points when the comment does hold (84) and we get time points when the comment does not hold (second conjunct of (85)). This triggers the atelic reading. In the context of the second question no reference time is given. Thus, the answer cannot use any temporal information as topic. The Davidsonian argument has to be introduced within the comment. In that case it is not possible to infer the existence of time points where the comment does not hold. The sentence must be interpreted in its most informative reading (Gricean maxim of quantity) and therefore gets a telic interpretation. This reading is more marked, however.

A sentence must be informative. In the normal case, the new information comes within the comment. Topics are old information. Hence, given a restricted set of constituents, the more topics there are, the more difficult is it for the comment to assert a reasonable relation between them. When there is only one topic — say the subject — anything can be predicated of it. When there is a topic subject and a topic object, only verbs that are at least two-place predicates can be mapped into the comment. With only one topic subject no restrictions on the subcategorization are imposed. Apart from this requirement on the valency of the verb, selectional restrictions will also play an important role in narrowing down the possible assertions.

(86) *weil ich die Bibel doch geLEsen habe*
since I the Bible PART read have

With *die Bibel* as topic, two possibilities arise. The referential time might also be a topic, in which case only the reading relation would convey the new information. This, however, is a very marked possibility since it is very difficult to accommodate a context where there are other predicates different from *read* which could be equally well attributed to the triple ⟨I, the Bible, referential time⟩. Such a situation could perhaps arise in the context of a question like 'Hast du die Bibel letztes Jahr geLEsen oder auswendig gelernt?' (Did you READ the Bible last year, or did you learn it by heart?, thus narrow focus on the predicate) Under this reading an atelic interpretation could emerge. However, the more natural interpretation is the one where the referential time gets included in the assertion of the comment. Only *ich* and *die Bibel* are topics, and the state of 'having read at t' is at issue. Since reading is the unmarked relation between a person and the Bible, the actual new information is the reference time. Under this interpretation, the reference time cannot be a topic, and hence it cannot induce alternative times under

which the comment does not hold for the topics. Under the maxim of quantity, this again delivers the telic reading.

The attentive reader will have noticed that under the theory developed here, it is not necessary that the argument which triggers the imperfective reading be the (weak) object. What is needed is that as much material in contained within the VP as possible, so that it is not left to the reference time to ensure satisfaction of the informativity requirement. In the unmarked case, the argument which is more flexible with respect to the topic–non-topic status is the object. However, it is possible to construct scenarios where the object is discourse-linked, so that it is the position of the subject that determines the (a)telicity of the sentence.

(87) context: *in einer Bibliothek:*
A: *Warum war das Buch vorige Woche wieder nicht zu haben?*
B: *weil es da schon die LinguIStikstudenten gelesen haben*
since it there already the students-of-linguIStics read have
(context: in a library:
A: Why was the book last week again not available?
B: since then the students of linguistic were already reading it)

Again, the sentence is ambiguous between the reading we are interested in and the alternative reading where *die Linguistikstudenten* is narrowly focused. The atelic reading can be paraphrased by: as for the book, last week: it was in the process of being read by the students of linguistics then. Thus one can see that the status of the arguments does not matter for the aspectual interpretation of a sentence. In a version where both the subject and the object are scrambled, the telic reading is much more likely (compare (82)). Thus, we see that telicity is only an epiphenomenon. The trigger for it is often the position (or the Case) of the object, but this need not be so. Example (87) illustrates once more that no direct link can be established between (an) Aspect (phrase) and object agreement/interpretation along the lines of Borer (1994) and others (see also Chapter 4, Section 4.3.2).

3.5 Provisional summary

To summarize: a sentence can be divided into topic(s) and comment (see also below, Chapter 4). The comment usually contains the new information.

In case of multiple topics, it is likely that the most informative part is not the (pure) predicate, but the temporal setting. If the temporal setting is fixed within the comment, the reference time cannot be a topic. When the reference time is not a temporally marked period/time point, no alternative situation can be made salient where the comment possibly does not hold. As a consequence, the sentence gets a telic interpretation. On the other hand, when the object (or some other argument) stays inside the VP, there is less need for the Davidsonian argument to be introduced as new information. The reference time can easily act as a topic, and as such, it triggers atelicty in the way described above. Thus, de Hoop's observation that strong noun phrases inside the VP (bearing weak Case) trigger an imperfective reading of the sentence can be given a deeper explanation, although the event semantics combined with the impact of information structure tells us that the correlation holds only preferably, i.e. one can force other readings by farfetched contexts. We have also seen that there is no (important) difference between anaphoric and referential definites. The unmarked atelic interpretation arises independently as long as the definite remains within the VP.

Almost the whole preceding sections of this chapter have been concerned with direct objects. I have shown that the two alternative positions of object DPs are linked to specific readings. The VP external position marks the object as a topic, the VP internal position marks it as a part of the comment. At several points I have also mentioned that this dichotomy is the same for the other arguments too (subjects, Diesing (1992 a, b) and indirect objects). Taking all this to be correct, we have an explanation for many of the cases given in (1). For example, we can explain (1c):

(1) c. *daß die Frau den Hund gestern der Nachbarin gegeben hat*

Here, *die Frau* and *den Hund* act as topics, *gestern* marks the VP boundary. The argument *der Nachbarin* does not get a topic interpretation, hence it gets a narrow focus or referential interpretation (in the sense described above); or alternatively the imperfectivity of the giving-to-the-neighbor-action is stressed. We can also account for (2b).

(2) b. **weil jemanden niemals der Chefdirigent lobt*

From table (80) we know that indefinite pronouns like *jemand* cannot scramble. However, if the general base order of arguments is subject > (indirect) object, and if furthermore adjuncts or Davidsonian arguments are

base generated higher than theme arguments, then the accusative object must have scrambled in (2b), hence the ungrammaticality. The proposal also accounts nicely for the following three examples (taken from Büring 1994 and Müller 1993)

(88) *weil dem Patienten niemand helfen kann*
since the patient noone help can
'since nobody is able to help the patient'

(89) *weil den Hund ein Auto überfahren hat*
since the dog a car knocked-down has
'since the dog got knocked down by a car'

(90) *daß Ellen die Gerüchte über Ina keiner geglaubt hat*
that Ellen-DAT the rumors about Ina noone-NOM believed has
'that noone believed Ellen's rumors about Ina'

In (88) we have an indefinite subject pronoun which cannot scramble. The internal argument, however, as a definite, is very likely to act as a topic. Furthermore, the epistemic modal *kann* combines with the negative subject renders the comment a sort of individual level predicate. Individual level predicates need a strong argument, in this case the internal argument of *helfen*. Thus, the sentence comes out as a very natural statement. (89) exemplifies a similar situation. Where there are two arguments, one of which is definite, and the other indefinite, it is more likely that the former will be interpreted as anaphoric, i.e. as a topic, and the latter as belonging to the new information, regardless of the relevant thematic role. Such sentences are realatively unmarked in German; as the translation suggests, English prefers a passivization strategy. (90) is given a classical scrambling analysis in Müller (1993). Müller assumes that the subject must occupy SpecIP, i.e. it surfaces outside the VP. Then scrambling applies to internal arguments by adjoining them to IP; in the case of (88) we have iterative adjunction to IP. Within the account developed here, the two definite objects raise to their relevant (see below) VP external position, whereas the indefinite pronoun remains in its base position.

3.6 Agreement phrases as topic hosts

Let us turn to the question of what happens when a sentence contains more than one topic, in particular, how multiple topics are linearly organized. Here I will be concerned with full DPs only.

As a matter of fact, in the unmarked case the order of the arguments outside the VP parallels the VP internal order (again Lenerz 1977), i.e. subject > indirect object > direct object.

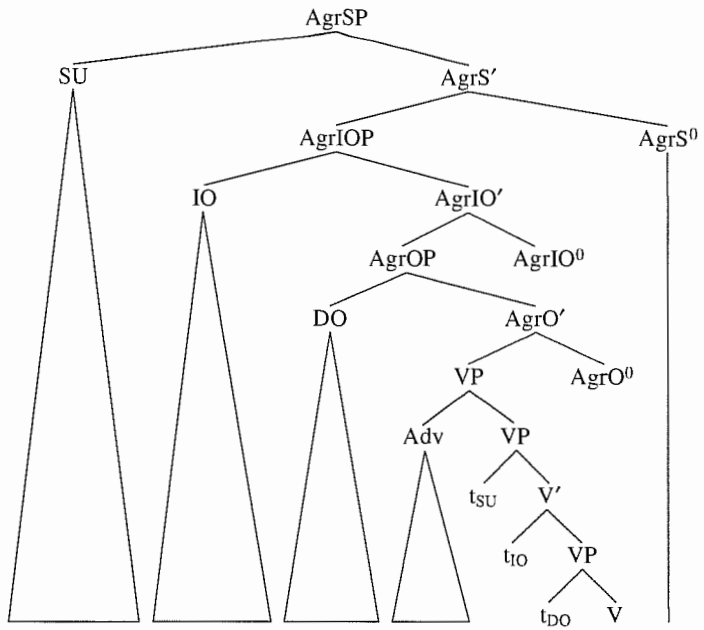
(91) *daß die Firma Müller* *meinem Onkel* *diese*
that the firm Müller-NOM my uncle-DAT this
Möbel *erst gestern* *zugestellt hat*[18]
furniture-ACC only yesterday delivered has
'that Müller delivered this furniture to my uncle only yesterday'

As I have shown in (1), this is not the only order possible, and later I will try to give an account for the other orderings. However, (91) gives the neutral serialization in German; and as a matter of fact this order is the only one that is permitted, with very few exceptions, in languages like Dutch and/or West Flemish. For this reason, it has been proposed that the VP internal arguments raise to specifier positions of the functional heads AgrS, AgrIO, AgrO (Moltmann 1991; Schmidt 1994a, b; Meinunger 1995b).[19] These functional heads are ordered in such a way that AgrS is higher than AgrIO, and AgrIO is higher than AgrO. I will be conservative and assume that the Infl node, which in the new terminology covers AgrS and possibly T, is head final. For reasons of harmony this suggests that all the functional verbal projections except C should be head final too. The tree for (91) then looks as in (92):

18. Example taken from Haeberli (1994: 26).

19. The sudden introduction of agreement projections might seem a bit too abrupt here. In the following chapter(s) I will discuss the issue of agreement projections and show that the assumption that agreement morphemes (overt or abstract) play an important role in the syntax of information packaging is a reasonable hypothesis.

(92)



3.7 Summary

In this chapter I have presented scrambling as a rule which reorders argument and adjunct constituents in the German 'middle field'. I then gave a survey of scrambling theories. I have shown that every possible analysis which is available in the grammatical framework has also actually been proposed. The main section contains an extensive discussion of the interpretative differences between scrambled constituents and their base position counterparts. Table (72) contains an reasonably exhaustive picture over their readings.

Based on these facts, I then proposed that it is a semantic feature that all scrambled phrases have in common: [+ Topic]. For a phrase to act as a topic, it must be discourse-linked, i.e. contextually salient. I have furthermore

shown that discourse-linking is nevertheless insufficient. For a phrase to act as a topic the speaker, must intend to use it as such. Even if a constituent has a file card, it need not necessarily scramble. If it gets interpretationally and intonationally integrated into the predicate, it may well remain insitu. One such case is provided by atelic sentences. In Section 3.4.3 I focused on de Hoop's observation that strong, presuppositional object DPs which are not scrambled trigger an atelic interpretation of the sentence. I show that the position of the object is apparent and does not give rise to the interpretational differences itself. Thus, de Hoop's generalization turns out to be only partially true.

CHAPTER 4

Agr nodes as topic hosts

4.1 The proposal

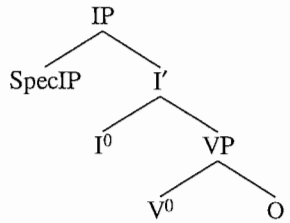
The purpose of this chapter is to further develop the idea elaborated in the preceding chapter and to demonstrate where topic arguments may be positioned in the structure of a sentence. The proposal will not come as a surprise since it has been alluded at several occasions before. The claim is that the position where an argument DP which carries a [+Topic] feature moves is the specifier position of an agreement projection (SpecAgr). The proposal is based on the fact that topical arguments trigger very different phenomena in the world's languages. In Chapter 4 I will discuss a number of these grammatical phenomena and show that they can all be related to the possible impacts of agreement projections. One of the main concerns which does not seem to be obvious at first glance is the relationship between verbal agreement and Case. Since, however, this correlation is crucial for the theory developed here, I will give a short overview over the work which has lead to the conclusion that agreement and Case assignment or checking might be considered as two sides of the same phenomenon.

4.2 On the relationship between case and verbal agreement

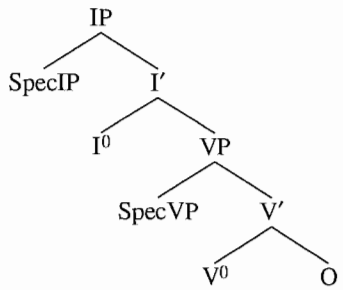
In the beginning of the mid-eighties, it has been proposed by several authors (Fukui and Speas 1986; Koopman and Sportiche 1991; Sportiche 1990) that the subject should be base generated VP internally and then raise from this position which presumably is SpecVP to the specifier position of some INFL like projection. The most convincing theoretic argument for such an analysis is theta-theory, insofar as under the VP internal subject hypothesis (VPISH)

the subject starts in a position that is within the projection of the verb from which it gets a theta-role. The most compelling empirical argument comes from languages that seem to provide more than one, usually two positions the subject may occupy. These two positions then are (i) a derived position, something like the traditional SpecIP on the one hand, and (ii) the base position SpecVP on the other. Thus, the version in (1) is replaced by the more flexible one in (2):

(1)



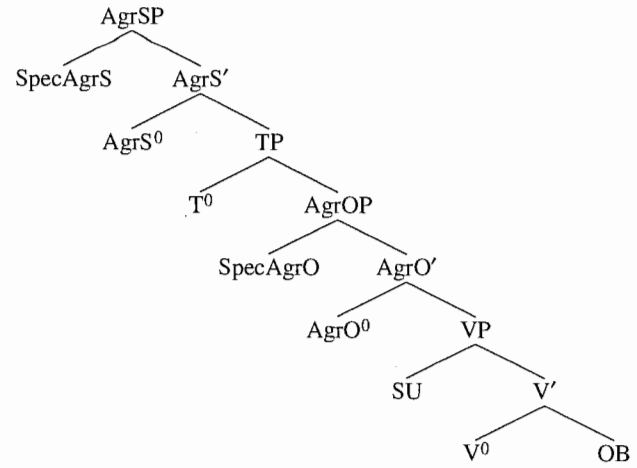
(2)



This proposal also had the desirable consequence of assigning unitary structures to both lexical and functional projections (despite the favored x-bar asymmetry proposed in Fukui and Speas 1986). Before the VPISH, there was no agreement whether VP should have a specifier position at all, nor were there reasonable proposals for what could be the specifier of VP.

The next standard assumption that is relevant for our purposes is the unitary treatment of Case assignment. To my knowledge, one of the first to propose that Case assignment to the object works parallel to Case assignment to the subject was Sportiche (1990) with his Strong Correlation Hypothesis (SCH). It says that structural Case is generally assigned in a Spec–Head configuration of an argument NP with an agreement morpheme. Whereas formerly, nominative Case used to be assigned to the subject that was base generated under SpecInfl (or had raised there in raising constructions) in a Spec–Head configuration with the inflectional element in $INFL^0$, and accusative used to be assigned by the verb under c-command, structural Case is now uniformly assigned (or checked) in a Spec–Head configuration between an Agr^0 head and an NP. Combining everything said so far, we get a tree that could be taken from Chomsky's Minimalist paper (1992):

(3)



Within this book I will defend the assumption that (one manifestation of structural) Case and verbal agreement are basically two sides of the same phenomenon. It shall be argued that Case assignment or checking on the one hand and triggering of agreement on the verb on the other are mediated through the movement of an argument to the specifier position of the relevant agreement head. This, as it stands, is of course not a revolutionary discovery. What is less clear are the questions (i) whether every Case checking has to be done in a Spec–Head relationship and (ii) how much grammatical tense (and aspect) is involved in Case assignment. My answers will be that only a certain semantically defined class of argument NPs undergo movement to the specifier position of an agreement projection, namely arguments carrying the feature [+Topic], while others do not. Thus I claim that not every noun phrase has to move to some SpecAgr position to get its Case checked. There is at least one other way for NPs to circumvent the case filter, i.e. to get case without moving to any position. Here I agree with de Hoop (1992) who claims that DPs in situ do not remain caseless. This view is not compatible with the Case checking theory of the Minimalist framework. I do not claim that DPs enter the computational system fully inflected, i.e. bearing a Case feature which must be checked off. My claim is that arguments bear the Case which is assigned or checked in the relevant position, that means VP external arguments get strong Case in SpecAgr; VP internal arguments appear in weak Case. In most cases there is no morphological

difference between VP external and VP internal arguments bearing the same theta-role; there are cases, however, where this can be observed (Chapter 5). The second question raised above is about the role of tense with respect to Case. Contrary to the claim in the minimalist paper, I will defend the assumption that there is no (direct) relationship between tense and nominative Case, nor between Asp and accusative Case.

4.3 The there-are-no-agreement-projections hypothesis

Within one sub-framework of the Principle & Parameter Approach or even within some trends of the Minimalist Program, there is the idea that functional categories must have semantic content. Researchers that defend such a viewpoint, including myself, allow only for functional categories that bring some semantic contribution with them. A more radical standpoint even is to require that functional categories within the extended projection of the lexical head they are associated with contribute some semantic specification or modification only to that head. This means, for example, that the tense node, licensed by a T^0 element, is regarded as a functional category in the extended projection of a verb since it specifies an aspect of the temporal location of the state or the event denoted by the verb (Stowell 1993). However, since agreement between an argument and a morpheme on the verb does not seem to semantically affect the interpretation of the verb, agreement is not considered to project its own functional layer. Since Chomsky associates nominative assignment with tense, several researchers propose that this category is the only one that is involved in case checking for the subject. Laka (1994) (Abstract for the Utrecht Case workshop, lecture notes GISSL) and Borer (1994), for instance, claim that tense is the case assigning head responsible for nominative case (or in Laka's case even more generally for the uppermost structural case which is Ergative in Ergative-Absolutive languages) and consequently even call it Tense Case. The head which is responsible for case assignment to the object in both' analyses is aspect. Aspect, of course, conveys semantically important information. In their analyses, the fact that agreement shows up is nothing but a phenomenon automatically triggered whenever some maximal projection (argument NPs) and a verbal head enter a Spec–Head relation. There seems to be even more evidence for the fact subject is related to tense and object to aspect.

4.3.1 *Tense and nominative*

Kratzer (1989) shows that the tense information on the verb does not only locate the denotation of a sentence with respect to time, but that it may also inform about the (temporal) existence of a subject in the sentence if there is no Davidsonian argument to be discharged. So Kratzer claims that the sentence

(4) Harry was French

is ambiguous. This sentence can be felicitously uttered in order to describe the fact that some Harry used to have the French citizenship before he gave it up to become American, which he is at the time the sentence is being uttered. Under such an interpretation 'being French' is a stage level predicate, i.e. it just describes a temporary property of its bearer. Under the other interpretation ('being French' as individual level predicate) where there is no Davidsonian argument the predication of past, i.e. the information that something is located in the past, within Kratzer's theory, goes onto the next available theta role which is born by Harry. This gives a representation:

(5) [before now ($Harry_3$)] & [French (he_3)]

Here the temporal information does not go to the Davidsonian argument locating the proposition in the past, but rather to the individual denoted by the subject. The sentence says that Harry is to be located in the past, consequently he does not live anymore when the sentence is uttered (under the relevant meaning). A similar connection between tense and subject interpretation can be observed with four other sentences Kratzer gives. Let's imagine that aunt Theresa is almost a perfect clone of grandmother Julie. Grandmother Julie died five years ago. Aunt Theresa, however, still enjoys life. Then only the (b) and (c) sentences are true, (a) and (d) are not.

(6) a. Aunt Theresa resembled grandmother Julie.
b. Grandmother Julie resembled aunt Theresa.
c. Aunt Theresa resembles grandmother Julie.
d. Grandmother Julie resembles aunt Theresa.

We see clearly that past tense goes together with a former entity with respect to this world and that present tense is appropriate only if the subject is a fellow in this world now. This shows that there is some connection between tense and the subject indeed. The object, on the other hand does not seem to play any role here.

Another very hard-core proponent for the inseparability of tense and agreement is di Domenico (1994) with her Denotation Principle. She claims that there is one and only one verbal element per sentence which is specified for tense, and that there is also one and only one verbal element which carries specification for Person. For her, person is the crucial feature in order to make a phrase (clausal or nominal) referential. She does not argue for a collapsing of AgrS (which for her is the host of the person feature) with tense, her analysis however points in the direction of unifying tense and person (= agreement).

4.3.2 *Aspect and accusative*

Now, let's see whether there is also some semantically justifiable relationship between objects and aspect. As a matter of fact, the relationship is very close. In the PLUG(+) framework, Verkuyl (1992) proposes a compositional semantics for the computation of aspectuality. Here the nature of the object plays the key role for whether a sentence gets a telic (bound, perfective) or atelic (unbound, imperfective) interpretation. Verkuyl assigns to NPs a specification of quantity. NPs are distinguished according to whether they are determined or not, i.e. whether they refer to a concrete, definite set (of things) or not. The former objects are classified as [+SQA] (+specified quantity of A) and are represented by NPs (or better DPs) like *the house, four glasses of wine, a nice girl*; the latter as [−SQA] (-specified quantity of A). Those are represented by mass nouns or bare plurals (in English), i.e. by NPs like *sandwiches, milk, poison* and in contrary to the [+SQA] do not give rise to accomplishment, i.e. telic sentences. For illustration: telic predications are not very felicitous with adverbials expressing duration, but they are fine with delimiting adverbials and particles; atelic predications, on the other hand, behave the opposite way. They are fine with durational adverbials and become ungrammatical if combined with perfective adverbials and particles.

(7) They destroyed the house $^{??}$for one hour./^{ok}in one hour.

(8) I drank the wine up.

(9) The destroyed houses ^{ok}for many hours./*in many hours.

(10) *I drank wine up.

Thus, object interpretation affects the aspectual information of the sentence.

This correlation seems to be confirmed by cross-linguistic data. I do not want to go into detail about object interpretation, aspect, Case and agreement here, since this will be the topic of a whole chapter of this book (Chapter 5). I only want to briefly give some data here that is intended to show the relationship. In Finnish, the direct object may bear either partitive or accusative Case. If the Case is partitive, the object gets either an existential interpretation, or if it gets a strong reading, the sentence must be interpreted as an imperfective statement.

(11) *Anne rakensi taloa* (Finnish)
Anne built house-PART
'Anne built a house.' 'Anne was building a/the house.'

If the Case is accusative, the sentence gets a telic reading and the interpretation for the object is necessarily specific (=strong).

(12) *Anne rakensi talon*
Anne built house-PART
'Anne built/(has built) the/a (specific) house.'

Borer (1994) claims that accusative (strong Case) is assigned by the Asp head responsible for telicity.

(13) Borer's Generalization:
a. ASP_E is realized (telic) iff an object bears strong Case (ACC)
b. If an object bears strong Case (= Acc) then it is interpreted as having a strong reading.

This generalization contains a two-way conditional. It says that if the object gets strong Case, a telic interpretation is introduced; it also says that if a sentence with a transitive verb is a telic statement, the object necessarily gets a strong interpretation.

Similar observations have been made by Ramchand (1993). She shows that there are two object positions in Scottish Gaelic. In periphrastic tenses, one can see that the one case (accusative[1]) is associated with the pre (main-)

1. Since there is no morphological difference between nominative and accusative in Scottish Gaelic, both Cases are subsumed under the same name (direct Case) and as such they are opposed to Genitive and Dative. What matters for our purposes is the direct–genitive difference. I say 'accusative' instead of direct Case since it is used in grammars of other languages.

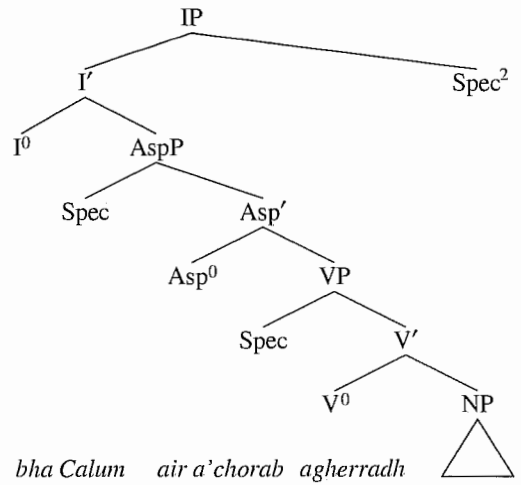
verbal position, whereas the other one (genitive) is linked to the post verbal position. Furthermore, there is a difference in the aspectual interpretation of the sentences. Preverbal object position and accusative Case force a telic reading, postverbal placement of the object which goes together with genitive Case trigger an atelic reading.

(14) *Bha Calum air a'chorab a gherradh.*
be-PAST Calum PERF PART the tree-DIR OBJ-AGR cut
'Calum had cut the tree.'

(15) *Bha Calum a'gearradh chraobhan.*
be-PAST Calum IMP PART cut trees-GEN
'Calum was cutting trees.'

Ramchand therefore proposes that also in Scottish Gaelic Asp is involved in Case assignment to the object, but as a governor (there is no Spec–Head relation involved). She captures the positional and Case difference by proposing that the object occupies either the complement or the specifier position of the verb phrase. In its base position, the object gets Case from the verb (16a), in the derived one Asp assigns Case under government (16b):

(16)



a. *bha Calum air a'chorab agherradh*

b. *bha Calum ag gerradh chraobhan*

4.3.3 *For the independence of Agr heads*

If tense were the relevant head for Case assignment we would expect that there exist no nominative subjects in tenseless sentences. However there is counterevidence. In European Portuguese, there exists a verbal form which is called personal or inflected infinitive (Raposo 1987). Its use is similar to ordinary infinitive verb forms in most other languages, i.e. these constructions never occur as matrix sentences, nor do they allow for a (finite) complementizer. Morphologically, the inflected infinitive is marked for agreement with the subject, but not (!) for tense distinctions. The form is achieved by adding to the verb stem + the infinitive morpheme *r* and the relevant agreement suffix.

2. The tree is from Ramchand (1993: 104/105).

(17)

	Singular	Plural
1	*eu comer+_*	*nós comer+mos*
2	*tu comer+es*	*vós comer+des*
3	*ele comer+_*	*eles comer+em*

'I/you SG/he/we/you PL/they to eat+Agr'

The occurrence of sentences with an inflected infinitive form is not free. The restrictions, however, do not play any role in the line of reasoning. Now, what is crucial here is that these inflected forms (must[3]) have a nominative subject.

(18) *Serà difícil [eles aprovarem a proposta].*
it-will-be difficult they to-approve-AGR the proposal
'For them to approve the proposal will be difficult.'

That shows that the tenseless sentence remains capable of licensing nominative Case. The most reasonable thing to assume is that the Case assigner (or checker) is agreement. Case is licensed without tense. The same argumentation with somewhat less convincing force is Case licensing in some non-indicative constructions. In (contemporary, spoken) French, for example, complement sentences of volitional predicates have to occur in subjunctive mood. There again, one cannot see any tense information, neither semantically nor morphologically. The interpretation of the subordinate sentence depends on the matrix tense (see also von Stechow 1995). Nevertheless, the subjunctive forms are inflected for number and person, i.e. show up with agreement morphology and consequently license nominative Case. Since French is not a pro-drop language, a phonetically realized subject is obligatory.

(19) *J'insiste que vous veniez.*
'I insiste that you come.' (= present tense)

(20) *J'ai insisté que vous veniez.*
'I insisted that you (would) come.' (= past tense)

(21) *J'insisterai/Je vais insister que vous veniez.*
'I will insist that you come.' (= future tense)

3. The obligatoriness is of course difficult to show since European Portuguese is a pro-drop language. Thus the sentence need not contain a phonologically spelled out subject. However, the fact that nominative subjests are possible at all is enough to show that tense does not play the role it is supposed to.

A theory that links Case assignment to tense cannot explain the licensing of nominative without stipulation.

Apart from some facts which show that Kratzer's observation discussed in 4.3.1. about the temporal setting with respect to the subject is not limited to VP external subjects exclusively. In sentences of experiencer and related predicates the verb must show up in past tense as well if the *object* does not exist anymore. In other words, exactly as in (5) and (6), an entity which existed in our world, but is not alive anymore, requires that the verb carry past tense morphology. If Harry is dead, only example (22) is felicitous, no matter that I still exist and have some psychological attitude towards him (compare to (23)):

(22) I knew Harry.
I loved Harry.

(23) I know Harry.
I love Harry.

Thus, there is no event-semantically necessary link between tense and subject or nominative Case.

Now, let us pass over to objects and aspect. Borer's generalization above implicates that objects with weak interpretation trigger atelic readings. For her theory to work it is necessary that assignment of strong object Case (= accusative) and perfective interpretation be two inseparable phenomena with one and the same source, namely, the involvement of the projection of a perfective aspectual head. Her statement disallows for telic sentences where the object gets a weak interpretation. This, however, does not hold. Although it seems to be the case that objects that get assigned strong Case (may) delimit an action, it is not necessarily the case that weak objects make a telic reading impossible. If AgrO and Asp_E are the same head and are as such responsible for strong Case assignment exclusively, we should not expect both weak objects and perfective aspect to occur together. Weak objects should never show up in telic sentences. This is not the case. Russian and Modern Greek are languages that mark aspect morphologically. In both languages, perfective aspect is completely fine with weak objects. Even mass nouns that according to Borer incorporate into the verb and consequently cannot move to SpecAspE are possible in telic sentences, i.e. even [–SQA] as 'weakest' objects do not exclude perfective statements:

(24) *On vypil vodki i op'yanyal.* (Russian)
he PERF-drink vodka-PART and got-drunk
'He drank vodka and got drunk.'

(25) *Ona prinesla khleba i kolbasy.*
she PERF-brought bread-PART and sausage-PART
'She brought bread and sausages.'

(26) *Ekop-s-e psomi.* (Greek)
cut-PERF-3SG bread
'He/she cut bread.'

Each of these sentences describes an event in the past which has come to a result, i.e. without any doubt they are telic statements. Nevertheless, the objects are not assigned strong Case. The Russian examples illustrate that very clearly: partitive Case and perfective aspect are not incompatible. The question is: Why should that be so? The sentences describe a situation where some action which was done to some unspecified quantity has come to an end-point. This state of affairs should be expressible and as the examples show.

I have shown in Chapter 3, Section 3.4.3 that the correlation strong object : telic interpretation only captures a tendency. I have argued that it is the location of the Davidsonian argument which triggers the perfective/imperfective distinction. It is shown that there is no direct link between (a)telicity and object interpretation at all.

4.4 Agr projections as topic hosts

4.4.1 *The semantics of Agr*

At the beginning of this chapter I mentioned the viewpoint according to which functional categories should bear semantic content in order to be licensed. This seems to be a reasonable claim. However, the attempt to eliminate agreement projections because they do not convey any substantial meaning is not the right way (especially Chomsky 1995: Chapter 4, Section 10.1 'The Status of AGR'). In the contrary, I am convinced that those researchers who are looking for a semantics of Agr are on the right track. To this group belong Runner (1993), in a certain sense Anagnostopoulou (1994), and as a very militant promoter Adger (1993, 1994). My proposal is very close to Adger's. I argue that agreement projections are the hosts of topic arguments, and as I have shown the [+Topic] feature has got an indisputable semantic base. In a certain sense this feature is similar to the features

[+Focus] or [+wh], which also unquestionably convey semantic information. A crucial difference, however, is the A-status. In this respect the movement of an argument out of its base position to SpecAgr is more similar to passivization or other raising operations. Recall that the functional trigger of the latter operations is often information packaging. The system internal trigger is the lack of Case. Here the morpho-syntactic similarities between passivization and topic movement become very obvious.

On the other hand, we have seen that movement out of the VP makes the arguments act as generalized quantifiers (or gives the input for the syntax of quantification) and renders the sentence a quantificational statement. So Hornstein (1994), for example, equates movement from the base position to SpecAgr with Quantifier Raising (QR) in the sense of May (1985). I would not like to go that far because QR — as far as it exists at all — is likely to be $\bar{A}$-movement. However, topic movement definitely feeds the creation of quantificational structures. The view adopted here is that topic movement puts the DP material into SpecAgr positions which then gets mapped into the restrictor. This part is of type A. The link to the quantifier is one step more, and this last step involves an $\bar{A}$-position. Thus, one can see that movement to an agreement projection is anything but semantically vacuous. The last paragraph also brings some evidence for why scrambling shows properties of both A- and $\bar{A}$-movement.

4.4.2 *A parallel case: Catalan*

4.4.2.1 *The status of clitic-doubling and the structure of the Catalan VP*

In the first part of this chapter, I alluded to my belief that agreement projections are the host for topical DPs. It emerges from the fact that many grammatical phenomena from various languages that are triggered by topical arguments can be related to the involvement of such projections in a fruitful way. In Chapter 5 I will present a number of these phenomena and give some analysis. In this section I will consider one language in more detail which behaves very much like German, but uses a completely different strategy to characterize topics. The language is Catalan, the device is clitic-doubling. Clitic-doubling has been an intriguing phenomenon for a long time, the problem being that a sentence seems to be grammatical although there are two arguments within a clause bearing the same theta-role.

(27) *La*$_i$ *oían* [*a la niña*]$_i$ (Spanish)
her-ACC listened-to-3PL a the girl-ACC
'They listened to the girl.'

Many attempts have been made to solve the problem. One of the most influential ones was to declare the full DP an adjoined, sentence external element. The doubled DP was said to occupy some dislocated position (for a detailed discussion on clitic-doubling see Anagnostopoulou 1994).
Thus clitic-doubling constructions were analyzed parallel to left dislocation operations such as Contrastive Left Dislocation (28) or Hanging Topic Left Dislocation (29) (German examples modeled after Dutch ones from van Haften, Smits and Vat 1983).

(28) *Die Franziska, die wollte ich heiraten.*
the Franziska that-one wanted I marry
'Franziska — I wanted to marry her.'

(29) *Die Franziska — ich wollte sie schon immer heiraten.*
the Franziska — I wanted her already always marry
'O Franziska — I have always wanted to marry her.'

It has been shown, however, that in the relevant languages the doubled DP is an integral part of the sentence as is the clitic. For this reason, the best analysis to account for clitic-doubling constructions as in (27) seems to me to be a proposal which goes back to Borer (1983). In her approach, clitics are not full constituents, nor do they occupy a syntactically independent position, but are affixed to the verbal head in order to express agreement features. This analysis has been adopted and further developed by Suñer (1988), Sportiche (1992), Mahajan (1990, 1991), Anagnostopoulou (1994) and others. Under such an approach, for example, the co-occurence of an accusative clitic and a full direct object DP is not different from a construction with a nominative subject and subject agreement on the verb. Within a theory that takes trees as the one in (3) as structural skeleton for sentences, a very harmonic picture arises.

Now, after having argued for a proposal that analyses doubling clitics as agreement markers, we should test the predictions of the theory of the given book, i.e. agreement projections become active when the related arguments have the status of a topic. First, let us figure out what the base order is in Catalan. In contrast to German, indirect objects follow direct objects. (30) is a

sentence where the key as well as the carpenter are introduced into the discourse.

(30) *Donem la clau al fuster.* (Catalan)
give-1PL the key to-the carpenter
'We give the key to the carpenter.'

The reverse of the arguments leads to ungrammaticality.

(31) **Donem al fuster la clau.*

The same holds for the order concerning subjects and objects. In all-new sentences, the word order is verb (> object) > subject. For this reason it has been proposed by many authors (Bonet 1990; Solà 1992) that Catalan (and many other Romance languages as well) should be analyzed as VOS.

(32) [$_F$ *Ha trucat l'amo.*][4]
has called the boss
'The BOSS has called.'

(33) [$_F$ *Ha parat la taula la Coia.*]
has set the table the Coia
'COia 's set the TAble.'

It has been argued that in case of inverted subjects — how the constructions in (32) and (33) are called — the subject gets a narrow focus interpretation (Bonet 1990, and also Samek-Lodovici (1994) for Italian). This is one interpretation indeed. However, if it were the only one, Vallduví's bracketing would not reflect the right information packaging. In order to show that the given wide focus reading is not only possible, but even preferred, Vallduví provides contexts where a narrow focus reading would be pragmatically inappropriate.

(34) *Si aprov'ès la proposta la Generalitat, podriem tirar*
if would-approve-3SG the proposal the government could-1PL pull
envant.
ahead
'If the Generalitat approved the proposal, we could go ahead.'

4. The notation [$_F$...] is taken from Vallduví (1992), as most examples are. It is supposed to indicate the range of focus projection, i.e. the extent of the new information. See also footnote 15.

According to an analysis where the postverbal subject necessarily induces a narrow focus reading, (34) should convey the information that there are reasonable alternatives to *la Generalitat* that possibly could approve the proposal, but do not (either). This interpretation, however, is not intended, since *la Generalitat* is the name of the Catalan government and with respect to the approval of the relevant kind of proposals, there are no alternatives to it. Hence, the subordinate clause in (34) cannot be a statement with narrow focus on the subject. Furthermore, whereas the order object > subject is the appropriate one (35a), (35b); the reverse order leads to ungrammaticality (35b), (36b). Example (36) is exactly the same strategy as in the samples in Chapter 2 where I exploited the linearization of inherently existentially interpreted indefinite pronouns.

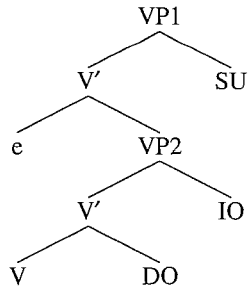
(35) a. *Ahir* [$_F$ *va* *rentrar la robe el Pere*].
yesterday 3SG-PAST wash the clothes the Pere
'Yesterday, Pere washed the clothes.'
b. **Ahir* [$_F$ *va rentrar el Pere la robe*].

(36) a. *Si vol* *res* *ningú,* *(em truqueu.)*
if want-3SG something somebody me call
'If anybody needs anything, give me a call.'
b. **Si vol ningú res, (em truqueu.)*[5]

Thus if one combines the two orders (i) verb > direct object > indirect object and (ii) verb > object > subject, by transitivity one gets: verb > direct object > indirect object > subject. If we adopt the reasonable assumption that all-new sentences reveal the base order and combine it with other well-motivated assumptions: hierarchical ordering of arguments (see Chapter 2) and binary branching (Kayne 1984), we get a structure for Catalan that exactly mirrors the structure for German.

5. (35) and (36) are good candidates to show that VOS structures cannot be derived from SVO by head movement of the verb and object raising both to the left. Such analyses (Ordoñez 1994 for Spanish and Alexiadou 1994 for Greek) assume that these movements take place in order to background the verb and the object and to put emphasis on the subject. I cannot tell for these languages; for Catalan, however, this does not hold. The bracketing from (35) and the obligatory weak existential interpretation of both arguments in (36), i.e. their completely equal status make it impossible to explain along the lines of the quoted analyses. On the other hand, if verb movement and object movement are assumed nevertheless, there should be given a plausible trigger for these movements plus an explanation, for why the subjects remains in its base position. I cannot think of a reasonable proposal.

(37)



(37) is the mirror image of (44) in Chapter 2. The bracket notation is:

(38) [$_{VP}$[v[v DO] IO] SU]

(38) is in clear contrast with the possible and impossible bracketing devices 1–5 from Haider (1992, 1994b). There, he argues that 'the VP-internal basic serialization patterns of non-verbal elements (i.e. arguments, A.M.) are cross-grammatically invariant' (p. 1), namely IO > DO (>PP). One could argue that Haider's observation remains valid nevertheless since in Catalan (as in Romance in general) the indirect object is realized in a constituent that is preceded by an element which can be analyzed/simultaneously acts as a directional preposition. However, there are proposals (Meinunger 1992; Starke 1993 among others) that analyze these empty prepositions as pure Case markers not considerably different from morphologically inseparable Case suffixes.[6] Under such an approach the Romance indirect objects are not different from those in German. The decisive point, however, seems to be the location of discourse-new (and narrowly focused) subjects. Haider neglects subjects consequently, and furthermore, in the Germanic languages, with which he is mainly concerned, they would not destroy the picture since there they occupy the left most argument position within the clause anyway. However, if the VP internal hypothesis of subjects is adopted, one has to identify the subject's VP internal position in Romance. According to the criteria which I use within this book, and which moreover are not very different from Haider's own criteria, the subject must be base generated to

6. Romance datives introduced by the empty preposition *a/à* are (slightly) different from English dative complements preceded by *to*.

the right of the verb and the other deeper ranking internal arguments. This invalidates Haider's theory. And, of course, it is even less compatible with Kayne's antisymmetry theory (1993b), which is even more radical than Haider's proposal.

4.4.2.2 *Striking similarities between clitic-doubling and scrambling*

In the preceding paragraph I have tried to show what a possible VP internal argument ordering might look like. Thereby I used as a main device the linearization of arguments within 'all new sentences', exactly as for German in Chapter 2.[7] Now it will be shown what is going on when one of the arguments acts as a topic.[8]

When an argument does not belong to the new information, but rather acts as some sort of anchor in the conversation, it gets moved away from its base position (see footnote 8 below and Chapter 1, Section 3). 'When such a detachment takes place, ... a clitic pronominal, which is bound by the detached phrase, appears with V.' (Vallduví 1992: 81)

(39) *L'amo* [$_F$ *odia el BRÒQUIL.*] = object is part of the comment
the boss hates the broccoli.
'The boss hates broccoli.'

(40) *L'amo* [$_F$ *l'ODDIA,*] *el bròquil.* = object outside
the boss it-hates the broccoli
'The boss HATES broccoli.'

7. As in German (as noticed by Haider 1992), it seems to me that also in Catalan anaphoric binding cannot be considered as a good test for finding out what the base order is. The same holds for binding of pronominal variables. For the latter it is always necessary in Catalan that the binding quantifier linearly precedes the bound pronoun. This might be linked to the fact that quantificational statements involve an $\bar{A}$-dependency, which in turn involves more complex structures than just the result of a simple movement to SpecAgr (see preceding section). Therefore I will carry on the ordering test in 'all-new-sentences'.

8. It should be noticed that my notion of 'topic' is different from Vallduví's use of the term 'link' which is inspired by the notion of 'topic' (Vallduví 1992). This becomes very important here since the data I am basing my analysis on are mainly taken from Vallduví's dissertation. In Chapter 1, Section 3, I gave a brief overview over Vallduví's trinomial articulation of information packaging. What matters here is the fact that Vallduví's *links and tail elements* refer to discourse-old material that *act as discourse anchors* in order to facilitate the storage of the new information represented within Vallduví's 'focus', here to be understood as 'comment'. Thus links as well as tail elements can be covered by the term 'topic' in the way I am using it.

For the construction in (40) it could still be argued that the object remains in its base position (this is what Anagnostopoulou (1994) claims for similar construction in Greek). Linearly there is no difference between (39) and (40). However, there are reasons to believe that movement to the right has taken place. The data becomes clearer when double object constructions are considered. In (30) and (31) I have argued that in Catalan, VP internal accusative objects precede VP internal dative arguments. (41) is one more example.

(41) *No he donat encara les notes*$_{DO}$ *als alumnes*$_{IO}$.
not have-1SG given yet the marks to-the students
'I haven't given the marks to the students yet.'

In case the direct object gets a topic interpretation, the new information consists of 'x giving y to the students'. (42) then shows that the dative argument precedes the accusative one. If (41) is considered the base structure, then (42) is derived from it. This can only have happened by right ward movement of the accusative argument.

(41) *No les*$_j$ *he donat encara* t$_j$ *als alumnes, les notes*$_j$.
not CL-DO have given yet to-the students the notes

Clitic-doubling is incompatible with the full DP in the base position.

(42) **No les*$_j$ *he donat encara les notes*$_j$ *als alumnes.*

A second argument for rightward movement (which is an argument for the base order represented in (37)/(38) at the same time) is the placement possibilities for particles. Given our assumptions about lexical projections, particles like *oi* (right) or *xec* (man) cannot appear VP internally. However, they may occur between the verb and its arguments if these are clitic doubled. If doubling is triggered by argument raising to a VP external position, there is an explanation for the following data (see Vallduví 1992: 84).

(43) a. *Fica (*xec) el ganivet (*xec) al calaix, xec!*
put man the knife in-the drawer man
'Put the knife in the drawer, man!'
b. *Ficarem (*oi) el ganivet (*oi) al calaix, oi?*
'We'll put the knife in the drawer, right?'
c. *Fica'l*$_i$ t$_i$ *al calaix, xec, el ganivet*$_i$, *xec!*
d. *El*$_i$ *ficarem* t$_i$ *al calaix, oi, el ganivet*$_i$ *(oi)?*

The same argumentation holds for the location of adjuncts. Non-subcategorized material cannot be inserted inside the VP, hence adjuncts appear VP externally.[9] Again, if the arguments are located to the left of the adjunct, co-ocurence of a clitic and a full DP is excluded. It is obligatory, however, when the argument has been moved past the non-argumental material.

(44) a. *(*La$_i$) va trencar la vidriola$_i$ l'any passat.*
CL-DO PAST-break-3SG the piggybank the-year PAST
'She broke her piggybank open last year.'
b. **Va trencar l'any passat la vidriola.*
c. *La$_i$ (*Ø) va trencar* t$_i$ *l'any passat, la vidriola$_i$.*

All these facts are very similar to German scrambling.[10] The same elements (particles and adjuncts) as well as unmarked versus marked order of arguments have been used to show that scrambling, i.e. movement away from the base position, has taken place.

Also, as in German, any order of clitic doubled (or scrambled, respectively) arguments is possible (for German see Chapter 3, example 1):

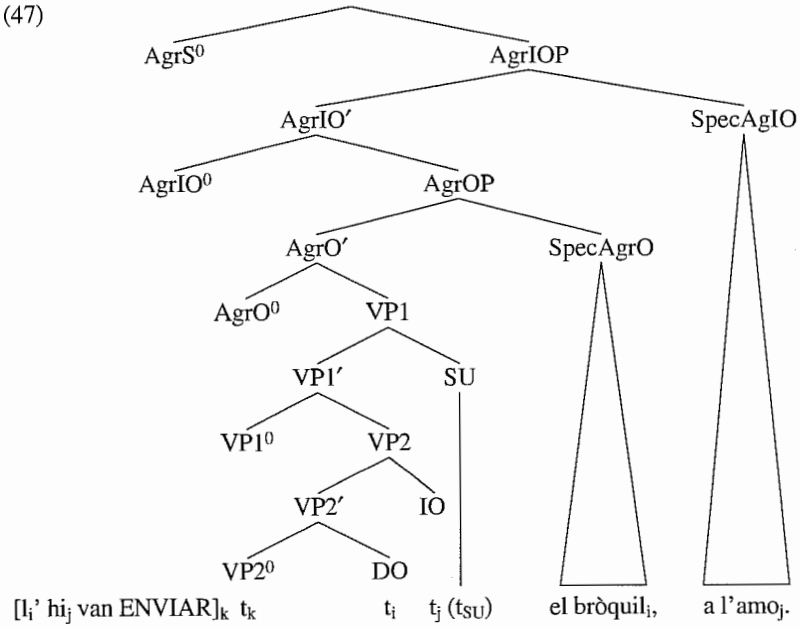
(45) a. *Encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$, *les notes$_j$ als alumnes$_i$.*
b. *Encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$, *als alumnes$_i$ les notes$_j$.*
c. *Les notes$_j$ encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$, *als alumnes$_i$.*
d. *Als alumnes$_i$ encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$, *les notes$_j$.*
e. *Les notes$_j$ als alumnes$_i$ encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$.
f. *Als alumnes$_i$ les notes$_j$ encara no els$_i$ les$_j$ he DONAT* t$_i$ t$_j$.

However, taking (41) as the 'corresponding all new sentence', (45a) is the 'most natural' sentence with the two objects acting as topics. Also (46) shows that simple topicalization in Catalan leads to an output where the derived order of the subjects parallels the VP internal one, namely DO > IO.

(46) *Els pagesos* [$_F$ *ja l'$_i$ hi$_j$ van ENVIAR* t$_i$ t$_j$], *el bròquil$_i$, a l'amo$_j$.*
'The farmers [$_F$ already SENT] the broccoli to the boss.'

This again points in the direction that also in the VP external area (which corresponds to the German middle field) Catalan is the mirror image of German. (Verbal heads are on the left, specifiers on the right.) Thus (46) could get assigned the following structure:

(47)

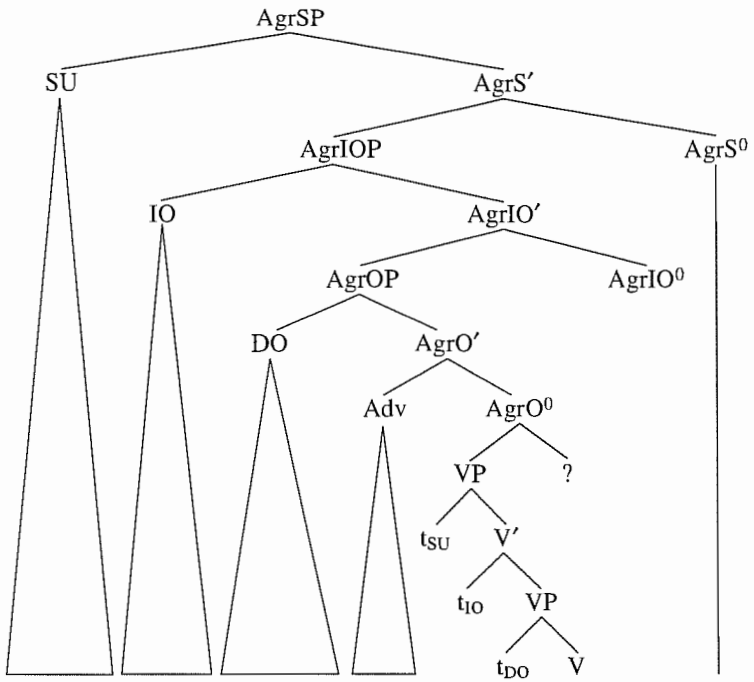


The corresponding German sentence would look like in (46). The prosodic indicator is also stress on the verb, the linear one is the position of the German word *schon* (Catalan *ja*).

9. I am aware of the fact that the argumentation here is not compatible with the Larsonian view (Larson 1988). Yet, I follow Vallduví here since the findings in Catalan are exactly parallel, i.e. the mirror image of the German facts.

10. One more piece of evidence comes from phonology. It seems that VP internal material bears the unmarked phonological stress in sentences without narrow focusing (Cinque 1993; Abraham 1994a, b; also implicitly Vallduví 1992). If this is adopted, it follows that arguments occurring after the main stress of the sentence are moved out of the VP. Interestingly, these post-main-stress constituents trigger clitic-doubling. Since I have not yet written anything about stress pattern, I present this argument only here in a footnote. This has also to do with the fact that I do not think that unmarked stress blindly goes to the deepest embedded element.

(48) *weil*



die Bauern$_i$ dem Chef$_j$ den Broccoli$_k$ schon t_i t_j t_k t_l geSCHICKT$_l$ haben
the farmers-NOM the boss-DAT the broccoli-ACC already SENT have

Thus, we see that clitic-doubling in Catalan and scrambling in German are related phenomena. In a last comparison it will be shown once more that the pertinent feature for the activation of an Agr node is indeed the topic status of an argument and not some specificity, definiteness, or prominence feature. Recall that prominence is the 'strongest' form of discourse-linking. Whereas specific and definite DPs may be licensed by accommodation mechanisms and the like, prominent DPs must have a (unique, unambiguous) linguistic antecedent. The classical case of prominent DPs are pronouns. In her dissertation, Anagnostopoulou (1994) argues that clitic doubled direct objects in Greek are another related case. Her claim is very similar to Jäger's (1994) and

Adger's (1993). They all claim that discourse-linked arguments trigger clitic-doubling or scrambling, respectively (Chapter 3, Section 3.4). Here I want to give one more example showing that discourse-linking is not a blind trigger for the activation of an agreement projection. Also in Catalan, direct object DPs referring to discourse-old entities need not trigger clitic-doubling if the object is not meant to be a topic. Exactly as in German, when scrambling of familiar DPs is blocked (49b), clitic-doubling is blocked as well (50).

(49) context:
A: *Samstag abend hat Peter 'ne Party geschmissen. Da hat er natürlich auch wieder seine ganzen Lieblingsfrauen eingeladen:*
– *seine neue Nachbarin*
– *die Friseuse aus Leipzig*
– *die Medizinstudentin und*
– *die CDU-Wählerin.*
Die Friseuse ist sein großer Schwarm, die will aber gar nichts von ihm wissen, dafür aber die CDU Frau um so mehr. Die scheint aber wiederum nur so ein Notbehelf zu sein, so eine Art Eisen im Feuer, wenn er bei der anderen nicht ankommt.
B: *Weißt du eigentlich, daß sich die CDU Frau am nächsten Tag bei mir ausgeheult hat? rat' mal warum?*
A: a.: *Na, weil der Peter wahrscheinlich den ganzen Abend die Friseuse angemacht hat, und sich weder um die anderen Gäste, noch um die Leute vom Partyservice kümmern wollte.*
b.: */??*Na, weil der Peter die Friseuse wahrscheinlich den ganzen Abend angemacht hat, und sich weder um die anderen Gäste, noch um die Leute vom Partyservice kümmern wollte.*

(context:
A: Saturday night, Peter threw a party. All the women he is crazy about he had invited, of course:
– his new neighbor
– the hairdresser from Leipzig
– the medicine student, and
– the CDU voter
The hairdresser is his great heartthrob. However, she's not interested in him at all, but the CDU woman is. The CDU woman, in turn, seems to be nothing more than a stopgap, a sort of one more iron in the fire, if he doesn't go down well with the other one.

B: Actually, do you know that the next day the CDU woman came to me and had a good cry on my shoulder? And now guess why?
A: literal.:
well because the Peter (b. *the hairdresser) probably the whole evening (a. [ok]the hairdresser) up-chat has, and himself neither about the other guests, nor about the people from-the party-service care wanted
'Well, probably because Peter was trying to get off with the hairdresser all night and didn't want to care about the other guests, nor about the people from the party service.')

(50) (same context...) (Catalan)
*doncs perque el Pere probablement (*l') ha persuguit la*
well because the Peter probably (*clitic) has up-chat the
perruquera tota la nit i no volia ocupar-se ni dels altres
hairdresser all the night not wanted occupy-*se* nor of-the other
convitats ni de la gent del Partyservice
guests nor of the people of-the party service

Again, the input context for the relevant sentence is such that it contains the discourse referent which in the relevant sentence is used as the direct object. Although the DP is familiar then, neither scrambling nor clitic-doubling is good. The reason is that *die Friseuse, la perruquera*, respectively, both go in the comment about the topic *Peter, Pere*, respectively. Together with the verb the object forms a unit which moreover is in the scope of the adverbial *wahrscheinlich, probablement*. The object is not a topic, hence the [+Topic] is not assigned and no movement takes place.

To recapitulate: I have shown that with Catalan we have a language that reproduces the crucial effects of German scrambling by a different strategy: clitic-doubling. The theory of functional projections enables us to unify both grammatical devices under a more abstract one. This more abstract phenomenon is the activation of agreement projections. In German silent morphemes (except subject agreement) project specifiers where topical NPs move, in Catalan these morphemes are virtually present, they appear as clitics on the verbal root and can be analyzed as the spell-out of Agr^0-elements.

4.4.3 *Some remarks on the computation of focus*

The headline is many ways ambiguous and furthermore makes use of the term 'focus' which is not really in the main interest of this book. This section seems to be the right place to say a couple of words about how the syntax-phonology connection is viewed. I ought to warn the reader, however, that no real distinction is made between informational focus on the one hand and quantificational on the other. Nevertheless, in the following it will become clear why I have chosen this section title. Within the tradition of generative grammar, there has been no final answer to the question what part of the sentence brings the relevant, e.g. new or contrastive information. There are two main approaches, which are reviewed in detail in Winkler (1994). Here I will give a very brief presentation of these two trends. In the end I agree with Winkler (1994: 197–198), who states:

> ...I claim that ultimatively it is irrelevant which model is employed because the same set of rules, if generalized, determine the widest possible focus reading... As long as syntactic focus theory is a conceptual enterprise, both the top-down and the bottom-up models must be utilized in order to test their valiability.

The quoted text already names the two approaches: top-down and bottom-up.[11] I will begin with the latter.

4.4.3.1 *Selkirk's theory of focus projection*

The bottom-up theory goes back to Selkirk's focus projection approach (Selkirk 1984). Within this theory, assignment of pitch accent, which is important for the phonetic-phonological interpretation, applies first — that means that a word (or better its prominent syllable) gets assigned a tonal feature. Then the Basic Focus Rule can apply. This rule says that a constituent to which a pitch accent is assigned should be interpreted as focus. Focus here means new information. Thus the mapping goes from the phonetic side to the side of meaning. The bottom-up character, however, is encoded in the

11. A very interesting account to capture the ambiguity of neutral stress sentences which is neither a bottom-up nor a true top-down mechanism, but which presents a serious alternative is to be found in Jacobs (1991/92, 1992).

Phrasal Focus Rule. After an element is provided with the focus feature (by the Basic Focus Rule) (51) applies:

(51) Focus projection:
  a. F-marking of the head of a phrase licenses F-marking of the whole phrase;
  b. F-marking of the internal argument of a head licenses the F-marking of the head.

This rule accounts for the following ambiguities.

(52) a. *weil Drewermann nicht nur* [$_F$[$_F$ *Bücher* [$_F$ *über* [$_F$ *die* [$_F$ *Kirche*]]]] *schreibt*].
  b. 'because Drewerman doesn't only [$_F$ write [$_F$ books [$_F$ about [$_F$ the church]]]].'

The new information of these sentences depends on the context. As indicated by the bracketing, the new information may be only the small DP *die Kirche* (the church), the whole VP, or intermediate projections. The computation starts from the word, to which the focus feature is assigned. *Kirche* as such is an N^0, i.e. a head. (49a) ensures that focus is projected to DP which in this case is die Kirche. The0DP being the argument of the preposition *über* 'about' licenses focus projection to P^0 (=about) (= (49b)). 'about' as a head licenses focus projection again, namely to PP. This process goes on until the whole VP 'Bücher über die Kirche schreibt' is assigned [F], it may, however, stop at any intermediate constituent, giving the appropriate answer. Thus, in this bottom-up approach, the feature [F] climbs up in the syntactic tree.

4.4.3.2 *Cinque's 'Null Theory', its problems and possible applications*
Now I will show how a top-down account works. According to Winkler (1994), the top-down approach is the traditional one. However, a very influential article, which has appeared, is Cinque's 'Null Theory' (1993). Unlike in the bottom-up theory, the element which gets assigned the phonological stress is not known. The mechanism is such that there is an input structure, and a special algorithm computes where the stress falls. Cinque's theory, which has been criticized for its trivialization, takes the syntactic structure of a grammatical string as direct input for the computation of stress. In our case:

(53) *weil Drewermann* [$_{XP}$ *nicht nur* [$_{VP}$[$_{DP}$ *Bücher* [$_{PP}$ *über* [$_{DP}$ *die* [$_{NP}$[$_{N0}$ *Kirche*]]]]] *schreibt*]].

Now, the structurally deepest element is looked for. The most embedded element is the one with most brackets around it, thus [$_{N0}$ Kirche]. Then Cinque develops a technique which is based on a cyclic mechanism proposed by Halle and Vergnaud (1987). According to that mechanism the brackets are eliminated step by step. With each bracket erasure, the structurally deepest element gets a star. Consequently, the deepmost element of the whole structure receives the most stars.[12] Most stars means heaviest stress. (For the details see Cinque 1993, or Reinhart 1995). When scrambling has taken place, the object is not in its base position anymore, but (at least) in SpecAgrO which is higher than XP in (54).

(54) *weil Drewermann* [$_{DP}$ *Bücher* [$_{PP}$ *über* [$_{DP}$ *die* [$_{NP}$[$_{N0}$ *Kirche*]]]]] [$_{XP}$ *nicht nur* [$_{VP}$ *schreibt*]].

In (54) the (complement of the) object cannot be the deepest constituent anymore. Thus, according to Cinque's theory, *die Kirche* should not receive the main stress. This prediction is born out. The stress goes either to the quantifying particle (56) or to the verb (57). The pragmatic felicity conditions for these sentences are pretty farfetched, although not impossible.

(55) **weil Drewermann Bücher über die KIRche nicht nur schreibt.*

(56) *weil Drewermann Bücher über die Kirche nicht NUR schreibt.*

(57) *weil Drewermann Bücher über die Kirche nicht nur SCHREIBT.*

4.4.3.3 *The 'Null Hypothesis' and its impact for string vacuous scrambling*
With this at our disposal, we also have a nice account for string vacuous scrambling. In Chapter 3 the object position is used with respect to adverbials or other non-subcategorized material as indicator for movement away

12. The advantage of Cinque's theory compared to Halle and Vergnaud's account is the fact that Cinque does not have to make use of (a version of) the Nuclear Stress Rule (Chomsky and Halle 1968), which assigns stress always to the right. Cinque's proposal makes use only of the depth of embedding. This allows him to account for the differences in (52a) and (52b); i.e. the stress pattern in OV and VO languages in a straightforward manner, almost free of stipulations. Here I emphasize *almost* because also Cinque must assume that bracketing on the non-recursive side is invisible for stress computation. Thus the algorithm does not work completely blindly.

from the base position. Now, there is another test which is as good as the position test. In cases where the deepest argument does not receive the main stress, scrambling is likely to have been taken place. Cinque gives the following examples, originally found in Kiparsky (1966):[13]

(58) *weil der Arzt einen PatIENten untersuchen wird.*
since the doctor a patient examine will
'since the doctor will examine a patient'

(59) *weil der Arzt den Patienten unterSUchen wird.*
since the doctor the patient examine will
'since the doctor will examine the patient'

In Chapter 3 I have argued at length that the simple mapping 'indefinite arguments stay inside the VP, definite arguments scramble', does not hold. However, the prototypical use of an indefinite is the introduction of a new file card, and the prototypical use of a definite is the picking up of an old one and using it as an anchor in the conversation. This is also the intended reading in (58) and (59). We can easily find examples, where a definite DP gets stressed (60), and an indefinite does not (61).

(60) context:
Warum ist Peter nicht hier?
'Why is Peter not here?'
weil er die SCHWEIne füttert
because he the pigs feeds
'because he is feeding the pigs'

(61) context:
Warum hast du den Rollo so doll geschlagen?
'Why did you hit Rollo so rudely?'
weil man einen jungen Hund ZÜCHtigen muß
because one a young dog punish must
'because young dogs have to be punished'

The reason for the stress pattern thus is not (in)definiteness, but (non-)topichood. The definite in (60) is a referential one, in the sense of Chapter 3,

13. ...and again transferred into a subordinate clause structure, which does not change anything for our purposes.

Section 3.2.3; the indefinite in (61) gets a generic interpretation. Thus, the Cinque's 'Null Theory of stress' gives us a nice account for scrambling despite the lack of positional indicators.

I will assume that a 'Null Theory'-like approach is responsible for stress computation in non-narrow focus structures, i.e. I will assume that in normal topic: comment structures the main accent is assigned to the deepmost element. I am forced to the adaptation of a top-down approach for the following reason. My claim is that the VP is mapped into the comment (topics must leave the VP). Through this equation (VP = location of the new information), I fix the range of discourse enlarging potential to a special syntactic constituent. Focus projection in the sense of Selkirk (1984) is unrestricted. It may project the focus feature as high as possible in the tree.[14] This is not compatible with the mapping I am proposing. Yet, there are some problems with Cinque's account that I do not want to withhold.

4.4.3.4 *Problems and speculations*

Problem I

It has been known for a long time that in (direct) object > PP configurations, where both arguments occupy their base position, the unmarked stress goes on the object (if this is not a topic) and not on the (noun phrase within the) PP. Within an approach where arguments are ordered hierarchically, this would be a clear counterargument to Cinque's theory.

(62) *weil er gerade* [$_F$ *MILCH in einen Eimer gießt*][15]
since he just milk into a bucket pours
'because right now he's pouring milk into a bucket'

(63) **weil er gerade* [$_F$ *Milch in einen EImer gießt*]

The stress pattern in (63) is only acceptable with the bracketing in (64), i.e. with narrow focus on the PP or the DP within it.

14. One could restrict the largest possible focus projection to VP. This, however, is a stipulation which the top-down account proposed here need not make.

15. Following common practice, and following the practice at different places within this book I put F in order to mark the range of the new information. Actually, I should use C for comment since the bracketed string corresponds to the VP.

(64) *weil er gerade* [$_{VP=C}$ *Milch* [$_{F}$ *in einen* [$_{F}$ *EImer*]] *gießt*]

However, all possible tests ((anaphoric) binding, neutral word order etc.) prove that the direct object c-commands the PP, thus is located structurally higher than the PP.

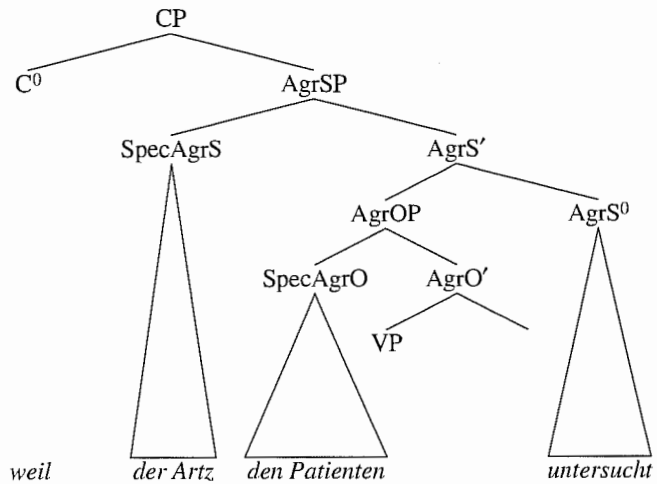
Problem II

The problem arises in a sentence with a transitive verb, where both the subject and the object get de-stressed because of their (simple)[16] topic status, and the verb which appears in a simple tensed form is the only element which carries the new information which should not be understood as contrastive.

(65) *weil der Arzt den Patienten unterSUCHT.*
because the doctor the patient examines
'because the doctor eXAmines the patient'

Within the theory presented here, the tree for (65) looks as in (65′):

(65′)



16. 'Simple' topic is supposed to mean that the topic does not have a complex focus: background structure.

Thus, if one assumes verb movement in German subordinate clauses, in simple tenses, the verb raises to AgrS^0 (or I^0). This target of verb movement is a position which is definitely higher in the structure than SpecAgrO. Thus, we get in conflict with Cinque's 'Null Hypothesis' according to which for a tree like in (66′), the object should be the phonologically most prominent constituent. Analyses that deny verb movement in German subordinate clauses (Haider, almost all references; Höhle 1991) would have no problems with the theory.[17] However, for these latter analyses, the problem arises only in a different place. In main clauses, almost everybody assumes that the verb occupies the C^0 position, which is definitely higher than all other positions following the verb linearly. Still, the stress pattern does not change. The main accent remains on the verb, which cannot be deeper than the object.

(66) *Der Arzt unterSUCHT den Patienten (gerade).*
the doctor examines the patient now
'The doctor is examining the patient (right now).'

(66′) [$_{CP/IP}$ *der Arzt* [$_{C'/I'}$ [$_{C^0/I^0}$ *untersucht*] [*den Patienten*] …]]

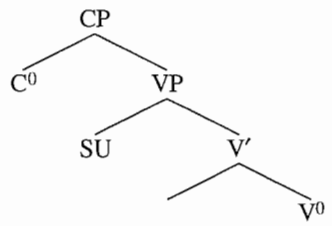
A possible interpretation of these facts could be the following structure. The syntax of German is such that some C position must be filled, i.e. either C^0 or SpecCP in embedded questions, for example. In main clauses, the verb has to raise to C^0. However, the verb is the element which brings the new information. Since all the arguments are topics, the verb is the only comment part. Since the location of the comment is VP, the verb has to be reconstructed into its base position. The indicator or trigger for reconstruction is the stress pattern. Thus, at some level of representation (presumably LF), the verb carrying the greatest phonological prominence is indeed the deepest constituent.[18]

17. However, there would no problem if they assume that the object is not in its base position. If neither verb nor object raising is assumed the configuration is such that the object is structurally more deeply embedded and hence gets the greater phonological prominence.

18. This idea seems to me to be a reasonable proposal. As I have alluded at the begining of the given book, there seems to be a sort of job sharing between the linear and the prosodic sides of language. The facts point in the following direction. In configurational languages, the constituent order is relatively fix. Yet, better use of intonational means enables these languages to encode the topic : comment and/or focus : background articulations to an important extent by prosody. See, for example, the theory of deaccenting and deletion developed by Tancredi (1992) for English, and the whole work by Vallduví (1992, 1994). The picture that emerges is:

Problem IIa: Moreover, one more difficulty arises for the latter analyses according to which the verb does not move. It is a well known fact that in all-new sentences consisting of a verb and a single argument the latter gets the pitch accent no matter whether the argument is an (underlying) object or a (true) subject. Subjects always c-command the (trace of the) verb, hence it comes as a surprise that the subject carries the accent while the verb does not (67)/(68).

(67)



(sentence structure of analyses that deny verb movement in German subordinate clauses)

(68) *(weil)* [$_F$ *der CHEF angerufen hat*]
because the boss called has
'(because) the BOSS called'

(69) **(weil)* [$_F$ *der Chef ANgerufen hat*]

(70) *(weil) der Chef* [$_F$ *ANgerufen hat*]

However, since I do assume verb movement, these facts do not argue against the theory; and the incompatibility with Cinque's 'Null Theory' should rather be considered as an argument against theories that promote a verb-in-situ analysis.

Problem III

My analysis of Catalan suggests that the VP is left-recursive in that language, i.e. the structure is (38), here repeated as (71):

deaccented material goes into the presupposition (topics), accentuated material is discourse-new (focus, comment). This way the old: new mapping does not need so much movement. The German problem (Problem II) is puzzling in so far that the V2 parameter is a very strong configurational requirement. Reconstruction into a different position (for interpretational purposes) can only be triggered by intonation.

(71) [$_{VP}$[v[v DO] IO] SU]

According to the 'Null Theory' one would expect that — given a sentence with a DO and an IO, both in the base position — the accent should fall on the DO. This, however, is not the case:

(72) [$_F$ *Donem la clau al FUSTER*].
give-1PL the key to-the carpenter
'We give the key to the carpenter.'

(73) *[$_F$ *Donem la CLAU al fuster*].

The same problem arises in transitive sentences with object and subject in situ. The main accent does not fall on the deeper object, but on the subject.

(74) [$_F$ *Pararà la taula la COIA*].
set-FUT-3PL the table the Coia
'Coia will set the table.'

(75) *[$_F$ *Pararà la TAULA la Coia*].

I note this stress pattern as a big problem for the theory developed here. I must admit that I do not have a satisfactory explanation for these facts. My speculations are that there seems to be a principle at work which is close to a phonological operation called Final Strengthening (FS). FS has been proposed by Uhmann (1991) for German in order to account for the fact that when there are two (or more) elements which according to the stress computation are equal in accentuation weight, the last one, i.e. the rightmost designated syllable, gets an extra beat (see also Jacobs 1992).

(76) FS
For any grid R corresponding to an intonational phrase:
One further '*' is added to the last of the highest columns of R.

Certainly, the Final Strengthening device cannot be integrated into the 'Null Hypothesis' without any problems. However, there seems to me to be something going on along these lines. The object and the subject are both intonational phrases themselves. The level where some FS like operation is required must be the VP. Thus, when there are two adjacent arguments in situ, the right one gets an extra accent. This purely phonological rule then blurs the one-to-one syntax phonology mapping to some degree.

Thus, despite all the problems I claim that a top-down approach much

like Cinque's 'Null Theory' does hold for the computation of accent placement. Furthermore, I believe I have given some ideas how some of them could be solved.

4.5 The mapping

Summarizing the ideas developed so far, the picture that arises can be illustrated in by the following mapping (which was originally proposed in my ConSOLE paper from 1992):

(77) [CP...[AgrPs... | [VP...]]
topic(s) | comment

Within the terminology used in Adger (1993), this mapping is a global one. 'Global' means that the interpretation of a constituent depends on its position inside or outside the VP. The alternative to the global mapping is the local mapping. For the latter, it is not only the VP internality vs. externalality of an argument which triggers the relevant reading, but also its concrete position in the tree. Thus, the topic reading does not arise automatically on a VP external argument, but is linked to an agreement position. This is more correct since indeed a lot of constructions involve VP external arguments with a non-topic interpretation nevertheless. For example, main clause initial arguments, i.e. preverbal constituents in German, may get a weak reading (78), or serve for focus projection (79). However, the position they occupy is undoubtedly SpecCP, clearly a VP external one.

(78) *Viele Freunde hat er wahrscheinlich nicht.*
many friends has he probably not
'Probably, he doesn't have many friends'.

Viele Freunde here is interpreted in the scope of *wahrscheinlich nicht*, i.e. as if it occurred in the base position.

(79) [$_F$ *GERhard ist gekommen*].
Gerhard is come
'GERhard's come'.

Also here, the subject behaves as if it were still in its base position.

Adger's examples against global mapping come from Catalan constructions where weak, unfamiliar objects occur in a VP external position.

(80) *En aquesta facultat*, [*uns quants alumnes*]$_i$ *deus haver seduit* t_i,
in this faculty a number students must-2SG have seduced
amb els teus encants.
with the your charms
'In this faculty, you must have seduced several students with your charms.'

I confess that local mapping should therefore be considered the superior one. However, movement to SpecCP is $\bar{A}$-movement. Furthermore, Vallduví (1992) argues that the constituent *'uns quants alumnes'* occupies an $\bar{A}$-position as well. Since it is generally assumed that $\bar{A}$-movement displays reconstruction effects whereas A-movement does not, the extensive discussion about the validity of the one or other approach turns out to be not so crucial.

4.6 Problems with adjuncts

An issue with respect to (77) that is much more important is the question of adjuncts. If nothing more is said, it might seem that only subcategorized material can be mapped into the comment. That would mean that non-subcategorized material is not able to enrich the discourse. This is clearly not the case. New information in the discourse can be added by arguments, verbs, as well as by adjuncts. This is in contrast with Selkirk who claims that (focus on) adjuncts do(es) not 'contribute to the old/new information content of the utterance' (Selkirk 1984: 231). I rather agree with Winkler (1994), who shows that adjuncts may contribute new information, but that the intonational pattern is different than with arguments. Winkler refers to Gussenhoven (1983) and presents the following facts. While arguments are able to serve for focus projection, adjuncts are not. That means that in a construction involving an adjunct, focus on the adjunct does not license focus spreading over the whole VP. The focus is restricted to the adjunct, which represents the new information:

(81) *weil er* (*[$_F$) [$_F$ *im* [$_F$ *ZELT*]] *geraucht hat*(*])
since he in-the tent smoked has
'since he smoked in the TENT'

If 'focus projection' is intended, i.e. if the comment is to contain the adjunct as well as the verb, the verbal root needs an extra pitch accent.

(82) *weil er* [$_F$ *im ZELT geRAUCHT*] *hat*
'since he SMOKed in the TENT'

This fact, however, is not the only instantiation of more than one pitche within the comment. A similar case arises with two (or more) VP internal arguments. Then also the thematically and structurally higher argument forms its own independent intonational phrase and carries a pitch accent.

(83) *weil gestern* [$_{VP\,(F)}$ [*viele KINder*] [$_{V'}$ *BALL spielen*]] *wollten*
since yesterday many kids ball play wanted
'since yesterday many kids wanted to play ball'

Note, however, that in these cases we are not dealing with a bridge accent.

I will claim that the intonational pattern with adjuncts as observed by Gussenhoven (1983) and adopted for German by Winkler (1994) is a result of the following factors. The adjunct occupies a VP adjoined position (see below). The verb raises out of the VP. (The finite verb to the right headed AgrS^0 in subordinate clauses or to C^0 in main clauses, non-finite forms to some functional head between the VP and AgrSP). This causes the adjunct to be the hierarchically deepest constituent. Consequently it gets the main stress. In the cases where the verb is supposed to belong to the range of focus projection, it must be reconstructed into the base position. This reconstruction is again signalized by stress on the verb. Thus, the observed intonational pattern is another instantiation of problem II from Section 4.4.3.4. In a certain sense, the direct mapping of the virtual configurational structure is overridden or modified by prosodic means.

As hinted above, the claim is that adjuncts which bring along new information are VP adjoined. This claim is motivated by the fact that discourse-new adjuncts are located very close to the verb, i.e. they must occupy a relatively deep position in the tree. Topical arguments (anaphoric definites (84), generic bare plurals (85)) and VP boundary particles are located to the right of adjunct and verb.

(84) *weil sie den Rock (doch) [wegen der HITze] angezogen hat*
since she the skirt PART because-of the heat dressed has
'since she put on the skirt because of the heat'

(85) *weil sie Schweine (doch) [im HOF] schlachten*
since they pigs PART) in+the yard slaughter[19]
'since they slaughter pigs in the yard'

There is a whole theory about adjunction. Chomsky (1986) and May (1985) argue that adjunction creates a hybrid status for the adjoined phrase. They are both concerned especially with the VP as adjunction site. Elements that adjoin to the VP are neither inside nor outside the lexical projection. It is not intended here to present Chomsky's and/or May's arguments for the claim that the VP-adjoined position somehow makes the relevant phrase a part of the VP here. What matters is that there are proposals that VP adjoined material belongs to the VP in a broader sense. Heageman (1994) uses the image of a balcony. 'We compare such a position (the VP adjunction site, A. M.) to a balcony: when you're on a balcony you have not really left the room completely' (p. 561). Thus, the adjunction site of the non-subcategorized phrase is not excluded by the VP and hence may fall within one interpretation of the bracketing [$_{VP}$ ...], namely in

(86) [$_{VP}$ [adjunct] [$_{VP}$ ...]].

(Within Kayne's antisymmetry theory (1993b) (also Alexiadou (1994), there is no place for structures like (81). In order to license this sort of VP internal adjuncts one has to assume an additional topmost verbal head. Maybe there is something like that.)

To summarize, the structure I propose looks like:

(87) [CP...[AgrPs... | [VP ([discourse-new adjuncts]) [VP...]]
topic(s) | comment

19. (95) might be considered a further confirmation of the claim that the adjunct belongs to the VP. With only 'im HOF' as focus, the sentence has the following interpretation:

(i) Gen$_x$ [pig (x) & they slaughter (x)] [(they slaughter (x)) in the yard]

Thus, the pig-slaughtering is mapped into the restrictor, and the location, i.e. *im HOF*, is mapped into the nucleus. Within Diesing's theory (see Chapter 1, Section 1.4.3.1) that means that *im HOF* is (within) the VP.

4.7 Speculations on A-movement crossing and the principle of hierarchy preserving

In this section two issues are addressed, which have been left untouched in this book so far. As many aspects that will be discussed in this section are very specific and theory-internal their importance will differ with respect to the minimalist framework. It may well be that the problems turn out to be a non-issue in other theories or even in the given framework within shortetst time. The less interested reader may therefore skip this section. The Hierarchy Preserving Constraint on page 154 may still be worth noting. The first question is a problem of Relativized Minimality RM (Rizzi 1990), and the second one concerns the fact that within the topic domain arguments seem to be able to occur in any order (see Table 1 from Chapter 3, or the Catalan paradigm in (45) of this chapter).

As for the first problem: in a sentence like (88) from Chapter 3, where each argument has left its base position and moved to its associate specifier position, one gets a multiple crossing:

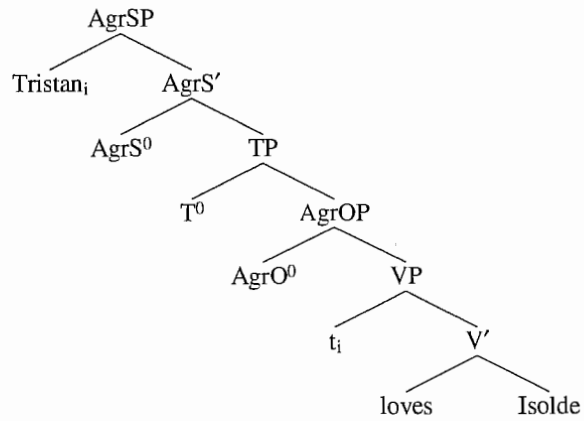
(88) daß [die Firma Müller]$_i$ [meinem Onkel]$_j$ [diese Möbel]$_k$ erst gestern t_i t_j t_k zugestellt hat

It has been argued in the preceding sections that specifier positions of agreement projections are A-positions. Thus, according to RM (98) should be an illegitimate structure. Nevertheless, (98) is a perfect sentence. This problem, i.e. the crossing of arguments by moving to their Case position, has been noticed since AgrO was generally assumed as the projection where direct objects move. Several proposals have been made to account for the possibility of nested A-dependencies.

Chomsky (1992) develops his theory of *Equidistance* in order to give a solution to the problem. His proposal is based on a derivational view of structure creation. To see how Chomsky's theory works, let's start with an unproblematic case. For English, Chomsky assumes that the only thing that moves in overt syntax is the subject. With the further assumption that specifier positions are not necessarily projected, but only created when

needed,[20] the VP internal subject may (and must) raise to SpecAgrS without crossing any intervening element, and thus the Spell-out representation in (99) is well formed:

(89)



The RM violation only arises when also the object moves. Chomsky's clever trick is the following. The verb has to move as well. At LF, at the latest, English verbs also have raised and adjoined to AgrS^0 (or possibly C^0). The verb raises through head-to-head movement. That means the verb starts in its base position and adjoins to AgrO^0 (step (101) to (102)). This move creates the chain C = {V+AgrO^0, t_{verb}} with the head in AgrO^0 and the foot as the trace heading the VP projection. This move enlarges the so-called minimal domain of the verb(al element). The minimal domain of V^0 is every node contained in VP, not including V itself, thus (SU, OB). When V^0 adjoins to AgrO^0, the resulting head V+AgrO^0 has a minimal domain with one more member, namely SpecAgrO^0. Now, Chomsky introduces the following definition:

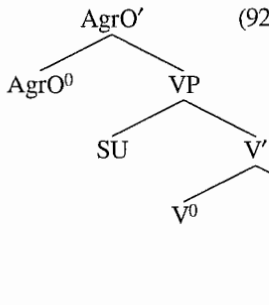
(90) If α, β are in the same minimal domain and c-command Γ, they are *equidistant* from Γ.

For our example in (102), that means that SpecAgrO^0 and SU are equidistant from OB. Thus the object may leave its base position and raise to

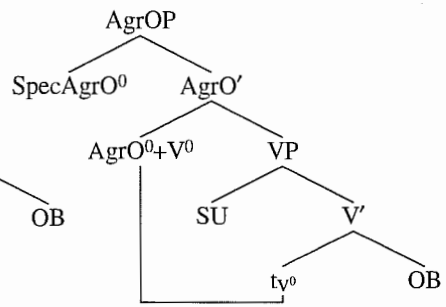
20. 'Needed' means 'present by virtue of being filled or targeted for movement within the derivation.'

SpecAgrO^0. The subject trace does not count as an intervener for it is not closer, but exactly as close as SpecAgrO^0 with respect to the object trace. Thus for this moment in the derivation, the output does not violate RM (93).

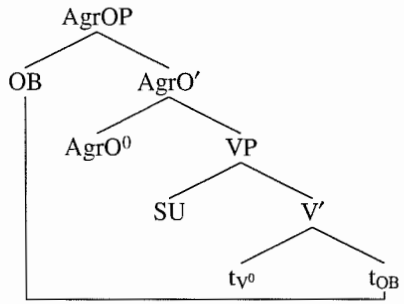
(91)



(92)



(93)



Consider that under such an analysis, overt movement of the object should be prohibited if no overt verb raising had taken place before. Only the moved verb makes the two relevant positions equidistant. This seems to be confirmed by the behavior of Scandinavian object shift. Since the Scandinavian languages are V2, the verb raises to the highest functional head (C^0) in root clauses. Assuming HMC, this implies that the first steps in the derivation above must have been as described in the preceding paragraph. Thus in V2 sentences, object shift is allowed:

(94) *Peter læste* *den*$_i$ *ikke* t$_i$.
Peter read-PAST it$_i$ not t$_i$
'Peter didn't read it.'

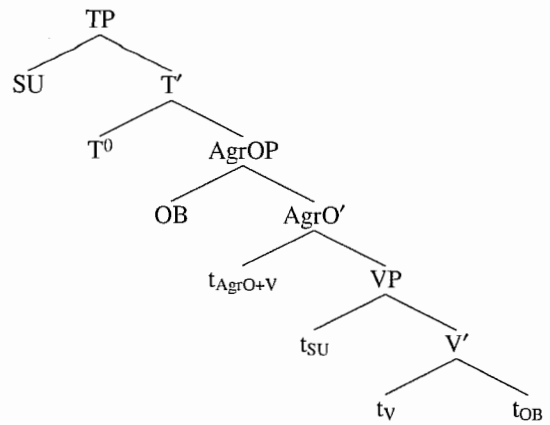
In embedded sentences the verb does not move. Its position relative to the negation adverb indicates that no verb movement has taken place (95). In that case then, object movement is also impossible (96).

(95) *at* *Peter ikke læste den*
that Peter not read it
'that Peter didn't read it'

(96) **at* *Peter den*$_i$ *ikke læste* t$_i$
that Peter it not read

The equidistance idea is reminiscent of Baker's (1988) Government Transparency Corollary (GTC). However, as Bobaljik and Jonas (1993) observe, the equidistance concept is not transitive as GTC is. That means that further movement of the V^0+AgrO^0 complex does not render more positions equidistant. In a system of the order of functional categories Chomsky assumes, TP is the next higher functional layer above AgrOP. Thus obeying HMC, the V^0+AgrO^0 complex adjoins to T^0. This step, however, does not render SpecTP and SpecVP equidistant. The head chain C = {[T[AgrO^V]], [AgrO^V]} is different from the bottom chain C′ = {[AgrO^V], V}. There is no chain link for which more than two specifier positions are equidistant. What the further additional movement does is render SpecTP and SpecAgrO equidistant. And this is what Chomsky needs. As soon as these positions both count as equidistant to VP and everything it contains, the subject is allowed to move from its original position without causing a RM violation, at least for the Scandinavian structure in (94).

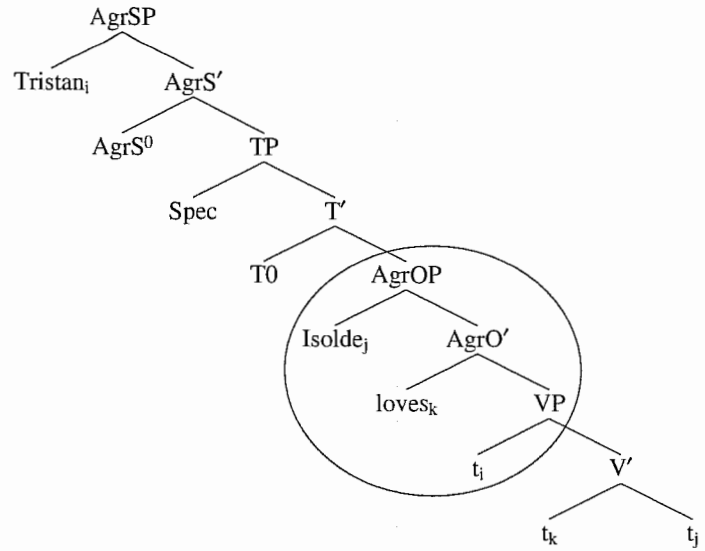
(97)



This way, the Danish sentence in (94) comes out as grammatical.

Now, if we do not ask further, we could be satisfied with what Chomsky has proposed. However, a closer look reveals some problems. Let us go back to the English example in (90). This is the spell-out or pre-spell-out structure. However, the derivation continues to obtain the final representation where every XP and X^0 is in its designated position, i.e. the verb under $AgrS^0$ and the object in SpecAgrO. The derivation should go like this: V^0 raises to $AgrO^0$. That move renders SpecAgrO and SpecVP equidistant. This provides the chance for the object to move to SpecAgrO, as described above, no RM violation is triggered since SpecVP does not count as an intervener. However, at this point in the derivation we get a RM violation.

(98)

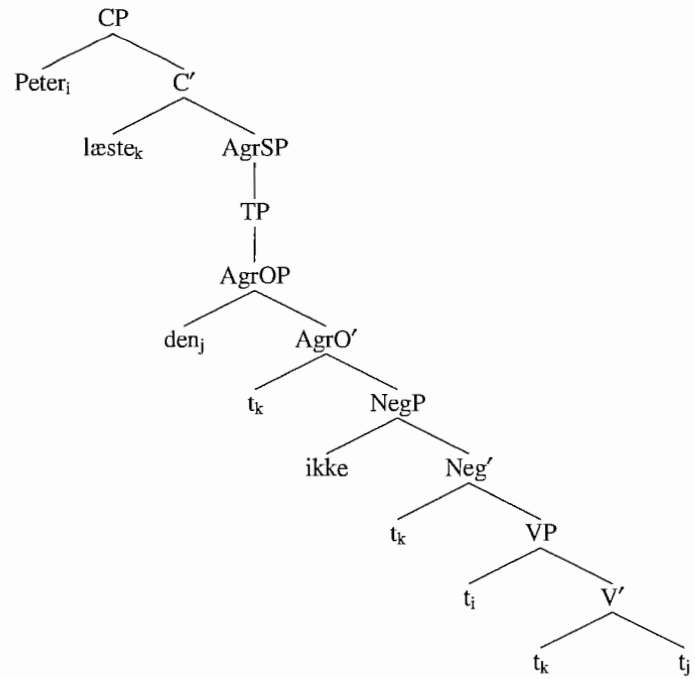


Only SpecAgrO and SpecVP are equidistant with respect to what the VP contains. That means that now the object in SpecAgrO is an intervener. It interrupts the chain C = {Tristan$_i$, t_i}. Since the subject is already in SpecAgrS in English, the equidistance relation between the subject position SpecAgrT and the object in SpecAgrO can never be obtained. I do not see any reasonable solution to the problem. I just see stipulations. The other thing is that the equidistance story crucially depends on a purely derivational view of structure generation. Under a representational perspective or a combination of derivation and representation the theory does not work at all. I think we should eliminate the equidistance story and think of a better explanation. Nevertheless, before I will try to do that I will show some empirical problems with the equidistance explanation.

One point that is also important for Chomsky's idea is that for his explanation to work it is crucial that VP be selected by AgrO. Only such a configuration permits such a local relationship of a subject and a object position that these are potentially equidistant. If something other than AgrO (immediately) selects VP, this head would be the first target of the verb. Then its specifier would be equidistant with the subject, however without

any advantage for the object. Then, there would be no way for it to raise out of its base position. Is there such a configuration? The most recent treatments of negation in syntax propose that negation follows X-bar syntax and projects according to it. Thus, negation is a head with a complement and a specifier that shares the negative property of the head (cf. Haegeman 1992 and references quoted therein). The structure of negation is universal, languages differ in how they make use of it. There are languages that have a negative head (Italian, Russian); in those languages this head behaves like a verbal affix and cliticizes onto the verb. Then there are languages that have a morpho-phonological spell-out of both the negative head and the specifier. Standard French is such a case. And finally, there are languages that only use a negative adverb to be base generated in SpecNeg. Such languages are represented by German and Scandinavian for example. Nevertheless, there is a phonologically empty head, that hosts and licenses the specifier position of *nicht, net, niet, ikke, inte, ekki* and the like. If we incorporate negation into the syntactic tree for the representation of (94), we get the following tree:

(99)



There we cannot get an equidistance creating structure where SpecAgrO and SpecVP have the same distance from the object.[21]

The same problem arises in the analysis for German. Nowadays there co-occur two proposals for German sentence structure. The more traditional one, which I adopt in this book, deals with head final structures. Except for the order {complement > head} for the verb and all functional heads (but C^0),

21. The problem becomes even more relevant if one adopts Kayne's (1993b, 1994) X-bar theory. Kayne proposes that there is no adjunction anymore. A maximal phrase either has to be a complement or (an adjunct which is) a specifier. Within this framework adverbials are licensed in specifier positions of functional heads (see also Alexiadou 1994). Thus any adverb type that precedes the VP creates this equidistance blocking structure, like negation in example (109). Object shift always crosses those adverbs (formerly analyzed as VP adjoined) and should therefore introduce a RM violation. Interestingly, the evidence that is always given to show that object shift has taken place is adverb positioning.

we get the same representation as in the Danish example in (99). The object has scrambled (shifted) and negation intervenes. This should cause the same RM violation as in Scandinavian.

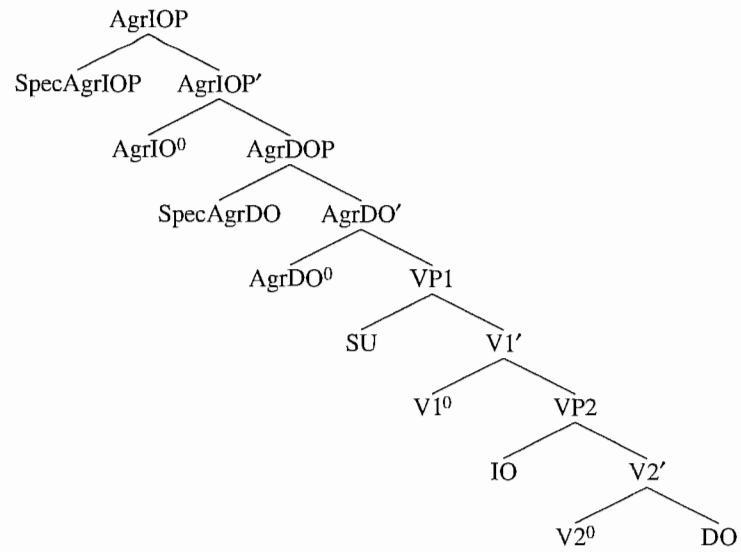
(100) *Peter las das Buch nicht.*
Peter read the book not
'Peter didn't read the book.'

If we choose the other version and analyze German as SVO language, as it is fashionable now, we get into even more trouble. The analysis of Dutch in Zwart (1993), following the main idea of Kayne (1993b, 1994), proposes that the Germanic pattern is {head > complement} throughout. In such analyses the verb occupies two positions. Either it raises and adjoins to C^0, or it stays in its base position, i.e. exactly as in Scandinavian. The first case is triggered in V2 contexts, i.e. main clauses; the latter one in embedded sentences (Jan-Wouter Zwart p.c.). To account for the linear order of {object > verb} he is forced to say that, while the verb remains in situ, the object moves to SpecAgrO. This is exactly what the equidistance story wants to rule out. Movement to SpecAgrO is only possible when the verb has moved as well.

A more general problem arises when we consider double object constructions with indirect objects. There is no consensus currently on whether dative should be analyzed as a structural Case. Nevertheless, it is claimed more and more often that dative should be regarded as such (Moltmann 1991; Schmidt 1994b and references quoted therein). A list of arguments in favor of a structural Case analysis for dative can be found in Meinunger (1995b).

If one implements dative as structural Case into the minimalist framework, one can see again that Chomsky's trick is untenable. By combining X-bar theory, Larsonian structure and a thematic hierarchy where goal is higher than theme (Chapter 2) we get a VP like that in (111). Thus the lowest Agr head should be associated with the lowest object, i.e. AgrDO should select VP and should itself be selected by AgrIO. (I skip here other possibly intervening functional categories.)

(101)



$V2^0$ raises to $V1^0$ in order to link all arguments together. Within the equidistance theory this move would render SU and IO equidistant from DO. However, there is no position the object could move to. The next available one is its designated position SpecAgrDO, which, nevertheless, is to far away. The first step has already shown that the equidistance theory doesn't work here either. The problems multiply as the derivation continues.

Other proposals that recognize argument crossing as a possible problem for RM and try to give an account for the phenomenon are Ferguson and Groat's 'visibility condition' (1994) or Haegenman's 'relation preservation condition on A-chains' (Haegeman 1993), or more recently Müller's reflections on parallel movement. These accounts (exept Müller) boil down to directly relating agreement specifiers to VP internal positions (for example SpecVP to SpecAgrS). I claim that this is not very explanatory since it stipulates that phrases are inserted in the base position with the instruction where they have to move to. I think that, firstly, this is not the case (cf. passive and other raising operations, case alternations partitive : nominative : accusative) and, secondly, we should look for a true explanation where the observations can be accounted for in a less stipulative manner, i.e. we should

look for a principle which derives the order in an independent fashion. This I will try in the next few paragraphs.

My proposal to account for the A-movement crossing will make use of the spirit of Rizzi's theory of 'relativized minimality' (= RM, Rizzi 1990) plus some refinements of it. Rizzi shows that movement of any sort (A-, $\overline{A}$ and head movement) obeys the same constraint: movement to a position X cannot cross a position of the same type. This theory is a representational one, in that an out-put structure is ruled out if there is an intervening element between the moved element and its trace, with both the moved and the intervening element being of the same type. This explains the unacceptability of the following sentences.

(102) *Why do you wonder [*who* left *t*]

(103) *John seems that *it* is unlikely [*t* to win]]

(102) is ruled out because *who* is in an $\overline{A}$-position and intervenes between *why* which also occupies an $\overline{A}$-position, and its trace, and thus blindly binds it. In (103) both *John* and *it* are in A-positions. *it* is closer to the trace of *John*, binds it and thus causes the RM violation. To summarize: what is crucial for the further argumentation is that $\overline{A}$-movement and A-movement are restricted in the same way. For this reason, Rizzi gives a formulation that does not make reference to a special type of position.

(104) Relativized Minimality: 7.
X α-governs Y if there is no Z such that
i. Z is a typical potential α-governor for Y
ii. Z c-commands Y and does not c-command X

Rizzi was well aware of the fact that this formulation was too restrictive. In some cases, an element of the same type may intervene without inducing an ungrammatical structure. Compare (102) with (105):

(105) (?)*Which paper* do you wonder *who* reviewed *t*?

Although *who* in an $\overline{A}$-position intervenes, *which paper* — also in an $\overline{A}$-position, but further away — remains capable of binding and thus identifying its trace. Rizzi stipulates that referential expressions are not subject to RM, they carry a referential index that renders them able to identify their trace from anywhere. For Rizzi, a referential index is linked to a referential theta-role. He modifies the classical argument/adjunct distinction and

proposes that theta-roles like agent or patient make phrases referential whereas roles like manner do not. This way he explains the contrast between (106) and (107).

(106) *Which linguist* do you wonder *whether* I like *t*?

(107) **How* do you wonder *whether* Artemis behaves *t*?

Thus, though the manner phrase is theta-marked by the embedded verb in (102), i.e. argumental, it cannot be extracted from a weak island since it lacks a referential theta-role.

However, Rizzi's RM is still too rigid to explain all data. Within his theory of referential indices, only arguments can bear a referential index, since only arguments are linked to certain thematic roles. Nevertheless, extraction of adjuncts out of weak islands is possible. Normally, adjuncts do not extract (108a), (109a), however, if the context allows for a discourse linked interpretation, even an adjunct can be extracted without causing (sharp) ungrammaticality (108), (109b).

(108) a. *Why$_i$ do you wonder [*whether* they can fire you t_i]
b. For which of these reasons$_i$ do you wonder [*whether* they can fire you t_i]

(109) a. *How$_i$ were you not able to solve the problem t_i
b. (Our boss said that one could solve this problem with every computer here in this room. Now you are saying this is not true. So tell me:)
with which of the computers here]$_i$ were you *not* able to solve the problem t_i?

On the other hand, if certain interpretations of arguments are forced, extraction of true complements becomes ungrammatical:

(110) *How much wine$_i$ did you *not* poison t_i?

(111) *Who the hell$_i$ do you *regret that* our aunt saw t_i?

This data shows that Rizzi's proposal is not completely correct. (108b) and (109b) should be ungrammatical, as the extractees do not get assigned a (referential) theta-role by the verb. On the other hand, if bearing a 'referential' theta-role like patient would make a phrase referential, it is unclear what explains the binding failure of the extractees in (110) and (111).

One of the most promising theories that tries to explain extraction facts that has been recently elaborated is to be found in Szabolcsi and Zwarts (1991, 1993). Their idea is that phrases that (are supposed to) take scope are associated with Boolean operations. When a *wh*-phrase (i.e. a potential scope taker) scopes over some other intervening scopal element, all relevant operations that are associated with the *wh*-phrase must also be associable with the intervening scopal element. If this condition is not met, the *wh*-phrase cannot scope over the intervener. That means, either that sentences become ungrammatical, or that only a subset of potentially possible scope readings is available. In other words: in order for a scopal element SE1 to take scope over SE2, SE1 must allow for at least all the operations under which the domain of SE2 is closed as well. That means, the possible operations of an element with narrower scope must be a subset of the operations associated with the element which is supposed to take wider scope (see also Chapter 7 for a more detailed discussion). This idea allows them to account for the data Rizzi or Cinque's theories cannot explain. *Wh*-phrases that contain the element *which* are good extractees because these phrases refer to concrete individuals. Individuals are collected into unordered sets and all Boolean operations can be performed, thus, no element could possibly intervene. Hence, *which*-phrases are good extractees no matter whether the constituent is an argument (115), (117), or an adjunct (118b), (119b). Amount phrases, for example, exhibit the structure of a join semi lattice. This partial order is not closed under the complement operation. Since negation is a semantic operation that does require complementation, *wh*-amount phrases cannot scope over negation, again the argumental status does not matter (example 120).

Thus what we get is what Szabolcsi and Zwarts call a true relativized minimality effect. An operator that is associated with more operations may have wider scope; on the other hand: the less operations a scopal element is associated with the less are the chances to get wide scope. This restriction creates a hierarchy among scope takers.

A parallel extension can be made with respect to A-dependencies. In Chapter 2 I have argued that arguments are ordered according to the selectional properties of atomic predicates into which the meaning of lexical categories, in our case of verbs, can be decomposed. The resulting argument structure then is a hierarchy of constituents. I am in full agreement with

Grimshaw (1990), who argues that argument structure is not a collection of unordered thematic roles, but that argument structure is an ordered representation that reflects a prominence hierarchy. Grimshaw argues that arguments that are higher ranked in the hierarchy are more prominent. Thus, for example, a subject is more prominent than an ordinary object. In cases of conflict, the prominence hierarchy (re)orders arguments such that the out-put posits the more prominent argument into a place higher in the argument structure than in the original hierarchy. Thus, VP internal argument dependencies are determined by a hierarchy of prominence.

It is not a revolutionary step to propose that A-movement out of the VP is triggered by the prominence hierarchy too. A well studied phenomenon is passive. In passive constructions, the original object becomes the subject. The functional reason is the greater prominence of the object with respect to the subject. The subject, which in the unmarked case is more prominent, gets suppressed or it merely surfaces as a PP at some marginal position in the sentence. As I have argued at several places in this book, movement of an argument from its base position to a VP external SpecAgr position is not (very) different from passive; neither purely grammatically (need of case), nor functionally (prominence). As a matter of fact, topics are more prominent than non-topics. Thus, when an object is a topic it is more prominent than the subject if this is not a topic. This is the case in the examples from the end of Chapter 3, here repeated as (112) and (113).

(112) *weil dem Patienten niemand helfen kann*
since the patient no-one help can
'since nobody is able to help the patient'

(113) *daß Ellen die Gerüchte über Ina keiner geglaubt hat*
that Ellen the rumors about Ina no-one believed has
'that no one believed Ellen's rumors about Ina'

When all arguments are topics and as such equally prominent it is again the argumental prominence that triggers the same linearization as within the VP (again cf. Müller 1997). Thus, we have an explanation for the ordering of the agreement phrases. AgrS hosts an argument that is more prominent than AgrIO, and AgrIO in turn hosts a topical argument that is higher than the constituent in AgrO. This explains the ordering in (114), which is copied from Chapter 3, example (98):

(114) *daß die Firma Müller meinem Onkel diese Möbel erst*
that the firm Müller-NOM my oncle-DAT this furniture-ACC only
gestern zugestellt hat
yesterday delivered has
'that Müller delivered this furniture to my uncle only yesterday'

Thus, the VP external hierarchy must be the same as the internal one because the trigger for the order of the arguments is the same, namely prominence. This way the crossing of arguments comes as an automatic consequence. Exactly as with $\overline{A}$-movement, crossing is not necessarily impossible. What matters is that the hierarchy be preserved. In the case of $\overline{A}$ dependencies the hierarchy is established by the number and sort of Boolean operations that allow the quantificational element with the higher number of associated operations to take scope over the quantifier which is associated with the poorer algebraic structure. In the case of A-movement, the hierarchy is pinned down by the relative prominence, i.e. salience. Arguments with a greater prominence may move over arguments which are less salient in the utterance. Hence, Rizzi's RM should be reformulated as a constraint on hierarchy preserving. Since head movement is not considered a new formulation of RM could sound as follows:

(115) Hierarchy Preserving Constraint:
Some constituent C1 of type X may be moved over some other constituent C2 of the same type, iff C1 is higher in the relevant hierarchy then C2.
(with X = A or $\overline{A}$)

This principle gives us a nice account to explain Table 1 from Chapter 3 or the Catalan paradigm in (48) of this chapter. So far we have only dealt with the VP internal and the 'unmarked' VP external order, the latter being parallel to the former. However, as both paradigms suggest, outside the VP it seems to be possible to find every order possible. The reason for this is simply prominence again. If the speaker linearizes the VP external arguments in an order that diverges from the ordering of the agreement nodes, (s)he does so because (s)he wants to stress that, for example, the topical direct

object is of greater prominence than the indirect one although the latter is topical too.[22]

(116) *Les notes*$_j$ *encara no els*$_i$ *les*$_j$ *he donat* t_i t_j, *als alumnes*$_i$.
the degrees yet not them them have given to-the students
'I haven't given the grades to the students yet.'

(117) *daß die Frau den Hund der Nachbarin gestern gegeben hat*
that the woman the dog the neighbor yesterday given has
'that the woman gave the dog to the neighbor yesterday'

For these linearizations to be established one more movement step is necessary. This step takes the argument in its SpecAgr position and moves it away from there. I will not commit myself to saying what the target position is. It seems to me, however, that this position is most likely not an A-position, but an A-bar ($\overline{A}$) position. This gives us the explanation for the hybrid character of scrambling. Movement to a SpecAgr position, which is an A-position, may be followed by a non-A-movement. The result is that some $\overline{A}$ effect might be triggered.

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22. This sort of reordering of topical arguments is not possible in laguages like Dutch or Italian. In these languages, the linearization of the arguments is much more fixed.

(i) ok*dat Jan Marie de boeken niet geeft* (Dutch)
that Jan Marie the book not gives
(ii) **dat Jan de boeken Marie niet geeft*
(iii) ok*Maria ha dato il libro a Piero* (Italian)
Maria has given to Piero the book
(iv) **Ha dato Maria il libro a Piero*

The reason for this is that in these languages the order of the arguments is the only tool to identify the argument's thematic role. In German, we have overt Case morphology that unambiguously tells the theta-role, in Catalan it is the clitics (Agr^0 heads) that identify the argumental status of the full DPs. Interestingly also in Italian, when clitics do appear, the ungrammatical order from (iv) might be turned into an acceptable utterance.

(v) *Glielo ha dato Maria, a Piero, il libro*

However, in case linearization is the only device to identify the thematic role, communicative dynamism must resort to prosody.

4.8 Summary

In this chapter the idea is put forth that arguments carrying the feature [+ Topic] move to specifier positions of agreement projections. First I tried to falsify approaches that aim at explaining Case assignment without making use of agreement projections. I showed that the so-called contentful functional projections T^0 and Asp^0 cannot be solely responsible for Case assignment to argument DPs. I argued for the Case assigning capacity of agreement projections by providing examples where nominative DPs are licensed only by the presence of AgrS (inflected infinitives in European Portuguese) and under absence of any tense information.

Then clitic-doubling in Catalan is compared with German scrambling. Since both phenomena are the result of the same information packaging strategy it would be of advantage to reduce them to a single underlying grammatical operation. My proposal is to analyze both as an activation of the AgrO projection. German moves the object to its specifier, Catalan (additionally) realizes the $AgrO^0$ morpheme overtly. It should have become clear up to this point that Agr is to be understood as an abstract notion. The claim that Agr heads are universally involved for the encoding of topicality does not mean that all languages display all sorts of overt (object) agreement.

At the end of the chapter, those phonological changes are investigated that come along with the movement of constituents. It is proposed that Selkirk's bottom-up approach of focus projection applies to constructions involving narrow focus, while Cinque's 'Null Theory', a top-down approach, regulates the stress pattern in neutral assertions.

The result of the chapter is summarized in the mapping from (77), here repeated as (118)

(118) [CP...[AgrPs... | [VP ([discourse-new adjuncts]) [VP...]]
topic(s) | comment

In the end I offer some speculations concerning the ordering of AgrPs and scrambled constituents. Showing that Chomsky's theory of *Equidistance* cannot be maintained for both theoretical and empirical reasons. I develop another principle which accounts for the multiple crossing of A-movement (carrying also over $\overline{A}$-dependencies): the Hierarchy Preserving Constraint.

CHAPTER 5

The typological chapter

This chapter presents a vast amount of data from typologically more or less unrelated languages. These data are intended to provide cross-linguistic evidence for the claim of the present book, i.e. for the proposal that topical constituents bear a link to agreement projections. As the preceding chapters, this one mainly considers objects. Thus the focus should be at all those possible grammatical phenomena the AgrO projection could possibly trigger. The first difference to be expected is one in Case morphology. If we adopt — with slight modifications — de Hoop's theory of weak and strong Case, we assume that there are two different ways of Case assignment to direct object NPs. This should imply that (some) languages mark their objects with morphologically different Cases; one assigned or checked in the DP's base position, the other one in SpecAgrO. Languages that show different morphological Case-marking on the direct object depending on this interpretation are Finnish, Turkish, Russian, Old High German, and Scottish Gaelic.

Another expected difference is overt object agreement on the verb. If the proposal is correct that Agr projections are the host of topical arguments, it is expected that languages that display object agreement do so only in case of topical objects. Hindi, Hungarian, (Porteño) Spanish, Romanian, French and Swahili confirm the pattern that verbal agreement is triggered only with specific objects. A detailed analysis is already given in Chapter 4 (for Catalan).

The third difference that an AgrO projection may induce is word order. If the structure of a language is known, i.e. if the linear order of specifier, head, complement of lexical and functional categories is more or less clear, then it is possible to construe configurations where the object must be in either a derived or in its base position. Again the expectation is that the topic–comment difference in the interpretation of the object is linked to different positions in the string. One famous example of word order distinction

for object interpretation has already been discussed: scrambling in German (Chapter 3). Turkish, Japanese and West Greenlandic, basically all scrambling languages, behave like German.

A forth difference which I will shortly address at the end are expletive constructions.

5.1 Morphologically different cases for the direct object

Finnish:

One language that nicely illustrates the different object interpretations by the use of different Case endings is Finnish. Direct objects show up either with accusative or with partitive Case. Finnish lacks a determiner system which provides D^0 elements showing the (in-)definiteness of nouns. Some information about the discourse linking of the object, however, is provided by the Case morphology. Example (1) shows that the usual translation of a Finnish sentence with the object in accusative Case has a definite DP in a language which displays definite determiners. Example (2) shows that the unmarked interpretation of a direct object in partitive Case is indefinite.[1]

(1) *Hän pani kirjat pöydälle.*
he put books-ACC on the table
'He put the books on the table.'

(2) *Hän pani kirjoja pöydälle.*
he put books-PART on the table
'He put (some) books on the table.'

This is the picture that presents itself according to Belletti's analysis (Belletti 1988). There she claims that partitive Case is only compatible with an indefinite interpretation. That is not true, however. De Hoop (1992) cites Karlsson (1985) where the alternation between accusative and partitive is

1. I have argued at length that (in) definiteness is not the crucial factor for (non)topichood. However, the prototypical topic is definite, the prototypical new discourse referent is indefinite. This notion of markedness underlies the argumentation here. In Chapter 2 I have shown that the data in Finnish are more complex and provided an analysis for the interaction of (in)definiteness and (a)telicity.

attributed to more semantic distinctions than just (in-)definiteness. One more distinction involved in Case assignment is aspect. An irresultative reading of the sentence allows for a definite interpretation of the object although this carries partitive Case. Thus (3) is ambiguous with respect to the interpretation of the object.

(3) *Anne rakensi taloa.*
Anne built house-PART
'Anne was building a house.' or 'Anna was building the house.'

The same applies in the case of inherently strongly quantified objects. *Kaikki* means 'all' and should semantically be interpreted as a generalized quantifier. As such a *kaikki* NP should bear strong Case (the Case for strong NPs). However, partitive Case is also possible, which then forces an atelic reading.

(4) *Presidentti ampui kaikkia lintuja.*
president shot all-PART bird-PART
'The president was shooting at all (the) birds.'

De Hoop herself brought this apparent counterexample to her theory. She then proposes that Case acts as a type shifter, rendering the object a predicate modifier. As such it does not count as a GQ any longer. This, however, does not look very convincing within her Case-NP-reading-correspondence proposal. Within the theory proposed here, the object just belongs to the comment. The sentence is a statement about the president in the first place. The birds are not a topic. The sentence describes a situation in which the president is shooting in the direction where (all) the birds are. It is not intended to say that between the president and each of the birds there is a relation which is characterized by the former shooting the latter to death. Such a resultative reading is only possible with accusative. Thus, Finnish definite or strong objects carry partitive Case under similar circumstances when we find those DPs in unscrambled position in German (see Chapter 3, Section 3.4.3).

Russian:

Russian delivers a similar picture. Direct objects may show two different Cases with each linked to a special reading.[2] The two Cases are accusative and genitive. Some verbs, especially verbs of desire, aim, request allow for both Cases. When the object bears accusative, the object is interpreted 'outside the scope of the action expressed by the verb. The genitive expresses an indefinite NP, corresponding to the type of existential quantification ...' (see Neidle 1988)

(5) *On zhdet pis'mo.*
he waits letter-ACC
'He is waiting for the letter.' or 'He is waiting for a (specific) letter.'

2. Here a very important remark must be made. Partitive Case in Russian and Finnish is not restricted to objects. It may as well alternate with nominative Case for subjects. This confirms that the distinction has to do with structural versus oblique case.

(i) *Pihalla leikkii lapsia.* or: *Lapsia leikkii pihalla.* (Finnish)
yard-ADESS play-3SG child-PL-PAR
'There are children playing in the yard.'

(ii) *Otveta iz polka ne prishlo.* (Russian)
answer-GEN from regiment NEG came-SG.NTR
'No answer arrived from the regiment.'

It could be argued that *priti* (infinitive form of *prishlo:* to come/to arrive) is unaccusative, and therefore not a good example. Like in Finnish, however, unergatives also make the distinction for the subject.

(iii) *Na ètom zavode rabotajet mnogo zhenshchin.*
in this factory works much women-GEN
'In this factory there are many woman working.'

(iv) *Mnogiye zhenshchiny iz nashego tsekha poseshchajut vecherniye kursy.*
many-NOM women-NOM from our workshop visit evening lectures
'Many of the women of our workshop are taking evening courses.'

This alternation is not possible in oblique Case contexts. An oblique Case must be realized. The intended readings then must be disambiguated through paraphrases.

(v) *Otets interesuyetsya mnogimi vidami sporta.*
father intrests-self many-INSTR kinds-INSTR sport
'(My) father is interested in many sports.' (existential reading available)

(vi) **Otets interesuyetsya mnogo vidov sporta.*
father intrests-self much kinds-GEN sport

What these data show is that Case alternations are only possible with structural Cases.

(6) *On zhdet pis'ma.*
he waits letter-GEN
'He is waiting for some letter or other.'

A similar case is the Case of mass nouns. Here the alternations are not that immediately linked to the intentionality flavor of the verb. Accusative gives the object a discourse-linked, referential reading, whereas (the so-called partitive) genitive[3] triggers an indefinite existential reading.

(6) a. *Prinesi chay!*
bring tea-ACC
'Bring the tea!'
b. *Ya s'el khleb.*
I ate bread-ACC
'I ate the bread (up).'

(7) a. *Prinesi chayu!*[4]
bring tea-GEN.PART
'Bring some tea!'
b. *Ya s'el khleba.*
I ate bread-GEN
'I ate some bread.'

The use of accusative presupposes the existence of the object bearing it. This is not the case with genitive Case. The claim that accusative (assigned to the

3. Patitive genitive is a special morphological form that co-occurs with the normal genitive. Only a few nouns make this distinction like 'tea':

chayu Partitive genitive
tea-u
chaya (= *roditel'nyi podezh*, i.e.) 'normal' genitive
tea-a

Partitive genitive is what corresponds to partitive Case in Finnish. It occurs only in object (and very rarely in subject) position and is the alternate to accusative Case. What I call 'normal' genitive is the form which must be used in constructions where the genitive has an attributive or possessive use like in:

zapakh chaya
smell tea-GEN ('(the) smell of (the) tea')

4. The examples from 7 also show that partitive Case and perfective aspect are compatible (see the discussion in Chapter 4, Section 4.4).

NP in SpecAgrO) is the topic object Case and genitive (assigned in situ) goes to non-topics is a formalization of a statement from Borras and Christian (1971):

> As a general principle, the accusative Case is used when the object in question is known to both speaker and hearer, or reader and writer, i.e. when it has already been talked about or referred to before.

This is also reflected in the Case pattern of Russian quantified expressions. As said before several times, there is a systematic ambiguity with weak quantifiers. They can be interpreted either existentially when caught by existential closure in the NS, or specifically (i.e. presuppositionally) when they end up in the RC at the LF level. Most weak quantifiers in Russian are not really ambiguous. They signal morphologically whether they should be interpreted specifically or existentially. In the former case, they have an adjectival form, bear accusative morphology and combine with a NP that has to carry this Case as well. The latter, i.e. existentially interpreted quantifiers, do not bear any Case. They look like adverb(ial)s and require their NP complement to carry genitive Case. Thus in Russian we have

(8)

strong forms with accusative endings:	weak forms:	meaning:
mnogie	*mnogo*	many
nemnogie	*nemnogo*	not many or few
nekotorye		some (of)
neskol'kie.	*neskol'ko*	some
	malo	few
	dva, tri, vos'em'	two, three, eight

(9) *V otdele gotovogo plat'ya Natasha pomerila mnogo yubok.*
in clothing department Natasha tried-on many skirts-PL.GEN
'In the clothing department Natasha tried on many skirts.'

(10) *Segodnya v magazine lezhit 30 jubok. Natasha pomerila mnogie.*
today in shop lay 30 skirts Natasha tried many-ACC
'Today, there are 30 skirts in the shop. Natasha tried many of them.'

(11) *Segodnya v magazine lezhit 30 jubok. *Natasha pomerila mnogo.*
many$_{weak}$

In (9) we have a sentence that introduces skirts into the universe of discourse. Genitive Case provides the correct existential reading. In (10) we have a context. The first sentence is an existential statement about 30 skirts. In the following sentence a subset of them is referred to. As the translation reflects, the reading of the object is partitive, i.e. *mnogie* is specific, it acts as a topic[5] about which something is being said, namely that Natasha tried them on. The use of the weak form is odd, see (11). There *mnogo* creates a new file card without specifying anything about it. No relation to the previous sentence is triggered. A corresponding English text would be something like.

(12) Today in GUM they got 30 new skirts. Natasha tried on much.

In order to make the sentences a text, i.e. to make them a coherent statement, one element in the sentence should bear some relation to an element from the previous sentence. *Much* and *mnogo* are not able to do that. *Mnogo* is linked to existential closure, i.e. file card creating, thus the infelicity in (11).

Strong quantifiers never have two forms. In object position they show accusative Case together with the NP.

(11) *Natasha reshila kazhduyu problemu.*
Natasha solved every-ACC problem-ACC
'Natasha solved every problem.'

(12) **Natasha reshila kazhdoi problemy.*
Natasha solved every-GEN problem-GEN

A clear context where the Case alternation plays a role is negation. Traditional grammars claim that in the context of negation, accusative marking gets the object outside the scope of the negative operator, i.e. a object bearing accusative morphology is not affected by negation. Thus a bare object in the accusative under negation forces a definite interpretation:

(13) *Pavel' ne vidit korovu.*
Paul NEG sees cow-ACC
'Paul doesn't see the cow.'

Genitive leaves the sentence ambiguous. The default interpretation, however, is the one where there is no cow in the universe of discourse.

5. More precisely, it is the focus of the object that is a topic (cf. Krifka's proposal (Chapter 1, Section 1.4.2)).

(14) *Pavel' ne vidit korovy.*
Paul NEG sees cow-GEN
'Paul doesn't see a/any cow.' (but also: 'Paul doesn't see the cow.')

The Academy Grammar (Russkaya Grammatika 1980, 2nd vol.) gives a nice example for the present theory. When in a transitive sentence the negated verb is focused and hence contrasted with another verb, the object is required to appear in accusative. This follows from the fact that the rest is background and contains[6] topics and tail elements in Vallduví's terms. Thus the object should be outside the VP and consequently bear accusative:

(15) *On ne prosMAtrivaet stat'yu/*stat'i, a chitaet.*
he NEG looks over article-ACC/*-GEN but reads
'He doesn't look over the article, but reads it.'

Turkish:

In her article on specificity, Enç (1990) shows that a similar Case pattern is observed in Turkish. In that language, objects may or may not be marked with the accusative Case marker suffix -(y)ı. Enç shows furthermore that the difference in Case is linked to a difference in interpretation, namely specificity vs. non-specificity of the object. Using some DRT version as starting point, she develops a theory of specificity which refines the Familiarity Condition of Heim (1982) (Chapter 3, Section 3.2.3). Enç proposes that all NPs carry a *pair* of indices, the first of which represents the referent of the NP. The indices in turn have to bear a definiteness feature. The first index determines the definiteness of the NP. The definiteness feature of the second index determines whether the NP may be interpreted as specific.

6. The argumentation is not quite fair. It is possible to have narrow focus on the verb or another constituent within the VP allowing for an existentially quantified direct object nevertheless, namely within the background of the comment. (This kind of constructions is discussed in detail in Büring 1994). Thus, it should be possible to construe the 'article' within the range of existential closure, i.e. VP internally, and consequently genitive Case assignment should be possible. However, the but-sentence which follows shows object drop. This is only possible in case of topichood of the object (= topic drop). This unambiguously shows that only the verb is the relevant information constituting the comment, the arguments (must) act as topics in the Academy Grammar example, and hence must be assigned the VP external case: accusative.

(16) Every $[_{NP}\alpha]_{\langle i,j\rangle}$ is interpreted as $\alpha(x_i)$ and
$x_i \subseteq x_j$ if $NP_{\langle i,j\rangle}$ is plural,
$\{x_i\} \subseteq x_j$ if $NP_{\langle i,j\rangle}$ is singular.

Enç defines an NP as specific if the second index is definite. Specificity thus is a weaker notion than definiteness which requires both indices to be definite. The definition, however, captures the intuitive notion of discourse linking. She shows then that accusative Case acts as 'discourse-linker'. Consider the following context:

(17) *Odam-a birkaç çocuk girdi.*
my-room-DAT several child entered
'Several children entered my room.'

This sentence can be followed by a transitive sentence with the object bearing accusative Case (18) or not (19).

(18) *Iki kız-ı tanıyordum.*
two girl-ACC I-knew
'I knew two girls.'

(19) *Iki kız tanıyordum.*
two girl I-knew
'I knew two girls.'

In (18) the girls are interpreted as included in the set of children introduced in the preceding sentence. Accusative which acts as specificity marker demands that the second index of *iki kız-ı* be definite, i.e. familiar. Thus *iki kız-ı* must be linked to something familiar which in the given context can only be provided by *birkaç çocuk* (i.e. several children). In (19) the absence of accusative signals weak Case, or non-topichood of the NP. Therefore the object must be existentially closed, and *iki kız* introduces two new girls into the discourse.

This Case pattern in Turkish also disambiguates the reading of indefinites in intensional contexts. If the object is marked with the accusative Case marker, the NP must be interpreted as referential. The absence of Case marking forces a non-referential reading and the existence of the object is no longer presupposed. Thus in (21) any piano could satisfy Ali's wish and it might well be that in the relevant world there is even no piano.

(20) *Ali bir piyano-yu kiralamak istiyor.*
Ali one piano-ACC to rent want
'Ali wants to rent a certain piano.'

(21) *Ali bir piyano kiralamak istiyor.* (without Accusative morpheme)
'Ali wants to rent a (non-specific) piano.'

Strong quantifiers which presuppose a certain referentiality of the NPs in their first argument (i.e. require that the set they refer to be non-empty) should force the noun to be Case marked for accusative under the proposal developed in this article. This prediction is correct:

(22) *Ali her kitab-ı okudu.*
Ali every book-ACC read.

(23) **Ali her kitab okudu.*
(both: 'Ali read every book.')

Old High German:

Also earlier stages of German show a difference in Case marking for objects (see work by Abraham 1994 and Philippi 1994). The Case difference again goes together with the by now familiar interpretative differences (the discourse function of the object, the meaning of the verb, the aspectual properties of the sentence and so on.) In Old High German, verbs like *drigkan* 'to drink', *neman* 'to take', *geban* 'to give'... may have their objects in genitive or accusative Case. Genitive triggers the partitive, weak reading (24), (25); accusative a referential one (26) (the data come from Philippi 1994 who takes them over from Donhauser 1990).

(24) *kebet uns iuwares oles*
give us yours oil-ACC
'Give us of your oil!'

(25) *skancta sinan fianton bitteres lides*
poured his enemies bitter drink-GEN
'He gave a bitter drink to his enemies.'

(26) *thaz heri tho gisaz, thaz brot gisegonotaz az*
the army the set-down the bread-ACC blessed-ACC ate
'the armey set down (and) ate the blessed bread'

Abraham proposes a 'Conditional Typological Cross-categorial Alignment Corollary:

> The universal is assumed to hold on a specific condition: If a language realizes distinctly the genitive and the accusative Cases and if, further, either Case marks distinctly aspectual properties, it will observe further corollaries sketched in (43) below.

	discourse function
GEN-obj	Rhema according to [–def]
ACC-obj	Thema since [+def] Rhema for [–def]

Thus, also here one finds evidence for the claim of the present book. However, one should note that although I agree with Abraham with respect to the theme-rheme interpretation of the object, I have argued that the aspectual properties are only an epiphenomenon and that the correlation with the object interpretation is only a tendency (Chapter 3, Section 3.4.3).

Scottish Gaelic:

Ramchand (1993) claims that the Case pattern in Scottish Gaelic parallels the use of accusative and partitive in Finnish. The two Cases in Scottish Gaelic are direct Case which corresponds to strong Case and genitive which corresponds to weak Case:

(27) *Bha Calum a' gearradh chraobhan.*
be-PAST Calum *ag* cut trees-GEN
'Calum was cutting trees.'

(28) *Gheàrr Calum craobhan.*
cut-PAST Calum trees-DIR
'Calum cut some particular trees.'

A nice fact about Scottish Gaelic is that it overtly marks definiteness. Definiteness is compatible with genitive Case. The object then gets a part-of-the-predicate — in other words — belonging-to-the-comment reading. Again,

definites and strongly quantified expressions are not necessarily topics, as respectively shown in (29) and (30).

(29) *Tha Calum a' gearradh na croibhe.*
be-PRES Calum *ag* cut the tree-GEN
'Calum is cutting/cuts at the tree.'

(30) *Tha Calum a' gearradh gach uile chraobh.*
be-PRES Calum *ag* cut every tree-GEN
'Calum is cutting at every tree.'

Another nice correlation is the position of the object. Scottish Gaelic is a VSO language. Thus in simple tenses it is not easy to decide where the verb is. In perephrastic tenses, only the auxiliary moves to the sentence initial position. The main verb stays lower down. In that case, the object may follow or precede the verb. Since Scottish Gaelic seems to be an ordinary language, i.e. linear specifier > head > complement order, we expect the preverbal position to be linked to direct Case, and the postverbal one to genitive Case. This prediction is borne out.

(31) *Bha Calum air am balach a fhaicinn.*
be-PAST Calum PART-IMPERF the boy-DIR AgrO see
'Calum had seen the boy.'

(32) *Bha Calum a'faicinn a'bhalaich.*
be-PAST Calum PART-IMPERF see boy-GEN

Additional evidence for the proposal comes from the fact that in the case where the object is preposed to SpecAgrO an element *a* appears on the verb. Ramchand as well as Adger (1993) analyze this *a* as agreement marker.

5.2 Object agreement and topichood

Hindi:

Looking at his mother tongue Hindi, Mahajan (1990, 1991) develops a theory of scrambling, Case assignment and specificity which is very similar to the one presented in this book. He argues that (in Hindi) all arguments are base generated inside the VP. Arguments that do not get Case marked by the verb in their base position have to undergo scrambling. This movement is

A-movement and leads to an agreement projection. The reading of the argument in the derived position is necessarily specific. The pattern looks like the following: in non-perfective tenses the verb agrees with the subject (34), never with the object. In perfective tenses and with psych verbs, the verb agrees with the object (33).

(33) *siita-ne laRkaa dekhaa* (object agreement)
Sita-ERG boy saw-MASC
'Sita saw the boy' or 'Sita saw a specific boy'

(34) *siitaa laRkaa dekh rahii hE* (no object agreemant)
Sita boy see-PROG-BE-FEM
'Sita is looking for a (some) boy (or other).'

Since Hindi is strictly head final, these examples do not show that object movement has also taken place. However, there are arguments that this must have been so. Binding of anaphoric elements must be from an A-position. If one adopts some version of UTAH and a thematic hierarchy where goals are higher than themes plus the claim that in Hindi specifiers (as well as complements) are to the left of their heads, a direct object that linearly precedes an indirect one must have moved to this position. The fact that it can bind an anaphor in the indirect object implies that the status of the targeted position SpecAgrO must be an A-position.[7]

(35) **siita ne apne*$_i$ *pitaa-ko kOn*$_i$ *saa baccaa dikhaayaa*[8]
Sita-ERG self's father (IO) which child-MASC (DO) show PERF-MASC
'Which child did Sita show to self's father?'

(37)$^{(?)}$*siita ne kOn*$_i$ *saa baccaa apne*$_i$ *pitaa-ko dikhaayaa*
Sita-ERG which child-MASC (DO) self's father (IO) show PERF-MASC

He brings further arguments like weak crossover constructions and adverbial interpretations. I do not want to present those data here and refer the reader to Mahajan's work.

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7. Here I am only recapitulating Mahajan's theory about Hindi. Since the German facts are different I did not use these binding tests to argue for the A-movement analysis of Germanic scrambling.

8. Like almost all head final languages, Hindi does not have overt *wh*-movement. The which-phrase should therefore not be analyzed as having undergone $\overline{A}$-movement.

(Porteño) Spanish:

Suñer (1988) argues that — at least in Porteño Spanish — pronominal clitics should be analyzed as agreement morphemes. With this claim she can nicely account for clitic doubling constructions. Under such an analysis, clitics are just seen as agreement morphemes that do not have a referential or argumental status of their own. They are at most able to identify one. Thus one no longer has to develop a strange theory of interaction between Case absorption, theta and Case positions (Jaeggli 1982; Kayne 1975). In Porteño Spanish clitics double definite and specific indefinite object NPs, in my terms: topic NPs trigger agreement. Suñer claims: 'The pertinent feature for doubling is [+specific]':

(38) **(La) oìan a Paca/a la niña/a la gata*
her listened to Paca/to the girl/to the cat
'They listened to Paca/the girl/the cat'

(39) *Diariamente, *(la) escuchara a una mujer que cantaba tangos*
daily 3SG.FEM listened a woman who sang tangos
'Daily, they listened to a woman who sang tangos.'

Direct objects that get a non-specific interpretation cannot trigger clitic doubling, i.e. agreement.

(40) *No (*lo) oyeron a ningún ladrón.*
not CLITIC they-heard a any thief
'They didn't hear any thieves.'

(41) *(*La) buscaban a alguien que los ayudara.*
CLITIC they-looked-for a someone who them help
'They were looking for someone who could help them.'

(42) *(*Lo) albarán al niño que termine primero.*
CLITIC they-will-praise the boy who finish first
'The will praise the boy who finishes first.'

(42) is again an example of a definite not being a topic. The relative clause indicates that 'the boy' is not familiar, thus the object cannot act as a topic and trigger agreement.

French:

There is also evidence from French. Here we find object agreement on the past participle when certain NPs have moved to the left of it (by *wh*-movement in questions and relatives or by cliticization). Objects on the right, which I assume to be in their base position, never trigger agreement.

(43) *Quelles maisons a-t-it construites?*
which houses has-he built-AGR
'Which houses has he built?'

(44) *Il a construit/*es ces maisons-là.*
he has built/*AGR these houses over there
'He build these houses over there.'

However, the triggered agreement forces a discourse linked reading (in the sense of Pesetsky 1987) of the moved NP. *Quelles maisons* (which houses) forces a reading where the speaker has specific houses in mind (referential reading). A *combien-* (how much/how many) question that only asks for a number does not trigger agreement (see Obenauer 1992).

(45) *Combien de chaises as-tu repeint?*
how many of chairs have-you repainted
'How many chairs did you repaint?'

Object agreement is also possible, but then the question asks for specific chairs out of a previously introduced set of chairs. If one asks for an object which cannot or can hardly be referential for pragmatic reasons, agreement is impossible.

(46) *Combien d'essence as-tu mis(*e) dans le réservoir?*
how much of gasoline have-you put(*AGR) in the tank

On the other hand, when we embed the *combien*-object in a weak island, it can escape only when it is interpreted referentially, i.e. carries a referential index. (see Rizzi 1990; Pesetsky 1987; Szabolcsi and Zwarts 1991, 1993) Then — at least in the relevant register of French I am referreing to — agreement is obligatory.

(47) *Combien de chaises n'as-tu pas repeintes/*repeint?*
how many of chairs NEG-have-you *not* repainted AGR/*without AGR

Speakers who have uttered this question expect an answer like:

Among all the chairs here in this room there are only three I have not repainted, namely: this one, this one, and that one.

Thus the presence of agreement makes the object referential.

Hungarian:

Hungarian is another language which displays some support for the theory developed in the present book. In this language, transitive verbs possess two different conjugations: traditional grammars call them the subjective and the objective conjugation. The subjective conjugation is used when the verb has an intransitive meaning like as in (48), or when a specific direct object is not intended, i.e. the object is not specific (49). On the other hand, the objective conjugation is used when the object is referential (50).

(48) *Látok.*
('I see.' = I am not blind. or I can see.)

(49) *Látok embereket.*
'I see people.'

(50) *Látom barátomat.* (object agreement)
'I see my friend.'

Radó (1993) analyzes the agreement marker as an indicator of definiteness. Although she analyses the agreement morpheme as AgrO element, she claims that the definiteness morpheme is a morphological reflex rather than linked to a specific interpretation. However, in the examples she gives where the definiteness marker appears, one finds NPs that are not definite in the classical sense. Look at her examples (d) and (e). Whereas one could still argue that in the indefinite NP in (d) the definiteness feature is inherited from the definite possessor, such an argument does not hold for the quantified expressions in (e). There, we clearly have to deal with strong quantifiers which should be analyzed as discourse-linked, but not as definite. Radó lists the following NPs as triggers for the objective conjugation:

(51) ((40) in Radó's article)
the verb bears an agreement morpheme if its accusative object is
a. a 3rd person pronoun
Pista lát-ja ööt/ööket.
Pista sees-DEF him/her/them

b. a proper name
Pista lát-ja Katit.
Pista sees-DEF K.-ACC
c. an NP with a definite article
Pista lát-ja a lányt.
Pista sees-DEF the girl-ACC
d. a possessive NP
Pista lát-ja egy barát-ját.
Pista sees-DEF a friend-3POSS-SG-ACC
e. an NP with certain quantifiers (forms with 'which' or superlative ending)
Pista lát-ja valamelyik/mindegyik lányt.
Pista sees-DEF some (specific)/each girl-ACC
f. a reflexive
Pista lát-ja magát.
Pista sees-DEF self-3SG-ACC

Bantu:

The last languages I want to have a look at are Bantu languages. There object agreement plays an important role for the object's interpretation. In Swahili, there are object agreement markers that have developed from pronoun and demonstrative forms. Look at the examples (52) and (54). *ki* and *vi* are part of the noun. In (53) and (55) they are part of the verbal complex and act as agreement markers. Here they act very much like the clitic elements in Porteño Spanish. They are able to identify an object which can be analyzed as *pro*.

(52) *ni-li-vunja kikopo*
'I broke a cup.'

(53) *ni-li-ki-vunja* _
'I broke it.'

(54) *ni-li-vunja vikopo*
'I broke some cups.'

(55) *ni-li-vi-junja* _
'I broke them.'

In (52) and (54) *a cup* and *some cups*, respectively act as parts of the comment.

They are being introduced into the discourse. The sentences that take the objects as topics look like:

(56) *kikopo, ni-li-ki-vunja* (object preposing with agreement!)
'The cup, I broke it.' or
'I BROKe the cup.'

(57) *vikopo, ni-li-vi-vunja*
'The cups, I broke them.' or
'I BROKe the cups.'

Another clear contrast is observed in Luganda. As in Russian, negation is helpful. In cases where the object is not referential, i.e. there is no entity in the discourse frame that could be referred to, no object marker (agreement) shows up on the verb (58). In (59), the object acts as a topic and the negation affects only the verbal action. The object marker (OM) is present, and also the determiner form of the object noun (*omu*) and its position in the tree are different.

(58) *ta-ya-laba mu-sajja* (Luganda)
see man
'He didn't see any man.'

(59) *omu-sajja, ta-ya-mu-laba*
man OM-see
'He didn't see the man.'

5.3 Word order, there-be effects and deaccenting

In the introduction of this chapter I have given a list of morpho-syntactic phenomena which might distinguish an argument in its base position from the same argument having moved to the specifier position of an agreement projection. I mentioned the three obvious differences: Case realization, overt agreement vs. its lack, and thirdly different positions. 5.3. now is dedicated to the third difference. However, since there is a whole chapter on this (Chapter 3) no more analyses will be presented for no more languages. Here it suffices to just mention a couple of other languages where the argument position is decisive for the interpretation. One example is Scottish Gaelic (cf. Chapter 4, Section 4.3.2). Other relatively well studied scrambling languages are Dutch, Japanese and Turkish or West Greenlandic.

I rather want to be a bit more explicit with a construction which seems to be typical to subjects although this is not very much in the spirit of this chapter. Many languages exhibit constructions which have become known as '*there-be* constructions' or 'existential sentences' (cf. Reuland, E. & A. ter Meulen 1987). These constructions consist of an expletive and an associated noun phrase mostly accompanied with a predicate. Very often this expletive is (homophonous with) a locational proform meaning *there*, sometimes the expletive is (homophonous with) the neuter or masculine singular pronoun.

For English, the traditional and best analysis is that the pronoun occupies the canonical subject position which is VP (or XP) external and the associate finds itself inside the VP, a small clause, or some other lexical projection. Under the given approach, the external position is of course SpecAgrS.

(60) There is a man in the garden.

(60') $[_{AgrSP}$ There $[_{AgrS'}$ is $[_{SC=PP}$ a man in the garden]]]

These construction have a correlate where the SC internal subject appears in the position of *there*, and the expletive itself disappears:

(61) A man is in the garden.

These constructions can be analyzed as derived from (60) by moving the internal subject to SpecAgrS by leaving a trace in the base position.

(61) $[_{AgrSP}$ A man$_i$ $[_{AgrS'}$ is $[_{SC=\ PP}$ t_i in the garden.]

I will argue that this derivation is not so different from scrambling. The crucial difference is that (61) remains ambiguous with respect to the interpretation of the subject. However, the phrases that are allowed to occur in the base position, i.e. those that are allowed to occur in the *there-be* construction are most telling. As far as quantifiers are concerned, only weakly quantified noun phrases are permitted. Strong, presuppositional quantifiers are excluded (cf. (32), (33) Chapter 3). Indefinites may occur without any problem. Definites may not. For this reason the felicity condition for *there-be* constructions was called the definiteness effect. However, this condition is not completely correct. Some linguists discovered contexts where a definite noun phrase or a proper name in the scope of 'there' is grammatical (for example Woisetschläger 1983):

(62) a. There was *the* smell of pot all over the apartment.
b. There was *the* biggest car I had ever seen.
c. No one can solve this problem. Would you know anyone? Well, there's *Chomsky*.

In (62b) we have a superlative, in (62c) there is a name which refers to a single individual. These are examples where the definite gets the so-called referential interpretation. In the relevant contexts, the definite expressions are rather novel and as such they do not act as topics. This can be proven by additional tests (extraction, for example, cf. Chapter 6). Thus the definiteness restriction is not a real definiteness restriction. Also the name specificity condition which had been given to the phenomenon later is not completely correct. It should rather be called the topic condition.

Another, rather indirect consequence of AgrO is deaccenting. How this works for objects has been shown in Chapter 4, Section 4.5.3.1 (Cinque's 'Null Hypothesis'). In sentences with ordinary transitive verbs, the direct object is the most deeply embedded constituent. According to the 'Null Theory', under normal conditions, the direct object gets the main stress. When the object has scrambled, it is not the most deeply embedded constituent anymore. In that case, either a more deeply embedded adjunct, or if there is none, the verb gets the main stress. This strategy seems to have been grammaticalized and accentuation has become a general device to mark new information. Even material which is virtually structurally higher gets reconstructed if it is accentuated in a marked way. On the other hand, deaccenting is a device to mark topicality. Vallduví (1992) has shown that Catalan clitic doubling, which is analyzed as a manifestation of topichood of the doubled phrase, is reflected in English (only) by prosodic means. The topical constituents get deaccented whereas the verb carries the main accent.

(64) *L'amo* [$_F$ *l'ODDIA,*] *el bròquil.* (Catalan)
the boss it-hates the broccoli

(65) corresponding English sentence:
'The boss HATES broccoli.'

Tancredi (1992) observes the same. 'In general, deaccenting of an element is possible only if that element is salient in the discourse context' (Tancredi 1992: 2). He develops a theory of the appropriateness of (de)accenting and mainly confirms Vallduví's and Cinque's proposals. His notation of the old : new articulation of a sentence like (65) would look like (65′):

(65′) *The boss* HATES *broccoli.*

5.4 Summary and problems

The main claim of the present book is that topical argumental constituents trigger the activation of VP external agreement projections. This chapter presents the three most obvious grammatical phenomena that an AgrO projection can be brought to bear. All three phenomena (Case differences for direct objects, the occurrence of agreement morphemes and positional differences) are instantiated and confirm the predicted interpretative differences. The data are taken from typologically very different languages: (i) genetically: Indoeuropean, Finno-Ugric, Altaic, Bantu; (ii) with respect to the classical morphological division: inflecting, agglutinating and mainly isolating languages; and (iii) with respect to Case realization: nominative-accusative languages and absolutive-ergative languages (and also historically: living and extinct languages).

Here at the end of this chapter I will only mention a couple of facts which cannot easily be explained within the theory developed here in this book. I will only list them without giving a possible solution. One of the major problems is the behavior of agreement. In German, for example, the verb always agrees with the subject, no matter whether the subject occupies its base position or SpecAgrS. A similar case is the agreement behavior in several other languages.

Laka (1993) shows that in Basque verbal agreement on the verb is triggered by all arguments regardless of semantics. Thus, all arguments with the relevant morphological form are doubled by agreement morphemes on the verb independently of their topical status.

The same is true of Catalan or Spanish indirect objects. A dative argument must be doubled even if it gets a non-specific interpretation. In Greek, the indirect object also triggers verbal agreement (genitive) irrespectively of its interpretation. (For more problems with respect to the equation clitic doubling = scrambling = movement to SpecAgr see Anagnostopoulou 1994.) Furthermore, there seems to exist an additional factor which plays an important role for doubling, namely animacy of the doubled phrase. A theory that only refers to semantic notions like specificity, definiteness, topicality cannot fully explain the Romance and other data.

It has been argued that object shift in Icelandic and Scandinavian may be analyzed as raising of the direct object to SpecAgrO (Bobaljik and Jonas 1993 and references quoted therein). The difference is that while Icelandic allows for full definite topical noun phrases to undergo object shift, this move from inside the VP to a VP external position is restricted to pronouns in Mainland Scandinavian. Thus, in Scandinavian it is only a subclass of the elements that undergo object raising. Icelandic in turn object-raises a subclass of the phrases that undergo scrambling, since scrambling applies to definites as well as to topical indefinites. The latter are excluded from object shift in Icelandic.

The only hint I want to make in face of these problematic data is an idea that I have elaborated in more detail in Meinunger (1993). It seems to me that certain morphological features with more or less semantic content are responsible for movement and interpretation. There seems to exist a hierarchy of referentiality (Givón 1976) or a 'definiteness hierarchy' (Diesing and Jelinek 1993) that somehow governs the distribution of agreement and argument movement. (For a minimalist approach that deals with strength and weakness of morphological features from a salience hierarchy cf. Meinunger 1993).

Thus, in some languages the one-to-one mapping is blurred by the fact that some morphological requirements must be met before doubling or scrambling may take place. The last resort to save the intended interpretation is then intonation.

CHAPTER 6

Notes on extraction

This chapter deals with several very different types of extraction including *wh*-extraction, topic movement out of noun phrases and relative clause extraposition. I content that these different types of movement, which are triggered by rules of various kinds, are similar in one important respect. It will be argued that they are all restricted by one constraint, namely the blocking effect of topics, stated here as the Generalized Specificity Condition. I develop the idea that topic phrases in the sense of Chapter 3 are weak islands. This characterization can be viewed as a generalization over a number of previously unrelated conditions on movement.

I first show which constructions are best explained if the relatedness of two XPs is analyzed as the result of movement of one of the two to some other position. The discussion of whether relative clause extraposition (in German) is an instance of move α or not will also be dealt with here. I turn then to phenomena (*was-für* split, quantifier split, and *wh*-extraction) that show that if the extractee is separated from its base position by a topic NP, i.e., if the movement is out of a scrambled phrase, then the derivation leads to ungrammaticality. A closer look at the data reveals that individuals may escape topic NPs, but non-individuals may not. This observation leads to the claim hinted above that topic NPs are weak islands.

In a further subchapter, I draw a parallel between this finding and the behavior of argument sentences of factive predicates, which turn out to be of the same category (= topics).

The similarities between relative clause extraposition and leftward extraction are outlined in the subchapter dealing with extraposition. I show that NPs in the base position allow for extraction of both appositive and restrictive relative clauses. Scrambled phrases only allow for extraction of restrictive relative clauses. With some assumptions of a more or less stipulative

character (restrictive clauses are referential sisters of the noun head to which they belong, while appositives are not) this observation is a strong confirmation of this chapter's main proposal: the Generalized Specificity Condition.

6.1 An account of XP-deplacement and the case of relative clause extraposition

Whatever syntactic model one assumes, one has to deal with the fact that constituents appear in positions in which they have to be for some reason and nevertheless bear a relation to some other position. Consider the cases in (1) and (2):

(1) [*Über welchen Komponisten*] *würdest du gerne einen Artikel _ schreiben?*
'Which composer would you like to write an article about _ ?'

(2) *Ich habe ihm gestern ein Buch _ gegeben, [das er unbedingt braucht].*
'I gave a book _ to him yesterday that he absolutely needs.'

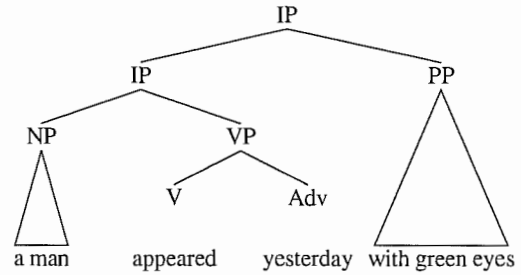
In (1) we have an example in where the argument of the noun *Artikel* occupies the sentence initial position; in (2) the relative clause (henceforth RC — only in *this* chapter (!)) that modifies the object NP *Buch* is separated from it by a verb. In the syntactic framework I adopt, these dependencies are accounted for by movement operations which take the constituent that has been base generated in a local relationship to the phrase it depends on and moves it to the position in which it appears on the surface (PF).

Such a movement account is commonly agreed upon as far as the *wh*-construction in (1) is concerned. Relative clause extraposition (as in (2)), or CP extraposition in general, is a much more intriguing phenomenon, and in fact the name is already misleading. Many linguists working within the GB framework and successive developments analyze the phenomenon of discontinuous noun phrases with relative clauses or other modifiers to the very right of a sentence as a base generated construction. One tradition tries to model the relation between the innersentential noun phrase and the peripheral constituents by pragmatic interpretation principles (e.g. Koster 1978; Haegeman 1988; Fabb 1990).

Another tradition seeks to establish a government relation between the

peripheral base generated elements and the inner-sentential noun phrases. This approach goes back to the work of Guéron (1978, 1980). Guéron and May (1984) formulate a predecessor of the Complement Principle. This principle is supposed to link the NP to its dependent clause or PP through a government relation. This is derived by different adjunction sites of the relative clauses and PPs. For example, a subject NP has a CP which is (right-)adjoined to IP in its government domain, thus the NP in SpecIP can be linked to the clause. Rochement and Culicover (1990) adopt this idea with a slight modification of the Complement Principle and propose that the government relation is sufficient to establish a link between the 'head NP' and its associated sentence. No movement is necessary.

(3)



For an adaptation to German see Wiltschko (1993).

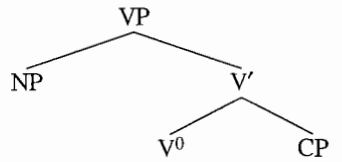
A related problem is the extraposition of complement sentences, whether CPs that are complements either of the verb directly or of an argument noun (phrase). Recent developments of X-bar theory force an analysis where the leftmost constituent is the most embedded one. The most influential proposal is the Linear Correspondence Axiom (LCA) by Kayne (1993b). Whereas this theory nicely explains the VO order for the sequence verb > sentential objects in so called OV languages such as German and Dutch, it faces problems for the order object > verb > relative clause (see Zwart 1992, 1993). In order to derive a sentence like (4), at least two movement operations are necessary.

(4) *Er hat die Behauptung _ aufgestellt, daß OV Sprachen kopfinitial*
he has the claim _ made that OV languages head initial
sind.
are
'He made the claim that OV languages are head initial.'

The base order is verb > object, the order within the object phrase is noun > complement sentence. Thus in order to get the linearization in (4), one first has to move the complement sentence to some specifier position c-commanded by the verb and excluded by the object DP (movement step I). Then the stranded object DP moves to some SpecAgr position, presumably SpecAgrO above the verb (movement step II). The verb remains immobile in its base position. This is of course a logically possible derivation, the question is only how these movement steps can be motivated and how this is compatible with economy. (Even more complicated and diverging far more from traditional assumptions is the LCA analysis (head raising) of RC constructions (Kayne 1994, with the problems of constituency discussed in Wilder et al. 1995).

A similar proposal has been made by Haider (1992, 1993b). He claims that NP complements and CP complements, as well as CPs that are linked to NP complements, originate in different positions with respect to the verb. This proposal can dispense with movement entirely; the order object DP > verb > (object) CP is no longer a problem, as shown in (5):

(5)



die Behauptung afgestellt daß ...

For a critique of the LCA proposals see Büring and Hartmann (1994). Another paper defending a base generation approach that should at least be mentioned is Wilder (1995). He proposes an analysis of apparently right dislocated phrases in terms of leftward movement and backward deletion. (For a similar proposal see Koster 1995).

In the following, I adopt a theory that assumes base generation of CP complements in the same position as DP arguments that is to the left of the (base position of the) verb in OV languages like German. Furthermore, I assume that extraposition is a movement rule that applies to CPs (and less regularly to other heavy material), and that this derivation requires reconstruction, see Büring and Hartmann (1994) again and also Brosziewski 1994). As for the trigger for extraposition, I think that Truckenbrodt (1995)

is on the right track. The Büring-Hartmann generalization in (6), their (67), which is purely syntactic does no make the correct predictions.

(6) Finite sentences may not be governed by V^0 or I^0.

This principle rules out finite sentences in the middle field. This seems to me to be too strong a claim, which furthermore is not motivated and does not hold in most languages. As a matter of fact, in VO languages the order verb > complement sentence, which is a classic government constellation, is the most natural order.[1] Furthermore, Broszewski (1994) also shows that in German some verbs make the order CP > verb more acceptable.[2]

(7) *(weil) Peter [daß Maria krank ist] bedauert*
since Peter that Mary sick is regrets
'since Peter regrets that Mary is sick'

(8) *Caecilia wird [daß sie Kraniche vergiften wollte] leugnen*
Caecilia shall that she cranes poisen wanted deny
'Cecilia will deny that she wanted to poisen the cranes'

He does not classify these verbs. A short glance at his other examples leads to the conclusion that we are dealing with the class of factive verbs (see Chapter 5.2.).[3] Instead I will assume following Truckenbrodt (1995) that the

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1. Interestingly, the Büring-Hartmann generalization is almost the exact opposite of the Complement Principle which tries to achieve a government relationship between the I^0 and V^0 projections on the one hand and the 'extraposed' elements on the other.

2. Non-extraposed RCs sound even better. In case of light (i.e. short) RCs, the non-extraposed variant (i) is only marginally more marked then the extraposed counterpart (ii):

(i) *weil Peter den Film, den du sehen willst, schon kennt*
'since Peter already knows (has seen) the movie you want to see'
(ii) *weil Peter den Film schon kennt, den du sehen willst* (with extraposition)

3. However, I doubt that it is the semantic nature of the verbs that make the order CP > verb more acceptable. Factive verbs have (sentential) arguments which are topics in the normal case. I claim that it is the topic status of the CP that renders the linearization more acceptable. This is confirmed by Brosziewski's own judgments. See his (3-10):

a. ??*weil Peter wahrscheinlich [daß/seit wann/ob Maria krank ist] weiß*
b. *weil Peter [daß/seit wann/ob Maria krank ist] wahrscheinlich weiß*
'because Peter probably knows that/since when/if Mary has been sick'

As we have seen at length, positions before the sentential argument are topic positions. The (3-10) examples illustrate the claim nicely.

trigger is a phonological one. I will not go into the details of his argumentation. Here it should be sufficient to say that the phonology of German-type languages disfavors recursiveness of intonational phrases. Non-recursitivity is defined in Selkirk (1995):

(9) *$(\ldots(\ldots)_\alpha \ldots)_\alpha$ where α is a prosodic category, whereby
... = α phonetically overt material

Since sentences (and very heavy PPs) are mapped onto intonational phrases which are the relevant prosodic category, sentences in the middle field are highly marked and extraposition creates a (more) well-formed structure like in (10):

(10) $(\ldots\ldots)_\alpha(\ldots)_\alpha$

Truckenbrodt gives the following rule:

$(\ldots YP\ldots)_\alpha \Rightarrow (\ldots t_i\ldots)_\alpha\ (YP_i)_\alpha$ whereby α is a maximal prosodic category (∅, 1)

DP arguments are mapped onto phonological phrases. Phonological phrases are lower in the prosodic hierarchy than intonational phrases, i.e., they do not count as a maximal prosodic category for (9) to apply. Thus Truckenbrodt's rule does not apply. Since his crucial point is formulated in terms of Optimality Theory, it does not come as a surprise that extraposition, when allowed, obeys preferences, but is not subject to strict grammaticality constraints. Thus, it leaves some space for optionality and hence accounts for the non-necessity of relative clause extraposition.

A semantic 'trigger' for relative clause extraposition is to be found in Ziv and Cole (1974). They claim that the function of extraposed phrases is different from unmoved ones since extraposed sentences have an assertive character, whereas in situ phrases merely serve to modify their 'head NP'.

Another explanation would be provided by the theory that complement sentences of factive verbs are actually nominal (Kiparsky & Kiparsky 1971; Müller 1993).

6.2 The Generalized Specificity Condition

In the following I show that, at least in German, extraposition behaves as a regular movement operation. I provide evidence that it is not distinct from leftward movement in the relevant respects. This is the reason for the extensive and controversial discussion of the placement of relative and complement clauses on the right sentential periphery. My claim here is:

Generalized Specificity Condition: *topics are islands.*

This generalization allows an account for a broad range of data which have been covered more or less adequately by a set of relatively unrelated principles such as the specificity condition, Guéron's name constraint, and subject and factive islandhood. The phenomena I will consider are *was-für* split (and other split constructions), complement extraction out of argument phrases (NPs, PPs and partly CPs) and relative clause extraposition.

6.2.1 *Was-für and wieviel split*

Was-für split (and its related constructions in other Germanic languages) is a phenomenon that was brought to the attention of generative linguists by den Besten (1985). A *was-für* NP (or DP) can be considered an ordinary NP with a *wh*-feature morphologically represented by the *wh*-morpheme *was*. Under normal circumstances a '*was-für* NP'[4] behaves like a *wh*-word (e.g. *wen* (who-ACC)) or a *wh*-constituent (*welchen Jungen* (which-ACC boy)) in that it is moved to SpecCP in questions.

(11) *Wen*$_i$ *hast du* t_i *gesehen?*
'Who did you see?'

(12) [*Welchen Jungen*]$_i$ *hast du* t_i *gesehen?*
'Which boy did you see?'

(13) [*Was für einen Jungen*]$_i$ *hast du* t_i *gesehen?*
'What (sort of) boy did you see?'

4. I use the term '*was-für* NP' very informally. For my concerns, it does not matter whether the constituent is an NP, a DP or a PP (as analyzed by Müller 1993).

Interestingly, and this is what makes the phenomenon of *was-für* split interesting, it is possible to generate the argument in its base position and to only move the *'was'* part.

(14) *Was*$_i$ *hast du* t$_i$ *für einen Jungen gesehen?*

This option is not completely free. It is claimed that *was-für* split is restricted to direct objects, as in (14). It is further supposed to be grammatical with subjects of unaccusative verbs (which are base generated as sisters of V^0), see example (15), and ungrammatical with all other arguments such as dative complements (17) and subjects (16), examples taken from Müller (1993).

(15) *Was*$_i$ *sind denn da heute* t$_i$ *für Gäste gekommen?*
was are PART EXPL today *für* guests come/arrived

(16) **Was*$_i$ *haben* t$_i$ *für Leute dem Fritz Briefe geschickt?*
was have *für* people-NOM the-DAT Fritz letters sent

(17) **Was*$_i$ *hat der Fritz* t$_i$ *für Leuten Briefe geschickt?*
was has the-NOM Fritz *für* people-DAT letters sent

I will show that this is not correct and that a more adequate generalization can be given.

First, contrary to what den Besten and Müller claim, *was-für* split sounds very natural with subjects of unergative verbs when the stranded part stays in its base position where it is clear that it belongs to the comment.

(18) *Was*$_i$ *haben dieses Buch denn* [t$_i$ *für Leute*] *gelesen.*
was have this book PART *für* people read

The sentence is construed in such a way that the object is a topic, it has therefore moved to SpecAgrO across the VP internal subject and the particle. Belonging to the comment, the subject stays in situ and allows for extraction. Example (16) is deviant because the extraction of *was* is from a scrambled position. The use of a proper name as a dative argument renders it likely that the indirect object must be in a position outside VP. Since the subject NP precedes it, it must have moved from its base position as well. As suggested in Chapter 3, this position is linked to a topic reading. Thus, the conclusion is that it is the topic status which forbids extraction rather than the subject

status.[5] With slight changes in the linear word order, Müller's supposedly ungrammatical example can be turned into a grammatial one. (19) sounds fine to most speakers.

(19) *Was*$_i$ *haben dem Fritz* t$_i$ *für Leute Briefe geschickt?*
was have the Fritz *für* people letters sent

The same holds for indirect objects. I question whether (17) is unacceptable. However, let me give a clearer example in which one can see that the indirect object is most likely in its base position.

(20) *Was*$_i$ *hat sie's denn* [t$_i$ *für Leuten*] *empfohlen?*
was has she+it PART *für* people-DAT recommended

Also a verb that takes a dative complement without subcategorizing for an accusative complement allows for *was-für* split. (21) sounds as good as any direct object construction, e.g. (14).

(21) *Was*$_i$ *hast du denn* [t$_i$ *für Leuten*] *geholfen?*
was have you PART *für* people-DAT helped

As expected, topic datives do not allow for *was* extraction.

(22) **Was*$_i$ *haben* [t$_i$ *für Leuten*] *gestern Verlagsangestellte*
was have *für* people-DAT yesterday publishing house employees
Bücher geschickt?
books sent

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5. Fanselow (1995) offers two sentences which could be considered to be serious counter-examples to the claim developed here. I show that scrambled XPs are blocking entities that do allow for extraction out of them. However, consider the grammatical examples:

a. *was-für* split (originally from Haider 1992)
was hätte denn damals _für Aufsätze selbst der Hans nicht zu _ rezensieren vermocht?

b. R-proform extraction
worüber hätte [*einen solchen Schmähartikel* t] *selbst der Peter nicht aus Wut _ verfassen können?*

In these cases, I claim that we are not dealing with the kind of scrambling that I analyze as movement to SpecAgr. Rather in a. and b. the object has been moved to some focus position, i.e. '[*_für Aufsätze*]' and '[*einen solchen Schmähartikel* t]' occupy some $\bar{A}$ position from which they are reconstructed in the base position from where extraction is allowed. For a more technical solution to this problem (anti-freezing) see below and Müller (1994). The fact that these sentences require a substantial intonational contour makes it probable that we are dealing with focus movement, which is distinct from ordinary movement to SpecAgr.

Just for completeness' sake, *was-für* split with scrambled direct objects is also bad. There is a clear contrast between (23) and the scrambled counterpart (24).

(23) *Was*$_i$ *hast du damals* [t_i *für Bücher*] *gelesen?*
was have you that time *für* books read

(24) ??/**Was*$_i$ *hast du* [t_i *für Bücher*] *damals gelesen?*
was have you *für* books that time read

The same pattern can be observed with a construction in my dialect (East Franconian, variety of Themar and surroundings), which, in analogy, I term '*wieviel* split'. '*Wieviel* split' is almost an analogue to French *'combien'* extraction (see Obenauer 1984; Rizzi 1990 and de Swart 1992). It obeys the same semantic restrictions, which, for the moment, do not matter. In my dialect, for example if the question concerns the number of pigs, it is equally good to ask:

(25) [*Wieviel Schweine*]$_i$ *habt ihr denn dieses Jahr* t_i
how many pigs have you-PL PART this year
geschlachtet?[6]
slaughtered

(26) *Wieviel*$_i$ *habt ihr denn dieses Jahr* [t_i *Schweine*]
how many have you-PL PART this year pigs
geschlachtet?
laughtered

Again, any unscrambled arguments allow for '*wieviel* split', scrambled ones do not.

subjects

(27) *Wieviel*$_i$ *haben das Ding denn* [t_i *Leute*] *unterschrieben?*
how many have the thing PART people signed

(28) **Wieviel*$_i$ *haben* t_i *Leute das Ding denn unterschrieben?*

6. In order not to complicate matters, I use standard German as a kind of meta language. A more precise representation would look something like:

(25′) *Wievil Säü hobt'r denn häür g(e)schlocht?*

(31′) *Wievil hobt'r denn häür Säü g(e)schlocht?*

indirect objects

(29) (?)*Wieviel*$_i$ *hast du's denn schon* [t_i *Leuten*] *gezeigt?*
how many have you+it PART already people shown

(30) **Wieviel*$_i$ *hast du's* [t_i *Leuten*] *denn gestern schon gezeigt?*
how many have you+it people PART yesterday already shown

direct objects

(31) *Wieviel*$_i$ *habt ihr denn dieses Jahr* [t_i *Schweine*]
how many have you.PL PART this year pigs
geschlachtet?
slaughtered

(32) ??/**Wieviel*$_i$ *habt ihr* [t_i *Schweine*] *denn dieses Jahr*
how many have you.PL pigs PART this year
geschlachtet?
slaughtered

6.2.2 *Quantifier split*

There is a construction in German that is very similar to the two split phenomena investigated in the preceding section, yet there are some differences. This construction (quantifier split) consists of a bare, or indefinite noun (phrase) in SpecCP and an associate quantifier element lower down in the tree.

(33) *Tomaten haben wir keine gekauft.*
tomatoes have we none bought.
'As for tomatoes, we didn't buy any.'

It is not clear whether in these constructions movement is involved or not (for the discussion of this problem see van Riemsdijk 1978). For the sake of argument, let us assume that we are dealing with an instance of move α here. It turns out that we are faced with the same pattern in grammaticality as with '*was-für*' and '*wieviel*' split, i.e., movement out of an argument phrase is not restricted to the direct object position. What matters is that the constituent from which it is being extracted be in its base position. This fact is independently corroborated if the Mapping Hypothesis is adopted: quantifier split is only possible from weakly quantified NPs that get existentially bound within the VP.

(34) subject
Frauen$_i$ *haben da immer nur wenige* t_i *gearbeitet.*
women have there always only few-NOM worked.

(35) indirect object
Frauen$_i$ *hat er schon vielen* t_i *das Gesicht gelifted.*[7]
women has he already many-DAT the face lifted

(36) direct object
Frauen$_i$ *hat er schon so einige* t_i *unglücklich gemacht.*
women has he already quite some unhappy made

Quantifier split from scrambled NPs sounds odd:

(37) **Frauen*$_i$ *haben* [*wenige* t_i]$_j$ *immer* t_j *gearbeitet.*

(38) **Frauen*$_i$ *hat er* [*vielen* t_i]$_j$ *schon oft* t_j *das Gesicht gelifted.*

(39) **Frauen*$_i$ *hat er so* [*einige* t_i]$_j$ *schon immer* t_j *unglücklich gemacht.*

6.2.3 Wh-*extraction*

As in the case of *was-für* split, it is claimed that extraction of *wh*-constituents out of argument NPs is restricted to direct objects in base position.

(40) *Worüber*$_i$ *hat er* [*ein Buch* t_i] *verfaßt?*
about what has he a book written

(41) [*Über welches Thema*]$_i$ *ist noch nie* [*ein Buch* t_i] *verfaßt worden?*
about which topic is yet never a book written PASS

(42) [*Über welches Thema*]$_i$ *ist noch nie* [*ein Buch* t_i] *erschienen?*
about which topic is yet never a book appeared

Müller cites data that are supposed to show that *wh*-extraction out of subjects (43) and datives (44) leads to ungrammaticality:

(43) *[*Über wen*]$_i$ *hat* [*ein Buch* t_i] *den Fritz beeindruckt?*
about whom has a book the Fritz impressed

(44) *[*Über wen*]$_i$ *hat der Verleger* [*einem Buch* t_i] *keine Chance gegeben?*
about whom has the editor a book no chance given

7. Here, we even get extraction out of a possibly non-subcategorized, i.e. free dative (!) (for challenges to this see Vogel and Steinbach 1995).

Again, I challenge his grammaticality judgments. At least (44) is a sentence perfectly acceptable for many speakers. The following data show that *wh*-extraction out of subjects and dative arguments can result in a well-formed output.

(45) [*Von welchen Firmen*]$_i$ *haben den Vertrag nun doch* [*einige Chefs*
of which companies have the contract PART PART some bosses
t_i] *unterschrieben?*
signed

(46)$^{(?)}$[*Von welchen Firmen*]$_i$ *hat er diese Rechner* [*einigen Chefs* t_i]
of which companies has he these computers some-DAT bosses
angeboten?
offered

6.2.4 *Extraction from PP*

As observed by van Riemsdijk (1978), German and Dutch exhibit a type of preposition stranding, more aptly called 'post position stranding'. For this phenomenon to be possible, the extracted element must occur as a so-called R-pronoun to the left of the preposition.

(47) *Ich habe noch nicht* [$_{PP}$ *von* [$_{DP}$ *diesen Vorfall*]] *gehört.*
I have still nothing about this incident heard
'I haven't yet hearded anything about this incident.'

(48) *[*Diesen Vorfall*]$_i$ *habe ich noch nicht von* t_i *gehört.*

(49) *Ich habe noch nicht davon gehört.* (R-pronoun)
I have still not thereof heard
'I haven't heared about this yet.'

(50) *Da*$_i$ *habe ich noch nicht* t_i *von gehört.*

(51) *Du hast da*$_i$ *noch nicht* t_i *von gehört?*

(52) *Wo*$_i$ *hast Du noch nicht* t_i *von gehört?*

As shown by Müller, this stranding is only possible when the PP occurs in its base position (50) vs. (53):

(53) **Da*$_i$ *habe ich* [t_i *von*]$_j$ *noch nicht* t_j *gehört.*

Thus, when the PP is outside VP, i.e., in a topic position, extraction leads to ungrammaticality.[8] There is yet another constellation in which the PP is outside the VP and extraction is still possible; this has also been observed by Müller (1994). In this case, the PP is situated to the right of the verb, thus it is presumably extraposed. Since this sort of extraposition involves reconstruction to the base position, the acceptability of (54) does not come as a surprise.

(54) *Da*$_i$ *habe ich noch nicht* t$_j$ *von gehört* [t$_i$ *von*]$_j$.

6.2.5 *The weakness of topic islands*

The aim of the preceding three paragraphs was to show that extraction is not restricted to the direct object position. My goal was to provide evidence that arguments in their base position allow for extraposition no matter what their Θ-role, case, or argument status. I show now that whereas VP internal arguments freely allow for extraction, topic arguments are selective with respect to the semantics of the extraposed element.

A closer look at the data shows that scrambled arguments are not always islands for movement out of them. In the following context the object ('die Rezensionen von diesen Artikeln') is already used as a topic, as indicated by its position relative to the sentence adverbial and the double definiteness. In the question that follows, *wh*-extraction out of the scrambled object sounds quite acceptable.

context:
Er hätte sich darum kümmern sollen, und trotzdem hat er die Rezensionen von diesen Artikeln wahrscheinlich gar nicht gelesen.
'He should have, but nonetheless, he probably didn't read the reviews of these articles.'

8. It seems that this fact is parallel to extraction possibilities in English. Base position PPs allow for extraction, extraposed ones do not:

a. Who$_i$ did you read a book by t_i last summer?
b. *Who$_i$ did you read a book last summer by t_i?

For further similarities and the validity of the generalized specificity condition in English, see appendix.

(55) [*Von welchen Artikeln*]$_i$ *meinst du, hat er* [*die Rezensionen* t$_i$]$_j$
of which articles think you has he the reviews
wahrscheinlich gar nicht t$_j$ *gelesen.*
probably at-all not read

As expected, this is also the case with subjects and indirect objects as well. If the extracted phrases are sufficiently discourse-linked they may be moved out of the scrambled arguments.

subjects
(Two assistants of a travel agency talking about well-selling trips):

(56) [*In welche Städte*]$_i$ *haben sich* [*die Reisen* t$_i$]$_j$ *letztes Jahr* t$_j$
in which cities have REFL the trips last year
besonders gelohnt?
especially be worth

indirect objects
(A janitor with a list in front of him where all apartments he is responsible for are listed, and where those apartments in which he installed new locks have a check mark. He reports to the owner of the house:)

(57) [*Von diesen Wohnungen*]$_i$ *habe ich* [*den Türen* t$_i$] *gestern* t$_j$ *neue*
of these appartments have I the doors-DAT yesterday new
Schlösser eingebaut.
locks installed

These data contrast with the splitting paradigms of subchapters 1 and 2, in which extraction out of scrambled arguments was unacceptable. These facts can be explained if one assumes two things: first, a theory of scope-taking as proposed in Szabolcsi and Zwarts (1993), and second that topics are *weak* islands. '*Was-für*' and '*wieviel*' questions are ambiguous. The former have a specific, discourse-linked individual reading, which is almost synonymous with a 'which question', and in addition a property reading. The property reading-which is the prominent one-does not ask about discrete individuals, but about some property that the questioned phrase might have. Under this reading *'was für'* could be translated into English, 'what kind of...', 'what sort of...'. A similar ambiguity arises with '*wieviel*' questions. According to Dobrovie-Sorin (1992) and Szabolcsi and Zwarts (1993), such questions may

have (at least) two readings: an amount reading and an individual reading.[9] The interesting fact is that in the splitting constructions the individual reading disappears. For a '*was-für* NP' and a '*wieviel* NP' to escape a weak island, the phrase cannot be discontinuous. This is due to the fact that only individuals may escape weak islands.

(58) [*Was für Bücher*]$_i$ *hast du* t_i *gelesen?*

(59) *Was*$_i$ *hat du* [t_i *für Bücher*] *gelesen?*

(60) [*Was für Bücher*]$_i$ *hast du nicht* t_i *gelesen?*[10]

(61) **Was*$_i$ *hast du nicht* [t_i *für Bücher*] *gelesen?*

(62) [*Wieviel Bücher*]$_i$ *hast du* t_i *gelesen?*

(63) *Wieviel*$_i$ *hast du* [t_i *Bücher*] *gelesen?*

(64) [*Wieviel Bücher*]$_i$ *hast du nicht* t_i *gelesen?*

(65) **Wieviel*$_i$ *hast du nicht* t_i *Bücher gelesen?*

As a consequence, the data are accounted for. If the claim that topics are weak islands is correct, we now have an explanation for the different extraction possibilities. The data from Sections 1 and 2 involve splitting examples where an individual reading is impossible. Hence, when the *'was'* or *'wieviel'* part has been extracted out of a topic argument, ungrammaticality arises. On the other hand, in the examples (55)–(57), the extractees are discourse linked individuals, and thus no island violation arises. This observation can be stated as a slight modification of (11):

Generalized Specificity Condition (revised version):
topics are weak islands

6.3 Factive islands

Since Kiparsky and Kiparsky (1970) factive verbs are known to be different from other predicates with respect to extraction properties (among other differences). Within the theory of Relativized Minimality (Rizzi 1990; Cinque 1990), factive predicates are listed as one standard case of weak island creators. Whereas arguments as well as adjuncts can be extracted from complements of nonfactive verbs such as *to think, to believe, to claim*, factive verbs such as *to regret, to accept*, while allowing for extraction of arguments (68), block extraction of *wh*-adjuncts (69).

(66) *Who*$_i$ *do you believe John saw* t_i?

(67) *Why*$_i$ *do you believe John left* t_i?

(68) *Which dog*$_i$ *do you regret that John bought* t_i?

(69) **Why*$_i$ *do you regret John left* t_i?

These facts hold more or less cross-linguistically.

More recent research has shown that the adjunct/argument asymmetry with factive predicates is only roughly correct. First, Szabolcsi and Zwarts (1993) show that the distinction is not between adjuncts and arguments, but between extractees that get an individual versus extractees that get a non-individual reading. The argumental status alone does not qualify a phrase to be extractable.

(70) *[How much wine]$_i$ do you regret that Marcus poisened t_i?

Here, the theme status of the argument of *to poisen* is not enough to identify the trace, as it would be predicted by Rizzi's classification of referential vs. non-referential theta-roles Rizzi (1990).

Second, Hegarty (1991) points out that the empirically correct distinction should be made between Cattell's (1978) response stance and non-stance verbs on the one hand, as opposed to volunteered stance verbs on the other, rather than between factives and non-factives. He provides examples where factive predicates do not block (adjunct) extraction (71), and non-factive predicates that create islands for extraction (72) (see also the work of Varlokosta 1994: 59–61).

(71) How$_i$ did you find out [that John altered the records t_i]?
(– By hacking into the computer system.)

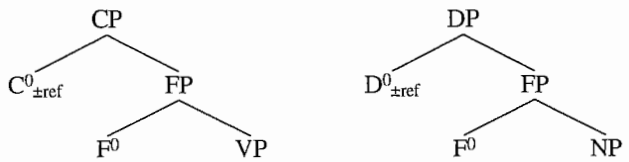
(72) *Why$_i$ do they agree [that John destroyed the building t_i]?
(– To collect the insurance.)

9. Actually, how-many-questions have three readings. The individual reading can be divided again into a discourse linked individual reading, and a non-discourse linked individual reading. For the present purposes, however, this is not relevant.

10. I use negation as a weak island here.

Hegarty further proposes that islandhood correlates with the property of F(amiliarity), whereby his definition of familiarity comes close to what I call topichood. For Hegarty, familiarity is satisfied under the following circumstances. In some cases the content of the familiar complement has been introduced in the discourse frame (has a file card in Heim's 1982 terms) or is easily inferable for the listener (accommodation). Otherwise, it is a weaker form of 'familiarity', the speaker assumes the listener to be capable of recognizing the content of the complement as factual or as a point at issue within the discussion. He proposes that F(amiliarity) be realized as a syntactic feature on the complementizer, which renders the C^0 element a 'semantic' complementizer. Using Higginbotham's event semantics (1985), Hegarty assumes that 'semantic' complementizers bind the event role of the predicate. Thus, he assimilates the function of complementizers of response stance and non-stance complements to the function of definite determiners which discharge the referential role of a nominal expression. This results in an interesting twofold parallelism. First, it underlines the similarity between nominal and verbal extended projections (Grimshaw 1990) in that the topmost functional projections, the D- and the C-level respectively, carry information about the referential status of the phrase.

(73)



Second, it assimilates indefinites (noun phrases) and volunteered stance complements (sentences) in that they are open expressions that introduce a variable that must be bound from outside the projection. For nominal expressions, this binding is done through Heim's rule of existential closure. Adopting Diesing's theory of the Mapping Hypothesis (1992a, b) and Section 2.1.2.1 of this book, existential closure comes from an $\exists$ operator adjoined to VP.

(74) Every good linguist $[_{VP}$ wrote a bad article].
$\forall_x$ [good linguist (x)] $\exists_y$ $[_{VP}$ bad article (y) & wrote (x, y)]

For sentential complements, Hegarty proposes that the event role of volunteered stance predicates percolates up the tree into the matrix clause and is discharged there.

(75) Peter and Jane believe that John visited Mary

(76) believe [that [John $[I^0$ $[_{VP}$ visit Mary, e]]]]
⟨e⟩ CP⟨e⟩ IP⟨e⟩ I′⟨e⟩ VP⟨e⟩

However, the picture is not that simple. As shown in many places in this book, the weak, existential reading is not the only one that indefinite NPs can have. There is a certain ambiguity with weak NPs. In German, if the indefinite argument is in its base position — in the normal case — it gets caught by existential closure and receives a weak interpretation. If it is scrambled, the strong presuppositional reading arises. These differences cooccur with a phonological difference (see also the detailed discussion in Chapter 2). In the base position variant, the object gets primary stress.

(77) *Ich habe gestern eine ZEITschrift gelesen.*
I have yesterday a journal read
'I read a JOURnal yesterday.'

When the indefinite object is scrambled and it receives partitive reading, two pitch accents occur, whereby the raising one falls somewhere on indefinite NP (preferably on the weak determiner), the other, i.e. the falls on the verb (hat contour).

(78) *Ich habe [EIne Zeitschrift]$_i$ gestern t_i geLEsen.*
I have a journal yesterday read
something like: 'ONe (of the) journal(s), I READ yesterday/DID read yesterday.'

When the object is definite and used as a non-contrastive topic, it gets deaccented, and only the verb is stressed.

(79) *Ich hab' die Zeitschrift (gestern) geLEsen.*

The same is true for complements of volunteered stance predicates. They too may be weak (= assertive) or strong, i.e., 'presuppositional'. In some languages, this ambiguity is resolved very clearly by the use of a special complementizer (Navajo, see also Drubig 1994). In German, it is again the intonational pattern that shows us how the complement sentence is to be interpreted.

If the complement sentence carries new information, i.e. belongs to or is the comment, the main stress goes to the focus projective element in the complement sentence.

(80) *Ich glaube, daß PEter gekommen ist.*
I believe that Peter come is

(80) is a natural answer to a question like *'Was glaubst du?'* ('What do you believe?')

If the content of the complement clause is presupposed, the complement sentence can/must be used as a topic. The new information of the sentence then is that the relation between the speaker and the fact (!) that Peter came is a relation of belief. In this case, the main stress goes on the matrix verb. (For interesting research on this topic with respect to the licensing of embedded V2 see Romberg 1999).

(81) *Ich GLAUbe, daß Peter gekommen ist.*

(81) as an answer to 'Was glaubst du?' is infelicitous. For (81) to be felicitous, one needs a context where, for instance, A tries to convince B that Peter has arrived. B, however, does not have any doubts about the truth of the fact of Peter's arrival. In order to get A to stop persuading her about something she already takes for granted, B might utter (81). (The same holds for English.)

Thus, we can conclude from the preceding discussion that complements of volunteered stance predicates pattern together with indefinites, and complements of response stance and non-stance verbs behave like definites.[11] Since indefinites and complements of volunteered stance predicates are prototypically new information, i.e., comment elements, extraction out of them is easily possible. Factive complements, or more correctly sentential complements exhibiting Hegarty's F(amiliarity) complementizer are to be analyzed as topics. Topics are transparent for operator-variable dependencies of individual expressions (55) to (57) on the one hand, however, on the other

11. As shown on many other occasions, definites exhibit an ambiguity as well. They may belong to the comment or they may be a topic. According to their respective status they either act or do not act as islands, and regulate the stress pattern of the sentence. I will not go into further detail here.

hand, they are blocking categories for non-individual linkage. Thus the Generalized Specificity Condition generalizes over the factive island constraint and the (traditional) specificity condition.

6.4 Relative clause extraposition

6.4.1 *Relative clause extraposition and the validity of Ross' right roof constraint*

As already discussed in the introductory part of this chapter, I will defend an analysis of rightward movement of relative clauses. Furthermore, the claim is that rightward movement is not (substantially) different from leftward movement. This is in clear contrast with a statement taken from Büring and Hartmann (1994: 1):

> Extraposition seems to contradict many of the well-established principles of generative grammar: While $\bar{A}$-movement to the left is unbound(ed), extraposition is strictly local. Only leftward movement must respect NP-islands — extraposition may violate them.

First, I challenge the first alleged difference and show that there are also some cases of unbounded rightward movement. The observation that movement to the right has to adjoin the moved constituent to the first maximal projection possible is due to Ross (1967). The so-called 'right roof constraint' was formulated to account for the contrast between (82) and (83):

(82) Peter read [a book t_i] last night [which was written in French]$_i$

(83) *Peter [$_{VP}$ said [$_{CP}$that he will look for [someone t_i]] yesterday] [who speaks French]$_i$

This minimal pair shows that a constituent — when moved to the right — cannot be extracted out of a position and then adjoin outside the next higher projection. The traditional analysis for (82) adjoins the relative clause to VP, which is the phrase immediately dominating the object NP. Thus the right roof constraint is not violated. (83) is construed in such a way that the relative clause must be linked to a position which is separated from it by several projections: subordinate VP, subordinate CP and matrix VP, hence the ungrammaticality.

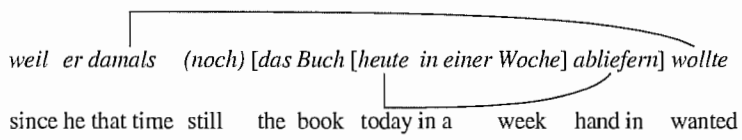
The validity of Ross' constraint for German CP extraposition has never been challenged. In fact, Wiltschko (1993) dedicates a whole chapter of her paper to confirm it.

In order to show that the right roof constraint however does not hold, we have to look for examples where an embedded sentence is extracted out of its base position and moved to the periphery of the matrix sentence, to which it does not bear any relationship. Take for example the sentence in (84):

(84) ... *weil* [*er* [t_i *wissen*] *wollte*] [*was du ihr gesagt hast*]$_i$
since he know wanted what you her said have
'...since he wanted to know what you (had) told her'

Here the complement sentence of *wissen* is separated from its theta-licenser and adjoined to the matrix sentence whose lexical head is the verb *wollen*. For most linguists this is not a convincing example, however. This is because there are many proposals that consider *wissen wollen* a verbal complex (Bierwisch 1990). Thus (84) is analyzed as a monoclausal structure, and extraposition does not cross any clausal boundaries. However, it is not always possible to argue that all verbal morphemes represent one cluster with a V^0 status heading a single CP. In a construction with two adverbials of the same semantic class with logically incompatible interpretation, a biclausal structure must be assumed.

(85)



'...since at that time he wanted to hand in the book a week from now'

Because there are two time adverbials that are not compatible, we have to assume two separate domains in which they are located. The construction *abliefern wollen* cannot be analyzed as one verb. The 'wanting event' refers to a state of affairs in the past, the 'handing-in-action' is situated in the future. Let us assume following Alexiadou (1994) that temporal adverbials are licensed in the specifier position of TP and that there is only one projection for the tense in the sentence (see also Giorgi 1994, or for a slightly different treatment Stowell 1993). Since TP and CP are closely related, we have to deal with two CPs in this example. This is exactly the

configuration we need in order to see whether it is possible to extract out of the embedded sentence or not. It turns out that a relative clause on the right periphery can be linked to an argument within the embedded sentence.

(86) *weil er damals* [*das Buch* t_i [*heute in einer Woche*] *abliefern*] *wollte,*
[*auf das alle gewartet haben*]$_i$

This sentence has the structure:

[CP [CP [NP t_i ...]] CP$_i$]

which is disallowed by the right roof constraint.

There are in fact further exceptions to this constraint. It is possible to construe complex sentences in which a *finite* complement clause occurs within the middle field of the matrix sentence, and a constituent that belongs to the embedded clause is situated on the right periphery, i.e., to the right of the matrix verb. In that case, it is no longer possible to claim that complex verb formation or restructuring give rise to a monoclausal construction. As shown in Section 6.1, complement sentences that are topics are not as unacceptable when they stay somewhere in the middle field. Though certainly more marked than its extraposed counterpart, (87) is fully grammatical:

(87) *Peter hat, daß er uns den Computer schenkt, fest versprochen.*
Peter has that he us the compute gives firmly promised
'Peter can't go back on his promise that he will give us the computer as a present.'

Extraction out of the embedded CP makes the sentence even more marked. The whole sentence remains grammatical nevertheless.

(88) *Peter hat,* [*daß er uns denjenigen Computer* t_i *schenkt,*] *fest*
Peter has that he us the+one computer gives firmly
versprochen, [*den er nicht mehr braucht*]$_i$
promised that he not anymore needs

A similar example is:

(89) *weil er schon gestern, daß er eine* [*Behauptung* t_i] *aufstellen*
since he already yesterday that he a claim up-put
muß, bedauerte, [*die Maria in Schwierigkeiten bringen wird.*]$_i$
must regretted that Mary into troubles bring shall

Thus, we see that the right roof constraint is not as strong a filter as has been claimed since it was formulated by Ross. At least in some German constructions there seem to exist some counterexamples.[12]

6.4.2 *Rightward movement, islandhood and the generalized specificity condition*

6.4.2.1 *The syntax of restrictive versus appositive relative clauses*

The second and stronger alleged difference between rightward and leftward movement is that while island constraints work to restrict movement to the left, they are not effective in restricting movement to the right. The aim of this subchapter is to invalidate this claim, i.e., to show that rightward movement does obey island constraints. I show that there is a hitherto undiscussed difference with respect to whether the extraposed clause is a restrictive or an appositive one. Since the distinction between these two types of relative clauses (henceforth RC) is crucial to my argument, I make some assumptions about their syntax which in several respects might seem stipulative. However, there is a substantial body of literature supporting my proposal (see below). The semantic difference between restrictive and appositive RCs can be illustrated by a minimal pair:[13]

(90) The swans, which are white, are in that part of the lake.[14]

(91) The swans which are white are in that part of the lake.

12. For doubts about the validity of the right roof constraint in English constructions, see the appendix to this chapter.

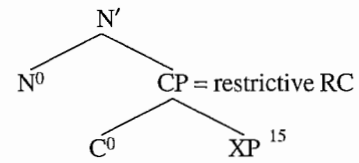
13. The examples, as well as much of the following argumentation, are significantly inspired by Fabb's (1989) article.

14. Since I follow Fabb (1990) in his argumentation, I will keep to English examples. Furthermore, there is one nice thing about English punctuation that makes this language superior to German when a distinction between restrictive and appositive relative clauses is intended. English punctuation disambiguates relative clauses by prescribing the use of commas when a sentence is supposed to function as non-restricting information, whereas there is no comma if a restricting reading is intended. German orthography blurs the distinction by prescribing a comma in both cases. Thus, in all the following examples, no ambiguity arises. Appositive sentences are separated by a comma; restrictive ones are not.
Nevertheless, since the syntax of German relative clauses is similar, and the semantics should always be the same anyway, it will be assumed that the structural position of relative and appositive sentences does not vary from one language to the other.

The use of an appositive RC as in (90) implies that all swans under discussion, i.e., all (i.e., those and only those) swans that are swimming on the lake, are white. This is not the case for (91). The use of a restrictive RC singles out a subset of the set which is denoted by the noun without any restriction; in the case of (91) the set of all swans may possibly contain gray and black members as well. The semantic difference between restrictive RCs on the one hand and appositive clauses on the other has been translated into syntax by assigning to the relevant clause type a different position in the structural representation. All analyses that put restrictive and appositive RCs in different syntactic positions choose a position that is lower in the tree for restrictive RCs and a position that is higher for appositive ones (Ziv and Cole 1974; Emonds 1979; Kaisse 1981; Haegeman 1988; Fabb 1989). Since all relevant proposals were made at different stages of the theory with respect to the analysis of the internal structure of the NP and X-bar theory in general, I will not list all the proposed configurations. I do however adopt from the work quoted above two main aspects: first the base position of a restrictive RC is the sister of the noun that it restricts — the appositive is not. Second: the restrictive RC carries a referential index that is identical to the one the restricted noun carries.

Let us start with the proof of the first claim, which argues for the following structure:

(92)



[15]

There is one serious objection to such an analysis, namely theta-theory. According to standard assumptions, only true arguments combine with lexical heads X^0 and project to X'. Under the same assumptions, relative clauses are not considered to be arguments. However, the following facts

15. Note that a similar analysis is adopted in early research in the Montagovian framework, notably in the pioneer studies on relative clauses (Partee 1972, 1976; Cooper 1975, 1976; Rodman 1976. In the syntax proposed in these analyses the RC is adjoined to the common noun ($CN = N^0$) without increasing the bar-level.)

suggest that the noun c-commands the RC, thus (92) is a reasonable analysis.

1. If the restricted noun is a *wh*-word, the restrictive RC must be pied-piped when the operator moves to SpecCP (94). Stranding results in ungrammaticality (95) (Fabb 1989: 70):

(93) You liked the [man [that you met]] the best.

(94) [Who [that you met]] did you like best?

(95) *Who did you like _ that you met best?

This is a result of the requirement that only full XPs may be moved. If the *wh*-word itself were already a maximal projection, it should be able to move to SpecCP by itself, leaving the RC behind. As (95) shows, this is not possible. However, if one deals with an appositive RC, the relative clause cannot be pied piped (98). It must stay behind as shown in (97):

(96) We taught the boys, some of whom were deaf, French.

(97) Who did we teach _, some of whom were deaf, French?

(98) *Who, some of whom were deaf, did we teach French?

This shows that the non-restrictive RCs may or must be adjoined higher.

2. Kaisse (1981) observes that only in restrictive RCs can the relative pronoun phonologically cliticize to preceding material.

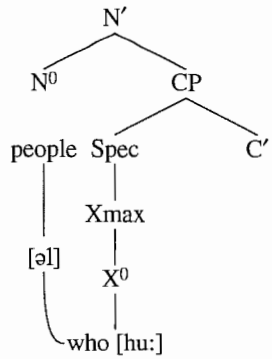
(99) the people who'll [həl] be here tomorrow

(100) *John, who'll [həl] be here tomorrow

Here, 'who' within its phonological environment behaves as in cases in which it comes undoubtedly from a complement sentence. This leads Kaisse to the formulation of her 'Head Condition' which states that: '*who* may cliticize to the X^{max} whose complement it introduces.'

In more recent theories that explain phonological cliticization as syntactically describable in terms of head-to-head-movement (incorporation) resulting in adjunction complexes of heads, (99) needs a configuration in which 'who', before it becomes cliticized, is c-commanded by 'people', otherwise a basic rule of movement is violated.

(101)



If 'people' is in its base position, and it has never been claimed that there is head movement within English DPs, a CP from which movement takes place that targets the N^0 'people' must be c-commanded by the head noun. Hence (101) must be the correct structure. On the other hand, (100) has a different structure, disallowing cliticization.

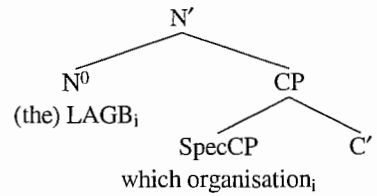
3. Finally, whereas an appositive RC can have a full, ordinary DP as relative operator (102), restrictive RCs cannot (103):

(102) The LAGB, which organisation meets tomorrow, is based here.

(103) *The LAGB which organisation meets tomorrow is based here.

The explanation goes as follows. Contrary to a relative pronoun, or an empty operator which must be bound by a licenser outside its clause, a full relative DP counts as an independent referential expression with its own referential index. (103) is ungrammatical because it is a clear case of a violation of Principle C of the Binding Theory. If structure (92) is adopted, we get (104), which is an illicit configuration:

(104)

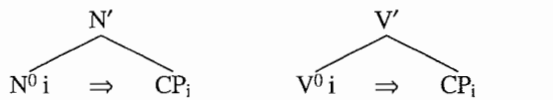


(102) is good because the RC is much higher, i.e., possibly even higher than the D^0.

Arguments1 to 3 are only a selection of arguments for the position of RCs. For others see Fabb (1989).

Once (92) is adopted as a structure for restrictive RCs, one still has to argue for the second assumption that the noun and the RC share the same referential index. This is not as uncontroversial if one assumes that lexical heads assign (referential) indices to their sisters and, perhaps, specifiers. This is a core assumption of the theory of 'Relativized Minimality', Rizzi (1990). There lexical heads provide their arguments with indices which can be referential or not. If the index is a referential one, the argument is said to carry a referential theta-role and counts as a true participant in the event. If the argument does not refer to a participant in the event, it is considered to be a quasi-argument, or a non-referential expression. The first sort of arguments, which carry a referential index, can be extracted out of weak islands, since the index satisfies the identification requirement. The latter cannot be moved out of islands. Thus, what is important here is that lexical heads assign indices to the phrases with which they combine. As a consequence, a noun that is identified by a restrictive RC assigns a referential index to it in the same way as, for example, a verb of saying marks its sentential complement with an argumental index, since in both cases we are dealing with sister CPs of lexical heads.

(105)



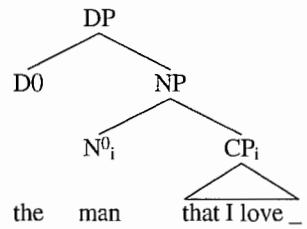
man that you love say that she loves me

The second motivation that the head noun shares a referential index with the restrictive RC comes again from Fabb, who uses an idea by Williams (1980) that a restrictive RC act as a predicate to the noun it modifies.

> I take the modification relation between RR (A.M.: restrictive RC) and host to be one of predication, with the C″ (the relative clause) predicated of … the noun. Williams (1980) suggests that predication involves co-indexing between the subject and the predicate, which must minimally c-command, i.e. must be sisters.

Thus the configuration of a noun with a restrictive RC looks as in (106):

(106)



This co-indexing, which plays an important role in Fabb's theory, but for completely different reasons, will be relevant for the proposal developed here as well.

Although I have argued elsewhere in this work that I prefer the account of scope taking developed by Szabolcsi and Zwart (1991, 1993) to the theory of Relativized Minimality in the sense of Rizzi (1990) and Cinque (1990), for the moment I will use the latter theory to account for the different behavior of restrictive and appositive RCs with respect to extraction. Since both accounts are very similar with respect to the broader range of data they explain, the marginal data, which play an important role for the general judgement of which theory is ultimatively preferable to the other, does not matter here. The idea is that if topics are weak islands, whereas comment internal phrases are not, VP internal arguments should freely allow for extraction of restrictive as well as appositive RCs. Topic phrases, i.e., scrambled XPs, are claimed to be weak islands. Thus, appositive sentences should not be able to escape them. Nothing may identify their trace. Restrictive RCs, on the other hand, should be allowed to move out of scrambled NPs because they carry a referential index. This index identifies their trace exactly as in *wh*-extraction of referential arguments out of well known weak islands such as factive complements or *wh*-islands. Given all these assumptions, the prediction turns out to be correct as I show shown in the next few pages.

6.4.2.2 *The extraction behavior of restrictive and appositive relative clauses in German*

First, as I did with *wh*-extraction in Section 6.2.1 and 6.2.3, I will show that extraction of RCs is not restricted to internal arguments. RCs can be extracted out of any kind of argument or even a non-argument noun phrase.

(107) subject
weil eine Frau gehustet hat, die mit einem Porsche kam
'since a woman coughed who came with a Porsche'

(108) indirect object
weil er den Brief einer Frau geschickt hat, die mit einem Porsche kam
'since he sent the letter to a woman who came with a Porsche'

(109) direct object
weil er eine Frau kennengelernt hat, die einen Porsche fährt
'since he met a women who drives a Porsche'

(110) prepositional complements
weil er auf eine Frau gewartet hat, die einen Porsche fährt
'since he was waiting for a woman who drives a Porsche'

Now I will go on to show that there is a difference with respect to the status of the extraposed RC. As described above, XPs that stay in their base position which is VP internal do not block extraction. (111) and (112) are examples in which the extraposed RC acts as a restrictor of the noun from which it has been moved away.[16] (113), (114) and (115) are clear cases of extraposition of an appositive RC. In all cases, i.e., (111)–(115), I have tried to put some adverbial phrase into the matrix sentence in order to show that the phrase from which extraction takes place is most likely in its base position. All examples are well-formed.

Restrictive RCs

(111) *weil sie wahrscheinlich nur Autos* t_i *kaufen, [die in Deutschland hergestellt werden]*$_i$
'since they probably buy only cars that are made in Germany'

(112) *weil sie aus Versehen ein Schwein* t_i *geschlachtet haben, [das für die Zucht bestimmt war]*$_i$
'since by mistake they slaughtered a pig that was designated for breeding'

16. Given the right context, an appositive reading is possible, too. This is a very marginal possibility, however.

Appositive RCs

(113) *weil sie von Anfang an immer wieder Kohl* t_i *kritisiert hat, [der bekanntlich Bundeskanzler ist]*$_i$
'because from the beginning she kept criticising Kohl, who — as everybody knows — is the Federal Chancellor.'

(114) *weil sie für Ronald Reagan* t_i *gestimmt haben, [der US Präsident war]*$_i$
'because they voted for Ronald Reagan, who was President of the United States'

(115) *weil sie seit ihrer Kindheit Papst Johannes Paul II* t_i *verehrt, [der aus Polen stammt]*$_i$
'because since her childhood she admires Pope John Paul II, who was born in Poland'

The contrast arises if the extraposition takes place from a scrambled position. Restrictive RCs remain extractable. Extraposition of an appositive RC leads to ungrammaticality.

(116) *(Gebildete Menschen üben eine große Faszination auf ihn aus. Ich weiß,)*[17]
daß er [jene Menschen $t_i]_j$ *schon seit seiner Kindheit* t_j *verehrt, [die mehr als drei Fremdsprachen sprechen]*$_i$
'that since his childhood he admires those people who speak more then three foreign languages'

(117) *(Der Heilige Vater in Rom ist sein Ein und Alles. Ich weiß,)*
**daß er Papst [Johannes Paul II* $t_i]_j$ *schon seit seiner Kindheit* t_j *verehrt, [der mehr als drei Fremdsprachen beherrscht.]*$_i$
'that since his childhood he admires Pope John Paul II, who knows more than three foreign languages'

Witness also the contrast between (113) and (118), and (114) and (119).

17. In (116) and (117) a context is given. This context assures that the XP from which extraposition takes place gets a topic interpretation in the test clause, and hence must be scrambled there.

(118) */?*weil sie [Kohl* $t_i]_j$ *von Anfang an immer wieder* t_j *kritisiert hat, [der bekanntlich Bundeskanzler ist]*$_i$
'since from the beginning she has continued to criticized Kohl, who — as everybody knows — is the German chancellor'

(119) **weil sie für [Ronald Reagan* $t_i]_j$ *nur im Notfall* t_j *stimmen würden, [der US Präsident war]*$_i$
'since only in a case of emergency would she vote for Reagan, who was the president of the US'

Other interesting contrasts are presented in (120) to (123). In the first pair (120)/(121), the matrix sentence is the same. (120) is grammatical, because the RC is understood as a restricting modifier of the scrambled subject. (121) is out, because the RC cannot be understood as restrictive. In the second pair (122)/(123), the RC is the same. (122) is out, because the RC must receive an appositive interpretation. (123) is good, since the use of an article that bears stress signals the presence of a focused. Focus is associated with alternatives. The extraposed RC instantiates the proper alternative and negates the others (all contextual present Sergejs who were not born in Odessa). Thus the RC is restrictive.

(120) *In Indien werden [Kühe* $t_i]_j$ *nie* t_j *geschlachtet, [die bei ihrer Geburt geweiht wurden.]*$_i$
'In India, cows that are blessed at birth will never be slaughtered.'

(121) **In Indien werden [Kühe* $t_i]_j$ *nie* t_j *geschlachtet, [die Wiederkäuer sind.]*$_i$[18]
'In India, cows, which are ruminants, are never slaughtered.'

(122) **Sie hat [Sergej* $t_i]_j$ *von Anfang an* t_j *geliebt, [der in Odessa geboren wurde.]*$_i$
'She has loved Sergej, who was born in Odessa, from the very beginning.'

18. Since to my knowledge, the data I am presenting in this chapter have never been analyzed before, I could not find any judgments in the literature. So I was left with my own intuitions. Since I know that my judgments are very liberal, and apart from that, they always left me after I had thought about them for a couple of minutes, I made a list with 20 test sentences and gave it to people to judge the grammaticality of the examples. It turned out that people who did not know that cows are ruminants by biological necessity accepted (122). Since their ignorance of this zoological fact made it possible for the RC to act as a restrictor, there was nothing wrong with (122) for them. I want to take this opportunity to thank these people, who did not care about their intellectual reputation and freely admitted this lack of basic biological knowledge.

(123) *Sie hat [DEN Sergej* $t_i]_j$ *von Anfang an* t_j *geliebt, [der in Odessa geboren wurde.]*$_i$

Thus, if one assumes that restrictive RCs are subject to the indexing mechanism described above and assuming further that the theory of Relativized Minimality is on the right track, the difference in the extraction behavior between restrictive and appositive RCs can be explained if scrambled XPs are considered to have the same blocking status as complements of factive predicates, *wh*-constructions, modal whether-clauses or constructions involving negation. In other words, the data seem to parallel well known facts about extraction and hence support the claim that topics are weak islands. This conclusion eliminates the second and last difference between leftward and rightward movement. The data undoubtedly prove that rightward movement shows island effects as well.

6.4.2.3 *Intermediate summary*

Sort of Extraction from out of	*was-für* split	*wieviel* split	quantifier split	extraction of referential/individual *wh*-phrases	extraction of restrictive RCs	extraction of appositive RCs
us DO[19]	ok	ok	ok	ok	ok	ok
us IO	ok	ok	ok	ok	ok	ok
us SU	ok	ok	ok	ok	ok	ok
s DO	*	*	*	ok	ok	*
s IO	*	*	*	ok	ok	*
s SU	*	*	*	ok	ok	*
factive complement	*	*	*	ok	∅	∅
negation island	*	*	*	ok	∅	∅

19. 'us' stands for 'unscrambled', 's' stands for 'scrambled'.

As one can read from this table, scrambled NPs pattern together with factive and negative islands independently of their argumental status. Additionally, there is one more construction in which selectional behavior of extraction can be observed: RC extraposition. This should be enough evidence for the Revised Generalized Specificity Condition, which claims that topics are weak islands.

6.5 Speculations over an explanation for the Generalized Specificity Condition

6.5.1 *Syntactic explanations*

In the previous subchapters it has been shown that topics are weak islands. I conent that this statement already constitutes substantial progress, since it generalizes over several loosely or non-related types of weak islands. However, it would be even nicer to have an idea about why this should be so, i.e., why topics can act as blocking elements for movement. This section will be concerned with a possible explanation.

The first idea that comes to mind is a syntactic approach that forbids extraction out of moved material. As has been shown in this book, it is reasonable to assume that topic phrases undergo movement (scrambling) whereas comment XPs remain in situ. Thus topics are distinct from non-topics in that the former have moved and the latter have not. This conclusion yields a welcome input for Ross' 'Frozen Structure Constraint' (1967). This rule bears its name because the movement has a freezing effect on the moved phrase. After raising, extraction out of the phrase is no longer possible. Müller (1994) formalizes this in the following way, which is a bit more abstract than Ross' original formulation:

(124) $\ldots\alpha_1 \ldots[\beta \ldots t_1 \ldots]_2$

(125) $*\ldots\alpha_1 \ldots[\beta \ldots t_1 \ldots]_2 \ldots t_2$

Müller gives a non-formal description as well:

(126) (his (12))
Freezing:
At S-structure, a trace t may not be included in a moved XP (i.e., an XP that binds a trace) if the antecedent of t is excluded by XP.

At first glance, this syntactic generalization seems to be a good candidate for an explanation. It is argued in the present work that topics are in a derived position, i.e. they have undergone movement. According to the Frozen Structure Constraint, they constitute a syntactic category from which extraction cannot take place. On the other hand, non-topics do not scramble. They stay in their base position. Nothing renders them frozen constituents there, hence extraction is not prohibited.[20]

There is one drawback with Müllers' explanation, however. As I have shown, topics are not strong islands. The table in the preceding section, which summarizes the data from Section 6.1 to 6.4, shows that some XPs (referential/individual expressions) may be moved out of topics. On the other hand, the formulations of the Frozen Structure Constraint prohibit any extraction out of moved material. In order to save the general idea, one could try to exploit some theory of 'anti-freezing' (Müller 1994; Collins 1994). However, unlike the data Müller considers, it seems that a purely syntactic account cannot deal with the facts in the case at hand, because the structure itself is the same. Thus, although the freezing constraint looked promising at the first glance, it does not provide a more insightful explanation of the generalized specificity condition.

6.5.2 *A semantic proposal*

The second explanation to be considered is provided by the theory of Szabolcsi and Zwarts (1991, 1993). The theory — although quite reasonable — is presented in a difficult and complex algebraic semantics that makes the theory for many syntacticians inaccessible. Thus I will give a short summery of what is necessary for the argumentation here. For Szabolcsi and Zwarts, island escaping is a question of scope taking. Scope is a property of quantificational elements. In a sentence with more than one quantifier, more than one scopal interpretation may be possible. However, the number of different

20. Another very similar proposal is Huang's (1982) 'Condition on Extraction Domains' (CED). This constraint also prohibits extraction out of moved constituents. However, the CED is as restrictive as the Frozen Structure Constraint in that extraction is generally blocked from positions which are not properly governed (L-marked in Barrier terms). As I have shown, this prediction of unselectivity does not hold, hence it is to be rejected for the same reasons as the Frozen Structure Constraint.

scopal interpretations of a sentence does not (always) equal the number of all possible permutations of the scope of all quantifiers within it. Some operators are incapable of taking scope over others. Szabolcsi and Zwarts propose that all scopal elements SE are associated with Boolean operations (negation with taking complements, for example).

(126) Szabolcsi and Zwarts (1993: 236)
Each scopal element SE is associated with certain Boolean operations. For a *wh*-phrase to take scope over some SE means that the operations associated with SE need to be performed in the *wh*-phrase's denotation domain. If the *wh*-phrase denotes in a domain for which the requisite operation is not defined, it cannot scope over SE.

In other words, in order for a scopal element SE1 to take scope over SE2, SE1 must allow for at least all the operations under which the domain of SE2 is closed as well. That means that the possible operations of an element with narrower scope must be a subset of the operations associated with the element which is supposed to take wider scope. *Wh*-phrases that range over individuals (Pesetzky's (1987) well known 'heavily discourse-linked' *'which X'* examples) are successful wide scope takers because they range over individuals, and individuals are collected into sets without entering into any ordering relation. Consequently, all Boolean operations are defined in their domain. Manner adverbials, amount phrases (*how, how much* and the like) are associated with partial orders which are not defined for all Boolean operations, hence the restrictions for movement.

The scopal elements whose interaction plays a role in our case are the topic XPs on the one hand, and the relevant extractees on the other.

In this paragraph I justify the claim that topic XPs can be analyzed as scopal elements with a relatively high number of Boolean operations which can be performed in their domain. Let me briefly repeat which XPs act as topics, and hence, must scramble. As I have argued in Chapter 3, strong quantifiers, whenever they act as such, have to leave the VP. Similar to Hornstein (1994) I assume that quantification resulting from nominal QPs results from movement of these strongly quantified DPs (QPs) to SpecAgr as one important step in the derivation of the quantificational structure. From there, they can c-command the relevant entities they have scope over. As a consequence, it seems very natural to analyze these quantificational topics as scopal elements out of which further extraction is restricted. This covers XPs

of the form: *jeder Student* (every student), *die meisten Schweine* (most pigs), *VIER Linguisten* (FOUR linguists), *zwei von den Opern* (two of the operas) and the like. Thus one sort of prototypical topic seems to be expressions that are uncontroversially analyzed as scopal elements.

A second class of topics is NPs that do not act a quantifiers in the first place. For example, unstressed proper names and definite descriptions. It is not obvious that they should be analyzed as scopal elements. One approach to this would be the adaptation of the classical Montagovian approach where all NPs regardless of their meaning are analyzed as generalized quantifiers (type $\langle e,t\rangle,t\rangle$) (Montague 1974). Under such a perspective, these NPs could also receive the status of a scopal element. However, this uniform treatment of NPs as generalized quantifiers has been criticized and modified by many authors (especially Partee (1987) and references quoted therein). Furthermore, a uniform treatment would blur the difference between topics and non-topics. We would like to have a theory that distinguishes them with respect to their quantifier status. Such a theory has in fact been proposed: de Hoop's theory of strong and weak Case (de Hoop (1992), see Chapter 2.1.2.2 of this book). Similar to the theory put forth in this book, de Hoop's claim is that an NP in the base position gets assigned weak Case. Weak Case is associated with a weak, i.e. existential reading. According to de Hoop, weak NPs are of type e or $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$. NPs that have undergone scrambling (in Dutch) are assigned strong Case. Strong Case is associated with a quantificational reading. Thus, only NPs with strong Case are interpreted as generalized quantifiers with type $\langle e,t\rangle,t\rangle$. Under such a type shifting approach (Partee 1987), we get the welcome distinction between VP internal and scrambled constituents. All topics are quantifiers. As a consequence, the somewhat problematic cases (scrambled proper names and definite DPs) must also be analyzed as generalized quantifiers. This pertains to expressions such as *Mary*, *the US president*, *Luciano Pavarotti*, *the gun*, *those animals*. In all likelihood these noun phrases denote in the domain of individuals.

If we recall that the elements that take narrower scope are associated with a subset of the Boolean operations under which the wide scope taker is closed, it becomes clear that only individual expressions can escape topics. They denote into unordered sets in which all Boolean operations are defined. This enables them to take scope anywhere. Scopal elements that are closed under a low number of operations are trapped in a scopally low position.

This explains why individual elements are good extractees, whereas quantifiers such as '*was-für*', '*wieviel*' and the like cannot scope over most other quantifiers.[21]

6.6 A short summary

As a short summary, it seems that the idea that topics are generalized quantifiers can be used to account for the fact that scrambled constituents become weak islands for extraction. XPs in base position are not interested in scope taking. Hence no conflict arises when movement out of them takes place.

The main proposal of this chapter is formulated in the generalized specificity constraint. It states that constituents that act as topics in the sense of the present work become islands for extraction. Since the data show that some phrases may escape them, and that these constituents are the classic robust extractees (discourse-linked, referential, individual phrases) the constraint on extraction is formulated as follows:

Generalized Specificity Condition (revised version):
Topics are *weak* islands

Appendix: Some evidence from English

(i) *The advantages of the Generalized Specificity Condition*

It has been observed by Fiengo and Higginbotham (1981) that *wh*-extraction out of ordinary indefinites is allowed in English (127), while extraction out of definite and specific NPs is prohibited (128), (129).

(127) Who$_i$ did you see *a* good picture of t_i?

(128) *Who$_i$ did you see *the* good picture of t_i?

(129) *Who$_i$ did Mary make *many* of *the* movies about t_i?

21. It is not yet clear to me how this explanation can be used to account for the RC data. Whereas I think that the quantificational status is obvious with respect to *wh*-extraction and not unreasonable, though less evident with Topic preposing (quantifier split), it remains mysterious as to why RC extraposition should be restricted by the semantics of scope.

This contrast has led to the formulation of the (simple) 'specificity condition'. Thus, the trigger for the ungrammaticality in extraction constructions is not definiteness, but specificity, a weaker notion (cf. Enç 1990). The acknowledgment of the blocking effect triggered by specific indefinites is already a step forward. However, the facts turn out to be more complicated. Not only do some indefinites, namely the specific ones, block extraction, there seem to be definites that allow for *wh*-extraction. Fiengo (1986) notes that superlatives do not prohibit movement out of them:

(130) Who$_i$ did you see [*the* best picture of t_i]?

Hence, the simple specificity condition is not an optimal solution, either. Fiengo then suggests that the definites that allow for extraction are best analyzed as novel definites in the Heimian sense (cf. Chapter 3). This comes close to the proposal advocated here. As a matter of fact, superlatives refer to an extreme individual in the model. There is always only one biggest, one smallest, one most intelligent... thing, person... Thus, superlatives can be very easily used as referential definites in the sense of Chapter 3, Section 3.4. That means that as long as they are not topics, they do not block extraction. Interestingly, superlatives appear in positions in which definites are normally excluded, i.e. in there-be sentences (cf. Chapter 5). Moreover in that position, they get a non-topic reading. Considering these facts, the generalized specificity condition seems to be superior and another step in the right direction.[22]

(ii) *Possible evidence against the right roof constraint*

Sag (1976) argues that 'Antecedent Contained Deletions' (ACDs) require that certain structural conditions must be met at LF. One very important constraint on VP deletion is that the missing verb, or the placeholder form *do* is neither c-commanded by nor c-commands its antecedent (see also Adger 1993).

22. Nevertheless, whereas the generalized specificity condition seems to be sufficient to explain the German data, this is not ther case for English. In English, subjects are always islands. (Only SC internal subjects in there-be constructions allow for extraction.) VP external subjects do not allow for extraction, no matter what interpretation they get. Also subjects that according to some versions of the Mapping Hypothesis are reconstrcuted into the base position and do definitely not act as topics make movement out of them impossible. I do not have an explanation for this.

(131) Johannes saw some movies, and Axel did too.

The VP of the first conjunct does not c-command the *did (too)* in the second conjunct.

In ACD constructions, however, this constraint does not appear to hold:

(132) Johannes saw every movie that Axel did.

In (132) the matrix verb c-commands the deletion site, i.e. *did*. Moreover, the idea of copying the antecedent VP into the deletion site creates the problem of infinite regress:

(132) Johannes saw $[_{DP}$ every movie that Axel $[_{VP}\ e]]$.

(133) Johannes saw $[_{DP}$ every movie that Axel $[_{VP}$ saw every movie that Axel $[_{VP}$ saw every movie that Axel $[_{VP}$ saw every movie that Axel...]]]]

One way to get out of this problem is to assume that the object moves out of the VP at some level of representation. Whatever movement device is adopted (QR in May (1985), object raising to SpecAgrO in Runner (1993), Adger (1993), Hornstein (1994)[23]), the resulting structure is such that copying the matrix VP into the deletion site no longer poses a problem.

(134) [every movie that Axel $[_{VP}$ saw $t_i]]_i$ $[_{IP}$ Johannes saw $t_i]$

or

(135) Johannes $[_{AgrOP}$ [every movie that Axel $[_{VP}$ saw $t_i]]_i]$ saw t_i

What is crucial for the purposes at hand is the fact that the c-command requirement is not eliminated. (134) and (135) are both structures in which the two VPs do not stand in any c-command relation, i.e. neither does the matrix VP c-command the deletion site, nor does the VP copy in the object DP c-command the antecedent VP. Thus the original constraint about the prohibition of c-command still holds.

23. I favor this most recent proposal, of course. Thus, the data involving antecedent contained deletion point in the direction that in English there are also reasons to believe that movement versus non-movement distinguishes between topics and non-topics. ACD effects are only observed with strongly quantified (and definite) DPs. Thus, ACD with weak determiners automatically triggers the strong presuppositional reading.

Moreover, this constraint seems to be confirmed by one puzzling construction discussed in Tiedemann (1995).

(136) (?)John believed everyone was a genius that you did.

This sentence is fairly acceptable. At the very least, it stands in sharp contrast to the relative clause in its base position modifying *everyone*.

(137) *John [believed [[everyone [that you did]] was a genius]].

This fact is accounted for by Sag's condition on deletion. In (137) the deletion site is in the c-command domain of the matrix verb. (136) is okay because extraposition of the relative has taken place. According to Sag's constraint, the relative clause must not be deeper than the matrix verb. Thus the closest possible landing site is an adjoined position to the matrix verb phrase (if an analysis is adopted where also the verb (and the object) in English moves overtly, adjunction must be assumed to take place even higher (Johnson 1991; Hornstein 1994; Solà 1994)).

(138) John $[_{VP}$ believed $([_{CP}])$ $[_{IP}$ $[_{QP}$ everyone $t_i]$ was a genius]]([]) [that you did]$_i$.

Only a bracketing as the one in (138) ensures that the extraposed clause is outside the c-command domain of the matrix verb. According to the right roof constraint, the bracketing should not be the structural representation of a grammatical structure since there are three or four nodes between the trace and its antecedent. (136) or (138) are almost perfect, however. Hence, one possible conclusion might be to abandon the right roof constraint.

In his classes (Lasnik, Berlin lectures at FAS 1995) and in p.c., Lasnik has suggested that the ungrammaticality of the famous right roof violations might actually be garden path effects. And indeed, some sentences pronounced with appropriate intonation and placed in a certain linguistic context do not sound as incorrect if one knows what they are supposed to mean. At least some willing native speaker of English judged the following example as not so bad:[24]

24. For many, however, the sentence is ungrammatical. Nevertheless, the fact that some accept it should be enough to demonstrate that the right roof constraint is not that robust a filter on rightward movement. The German examples from (88) and (89) are not acceptable to every native speaker, either.

(139) Peter did NOT appreciate that Mary will/would defend her claim YESTerday that John could be the thief, (but toDAY, he is quite happy that she will DO so.)

(139) is a clear violation of the right roof constraint. *Yesterday* is an adverbial which can only modify the matrix clause, as its semantics makes it incompatible with future tense. The clause *'that John could be the thief'* is the complement of *claim*, the subordinate object. Thus, the complement sentence of the subordinate object is adjoined higher than the matrix VP.

(140) Peter did NOT [appreciate [that Mary will [defend [her claim t_i]]] YESterday] [that John could be the thief]$_i$ ...

This is a clear violation of Ross' constraint. The difficulty with these sentences is that one has to look for an example in which a matrix adverbial occurs after a subordinate clause. This structure (already without a continuation) is natural only when the adverbial is emphasized. On the other hand, extraposed clauses also tend to be focused, i.e. they bring new information. That means that the crucial examples exhibit a multifocal structure. Thus, these sentences are also semantically difficult to parse. It is then not surprising that a sort of garden path effect comes across.

CHAPTER 7

Conclusions

The present book basically has three major conclusions.

The first one is elaborated in Chapter 2. There it is argued that arguments that refer to discourse-new entities remain in their VP internal base positions. Within the VP, arguments are projected according to a universal hierarchy of thematic roles. It has been shown that the claim that German displays several base orders (DAT > ACC, ACC > DAT, ACC </> DAT) cannot be maintained. The conclusion that there are different base-orders is the result of a misunderstanding of focus projection on the on hand, and the overlooking of some semantic facts with the DAT > ACC, ACC > PP alternation on the other. A closer look at the facts reveals that true dative objects generally precede and therefore c-command accusative arguments. There are no verbs which allow for both orders simultaneously. If dative objects appear to be closer to the verb than accusatives, the datives at issue are no true datives, but hidden PPs. The semantic prove comes from a lexical decomposition of the meaning. Higher ranked datives denote goal arguments, deeper ranked ones, which are actually PPs, denote locations or directions. The syntactic evidence comes from the morphological shape of the relevant class of verbs. All verbs that project an ACC > DAT VP, are particle verbs that consist of a verbal root and a prefixed (locational) preposition. I argue that this word-internal structure is the result of the incorporation of the preposition leaving the former prepositional complement surface as a(n apparent) dative argument. The conclusion of these observations is a VP, which parallels a familiar hierarchy proposed by many linguists for many languages:

(1) $[_{VP}$ SU [IO [DO [PP verb (]v]v]v]])

The second main proposal concerns the trigger for scrambling, or more generally, one further proposal of the present book is a new discourse:

syntax mapping. In Chapter 3 a detailed presentation of the semantic differences between scrambled arguments and their unscrambled counterparts is given. It is proposed that the common property of the scrambled constituents which the unscrambled ones lack is the discourse anchoring character of the former. It is argued that the scrambled arguments act as constituents about which something is asserted. The feature that characterizes them as anchors in the conversation is [+Topic] (cf. also Jäger 1995). This feature is checked in the specifier position of agreement projections. Comparison of many typologically different languages supports this claim because [+Topic] arguments co-occur with grammatical phenomena related to scrambling (Case differences, agreement facts, position change), which can be easily explained by the presence of agreement phrases. Attempts to link these phenomena to other triggers are untenable or less elegant. The formal representation of the proposal looks as follows:

(2) [CP...[AgrPs... | [VP ([discourse new adjuncts]) [VP...]
topic(s) | comment

The third main contribution is developed in Chapter 6. There a constraint is proposed which I call the Generalized Specificity Condition. It is shown first that many subject-object asymmetries with respect to extraction are actually topic/non-topic asymmetries. It turns out that the right generalization is that VP internal arguments allow for extraction, while VP external act as islands. The argumental status (subject, object, ...) does not matter. It is furthermore proposed that factive sentences block extraction because, from a discourse-theoretic point of view, they act as topics. Since neither topical nominal arguments nor factive complement sentences are completely impermeable, but allow for extraction of individual (and discourse-linked) constituents, I classify topics as weak islands. The Generalized Specificity Constraint, here repeated as (3), may be viewed as a generalization over quite a number of hitherto unrelated conditions on movement (such as the original Specificity Condition (Fiengo and Higginbotham 1981), Guéron's name constraint (Guéron 1978, 1980), the Frozen Structure Constraint (Ross 1967), the islandhood of factive predicates (Kiparsky and Kiparsky 1970; Rizzi 1990; Cinque 1990 etc.)

(3) Generalized Specificity Condition: Topics are weak islands.

Chapter 4 furthermore offers some speculations on the reason for this constraint and provides evidence for the claim that leftward raising as well as movement to the right obey the same constraints, which is one more generalization of that part of the given book.

The general goal of this book is to investigate how syntax deals with the information imposed by the structure of discourse. It tries to show how the speaker's intents to present his/her information are encoded in the syntactic structure of sentences, whereby 'syntactic' is used in its broader sense which covers over 'syntactic' in the narrower sense, morphological, phonological and so forth. It contains the proposal that constituents have to occupy/to be associated with specific structural positions according to their informational task.

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