Phrase Structure Theory in Generative Grammar

Publications in Language Sciences

Publications in Language Sciences is a series of monographs in theoretical linguistics and its more formal satellite fields of scientific inquiry. It is intended to provide an opportunity for scholars working within these areas to report rapidly on research either terminated or in some definite stage of progress. Ideally, in these publications interest, inspiration, and openmindedness go hand in hand.

Ger J. de Haan
Leo Wetzels
Wim Zonneveld
editors

Other books in this series:

1. W. Zonneveld and F. Weerman
   Linguistics in the Netherlands 1977-1979
2. G. de Haan
   Conditions on Rules
3. T. Hoekstra, H. v.d. Hulst and M. Moortgat
   Lexical Grammar
4. P. Kiparsky
   Explanation in Phonology
5. A.J. Vitale
   Swahili Syntax
6. R.M. Martin
   Logico-Linguistic Papers
7. S. Dik
   Functional Grammar
8. L. White
   Grammatical Theory and Language Acquisition
9. S. Strauss
   Lexicalist Phonology of English and German
10. M.C. Shapiro and H.F. Schiffman
    Language and Society in South Asia
11. Simon C. Dik
    Advances in Functional Grammar
12. H. Bennis and W.U.S. van Lessen Kloeke
    Linguistics in the Netherlands 1983
13. M.P.R. van den Broecke, V.J. van Heuven and W. Zonneveld
    Sound Structures
14. Harry M. Bracken
    Mind and Language: Essays on Descartes and Chomsky
15. Mieke Trommelen
    The Syllable in Dutch
16. Carlos Gussenhoven
    On the Grammar and Semantics of Sentence Accents
17. Hans Bennis and W.U.S. van Lessen Kloeke (eds.)
    Linguistics in the Netherlands 1984
18. Jaap van Marle
    On the Paradigmatic Dimension of Morphological Creativity
19. Larry M. Hyman
    A Theory of Phonological Weight

Frits Stuurman

Phrase Structure Theory in Generative Grammar

1985
FORIS PUBLICATIONS
Dordrecht - Holland/Cinnaminson - U.S.A.

Published by:
Foris Publications Holland
P.O. Box 509
3300 AM Dordrecht, The Netherlands

Sole distributor for the U.S.A. and Canada:
Foris Publications U.S.A.
P.O. Box C-50
Cinnaminson N.J. 08077
U.S.A.

CIP-DATA

Stuurman, Frits

Phrase Structure Theory in Generative Grammar / Frits Stuurman. – Dordrecht [etc.] : Foris. – (Publications in Language Sciences ; 20)
With ref.
ISBN 90-6765-129-X
SISO 805.4 UDC 801.56
Subject heading: syntax ; generative grammar.

ISBN 90 6765 129 X (Paper)

Printed in the Netherlands by ICG Printing, Dordrecht.

Voor Vader

Acknowledgements

I would like to express my gratitude to all persons and institutions that have contributed in one way or another to the production of this book, and/or to my permanent education of which it is a product. These include my teachers, colleagues, and students; my family and relations; my friends and enemies; and the Universities of Amsterdam, Reading, and Utrecht.

Although I am grateful to all, I would single out for special mention: Bert Bourgonje, Peter Coopmans, Hans Gilijamse, Liliane Haegeman, Franciska de Jong, Ans van Kemenade, David Lightfoot, Peter Matthews, Dr. Ir. Jac. Stuurman, Marijke Stuurman, and Henk Verkuyl; as well as the 'jonge onderzoekers' of the research program 'Formal parameters of generative grammar.'

Table of Contents

CHAPTER I: Introduction

This thesis studies X-bar theories of the Phrase Structure component of a generative grammar. In this first chapter, I will outline a general perspective, within which the subsequent chapters should fall into place. In I.1. I state the issue that I explore: whether under X-bar theory the Phrase Structure component should have access to the expressive power of multiple projection-types: $\overline{X}$ vs. $\overline{\overline{X}}$, etc. In I.2. I then argue my lines of approach to this issue, from which follows a preview of the later chapters.[1]

I.1. The issue: multiplication or minimalization by X-bar theory

This study represents an exercise in generative linguistics along the lines of the Chomskyan paradigm. That is, the aim of linguistic theory will be taken to be the explanation of language acquisition. I will say little, and even less that is new, however, about the idea itself of taking this aim. I refer the reader who wishes to see this developed more extensively to a general introduction such as Hornstein and Lightfoot (1981). Rather, in this study, I try to put the idea into practice. That is, I attempt in this study to be consistent in referring specific issues in X-bar theory back to the explanatory aim of accounting for the attainability of particular grammars.

Briefly, the issue in accounting for language acquisition is what is sometimes referred to as the projection-problem. The problem here is the so-called poverty of the stimulus. The data to which a child is exposed in normal situations of language acquisition are quite degenerate in many ways; moreover, they do not provide evidence of the kinds to which linguists resort to tease out the underlying grammatical system, such as sentences marked as ungrammatical, observations of synonymy and paraphrase, etc. Thus, correct mature grammars projected are heavily underdetermined by the narrower range

of data to which children have access. Still, language acquisition is quite efficient and invariable across the human species. Apparently, the child has far fewer grammars to choose from than are determined by the available data. To help explain this, it is assumed that the language acquirer has access to some sort of template with parameters that may be fixed when an appropriate piece of linguistic data is encountered. Within the Chomskyan paradigm, this template is the content of linguistic theory, Universal Grammar UG.

Although there is healthy and productive controversy over virtually every detail, there is among generative linguists a substantial degree of agreement on the general outline of a theory that is to account for language acquisition. Linguistic theory, or UG, consists of a number of autonomous components, or modules, each of which is constrained by a set of principles and parameters. Together, these constitute the constraints on the available grammars for human languages, and account for the speed and uniformity of language acquisition. On the other hand, the various parameters, and especially the product of their interaction, must be open enough to account for the variation found in human languages.

Once again, I will take autonomous and parametrized components for granted, given their explanatory power with respect to language acquisition. What I will be doing, under these assumptions, is to carry controversy into one specific component, and in particular to a principle in that component which has so far remained relatively free of controversy. The component in question is the Phrase Structure, henceforth PS, component. Among the principles that govern this component is, since Chomsky (1970), the content of so-called X-bar theory. I adopt the hypothesis that for English, X-bar theory might have to provide for nothing more elaborate than (1):

(1) $X^1 \longrightarrow \ldots \left\{ \begin{matrix} X^1 \\ X^0 \end{matrix} \right\} \ldots$

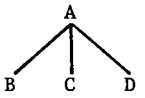
To appreciate why (1) might be controversial, consider the general nature of PS rules as in (2):

(2) A $\longrightarrow$ B C D

A rule such as (2) is used to generate configurational representations as in

(3):

(3)



From (3), the PS component may be seen to be basically two-dimensional. On the horizontal plane, B precedes C and D, and C precedes D. Vertically, each of B, C, D is dominated by A. The central insight captured by X-bar theory relates to this vertical axis. Under X-bar theory, the character of a syntactic category derives along the vertical axis of PS from a lexical category that it dominates.

Let us consider more closely the vertical dimension of PS. Suppose that a proform like one can only take a syntactic constituent for its antecedent. The data in (4) then provide evidence for a PS configuration like (5a) rather than (5b).

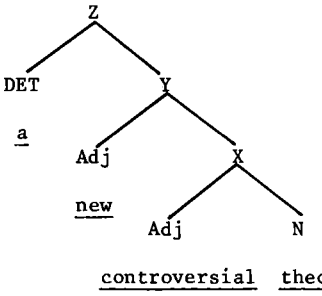
(4) a. Susan presented a new controversial theory. Mary, however, presented an old uncontroversial one.

b. Susan presented a new controversial theory. Mary, however, presented an older one.

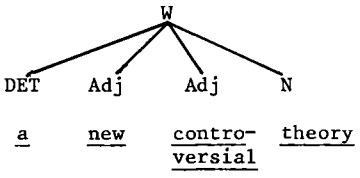
c. Susan presented a new controversial theory. Mary, however, opposed that one.

d. Susan presented a new controversial theory. Mary, too, presented one.

(5) a.



b.

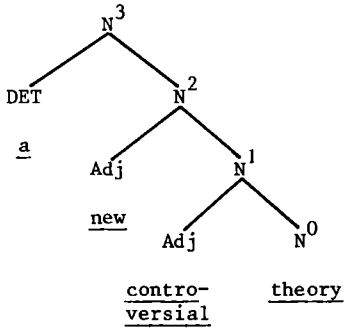


Thus in (4a) one may be interpreted as coreferential to the constituent N of

(5a); in (4b) one may (though it does not have to) be interpreted as coreferential to the constituent X of (5a); and similarly for (4c) and Y, (4d) and Z. In (5b) only W and N are constituents to account for (4a) and (4d); under (5b), (4b) and (4c) remain unaccounted for, because neither controversial theory, nor new controversial theory are constituents by (5b).

The vertical hierarchy of Z, Y, X, N in (5b) can thus be motivated for instance by the possibilities of one-interpretation. Now X-bar theory regulates the relation between the syntactic categories Z, Y, X, and the lexical category N that they dominate. For instance, Z also dominates the typically adnominal constituent DET; and Y and X also dominate the typically adnominal modifier Adj; neither DET nor Adj appear in the same way with verbs or prepositions, etc. Correspondingly, X, Y and Z in (5a) may be replaced by symbols which incorporate N, as in (6):

(6)



(6) represents a PS analysis of the kind that is given under X-bar theory.

In a configuration such as (6), then, the syntactic categories N^3, N^2, N^1 derive their nominal character from dominating lexical N^0. Put differently, N^0 projects its nominal character up through the configuration; hence, an uninterrupted series of nodes $X^0 \ldots X^k$ is called the projection of the lexical category X^0. Adapting somewhat the terminology in Bresnan (1976:19), within the projection of N^0 in (6) the categories N^3, N^2, N^1 may then be called projection-types. Thus, the highest node of (6) would be the projection-type 3 of N^0, the node N^2 that N^3 dominates would be the projection-type 2 of N^0, and so on. Note that under this terminology the lexical category N^0 is not itself a projection-type, although it is part of the projection $N^0 \ldots N^k$. In any projection, only the syntactic categories will be projection-types.

In general terms, then, PS will be generated by rules which satisfy a

schema like (7):

(7) $X^i \longrightarrow \ldots X^j \ldots$, where X is a lexical category, and $\underline{i} \geqslant 1 \geqslant \underline{j} \geqslant 0$

The schema of (7) constitutes an X-bar theory which constrains the vertical dimension of PS to endocentric projection-types. Correspondingly, the vertical plane of PS representation may be seen as the dimension of projection-types. The standard assumption has been that along this dimension X-bar theory may specify that in (7) $\underline{i}$ in $X^i \neq \underline{j}$ in X^j, etc. That is, X^i and X^j may be multiple projection-types. For instance consider the original X-bar convention proposed in Chomsky (1970), as in (8):

(8) a. $X^2 \longrightarrow$ Spec - X^1

b. $X^1 \longrightarrow X^0$ - Comp

Under such a system as (8), two hierarchical levels are projected from X^0, which apart from both defining an endocentric Head, can, and in fact do, differ, as multiple projection-types $\underline{2}$ and $\underline{1}$.

In some recent work on X-bar theory, a program has been adopted of so-called minimalization of the PS component. At the time that most of this thesis was written, this program had culminated in Stowell (1981), who adapts to English the results achieved by Farmer (1980), Hale (1980) for non-configurational languages (see now also Koopman 1984, Travis 1984). The logic of such minimalization is incontrovertible given explanatory concerns. In the modular model of UG, constraints in various components will reinforce each other. For instance, Stowell argues that PS representation need not express the constituent order facts of (9) as in (10a); rather, given an independently motivated Case-theory, with a condition of adjacency constraining Case-assignment, PS syntax may be minimalized to (10b):

(9) a. (he) put the car in the garage

b. * (he) put in the garage the car

(10) a. $V^1 \longrightarrow V^0$ NP PP

b. $V^1 \longrightarrow V^0$ ...

If in (10b) '...' is filled with 'PP NP' in accordance with the thematic structure of put, then NP is non-adjacent to its prospective Case-assigner V^0; NP will then fail to get assigned Case, and thus violates the Case-filter, by which every NP should be assigned one Case or another.

Notice that in (10b) minimalization of the PS component affects the horizontal dimension, a sequence of constituents introduced as sisters. Stowell (1981:92) specifically excludes the vertical dimension of projection-types from his program of minimalization: he suggests that "In addition to the two levels of hierarchical phrase structure defined by the X^1 and X^2 schemata in [(8)], it may be that further distinctions are justified". What is novel in this thesis, and initially controversial, therefore is minimalization along the dimension of projection-types, the prime domain of X-bar theory. That is, under (1) the number of projection-types is constrained to just one: neither Chomsky's multiplication of X^1 and X^2 as in (8), nor any further projection-types X^3, X^4, etc., are admitted by (1). Hence, I shall refer to (1) as 'the single projection-type hypothesis', from now on SPTH. SPTH opposes the standard assumption that X-bar theory should allow for multiplication of projection-types in particular grammars, X^1 vs. X^2. vs. X^3, etc.

The proponent of SPTH must grant at once that at the level of superficial structure which is more or less directly amenable to observation, categories dominated by separate hierarchical levels in a projection may exhibit differential behaviour. Thus, although N^3 and N^2 in (5) both dominate typically adnominal constituents, DET and Adj differ from each other for instance in being obligatory and optional respectively:

(11) a. he didn't take a —— view of X-bar theory
b. * he didn't take —— new view of X-bar theory

Such facts are grist to the mill of multiple projection-types. Given N^3 vs. N^2 as multiple projection-types, the PS component can then account for (11) as in (12):

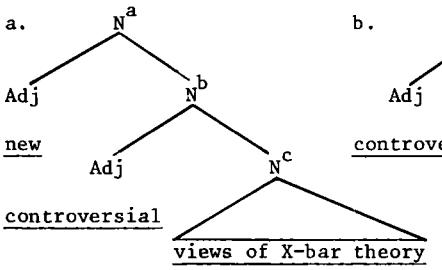
(12) a. $N^3 \longrightarrow DET - N^2$
b. $N^2 \longrightarrow (Adj) - N^i$

It is not always profitable to take each hierarchical distinction in

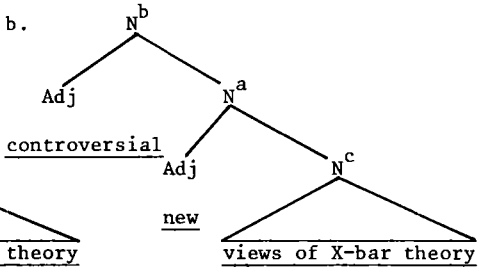
a projection as an instance of multiple projection-types, however. For example, the configurations associated with (13) would, again on such bases as one-interpretation, be as in (14) respectively:

(13) a. new controversial views of X-bar theory
b. controversial new views of X-bar theory

(14) a.



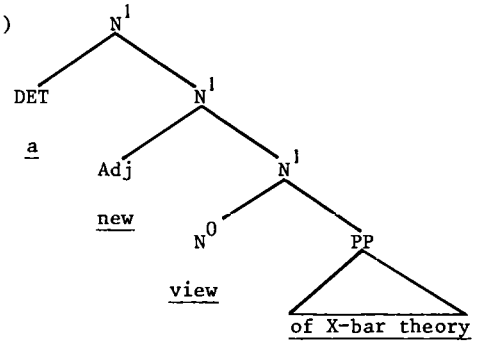
b.



That is, the hierarchical levels N^a and N^b are interchangeable. For these it can therefore be said that $\underline{a} = \underline{b}$. Thus, N^a and N^b in (14) are not distinct projection-types in the proper sense, but rather each a token of one and the same projection-type, say N^d (which would be recursive).

By contrast to the standard procedure of allowing multiplication of projection-types, SPTH pursues minimalization of the PS component by only admitting a single projection-type, recursive X^1. By (1), multiple projection-types such as in (12) are excluded at the level of the PS component: for each pair of syntactic categories X^i, X^j, $\underline{i} = \underline{j} = 1$. Effectively, therefore, I intend X-bar theory to constrain the level of PS representation to just one distinction internal to projections, the one between X^1 and X^0. Under SPTH there will be just one projection-type, and projections with one or more hierarchical levels over X^0 will contain as many tokens of the single projection-type X^1. The implication of SPTH, then, is a PS analysis as in (15) rather than ones as in (5a) under (12):

(15)



Given (1), a PS account of such differences as between obligatory DET and optional Adj as in (12) is excluded.

It is the aim of this thesis to show that versions of X-bar theory which multiply projection-types at the level of PS representation are indeed inappropriate and should therefore be controverted. For instance, in English only the first hierarchical level projected from X^0 can dominate NP. Thus consider (16):

(16) a. he [[met his wife] in Italy]

b. * he [[met in Italy] his wife]

Given multiple projection-types, the facts of (16) could be captured directly at the level of PS, essentially as in (17):

(17) a. $V^i \longrightarrow \ldots\ V^j\ \ldots$, where $\ldots \neq NP$, $i \geqslant j \geqslant 1$

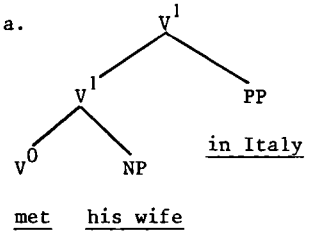
b. $V^1 \longrightarrow \ldots\ V^0\ \ldots$, where $\ldots = NP$, ...

But (17), though descriptively adequate, does not explain how the child can learn the distribution of NP. That is, there is no reason, in terms of constraints in UG, why (17a) should not, conversely, allow NP under V^i, and (17b) exclude NP under V^1. In other words, to attain (17a), the child needs to know that strings like (16b) are ungrammatical. But such information is not part of the child's primary data.

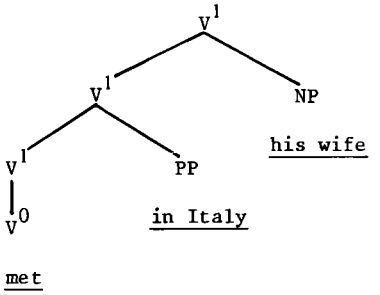
By contrast, SPTH does not allow for such an unrealistic scenario. In view of (16a), (1) would also have V^1 introduce NP as a possible sister to V^0, as in (18a). But under (1), this means that V^1 can also introduce NP as

in (18b), by which (16b) should be grammatical, and which (17a) excludes:[2]

(18) a.



b.



That is, under (1) one needs an independent principle with the effect of 'filtering out' NPs overgenerated, i.e. all NPs but the one(s) dominated by the first X^1 up from X^0. This filtering effect can be associated with the adjacency condition of Case-theory, which also operates in minimalization along the horizontal dimension in Stowell (1981) (cf. (9), (10)). Being a Case-assigner is a lexical property, that is: of X^0, not of X^1. Since X^0 is adjacent to NP only in the domain of the first X^1 up, but subjacent to NP in any X^1 higher up, the ill-formedness of (18b) follows independently of PS representation.

The controversy that SPTH raises is not whether such differences as between the first hierarchical level up from X^0 and all other hierarchical levels projected from X^0 as in (16) exist, but whether they can be explained if they are expressible at the level of PS representation, as in (17). (17) continues the tradition of (8) by distinguishing multiple projection-types, X^1 and X^2. SPTH minimalizes the vertical dimension of the PS component and imposes a tighter constraint on expressive power of PS than do multiple projection-types. It thus forces one to look for independent constraints outside the PS component which will interact with (1) to emulate multiple projection-types.

In accounting for (16) under SPTH, I have drawn on mutually beneficial interaction between lexicon and PS component. This presupposes that either component be autonomous with respect to the other. In fact, one way to put (1) into words is: 'distinguish (only) between lexical categories (X^0) and syntactic categories (X^1)'. SPTH might therefore alternatively be referred to as X^0/X^1-theory. X-bar theory is given in various notations: bars, primes, superscripts, etc. In (1) I affect superscripts, and I will, for the sake of

uniformity, use superscripts wherever possible, adapting proposals in other notations without explicit acknowledgement.

A final point may be raised in this connection. In general I will restrict myself in this study to data from English, with occasional excursions into a closely related language such as Dutch. The domain of application of SPTH as in (1) would thus at best be so-called configurational languages. But it may now be recalled that Stowell's (1981) program of minimalization of the PS component of the grammar of English builds on the work on non-configurational languages as in Farmer (1980), Hale (1980). It appears from such work that the property of being non-configurational may be captured by preventing PS representation from attaining hierarchical depth. That is, X-bar theory for non-configurational languages would be as in (19) (cf. Farmer 1980:70, Hale 1980:185):

(19) $X^1 \longrightarrow \ldots \quad X^0 \ldots$

Obviously, (19) is again an X^0/X^1 hypothesis, like (1). In fact, (1) and (19) might well be expected to prove sufficient between them for all human languages, given such argumentation as in Farmer and Hale for non-configurational languages, and in this study for a configurational language like English. And indeed, (1) and (19) might be collapsed as in (20), on the assumption that independent principles are responsible for the (different) ways in which ... is filled:

(20) $X^1 \longrightarrow \ldots \left\{ \begin{matrix} (X^1) \\ X^0 \end{matrix} \right\} \ldots$

(20) would then be the version of SPTH that holds at the level of UG. The brackets around X^1 on the right-hand side of (20) would represent the (non-) configurationality parameter. It would be fixed as in (19) upon exposure to Japanese, and as in (1) in English.

I.2. The approach: expansion and retrenchment

To a large extent, minimalization of the PS component, as in Stowell (1981) or by adoption of (1), is reminiscent of developments in the trans-

formational component within the Chomskyan paradigm. These developments are succinctly summarized by Baltin (1982:2), in a historiographical passage from which I will quote at some length:

> The history of transformational generative grammar can be divided into two periods, which can be called expansion and retrenchment. During the early 'expansion' period, a primary concern was the description of grammatical phenomena ... The theory was correspondingly loose, and consequently failed to provide an adequate solution to the projection problem ... During the retrenchment period ... the focus of attention shifted from the construction of relatively complex ... statements to the construction of a general theory of grammar, restricted as to the devices it employed, which could be ascribed to universal grammar. Recently, the ultimate in retrenchment ... has been stated ... , 'move-alpha' ... , the logical conclusion of an attempt to extract generalization from particular rules

Minimalization by SPTH would make the history of the PS component parallel to that of the transformational component: multiplication (= expansion) from Chomsky (1970) onwards, now giving way to the minimalization (= retrenchment) of expressively restrictive SPTH. At the fundamental level of solutions to the projection problem, SPTH parallels 'move-alpha'. Hence there is in this thesis a considerable concern to establish Baltin's expansion-retrenchment model as the course of history in X-bar theory. This leads me to consider very carefully the earlier literature on X-bar theory. The introduction of X-bar theory considerably restricted the expressive power of the PS component, but I will identify the period of multiplication of projection-types as a period of expansion in X-bar theory as compared with minimalization towards SPTH. Yet even in this expansion phase one can with hindsight recognize the roots of retrenchment. The historiographical angle to my thesis thus entails a considerable amount of exegesis. That is, by looking for loose ends, undeveloped ideas, and mistaken inferences, I will reinterpret earlier expansionist work.

Something else also leads to a concern for exegesis. It is possible to see work in X-bar theory as having suffered from the very beginning from too little exegesis. In his study of the history of transformational-generative linguistics, Newmeyer (1980:118) notes that the paper which first introduced

X-bar theory, Chomsky (1970), was "extremely unsuccessful". Newmeyer then goes on to ascribe this primarily to "Chomsky's own tactical blunders", since Chomsky "did not challenge the ARGUMENTS" of his opponents. To avoid repeating such tactical errors when introducing SPTH, I prefer to run the risk of erring on the safe side. That is, I will concentrate on challenging arguments of those who multiply projection-types by X-bar theory. However, much of the argumentation for multiple projection-types has remained relatively implicit. Any challenge therefore presupposes a painstaking explication of the arguments and a careful study of their actual nature. Again, therefore I find myself adopting an exegetical approach.

One other aspect of a Baltin-type view of the history of the PS component deserves attention here. With respect to retrenchment up to 'move-alpha', Baltin (1982:2) adds to the earlier quotation that "there is reason to believe that 'move-alpha' is not an attainable goal" (instead, transformations should be able to include a specification of a restricted set of 'landing-sites'). If the parallel between 'move-alpha' and SPTH is accepted, it should be emphasized that I put forward (1) in full awareness that it too might turn out not to be an 'attainable goal' of retrenchment. In nevertheless attempting to maintain (1), I adopt the familiar research strategy commended in Syntactic Structures (Chomsky 1957:5):

> Precisely constructed models for linguistic structure can play an important role ... in the process of discovery ... By pushing a precise but inadequate formulation to an unacceptable conclusion, we can often expose the exact source of the inadequacy and, consequently, gain a deep understanding of the linguistic data

I am not aware of any unacceptable conclusion that SPTH as formulated in (1) would be pushed to. But if (1) ultimately proves an unattainable goal of retrenchment, then it will still help establish (in-)correct forms of X-bar theory.

This allows me to acknowledge the enormous debt that I owe to Jackendoff (1977). Throughout this thesis, I will criticize both general and detailed aspects of Jackendoff's work. But Jackendoff (1977:29) similarly quotes the above passage from Chomsky (1957). In pushing expansion in X-bar theory to what I will argue to be unacceptable conclusions, Jackendoff has simply achieved his goal: he has effectively paved the way towards an under-

standing of the need for a retrenchment program, as under SPTH (and also in Stowell 1981, who expresses a similar debt to Jackendoff; cf. 1981:100, note 6). In fact, the parallel histories of transformational and X-bar theories suggest that formulation of the 'ultimate' in expansion assists the alternative program of retrenchment. At least, no part of this thesis could have been written without having the consistent and detailed proposals in Jackendoff (1977) to react to.

By now, I have entered into two methodological commitments. On the one hand I will take an exegetical approach towards earlier X-bar theoretical proposals. This should serve the purpose of getting a deeper understanding of multiple projection-types, and thus of what exactly I set SPTH up against. On the other hand, SPTH is part of a precisely constructed model of linguistic structure that should be pushed to its conclusion. From this a clearer appreciation should follow of the (in-)adequacy of SPTH, and conversely of multiple projection-types. Although there is never an absolute separation between these two approaches, to some extent this thesis does divide accordingly. That is, Chapters II - IV are mainly historiographical and exegetical; Chapter V is basically a precise and detailed test of SPTH. Whatever its historical context, SPTH will of course ultimately have to stand or fall on its own (de-)merits. In this sense, Chapter V is the most important part of this thesis.

Given my two approaches, the various chapters in this study may now be previewed as follows. In Chapter II, I study representative work on X-bar theory until now, or at least until the late 70's. In particular, comparison of Emonds (1973) to Emonds (1976), and of Jackendoff (1974) to Jackendoff (1977), justifies the application of the label of 'expansion' to this period, with earlier proposals being close(r) to minimal SPTH as in (1). Chapter III looks at Jackendoff's (1977) uniform three level hypothesis U3LH as the most explicit and most thoroughly worked out product of the expansion period. By virtue of Jackendoff (1977), expansion in X-bar theory can be pushed to logical conclusions which turn out to be unacceptable in various respects. I show how these conclusions lead to retrenchment towards SPTH. In Chapter IV, I suggest that expansion along the dimension of multiple projection-types is interactive with expansion of the hypothesis of syntactic category features. Reinforcing the historical parallel between the transformational and PS components, I illustrate that syntactic category features are an obstacle both in the development towards 'move-alpha' and towards SPTH. I then reject syntactic cat-

egory features, in the interest first of attaining 'move-alpha' but then also of attaining SPTH.

Chapter V offers a challenging test of SPTH itself. Some of the initially most plausible arguments for multiple projection-types are marshalled against SPTH. Relinquishing his program of minimalization, Stowell (1981:92) submits to arguments for multiplication from specifiers and subjects. In Chapter V I first show that English Specifier and Head distribution are closely connected, and that multiple projection-types may achieve some immediate successes in describing phenomena in this domain at the level of PS representation; under SPTH, the PS component must renounce all accountability. However, multiple projection-types do not attain explanatory adequacy in this domain. Nor does their success even extend to a description of all phenomena, so that some contribution from outside the PS component is in order. This leads to the hypothesis that such a contribution comes from an independently motivated non-PS process of 'q-interpretation'. I argue that q-interpretation, whose operation is restricted by conditions of government (cf. Chomsky 1981), in fact provides a necessary and sufficient account of English Specifier and Head distribution in its entirety; that is: q-interpretation is explanatorily restrictive. However, this depends on SPTH, because multiple projection-types circumvent the restrictiveness of q-interpretation and thus reintroduce the projection problem. Finally, and more tentatively, I also suggest, counter to Stowell, that subjects be subsumed under q-interpretation.

Chapter VI brings together consequences of SPTH as they have emerged in the earlier chapters, and spells out the overall conclusion of this study. Although SPTH controverts what appear to be the most firmly standard achievements of X-bar theory, the adoption of SPTH for the PS component, and of parallel constraints elsewhere in the grammar, allows for descriptive adequacy, and at the same time brings us closer to solving the projection problem. For the latter reason, SPTH is more likely to be on the right track than more traditional X-bar theories with multiple projection-types.

Notes

[1] In both I.1. and I.2. I touch on points that return in later chapters, to which I refer for more extensive and/or more fundamental treatments.

[2] In claiming that configurations like (18b) do not surface in English I ignore a host of potential complications. One only has to think of empty Case-assigners, Case-assignment in inflected genitives, and so-called exceptional Case-marking, as in (i):

(i) a. he $[_{V^1}\ [_{V^1}$ stayed$]\ \left\{\begin{matrix}\emptyset \\ \text{for}\end{matrix}\right\}\ [_{NP}$ a full hour$]]$

b. I rejoice at $[_{V^1}\ [_{NP}$ the chairman$]$'s $[_{V^1}$ raising this point$]]$

c. they watched $[_{V^1}\ [_{NP}$ the man$]\ [_{V^1}$ cross the street$]]$

CHAPTER II: The history of X-bar theory: expansion and retrenchment

II.1. Introduction

In this chapter I pursue historiography through exegesis. The vantage point is the single projection-type hypothesis SPTH, as formulated in (1):

(1) $X^1 \longrightarrow \ldots \left\{ \begin{matrix} X^1 \\ X^0 \end{matrix} \right\} \ldots$

An attempt is here made to place (1) as it is proposed in this thesis within the context of the history of the theory of PS rules. By the late 70's, through the major formulations of X-bar theory in Emonds (1976) and Jackendoff (1977), it had become standard practice in X-bar theory to allow multiple projection-types, $X^1 \neq X^2 \neq X^3$ etc. In this chapter the emergence of multiplication as the standard of X-bar theory is traced in relation to early intimations of SPTH which were aborted. It is shown to lack firm motivation. Correspondingly, the way is paved for abandoning the standard of multiple projection-types, and for resurrecting the alternative of SPTH as in (1).

The general historiographical perspective on X-bar theory that will emerge from this chapter is the one that Baltin (1982:1) outlines for the theory of the transformational component: simple beginnings, followed successively by periods of 'expansion' and 'retrenchment'. With respect to the PS component, too, fairly simple conceptions of X-bar theory (i.e. with relatively little expressive power) can be extracted from early work, but expansion towards greater expressive power ensued, which was perceived to be motivated by the need to derive certain descriptive effects directly from PS rules. From the perspective of SPTH, differences between two versions of Emonds' influential X-bar theory