Linguistische Arbeiten 332

Herausgegeben von Hans Altmann, Peter Blumenthal, Herbert E. Brekle, Gerhard Helbig, Hans Jürgen Heringer, Heinz Vater und Richard Wiese

Birgit Wesche

Symmetric Coordination

An Alternative Theory of Phrase Structure

Max Niemeyer Verlag Tübingen 1995



Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Wesche, Birgit: Symmetric Coordination : an alternative theory of phrase structure / Birgit Wesche. – Tübingen : Niemeyer, 1995

(Linguistische Arbeiten ; 332) NE: GT

ISBN 3-484-30332-8 ISSN 0344-6727

© Max Niemeyer Verlag GmbH & Co. KG, Tübingen 1995

Das Werk einschließlich aller seiner Teile ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages unzulässig und strafbar. Das gilt insbesondere für Vervielfältigungen, Übersetzungen, Mikroverfilmungen und die Einspeicherung und Verarbeitung in elektronischen Systemen. Printed in Germany.

Druck: Weihert-Druck GmbH, Darmstadt Einband: Hugo Nädele, Nehren

Contents

A	Acknowledgements						
In	trod	uction	1				
I	Tr	ansformational Approaches to Coordination	3				
1	The	Grammatical Framework	5				
	1.1	\overline{X} -Theory	6 8				
	1.2	Relation to Non-Transformational Approaches	11				
2	Coo	rdination Types	13				
	2.1	Asymmetric Coordination	13				
	2.2	Symmetric Coordination	14				
	2.3	Relationship between the Types	17				
	2.4	Beyond Symmetric Coordination	19				
		2.4.1 VP-Deletion	19				
		2.4.2 Sluicing	20				
		2.4.3 N-Gapping	20				
3	Past and Present Analyses						
	3.1	Basic proposals	23				
		3.1.1 Chomsky	23				
		3.1.2 Ross	25				
	3.2	Further Development	29				
		3.2.1 RNR	29				
		3.2.2 Gapping	32				
		3.2.3 PhC	. 33				
		3.2.4 Gapping versus RNR	36				
	3.3	CSC & ATB	. 38				
	3.4	Redundancy and Recoverability	. 40				
	3.5	Coordination within GB	. 41				
		3.5.1 Gapping in GB	43				
		3.5.2 RNR in GB?	. 46				
	3.6	Summary	. 48				

4	Neither Deletion Nor Reconstruction 4.1 PhC and Deletion 4.2 RNR and Deletion			
11	S	hared Constituent Coordination	57	
5	Ger	man Conjunctions	63	
	5.1	Classification of Conjunctions	63	
	5.2	Phrasal Coordination	64	
		5.2.1 Non-initial Conjunctions	64	
		5.2.2 Initial Conjunctions	66	
		5.2.3 Ungrammatical initial PhC of CP	68	
	5.3	Right Node Raising	69	
		5.3.1 Non-Initial Conjunctions	70	
		5.3.2 Initial Conjunctions	70	
	5.4	Gapping	71	
		5.4.1 Non-Initial Conjunctions	71	
		5.4.2 Initial Conjunctions	72	
6	The	Domain of Coordination	75	
•	6.1	Right SCC	76	
	0.1	6.1.1 Against lexical PhC	77	
	6.2	Left SCC	81	
	6.3	The role of basic phrase structure	82	
		6.3.1 Left and Right SCC: universal rules	83	
	6.4	Medial SCC	86	
	6.5	Contrast Sets and Conjunct Structure	88	
		6.5.1 Admissable interruptions of contrast sets with Medial SCC	90	
	6.6	Summary	96	
II	I.	An Alternative Theory of Phrase Structure	99	
7	The	Generalized $\overline{\mathbf{Y}}_{-scheme}$	103	
•	7 1	The Abstract Coordination Leveme	105	
	7.2	From D-structure to S-structure	106	
	7.3	Obviating CSC and ATB	115	
	7.4	Parallelism of Syntactic Structures	116	
8	T.	arization	110	
9	2 1	Linearization without Verh Festers	110	
	0.1 0.1	Adia and an	199	
	0.2	Aujacency	144	

	8.3	Linearization with Verb Factors	. 129					
	8.4	Interaction of Linearization Rules	. 137					
	8.5	Coordinate Structures as Factors	. 1 43					
9	Moo	Modes of Interpretation 14						
	9.1	Non-SCC	. 147					
	9.2	SCC	. 148					
		9.2.1 Medial SCC	. 148					
		9.2.2 Peripheral SCC	. 149					
		9.2.3 Binding and Control with SCC	. 151					
	9.3	Relation to Plurals	. 153					
10	Line	earization with Adjuncts	155					
	10.1	Factor Adjunction	. 155					
		10.1.1 Left Adjunction	. 160					
		10.1.2 Left versus Right or Medial Adjunction	. 162					
		10.1.3 Adjunction in Functional versus Lexical Projections	. 165					
	10.2	Adjunction to Shared Finite Verb	. 168					
	10.3	Coordination as Constituency-Test	. 169					
	10.4	Initial versus Non-Initial Conjunctions	. 171					
11	Clos	sed versus Open Type Categories	173					
	11.1	Strictly Isomorphic Structures	. 173					
	11.2	Apparently Non-Isomorphic Structures	. 182					
		11.2.1 Active and Passive	. 182					
		11.2.2 Raising and Active	. 185					
	11.3	Closed Type Categories in Other Frameworks	. 186					
12	Rela	ated Phenomena	191					
	12.1	Comparatives	. 191					
	12.2	Coordination and Word-Syntax	. 193					
		12.2.1 Head-drivenness and XP-domain?	. 195					
	12.3	Genuine or Pseudo-Asymmetries?	. 198					
		12.3.1 Default versus non-default linearization	. 198					
		12.3.2 Parenthetical Constructions	. 203					
		12.3.3 Movement of Single List Items?	. 204					
13	13 Summary							
Bi	Bibliography							

Acknowledgements

I do not have to assume, because I know for certain that there exists in my own possible world a set of people who could be coordinated as follows:

 NP_[coord] → 〈 Jürgen Allgayer; Peter Bosch; Heike Doebele; Bart Geurts; Christa Hauenschild; Otthein Herzog; Doris Janhsen; Jim Kilbury; Tibor Kiss; Esther König; Gerd Kortüm; Gabi Kreutzner; Duri Mayer; Martin Mezger; Claudia Mrotzek; Petra Naerger; Ingo Raasch; Ingrid Renz; Claus Rainer Rollinger; Marc-Thomas Schmidt; Gabi Warkus; Andrea Weß; Astrid, Holger, Vera Wesche; Dirk Wolken; Dieter Wunderlich >

As can easily be seen the order of this list is determined by the alphabet. The necessary relation of contrast between the list members is given by the different type of support provided:

- judging over and over again the most natural coordinations
- being enthusiastic about discussing every single epoch-making idea
- always jumping to handle most urgent literature requests
- letting me share reliable, and thus ever so valuable, Tex macros
- happily adjusting Tex style files to any level of idiosyncracy
- sharing the fun of formatting
- synchronizing my native speaker mixture of British and American English
- translating passages from English to German and vice versa, when I could not tell right from wrong
- being the world's best managing editor of IKBS reports
- without 'ifs' and 'buts' taking the trouble of reviewing parts or even all of the following pages
- and, foremost, constantly providing all the encouragement so vitally needed

Thank you very much!

Introduction

Symmetric coordination is assumed to comprise the three universal coordination types of PHRASAL COORDINATION, RIGHT NODE RAISING, and GAPPING. This phenomenological view is agreed upon by transformational as well as non-transformational grammarians. Previous analyses of the phenomenon of symmetric coordination have generally been determined by the question of constituency. Within the transformational framework a coordinate structure is assumed to be based on two (or more) full-fledged constituents of the same type from which certain items may be deleted. Coordination of overt full-fledged constituents is referred to as PHRASAL COORDINATION (PHC). If (at least) the finite verb is deleted in non-first conjuncts we speak of GAPPING structures. If rightmost items are deleted in non-final conjuncts we speak of RIGHT NODE RAISING (RNR) structures. PHC comprises the various types of CONSTITUENT COORDINATION, while RNR and GAPPING are attributed to the class of NON-CONSTITUENT COORDINATION, since after deletion has applied their conjuncts normally do not have genuine constituent status anymore.

The transformational approach to symmetric coordination which we will present here does not take recourse to any type of deletion. Especially concerning RNR constructions numerous counterexamples have been raised against a deletion treatment, in the course of which a preceding raising operation is put into question, too. Consequently, we also deny procedural interdependencies between the three coordination types, according to which the non-constituent coordination types RNR and GAPPING are derived by deletion from the base generated constituent coordination type PHC. Instead we propose a direct phrase structure account which is a natural extension to the classical \overline{X} -scheme, and which uniformly covers not only the syntactic structures of constituent and non-constituent coordination but also conventional simplex structures. Thus, our proposal contributes to the grammar of phrasal structures in general.

This dissertation is structured as follows. Part one contains a detailed characterization of the three symmetric coordination types PHC, RNR, and GAPPING. We present an overview of previous analyses which illustrates how the three types evolved. Finally we summarize the counterarguments against deletion type approaches to non-constituent coordination.

In part two we motivate our own view on the relevant phenomena. We shift the focus of attention from deleted items to contrasting items in a coordinate structure. Constituents hitherto assumed to be subject to deletion are viewed as being structurally shared by these items of contrast. This leads to a classification of symmetric coordination into NON-SHARED CONSTITUENT COORDINATION (NON-SCC) on the one hand versus SHARED CONSTITUENT COORDINATION (SCC) on the other, the latter being subdivided into LEFT SCC, RIGHT SCC, and MEDIAL SCC.

In part three we present an alternative theory of phrase structure which provides a uniform account of coordinate as well as simplex structures. Its effects on the various levels of syntactic representation are discussed for each level separately. After a general presentation we refine this theory, addressing among other things adjunction type structures, before we conclude with a discussion of related phenomena such as word-coordination, comparatives, and asymmetric coordination. However, except for specific coordinations hitherto assumed to be asymmetric in nature, neither of the three lends itself to a treatment in terms of contrast and sharing of the kind we propose for symmetric phrasal coordination.

Part I

Transformational Approaches to Coordination

Chapter 1

The Grammatical Framework

The approach to symmetric coordination we will present is couched in the transformational framework of *Government & Binding (GB)* as it is originally presented in [Chomsky,1981], and further elaborated in [Chomsky,1986a] and [Chomsky,1986b]. Within this model of grammar we distinguish between four distinct levels of representation for a given sentence.

- D-structure
- S-structure
- Phonetic Form (PF)
- Logical Form (LF)

Mapping functions specify the relation between these levels of representation. Phrase structure (PS) rules and lexical items determine the D-structure of a sentence. The component of transformations—within the GB framework restricted to the single transformation move α —relates D-structure to S-structure. Interpretative rules (rules of construal) link S-structure and the level of LF, which forms the basis for the sentence's semantic interpretation. Finally, phonological rules map S-structure onto PF, which yields the actual phonetic surface structure of a sentence. Thus the model of grammar is organized as follows:



The rule systems are constrained by several subtheories:

- 1. \overline{X} -theory
- 2. Θ -theory
- 3. Case theory
- 4. Government theory
- 5. Bounding theory
- 6. Binding theory
- 7. Control theory

The effects of \overline{X} -theory will be central to our investigation. Arguments resting on the remaining theories will be discussed where appropriate.

The main tenet of our approach to symmetric coordinate structures will lie in an extension of the data structures admitted as terminal nodes—a step which eventually leads to an alternative theory of phrase structure. We claim that coordinate structures are strictly endocentric. This generalization is accounted for within a "three-dimensional" tree structure representation, generated by our phrase structure rules. Moreover, the extended \overline{X} -scheme not only applies to coordinate structures, but is equally valid for conventional simplex structures. With this generalized representation our alternative theory of phrase structure directly contributes to the general theory of sentence grammar.

Since we will mainly examine coordination phenomena from the perspective of German constructions we will briefly sketch the subtheory most relevant to our purposes, viz. \overline{X} -theory, giving an overview of German sentence structure as assumed within the GB-framework.

1.1 \overline{X} -Theory

The central idea of \overline{X} -theory is that phrases are projections of lexical categories, which comprise nouns (N), verbs (V), prepositions (P), and adjectives (A), and that theses phrases inherit the lexical category's type, the latter being referred to as the \overline{X} -theory's principle of endocentricity. Hence we get the corresponding phrases NP, VP, PP, and AP. A lexical category X is the *head* of an XP phrase, and XP in turn is the maximal projection of X. The head category X is also termed the minimal projection of X. The single levels of projection are marked by a respective number of "bars", hence X-bar theory. In general not more than two bar levels are assumed to be an appropriate characterization of the maximal projection XP. The \overline{X} -scheme determines the recursive structuring of an arbitrary phrase: Both Complement and Specifier are maximal projections, with zero or more occurrences in a given phrase. The ordering of the head with respect to the Complement(s) or Specifier varies according to the chosen language and the type of phrase. The figure in (1) sketches a basic phrasal structure:



In [Chomsky,1986b] the \overline{X} -scheme is extended to the non-lexical categories Complementizer (C) and INFL (I). Thus the PS rule

(2)
$$\overline{S} \rightarrow Comp S$$

is rendered obsolete. The clausal category conventionally labeled S is replaced by the category IP, and accordingly \overline{S} by CP. By the extended \overline{X} -scheme as presented in [Chomsky,1986b] the basic structure of an English sentence involving a transitive verb looks as follows:¹



The present investigation will be based on this extended \overline{X} -scheme, into which our account of symmetric coordinate structures will be naturally embeddable.

¹ The subject NP is base-generated here at the Spec-IP node. This move calls for an extension of the definition of "direct θ -marking" in order for the subject to receive its appropriate θ -role from the main verb. Case is assigned to the subject by I(NFL). Furthermore, since the choice of \overline{X} is only forced when there is a specifier, \overline{V} may be omitted.

1.1.1 German Phrase Structure

In German we distinguish between three different sentence types, according to the position of the finite verb:²

- verb-final (V-F)
 e.g.: subordinate clauses
 ..., daß Bart Spaghetti gekocht <u>hat</u>.
 (... that Bart spaghetti cooked <u>has</u>.)
- verb-initial (V-1)
 e.g.: yes/no questions
 <u>Hat</u> Bart Spaghetti gekocht?
 (<u>Has</u> Bart spaghetti cooked?)
- verb-second (V-2)
 e.g.: declarative sentences, wh-questions
 Bart <u>hat</u> Spaghetti gekocht, um zu
 (Bart <u>has</u> spaghetti cooked, in order to)

A theoretical framework which offers a suitable model for describing the word order phenomena found in German, as in most Germanic languages, is the positional field framework (PFF). It divides the sentence into three topological regions, called the 'initial', 'middle' and 'final' fields (IF, MF, and FF, respectively). The MF is framed by the verbal bracket, the latter being so called because it predominantly contains elements of the verb cluster.

Within the PFF, then, the above examples are assigned the following structure:

```
(4)
```

IF	VB _{left}	MF	VB _{right}	FF
	, daß	Bart Spaghetti	gekocht hat.	
	Hat	Bart Spaghetti	gekocht?	
Bart	hat	Spaghetti	gekocht,	um zu

The final field is mainly reserved for extraposed phrases, such as infinitival complements, or subordinate clauses.

Transformational approaches to the description of German verb order have been attempted since the early sixties (see, e.g., [Bierwisch, 1963]). Most of the more recent approaches to the varieties of German verb order go back to Thiersch and den Besten

² The examples should not imply that there is a one-to-one correlation between V-1, V-2, and V-F structures and respective sentence modes such as declaratives, questions, or subordinate clauses. Thus, declaratives also display V-1 structure, and subordinate clauses can have V-1 or V-2 structure.

([Thiersch,1978]; [den Besten,1983]). As for most Germanic languages it is generally assumed for German that the basic position of the finite verb is clause-final. In these transformational proposals, V-1 and V-2 variants are derived by rule from V-F sentences.

As can be seen in the matrix above, complementizers and finite verbal elements are distributed complementarily over the left verbal bracket. Thiersch introduces a pair of fronting rules, the first of which moves the finite verb out of the final into the initial (left VB) position, provided the latter does not contain a complementizer. Given the constructions that result from applying this rule, the second rule makes possible the topicalization of an arbitrary phrasal constituent, i.e. moving it out of the MF into the IF before the fronted finite verb. Fillers for this preverbal position may be any obligatory or optional argument to the main verb, including complex non-finite verbal clusters.

With these two rules the interdependence of the above three sentences becomes apparent:

- (5) a. (..., daß) Bart Spaghetti gekocht hat \rightarrow
 - b. Hat_i Bart Spaghetti gekocht $t_i \rightarrow$
 - c. Bart_j hat_i t_j Spaghetti gekocht t_i

The regularities as stated within the PFF, together with Thiersch's rules, can be naturally incorporated into the GB framework. Here the initial field is assumed to correspond to the Spec-CP node, and the left verbal bracket to the head of CP (i.e. the C node). In accordance with the constraint of *head-to-head movement* the verb is moved (via the head node of IP,³ where the verb receives its TENSE and AGReement features) to the head node of CP. While this rule is an adaptation of Thiersch's first rule, his second rule is restated in GB terms as movement of an arbitrary phrasal constituent into the Spec-CP node, which by definition is reserved precisely for phrasal nodes.

The effect of these rules is illustrated in (6) through (8).⁴

³ In contrast to English, the I-head is right-branching in German, reflecting the V-F base structure.

⁴ Instead of base-generating the NP subject at the Spec-IP node, here, and in the following, we alternatively assume, in accordance with, e.g., Fukui & Speas [Fukui and Speas, 1986], that the NP subject is base-generated adjoined to the VP-node so that it may be assigned its θ -role by the main verb. Irrespective of whether we deal with a V-1, V-2, or V-F structure it is obligatorily moved to the Spec-IP node where it may receive (nominative) Case from I(NFL). If given, it may in turn be moved to the Spec-CP node from here.





1.2 Relation to Non-Transformational Approaches

The proposed treatment of symmetric coordination is not necessarily bound to the GB framework. The main tenets of the approach to be presented here could also be captured in any of the non-transformational grammatical approaches such as Generalized Phrase Structure Grammar (GPSG) (cf. [Gazdar et al.,1985]), Lexical Functional Grammar (LFG) (cf. [Kaplan and Bresnan,1982]), or Head-Driven Phrase Structure Grammar (HPSG) (cf. [Pollard and Sag,1987]). The reason for this lies in the fact that our approach in essence effects the Phrase Structure component, extending the permitted range of terminal nodes to include—besides the hitherto exclusively atomic values—also higher order concepts. Apart from the transformation move α no further transformation, be it Deletion or any other transformation, is applied. Every grammatical framework relies on a PS component, each after its own fashion. And, the phenomena captured within the GB framework by employing move α are equally well accounted for within the non-transformational approaches, again each after its own fashion. So, the necessary provision is made for an adaptation of the proposed approach to non-transformational frameworks.

The reason for embedding our analysis of symmetric coordination into the GB framework is due to the modularity this multi-stratal system offers. The concepts which GB employs permit to make the process of generating a coordinate structure transparent in a most elegant way. The distinction between the various levels of representation enables us to clearly elaborate the laws controlling symmetric coordination and to explain in a satisfying way the modularity of coordination processes in relation to the single levels of syntactic representation. Most significantly, the distinction between the two levels of D-structure and S-structure on the one hand, and the level of Phonetic Form on the other, will provide for an elegant illumination of the specific requirements to be obeyed within a coordinate structure. As we shall see we would be hard put if we wanted to explain certain coordinate structures, which to a large extent underly phonetic constraints, and no explicit division into syntactic structure on the one hand, and phonetic surface structure on the other were available.

Chapter 2

Coordination Types

The construction of coordination is divided into the two global domains of symmetric coordination on the one hand, and asymmetric coordination on the other. The former is distinguished by conjuncts of the same syntactic type, while the latter displays conjuncts with different syntactic status.

2.1 Asymmetric Coordination

Sentences (9) and (10) contain asymmetric coordinations ([Wunderlich, 1988b] and [Höhle, 1983], respectively):

- (9) CP & C'(V-1):
 [CP In den Wald ging der Jäger] und [C' jagte einen Hasen].
 ([Into the forest went the hunter] and [hunted a hare].)
- (10) C'(V-F) & CP:
 [C'(V-F) Wenn jeder sich zusammenreißt] und [CP alle reichen ihr Abstract rechtzeitig ein ...]
 ('[If everybody themselves together-pulled], and [all handed their abstracts on time in...]'; If everybody tried hard, and all (of us) handed in their abstracts on time...)

In sentence (9) we observe a coordination of a verb-second CP-structure with a verb-first C'-structure. The first conjunct's subject der Jäger is also the understood subject of the second conjunct. The asymmetric coordinate structure in sentence (9) stems from the fact that the adverbial phrase in den Wald has been preposed to the Spec-CP position instead of the subject der Jäger. If the latter had been preposed to the Spec-CP position within the first conjunct a symmetric coordination of C'-nodes would have resulted:

(11) C' & C':
Der Jäger [C' ging in den Wald] und [C' jagte einen Hasen].
(The hunter [went into the forest] and [hunted a hare].)

In sentence (10), on the other hand, stylistic operations seem to be at work. Here, instead of the expected analogous verb-final structure, a verb-second main clause can serve as second conjunct.