# Constraint-Based Approaches to Germanic Syntax W. Detmar Meurers and Tibor Kiss

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## Introduction

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This volume presents eight investigations into the grammar of Germanic languages. The approaches are based on the constraint-based architectures of Lexical-Functional Grammar (LFG, Bresnan, 1982a) and Head-driven Phrase Structure Grammar (HPSG, Pollard and Sag, 1994), which share the idea that declarative constraints are used to describe the syntactic, semantic, and other properties of linguistic objects. Traditionally, they also emphasize the formalization of these constraints and the declaration of the linguistic data structures they operate on. On the other hand, the technical apparatus employed by these approaches should not obscure the goal behind the analyses presented within constraint-based theories in general and the present volume in particular: The goal is not to explore the use of fancy linguistic technology which eventually becomes another *l'art pour l'art* dead end of the field, but to employ a precise grammar architecture encompassing different kinds of linguistic properties and their interaction to broaden the empirical coverage of linguistic proposals. In this sense, constraint-based approaches to grammar subscribe to the goal of descriptive adequacy and thus spend more time on the exact analysis of phenomena than on the possible consequences of only vaguely understood theoretical moves which press language into a procrustean bed.

Constraint-based grammar architectures were developed in the 1980s, partly as a reaction to earlier work in *generative linguistics* such as Chomsky's work in the 1960s and 1970s, but they were also influenced by the use of *Categorial Grammar* in Montague's work (Montague, 1974).<sup>1</sup>

<sup>&</sup>lt;sup>1</sup>See, for example, the discussion in Gazdar (1981), Gazdar et al. (1985), or Bresnan (1982a). The idea of using representational constraints on phrase structure instead of derivations goes back at least to McCawley (1968).

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A central claim of the constraint-based proposals was (and still is) that interacting constraints on various levels of linguistic description provide more adequate analyses than the transformational accounts of the time built on derivations between tree structures and destructive tree pruning. The 1980s saw the arrival of a number of constraint-based proposals which filled this claim with life: Gazdar's initial analysis of coordination (Gazdar, 1981) removed the need for a movement-analysis of the Coordinate Structure Constraint and the Across-the-board Constraint (ATB), Bresnan's work on diathesis (Bresnan, 1982b) presented an alternative, non-derivational view of the passive 'operation' and phenomena such as control and raising. Raising, as its name still suggests, had initially been conceived as a movement operation which additionally required a tree pruning to circumvent the applications of an island condition (Chomsky, 1981). The alternative analyses of raising phenomena in LFG and GPSG treated these either by a syntactic identification process accompanied by constraints on interpretation, or simply as cases of VP-complementation supported by semantic constraints. Interestingly, in both views, semantics was not just conceived as an interpretative component, but as providing constraints on well-formedness as conditions on the syntax-semantics interface. Constraint-based analyses thus opened up a new perspective on the relation between syntax and other linguistic components as playing an important explanatory role in determining the well-formedness of natural language. Further interesting perspectives arose from the concept of strong lexicalism and the idea to capture generalizations lexically, for example in terms of lexical rules.

It should not be forgotten though, that despite many differences, the 1980s can be considered as a period of convergence where even in Chomsky's work transformations were more and more eliminated in favor of alternative, non-derivational proposals. After the long period in which generative linguistics had mostly been concerned with exploring conceptionally new analyses and less with broadening the empirical contents of linguistic theory, with the convergence on a rather well-understood declarative architecture the discrepancy between perceived explanatory adequacy and actual descriptive adequacy became increasingly apparent. The tension became particularly evident to researchers and students of linguistics in Europe when they tried to apply the most recent and highly attractive proposals to their own languages. This is nicely expressed by Hubert Haider in the preface of Haider (1993, p. ix):<sup>2</sup>

Almost every time I approached the only language I am really familiar with under theoretical questions, I observed with

 $<sup>^2 \</sup>rm Our \ translation$  from German.

sadness that an apparently quite ill-conceived specimen of human language had settled down in my head. This language clearly had no respect for the elegance of some universal principles and generally behaved as though it hardly knew about them.

An insight into the general state of the field at the time is also provided by Stechow and Sternefeld (1988, p. 7), who explain that they base their German textbook on generative syntax on English as object language since overall too little was known about German and there existed hardly any consensus on the analyses. The same situation applied to constraint-based analyses, some of them still being at the stage of infants around that time.

The proposals presented in this volume show that constraint-based theories have since matured enough to provide detailed analyses of a variety of complex empirical phenomena from the Germanic languages. Focusing the volume on Germanic rather than on a particular syntactic paradigm is intended to encourage inter-framework discussion of the wealth of problematic constructions which have been investigated in these languages, such as verb-second, semi-free word order, partial fronting phenomena, or complex predicate formation. Among the theoretical issues that have developed from these empirical domains, the following major strands receive particular attention in this volume: the segregation of linear order and constituent structure, a stronger invocation of the syntax-semantics interface, and the lexical conceptualization of generalizations.

Regarding the first issue, a traditional approach to the treatment of word order in Germanic syntax has seen its revival, viz. the idea that linearization is to be treated independently, or at least not directly derivable from hierarchical constituency. The idea was initially integrated into HPSG in a series of papers by Mike Reape (Reape, 1994) and the approach generally referred to as *linearization-based HPSG* has been controversially discussed since. In this volume, Per Anker Jensen & Peter Skadhauge apply linearization-based HPSG to the Danish clause structure and Frank Richter & Manfred Sailer discuss the advantage of combining a lexicalized treatment of complementizer-introduced and verb-initial clause types in Germany with a linearization based approach. Anke Holler-Feldhaus and Tibor Kiss, on the other hand, show that *wh*-interrogatives and quantifier scrambling in German which require a particular attention to the syntax-semantics interface, receive an adequate treatment under a traditional conception of constituent structure.

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A major thrust of the second issue, the syntax-semantics interface, is that phenomena which have been considered as syntactic since the emergence of generative grammar, are now considered to be phenomena persistent on the borderline between syntax and semantics. The phenomena described by such integrative approaches thus do not only comprise 'classical' phenomena such as quantifier scope or variable binding but also phenomena which at first glance appear to be purely syntactic. While dislocation phenomena are presented in different theoretical settings in the present volume, the contributions share as their common feature a reference to semantic constraints: In an HPSG framework extended to contain Pustejovsky's Qualia Structure (Pustejovsky, 1995), Kordula De Kuthy addresses the origin of well-known lexical restrictions which arise when separating a PP dependent from its nominal head. Jonas Kuhn presents an analysis of the Split-NP phenomenon in a version of LFG which makes use of resource-sensitive semantics. The insights of both proposals are crucially based on the interaction of semantic constraints with the syntactic analysis of the construction.

Complex complementation patterns and questions of case assignment in German are addressed in **Judith Berman's** and **Stefan Müller's** contributions. Berman's LFG analysis handles cases of clausal complement extraposition and the co-occurrence of clausal extraposition with expletive insertion. Building on insights from earlier derivation-based analyses, she presents a lexicalized analysis of non-thematic *es* which extends the coverage of previous proposals. Müller's HPSG analysis presents a theory of case assignment to complements of all categories, where case is not viewed as a monadic feature, but as a complex feature bundle. His CASE PRINCIPLE covers case assignment in ordinary head-complement constructions, non-finite constructions, and in complex predicate constructions.

Turning finally to the third major issue, lexicalization, it can already be seen as an old hat in generative linguistics. Starting with Chomsky's 1970 refutation of *Generative Semantics*, lexicalization has figured prominently in frameworks such as Government-Binding Theory, Lexical-Functional Grammar, and Head-driven Phrase Structure Grammar. From a slightly different perspective, Categorial Grammar with its lexical encoding of valence can be seen as an ancestor of lexical approaches. Still, the formulation of lexical generalization has always been a stepchild of generative grammar, and only recently, the lexicon is conceived as domain which does not only capture exceptions but is also constrained by linguistic principles, such as exemplified by the already mentioned contribution by Frank Richter & Manfred Sailer and Kordula De Kuthy in this volume. We believe that this collection of constraint-based linguistic investigations into the grammar of Germanic languages provides stimulating material for the on-going debates on the aim, structure, and coverage of syntactic theorizing. And we hope that the reader can use the present volume to become familiar with particularly interesting properties of the Germanic languages—and some viable current analyses.

Most of the papers contained in the present volume were presented in a workshop at the 10th European Summer School in Logic, Language and Information (ESSLLI) 1998 in Saarbrücken. We would like to thank the presenters and the audience of the workshop for their stimulating presentations and the interesting discussions they entailed. In addition to a selection from the papers presented at the workshop, contributions by Anke Holler-Feldhaus and Tibor Kiss were included in this volume. We are particularly grateful to the following colleagues, whose feedback not only helped us select the papers for this volume but provided the authors with very detailed comments which often went far beyond what can be expected of a review: Tor Afarli, Miriam Butt, Dick Crouch, Markus Egg, Elisabet Engdahl, Werner Frey, Hubert Haider, Katharina Hartmann, Lars Hellan, Joachim Jacobs, Andreas Kathol, Cato Hoff Lambine, Winfried Lechner, John Matiasek, Michael Moortgart, Stefan Müller, John Nerbonne, Jürgen Pafel, Adam Przepiórkowski, Mark Steedman, Markus Steinbach, Craig Thiersch, Wolf Thümmel, Gert Webelhuth, and Jan-Wouter Zwart. For their friendly assistance in preparing the volume, we would like to thank Martin Hoelter, Annika Nietzio, Kim Lewis Brown, and Christine Sosa.

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