
The present work is intended as an overview of current approaches to constituent structure, including its substantive and formal regularities, the structural representations of constituent structure, and the mechanisms that generate it. It is part of a series of works that are intended to survey crucial topics in syntax and morphology, and the book is written in an “honest-broker”ish fashion, addressing these topics from the point of view of a wide range of theories; I counted Role and Reference Grammar, Relational Grammar, Arc-Pair Grammar, Lexical-Functional Grammar, Generalized Phrase-Structure Grammar, Head-Driven Phrase-Structure Grammar, and Government-Binding Theory and Minimalism. Carnie seems to be in as good a position as anybody to produce such a work; he seems to have a generally open-minded, sensible, and independent mind, rather than being a disciple of one school of thought. His willingness to expose the linguistics community to a wide range of viewpoints is commendable, but anybody who undertakes a commitment to survey a field is inevitably confronted with a choice between breadth and depth. Given reasonable length-limits, imposed for a variety of reasons, one must balance desire to provide a wide expanse with enough detail to really give a true picture of the pros and cons of each approach. While I enjoyed the book overall, I feel that the presentation of some of the approaches did not provide enough of the empirical motivations to give readers a feel for why these approaches were proposed in the first place. I will flag these points below.

After setting the stage in Chapter 1, the introduction, Chapter #2 (“Constituent Structure”), Carnie discusses the need for substantive constraints on natural language constituent structure, and shows that a simple concatenation system will not structure a clause into an NP and a VP (necessary for English, although less obviously so for VSO languages such as the Celtic and Malayo-Polynesian languages that Carnie discusses later). Carnie discusses regular grammars, the least powerful form of grammars in the Chomsky hierarchy (Chomsky, 1956)—an introduction to the Chomsky hierarchy would have been appropriate here, in my view. These rules allow, in the expansions, a sequence of terminal nodes plus at most one non-terminal either at the beginning (for left-linear) or end (right-linear) of the expansion. Carnie shows that such rigid constraints on grammars cannot account, for one thing, for center-embedding, in which recursion has to be permitted in the centers of non-terminal nodes, rather than at the peripheries. Also, non-local dependencies, such as a matrix verb’s triggering a subjunctive form on an embedded verb, are beyond the memory capacity of a regular grammar. Carnie then discusses some of the typical tests for constituency. By and large, he does a good job, but I was a bit confused by the claim, on page 19, that too was a proverb which can replace a VP (his example (30)). If this were true, then too would be incapable of appearing with un-elided, full VPs, contrary to fact; similarly, VP-ellipsis is possible without too. Also, on page 21, Carnie accepts the analysis of right-node-raising in which an identical final element in a conjoined structure is promoted out of the conjunction (possibly in an across-the-board fashion), as in his (38). This analysis seems to have the syntax track the intonation, so that a pronounced break is detectable between each conjunct, and the promoted final constituent; however, Kayne (1994) proposes an analysis that severs this link between the intonational breaks and the structure by proposing that the final constituent remains in its original position, and identical occurrences in final positions in preceding constituents are deleted. The difference between Carnie’s view (call it the “direct connection with intonation” view) and Kayne’s view (call it “the severed link with intonation” view) is exemplified in the difference between (1)(a) and (1)(b), respectively.
(1)  
(a)  (Carnie’s (38)) [Bruce loved] and [Dory hated] tuna salad sandwiches.
(b)  [Bruce loved e₁] and [Dory hated [tuna salad sandwiches]₁]

I think that one piece of evidence for the severed link with intonation view can be given in (2):

(2)  Then, and only then, would he ever succeed.

(2) is pronounced with the intonation break (indicated by the commas), and the constituent after the break contains *ever*, a negative polarity item, which I assume must be c-commanded by a licensor, presumably only in this case. The standard assumption is that licensing requires c-command by the licensor in the final representation; this would be satisfied by the severed link with intonation view, but not by the direct connection with intonation view. If right-node-raising is discussed, I think that the competing analysis should also be brought up.

Chapter 3 (“Basic Properties of Trees: Dominance and Precedence”) examines the mathematical properties of trees with respect to hierarchical and linear specifications of grammatical elements, exploring the notions of domination and immediate domination, as well as the complementary notions of precedence and adjacency. Particularly, after defining the notion of domination, he notes its property of reflexivity, antisymmetry, and transitivity, and how the notion of a constituent can be defined in terms of exhaustive immediate domination (a sequence of nodes comprising a constituent if and only if they are immediately and exhaustively dominated by a single node). He notes that the notions of precedence and dominance are complementary, in the sense that a node A cannot both precede and dominate a node B. There are some characterizations that are a bit confusing, as in the statement, on page 40, that “This ordering is a primitive,” followed by a footnote that adds “but might due to the ordering in the phrase structure rule or other generative principle of linearization.” This seems to say that the ordering, which is primitive, is due to another factor, and doesn’t make any sense.

Chapter 4 (“Second Order Relations: C-command and Government”), by the author’s own admission, departs from the overall ecumenical spirit of the book by focussing on the notions of c-command and government, which seem more parochial to Government-Binding Theory and Minimalism. Here, it strikes me that, rather than focussing on just these two notions (and the notion of government has largely been abandoned in Minimalism), perhaps a wiser choice would have been to discuss analogous notions of command in the other theories, such as o-command in HPSG, or f-command in LFG. Nevertheless, the comprehensive discussion of various formulations of command notions and proposals to derive the notion of c-command from other principles, such as Kayne’s (1984) principle of unambiguous paths, is quite valuable. The motivation for m-command that is given on page #59, in connection with (32), is perhaps not the best; the structure given in (32) is controversial, with many linguists not accepting the notion of such V’-adjuncts, and would in fact analyze the PP as being asymmetrically c-commanded by the object (Larson (1988), Pesetsky (1995)). A better case for m-command, it seems to me, would have been nominative Case-assignment, in which Tense assigns nominative Case to an element in its specifier.

Chapter 5 (“Capturing Constituent Structure: Phrase Structure Grammars”) discusses the various mechanisms that generate constituent structure and its representation, the phrase-marker. He discusses phrase-structure rules, the earliest mechanism, and sets the stage for modern conceptions of the phrase-marker generating component by contrasting, on page #87, the top-down nature of phrase-structure rules with the current, bottom-up view, which he dubs the projectionist view, in line with Chomsky’s (1986) statement that “. . .phrase-markers are projections of the lexicon.” This is a place where I personally would have preferred to see a discussion of the reasons that the bottom-up view of phrase-markers has been viewed by many as successfully replacing phrase-structure rules. Chomsky, after all, in the 1980’s, argued that phrase-structure rules duplicate the work of subcategorization frames, and, in his view, were therefore redundant. This would have been a good place to discuss the GPSG view of ID-rules as introducing lexical heads with various integers, which would represent the subcategorization frames, so that, e.g., an intransitive verb might be a V[1], a transitive V[2], etc. It is not clear to me that this move would cause Chomsky’s objection to PS-rules as duplicative to remain; furthermore, there are top-down minimalists, such as Borer (2005), evidently influenced by Construction Grammar proponents (Goldberg, 1995; Fillmore and Kay, 1997), who hold lexical items to be extremely unspecified with respect to their syntactic properties, and in which the syntactic context, in a sense, fills in the syntactic properties. This phenomenon is known as coercion (Pustejovsky, 1995). An example is the well-known shift of the akionsart class of a verb from an activity to an accomplishment (see Vendler (1967) for a discussion of the terminology:...
This is my main complaint about an otherwise fine piece of work. To be sure, Carnie sometimes discusses the rationale behind a particular proposal; in the present context, he discusses, on pages 161–163, Phillips’ proposal for a top-down approach as being motivated by processing concerns. It’s just that he’s inconsistent, in my view.

The book is extremely lucid in explaining the technical details of proposals, and for that reason, is valuable, but it falls down somewhat in explaining the motivations. To be fair, this may be due to space limitations and the mandate of the series as a survey approach that requires comprehensiveness.

Chapter #6 (“Extended Phrase-Structure Grammars”) deals with the move to capitalize on the move to augment the power of simple phrase-structure rule grammars, which in their original form simply rewrote simple non-terminal symbols, as complex feature-structures, and introduces abbreviatory devices in phrase-structure rules such as the brace notation, which allows for mutually exclusive choices, and parenthesis, which allows optionality. It contains a discussion of transformations, which seems somewhat out of place given the chapter title. The discussion of Generalized Phrase-Structure Grammar and Lexical-Functional Grammar, from what I know of these theories, would be extremely helpful to non-practicioners of these theories. It discusses meta-rules, prevalent in GPSG as a mechanism for capturing the Minimalist view of A-movements but in a non-derivational, phrase-structure mechanism (meta-rules basically state that if Phrase-Structure Rule A exists in a grammar, Phrase-Structure Rule A’ does as well). One quibble: contrary to Carnie’s claim, on page #106, that “…; in LFG, the semantic structure (called the f-structure) is related to the syntax through a series of mapping functions.”, Bresnan (1982) does not view grammatical functions, the primitives of f-structure, as semantic notions, but rather are syntactic, reflecting the fact that, e.g., subjects are semantically quite distinct.

Chapter #7 (“X-Bar Theory”) discusses the rationale for X-bar theory, the need for the expression of cross-categorial parallelism, as well as various versions of X-bar theory. It discusses the X-bar version of grammatical relations, the notions of specifier, complement, head, and adjunct. One suggestion that I would make if there were to be a second edition of this work would be a discussion of the GB-Minimalist conception of grammatical relations as being derivative versus the LFG/Relational-Grammar view of these relations as being primitive.

I personally found the later chapters of the book, beginning with Chapter #8, as being more satisfying, from the perspective of practicioners of Minimalism. Chapter #8 (“Towards Set-Theoretic Constituency Representations”) deals with constituents that are fundamentally sets of elements, which are then linearized. It provides one of the clearest discussions of Kayne’s (1994) Linear Correspondence Axioms that I have seen, and is noteworthy for pointing out the conceptions of phrase-markers that it both does and does not allow, outside of Kayne’s own discussion. This is important, because one occasionally sees work that seems to pay lip-service to the LCA, seeming to subscribe to it, but then positing some property of phrase-markers that is, strictly speaking, inconsistent with the LCA, such as multiple specifiers or right adjuncts.

In discussing Bare Phrase-Structure, it points out that the properties of conventional phrase-markers, such as bar levels and category labels, are stipulated properties of the representation of non-terminal nodes, but are not natural properties of systems that simply merge two elements. Bar-levels are not represented at all in bare phrase-structure, and the label of the object created by merge can be determined by finding the head and characterizing this as the label of the mother. Determining the head is a simple matter if one finds a simple category and a phrase that combine together; the simple category must be the head. However, what happens when two simple categories combine? If one assumes that merge applies in order to satisfy some feature, one could presumably determine the head by finding the element whose feature-structure is unsatisfied before merge, but is satisfied after merge, and defines this as the head (page 160).

The predictability of bar-levels is, I feel, an important point, and should be made in connection with the discussion of bar-levels in GPSG, in Chapter #7; in that system, as Carnie notes, bar-levels are taken to be attribute-value pairs, so that N’ would be represented as [CAT N] [BAR ONE].

However, the bar level is predictable; one never, for example, finds projections that are BAR ONE projecting BAR TWO. To this extent, the arguments against specifying bar levels are not particular to GB or Minimalism, and should be made more generally.

Chapter #9 (“Dependency and Constituency”) discusses systems of grammar that go against what is probably the general Chomskyan view of phrase-structure as congruent with, possibly even determining, grammatical functions,
thematic relations, predication, etc.; in the former type of system, such notions are autonomous from phrase-structure. Some examples discussed are relational grammar and lexical-functional grammar. The latter system posits a traditional constituent structure for each sentence as well as what is known as an f(unctional)-structure; relational grammar only represents the grammatical functions. Dependency Grammar, Role and Reference Grammar, and Case Grammar, take thematic relations to be primitive. Categorial grammars rely heavily on functional application, mapping categories onto other categories. Tree-adjoining grammars map trees onto trees, by extensive use of generalized transformations. Head-Driven Phrase-Structure Grammar takes feature structures to be primitive. Functionalist Grammar assumes that the basic representation of sentences is a variant of formal logic; finally, construction grammar and cognitive grammar are discussed.

Chapter #10 (“Multidominated, Multidimensional, and Multiplanar Structures”) discusses relaxations of the conventional requirements on phrase-markers of single-motherhood of dominated nodes, no-crossing branches (i.e. the possibility of discontinuous constituents); multiplanar structures are syntactic structures that run in parallel for a given sentence, i.e. an f(unctional)-structure as well as the more familiar c(onstituent)-structure. The discussion had a great deal of breadth, but one work that I believe would have been profitably included was Emonds’ (1979) analysis of English appositive relatives as not being dominated by anything, but rather as having the CP node as being, in effect, the root. One aspect of this chapter that was edifying was the application to phenomena that have received much analysis in the syntactic literature, and I would have liked to have seen this emphasized a bit more (although it may have been difficult in a comprehensive survey). For example, Carnie notes, on page #292, that multidomination is a natural account of raising; however, it is difficult to see how multidomination would account for Kayne’s (1981) observation that raising, unlike obligatory control, does not seem to occur out of clauses that are introduced by overt complementizers, a fairly stable observation cross-linguistically. Similarly, Carnie discusses VSO languages, and discusses Dowty’s proposal to analyze the VSO order as arising from the categorial operation of “wrap” (Bach, 1979), which inserts an element after the first word within another element. In this case, the subject is “wrapped” within the VP. However, one of the noteworthy features of Borsley and Roberts (1996) was the diversity of ways in which the VSO order would arise, within the Celtic languages. It would have been helpful to note this further detail that doesn’t seem to be explained within a unitary wrap analysis of the VSO word order.

Chapter #11 (“Phrasal Categories and Cartography”) discusses recent proposals, primarily within what can loosely be called “Chomskyan syntax”, to provide a substantive hierarchy of categories within the clause. The discussion of evidence for and against a VP-node in VSO languages struck me as admirably balanced and informative. The discussion of Travis’s (in press) Aspect node, to account for Vendler’s (1967) verb classes, was quite useful for me in my own work. On the other hand, in the discussion of Tense, or Infl, on pages 243 and 244, it analyzes helping verbs as occurring within this node, but doesn’t discuss the question of whether these helping verbs start out there, or simply move there. The discussion by Akmajian and Wasow (1975), or Akmajian et al. (1979), addresses this latter question, and would be a useful supplement to the discussion in Carnie.

One small point, which I found somewhat irritating: there were a number of typos in the book, including four references to examples that clearly weren’t intended, on pages #32 (reference in fn. #13 to (14a)), #40 (line #4 from top-reference to (21)), #196 (line #3 under A8-tree #10 should evidently be tree (12)), and #247 (third line above (48), there’s a reference to (46)(b)). I’m not faulting Carnie for this—I’ve done it myself—but I am faulting the proof-readers at Oxford. Somebody who’s reading this book and is trying to understand it could be extremely frustrated in encountering something that doesn’t make sense.

These quibbles are minor, however. Carnie is an extremely lucid expositor; I’ve used his introductory syntax text in my undergraduate course for years, and find it the best one out there. I also find his willingness to look at other frameworks to be refreshing, and quite valuable for students, who, at this stage of the development of syntax, should be exposed to a variety of frameworks. To truly accomplish its aim of making students familiar with a variety of approaches, however, I think that it needs to be supplemented with an in-depth comparison of these approaches, over a wide and comparable range of empirical phenomena.

References

Travis, L. Inner Aspect. Springer, in press.