SYNTACTIC ANALYSIS

THE BASICS

NICHOLAS SOBIN

WILEY-BLACKWELL

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Contents

This chapter introduces hypothesis formation and testing in the realm of human language and discusses the paradox of language acquisition. It offers an initial sketch of the Principles & Parameters approach and the innateness hypothesis.

Words are analyzed into roots and affixes. A system of generative word formation is introduced involving morphemes and word formation rules. Also discussed are criteria for identifying the lexical class of roots, stems, and words. Finally, a discussion of the "meaning" of particular affixes leads to the conclusion that affixes do not have "simple" meanings, but instead participate with a constellation of other factors to determine meaning, something referred to as "compositional" semantics.

Tests of phrasehood are introduced, indicating the presence of hierarchic structure within sentences. Also presented is some of the core terminology of syntactic relations among phrases.

4 Rules of Sentence Structure: A First Approximation 38

Phrase structure rules are introduced as a means of explaining the presence of hierarchic structure within sentences. Beyond basic phrasal structure, key concepts such as structural ambiguity and recursion are presented as further evidence of the efficacy of the phrase structure approach to the analysis of sentences. Recursion is noted as the key to explaining "linguistic creativity."

5 Assigning Meaning in Sentences 53

Presented here is the system of determining grammatical function (subject, object, or adjunct) based on structural position. Building on this, theta roles and argument structure are introduced, offering an explanation both of how arguments (subjects, objects, etc.) get their explicit meanings, and how verbs "choose" the correct complementation pattern.

6 Some Category-Neutral Processes 63

Here, the notion of "category-neutral" processes is first introduced, paving the way for the generally category-neutral system of X-bar syntax presented later. The processes discussed here are coordination and proform insertion.

7 How Structure Affects Pronoun Reference 71

This chapter introduces c-command and some of the phenomena that c-command has been crucial for explaining, including the distribution of negative polarity items, and the Binding Principles, the distribution and semantics of anaphors and pronominals, and referring expressions. The presence of such mechanisms as the Binding Principles in the theory of syntax points offers further support for the innateness hypothesis.

8 Complex Verb Forms 82

The case is made here that auxiliary verbs each head a VP, so that sentences with multiple verbs involve a recursive VP architecture. Also, the first transformation, Affix Hopping, is introduced, opening the discussion of transformational grammar, and the levels deep structure and surface structure.

9   Real vs. Apparent Sentence Structure   90

Tense affixes are argued here to originate in the same position as modal verbs do, leading to the claim that deep structure is "abstract," that is, consistently different in its alignment of elements from that seen in surface forms. Also discussed is the position of negation and the head movement rule V-to-T, which raises an auxiliary verb to the position of tense. All of this expands the transformational view of syntax. Arguments are presented for the presence of a "null" tense affix in sentences like "They like beans," making the system of affixation fully general.

10   Generalizing Syntactic Rules   104

Arguments are advanced that phrases headed by the major lexical categories NP, VP, AjP, and PP share the same internal architecture, pointing toward the conclusion that the rules of the syntactic system are category-neutral rather than category-specific – instead of having separate rules for NP or VP, a single, general rule set explains the internal architecture of all major phrase types.

11   Functional Categories   116

The category-neutral analysis is extended here to functional categories such as T and C, leading to the conclusion that the system of syntax is completely category-neutral. The rules of syntax are few and simple. The specific details of derivations are largely driven by the features and argument structure of the words/morphemes employed in the derivation. The concept of parameter setting is developed further.

12   Questions, Relative Clauses, and *WH* Movement   127

A number of apparent anomalies raised in the detailed consideration of *WH* questions and relative clauses are resolved by addition of the transformation "*WH* movement." *WH* movement exemplifies phrase movement to a non-argument position. Apparent "long" *WH* movement is shown to be composed of series of "short" moves. The *WH* Island Effect is introduced in connection with this discussion. The syntactic system is argued to be "constructionless", since its rules apply broadly, across different construction types.

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13   NP Movement   144

Arguments are advanced for the VP-internal subject hypothesis, the idea that the subject of a sentence originates low, in SpecVP, rather than in its higher surface position, SpecTP. This indicates the existence of a rule, NP movement, which searches for an NP low in the structure to fill the SpecTP position. This leads easily into the analysis of passive sentences, where no subject appears in SpecVP (due to theta role suppression), so that Move NP must find another (non-subject) argument to fill the SpecTP position. NP movement is also central to explaining subject-to-subject-raising constructions, where a higher clause may "steal" the subject of a lower clause. Like *WH* movement, NP movement participates in deriving a range of constructions, supporting further the view that the syntactic system is both category-neutral and construction-neutral.

14   Things to Come: Various Aspects of
"Current Theory"   160

Here, three further significant aspects of syntactic analysis are sketched out, anticipating further studies in syntax. These include the unaccusative hypothesis (the idea that the subject of certain apparently intransitive verbs actually starts as an object), the VP shell hypothesis (the idea that multiple complements are not "flat" but involve asymmetrical c-command), and the DP hypothesis (the theory that "traditional" NPs are in fact DPs, phrases headed by the functional category D).

Appendix 1: Minor Grammatical Categories   167

Appendix 2: Argument Structures   171

Index   174

Abbreviations

-ø$_{pres}$	"zero" present tense verb suffix
A (movement)	(movement to) an argument position
A′ (movement)	(movement to) a non-argument position
A-position	an argument position
A′-position	a non-argument position (e.g. Spec)
acc	accusative case
AH	Affix Hopping
Aj	adjective
AjP	adjective phrase
Arg	argument
Aux	auxiliary verb
Av	adverb
AvP	adverb phrase
C	complementizer (functional head)
c-command	constituent command
Cat	syntactic category
C$_{HL}$	computational system for human language (the subconscious grammar)
Comp	complementizer (early characterization)
Conj	conjunction
CP	complementized phrase
D	determiner (article)
DP	determiner phrase
D-str	deep structure
-ed$_{pst}$	"past tense" verb suffix
-ed/en$_{pstprt}$	"past participle" verb suffix
-er$_{compr}$	"comparative" adjective or adverb suffix
-est$_{sprl}$	"superlative" adjective or adverb suffix
exper	the theta role "experiencer"

FCH	functional category hypothesis
fin	finite
GF	grammatical function
-ing$_{presprt}$	"present participle" verb suffix
infin	infinitival
Int	intensifier
M	modal verb
N	noun
N′	N-bar
Neg	negative (functional head)
NegP	negative phrase
nom	nominative case
NP	noun phrase
NPI	negative polarity item
P	preposition
PossP	possessive phrase
PP	prepositional phrase
ProAjP	pro-adjective phrase
ProN′	pro-N-bar
ProNP	pro-noun phrase
ProPP	pro-prepositional phrase
ProV′	pro-V-bar
ProVP	pro-verb phrase
ProXP	variable ranging over proforms
PS (grammar)	phrase structure (grammar)
Quan	quantifier (in VP)
[−Q]	declarative feature on C
[+Q]	interrogative feature on C triggering T-to-C
R-expression	referring expression
S	sentence
SAI	Subject-Auxiliary Inversion
spec	specifier
-s$_{pl}$	"plural" noun suffix
-s$_{pres\text{-}3rd\text{-}sg}$	"third-person singular present tense" verb suffix
S-str	surface structure
T	tense (functional head)
TP	tense phrase
T-to-C (Movement)	tense-to-complementizer (movement)
UG	Universal Grammar
V	verb
V′	V-bar

VP	verb phrase
V-to-T (Movement)	verb-to-tense (movement)
WH movement	movement of a *wh* phrase to SpecCP
WHQ	*wh* question, a question containing a *wh* phrase
X	variable ranging over any syntactic category
XP	variable ranging over any phrasal category
YNQ	yes/no question

Introductory Notes and References

Introduction

What is going on in the mind of a three-year-old? A young human child, who can't yet learn to add 2 and 2 or to tie its shoe, is putting together in her/his head the grammar of the surrounding language. This is an astounding feat, as evidenced in part by the fact that linguists (scientists who study language) have yet to fully understand how any such grammatical system works or precisely what it contains. By around the age of 5, this child will possess a very sophisticated adult-compatible version of the language. This fact is tacitly recognized in many cultures that only let children begin formal schooling at around that age. The main requirement for such schooling is that the child be able to speak the language well enough to talk to and understand an adult stranger, namely the teacher. So around the age of 3, children are in the midst of developing the grammar of their language (or languages, in multilingual settings).

To make the question above somewhat more specific, what we are asking is this: What does the child learn when (s)he learns a human language? If we define a language as the set of all of the sentences that are possible (i.e. German is all that stuff that sounds like German, etc.), then the fact that there is no "longest" sentence in a human language clearly indicates that the language (the set of possible sentences) is infinitely large and could not be "memorized" or learned directly. So instead, the child must be creating a "grammar" (the traditional term used above), or better, a computational system, a system that lets the speaker "compute" any of the infinitely many possible sentences of the language. In essence, when we study and do research in linguistics, what we are trying to discover are the particulars of this computing system. What are its basic elements, and what are the rules of their combination into the things that we call sentences?

Purpose

This book is intended as a brief introduction to modern generative syntax in the Chomskyan tradition. There are many fine introductions to this subject that are more lengthy and detailed. The purpose of this shorter text is to offer in a highly readable style an amount of information and accompanying work that is significant, but that also can be covered at a reasonable pace in a quarter or trimester format, or in half of a full semester, where the other half might deal with other aspects of linguistic analysis, readings in linguistics, or competing theories. Though brief, this work nonetheless has the goals of (1) introducing the reader to terms and concepts that are core to the field of syntax; (2) teaching the reader to understand and operate various syntactic analyses, an essential aspect of hypothesis formation and testing; (3) offering the reader the reasoning behind the choice of one analysis over another, thus grounding the reader in linguistic argumentation; and (4) preparing the reader for more advanced study of/research into syntactic systems.

No introductory work offers or can offer a complete picture of the field, but the topics dealt with here are central to the study of syntax. They form a coherent set that will serve the purpose of facilitating more in-depth study and research. As many have come to realize, this is one of the most fascinating areas in the study of human cognition.

Chapter Notes

This text deals with various areas of syntactic analysis that are fundamental to formulating modern theories of syntax. Rather than giving many elaborated references to current work, I will focus here on citing works that were foundational to the analyses discussed in this book, or that offer broad insight into them. The discussion of language acquisition in Chapter 1 is based on observations noted in Slobin (1979), and those of Chomsky (1999). In Chapter 2, some of the traditional grammar characterizations are those of Fowler (1983). The initial linguistic criteria for establishing lexical class membership is elaborated in Stageberg (1981). Katamba (1993) offers a detailed account of the generative approach to morphology. Finally, Vendler (1967) is a foundational work on compositional semantics. In Chapters 3 and 4, the full import of tests of phrase structure as implying the possible existence of rules of phrase structure was first established in Chomsky (1957) and extended in Chomsky (1965). The core notions in Chapter 5 that grammatical functions may be structure-based and are key to assigning theta roles are due to Chomsky (1981). These evolve into the theory of argument structure, developed in Grimshaw (1990). Coordination, as discussed in Chapter 6, was cited by Chomsky (1957: 35) as possibly "one of

the most productive processes for forming new sentences..." suggesting its category-neutral character. In Chapter 7, the notions of c-command relation and Binding Theory were pioneered in the works of Reinhart (1976; 1981; 1983), in Chomsky (1981), and more recently in Grodzinsky and Reinhart (1993). The "phrasal Aux" hypothesis in Chapter 8 is from Chomsky (1957), and the "recursive VP" analysis of auxiliary verbs is based on Ross (1969). Affix Hopping is originally due to Chomsky (1957). The notions of transformation, deep structure, and surface structure were pioneered in Chomsky (1957). In Chapter 9, the analysis of tense affixes as independent syntactic elements originated in Chomsky (1957). The foundational work on "head movement" (movement of a head to another head position such as "V-to-T", and later "T-to-C") is that of Travis (1984). In Chapters 10 and 11, the foundational work leading to the general theory of category-neutral X-bar syntax was that of Chomsky (1970) and Jackendoff (1977). The Principles & Parameters approach to language acquisition and syntactic analysis was pioneered by Chomsky (1981) and Chomsky and Lasnik (1983), with key data contributed by Greenberg (1966). In Chapters 12 and 13, the transformational analysis of interrogative and passive sentences was first broached by Chomsky (1957), and has evolved through nearly all of his works (and of course those of many others) since. Most influential in recent times has been the "constructionless" view of transformation, as articulated in Chomsky (1981) onward. Bresnan's (1970) analysis of complementizers in interrogatives also provided some crucial analytic keys to the analysis of interrogatives. Emonds' structure-preserving hypothesis (1970; 1976) also represents a milestone in the analysis of NP movement. The work on syntactic "islands" was pioneered by Ross (1967). The VP-internal subject hypothesis originated in Koopman and Sportiche (1991). In Chapter 14, Perlmutter (1978) formulated the unaccusative hypothesis, Larson (1988) advanced the VP shell hypothesis, and Abney (1987) and Longobardi (1994) evolved the DP hypothesis.

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