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# A GRAMMAR OF SUBORDINATE STRUCTURES IN ENGLISH

by ELDON G. LYTLE

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### AUTHOR'S NOTE

In 1969 I received a grant from the Research Division of Brigham Young University to conduct research in syntax. The results of that research were reported in a monograph entitled *A Grammar of Subordinate Structures in English*. As it turned out, the monograph was sufficiently provocative to arouse the interest or ire of nearly all who read it. At the suggestion of Dr. Robert Blair, I offered the monograph to Mouton & Co. for publication. It was accepted, but a year passed before work on it could begin.

In the interim, the embryonic theory of language first presented in the monograph evolved rapidly, resulting eventually in a full-blown theory which is now being applied to problems in descriptive, contrastive, and computational linguistics. I have therefore revised the original report, to the extent that it could be done without starting from scratch, deleting some obnoxious passages, clarifying some points, and citing other documents now available which deal with various aspects of junction theory.

A sequel to the monograph is currently in preparation,<sup>1</sup> which will offer a more detailed exposition of the theory and its application. It will also contain a formalization of sufficient rigor, it is hoped, to make junction theory a more effective tool for dealing with the technical challenges which confront the modern linguist. I suspect that ultimately the comparative value of grammars will be assessed neither by some elegant evaluation metric, nor by how brilliantly we defend them, but by their utility in meeting the information and communication needs of a world society.

Many persons have contributed to the preparation of this study. In particular, I am grateful to Robert Blair, Rey Baird, Soren Cox, Alan Melby, and Sharon Jones for reviewing the manuscript. Thanks are also due to Ulla-Britta Melby for many long hours of typing. I alone, of course, am responsible for the content of these pages.

Eldon G. Lytle Provo, Utah December 1971

<sup>1</sup> Lytle and Melby, forthcoming.

### FOREWORD

One cannot help but be impressed by the scope and variety of natural sentence structures. Whereas some might have once thought that a language is learned by memorizing its sentences, it is now clear that this is not possible. All normal humans possess the ability to form entirely new sentences, sentences no one has ever heard, read, or uttered before. This, of course, is the creative aspect of language to which adherents of the generative-transformational school of linguistics have repeatedly called our attention.<sup>1</sup>

The goal of this study is to describe certain subordinate structures in English and the generative mechanism, i.e. the grammar,<sup>2</sup> underlying their existence. Actually, the former should follow from the latter, but since the exact nature of this generative device is not obvious, linguists have attempted to discover its properties by analyzing the structures produced by it. Unfortunately, the linguist can seldom be certain that his analysis is entirely correct. It is a common experience to find that a hypothesis which accounts nicely for a significant class of structures fails to account for others which are clearly related. Moreover, the linguist can never be certain that he has not overlooked data which would cause him to revise or reject his analysis.

Difficulties of this sort have led linguists to be somewhat modest in their expectations. Rather than search for some universal discovery procedure whereby THE grammar of English (or any other human language) might be directly arrived at, it has been tacitly assumed that linguistic description of the same data may be nonunique. In other words, linguists often arrive at different and distinct sets of rules to account for the same data. Hence, some means is needed to determine which set of rules is to be most highly valued. This is the evaluation measure (or metric)

<sup>&</sup>lt;sup>1</sup> The 'creative aspect' of language is discussed in every major work adhering to the generativetransformational point of view. See, for example, Chomsky, 1965, 1966.

 $<sup>^2</sup>$  As in other recent literature, we use the word 'grammar' with systematic ambiguity. On the one hand, it denotes the speaker's internally represented linguistic competence. On the other hand, the linguist's description of that intrinsic knowledge is also referred to as a 'grammar'. For a discussion of COMPETENCE versus PERFORMANCE, see Chomsky, 1965.

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frequently referred to in the literature.<sup>3</sup> The metric is intended to enable one to select the 'best' grammar from among two or more grammars provided by the same theory which appear to account equally well for the data.<sup>4</sup>

But here again, the linguist faces a dilemma. How is the optimum metric to be obtained? There is no effective procedure for arriving at THE evaluation metric any more than there is a discovery procedure for arriving at the optimum grammar. Intuition suggests that economy and simplicity are the criteria to be applied. Unfortunately neither of these notions is an absolute provided outside of linguistic theory.<sup>5</sup> The metric selected will determine the content of these notions, the selection of the metric being an empirical matter. Hopefully, the optimum metric would correspond in its evaluation to one's intuitive judgment, so that the rule labelled 'most general (and, therefore, most simple)' by the metric will also be intuitively the most desirable. At any rate, it is safe to assume that the grammar favored by the metric will not be composed of independent and unrelated rules (i.e. *ad hoc* rules), each accounting for a restricted set of structures, but that it will consist of 'teams' of rules which share certain formal properties, each defined in relation to the others so that the whole forms an integrated and rational system.

The linguist, therefore, does not approach the construction of grammars in a haphazard fashion. In order to arrive at the synthesized and coherent system of rules referred to above, he must have an explicit theory of linguistic structure upon which to base the formalization of grammars.<sup>6</sup> The theory will suggest an analytical approach to the data as well as formal properties of the rules and the overall format and integration of rule components. Ideally, the theory will not be language dependent, i.e. restricted in its application to any particular language, but will define a class of grammars adequate to describe human language in general.

This raises the question of HOW natural languages are similar and how they differ. Grammarians have long been aware of the fact that in certain respects all natural languages are similar. There has been renewed effort in recent years to isolate and formalize linguistic universals. In fact, some current formalizations set up two grammars – one containing language independent rules of universal validity, and

<sup>2</sup> See Chomsky, 1965, or Chomsky and Halle, 1968, for a more detailed account of the evaluation metric.

<sup>5</sup> Chomsky, 1965, 37-47.

<sup>6</sup> Most traditional grammatical descriptions are not sufficiently rigorous to meet the level of descriptive adequacy because they lack an explicit theoretical basis. Pedagogical grammars often use the organizational format elaborated for the description of Latin or other classical languages. Such grammars concentrate on inflectional and conjugational paradigms with accompanying lists of exceptions or irregularities. These, of course, are legitimate objects for grammatical description, but the account given is generally superficial, relying to a considerable extent upon the student's intrinsic intuition about linguistic structures to fill in the gaps.

<sup>&</sup>lt;sup>4</sup> Several grammars may be OBSERVATIONALLY adequate, i.e. they may appear to account equally well for a finite set of primary data. A grammar which accounts not only for the data, but also for the speaker's intrinsic linguistic competence is said to be DESCRIPTIVELY adequate. A linguistic theory which provides a natural basis for the selection of descriptively adequate grammars is said to be EXPLANATORILY adequate.

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another containing rules restricted in their validity to a particular language.<sup>7</sup> In syntax, one is led to suspect that the rules of the base component, i.e. those that generate basic sentence structures, are probably universal, whereas rules which determine superficial ordering and morphological (word) structuring are dependent upon particular languages.

It is the intent of this study to propose certain modifications of current syntactic theory and to investigate their consequences as they relate to linguistic universals. We make certain proposals about the generative mechanism which introduces subordinate constituents. These proposals are then applied to English in order to observe their effect and, eventually, to assess their validity.

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## LIST OF SYMBOLS

Symbol	Meaning
Α	Adjective or adverb
AdjP	Adjective phrase
AdvP	Adverb phrase
D	Label variable for the node of a subordinate structure which immediately dominates the intersect
Е	The sememe in a lexical matching rule
ø	Null sign
М	Node label for the comparative notions MORE and LESS
N	Noun
NP	Noun phrase
Р	Preposition
PA	Predicate with an adjective or adverb nucleus
PdP	Predicate phrase
PP	Predicate with a preposition nucleus
PV	Predicate with a verb nucleus
Q	Quantifier
QP	Quantifier phrase
S	Sentence
SA	Predication with an adjective or adverb nucleus
SP	Predication with a preposition nucleus
SV	Predication with a verb nucleus
V	Verb
VP	Verb phrase
Х	Node label variable
Y	Node label variable
Z	Node label variable