

Introduction

Q. This study of linguistic structure had its origin in certain problems that arose in attempting to extend linguistic techniques to the analysis of discourse. (1) This extension naturally presupposed standard linguistic analysis, but in the attempt to develop effective techniques of discourse analysis it was found necessary to assume certain knowledge about linguistic structure which was not in fact provided by existing methods, (2) though it seemed within the range of distributional study. In particular, these methods failed to account for such obvious relations between sentences as the active-passive relation. Systematic investigation of this problem exposed other gaps in syntactic theory, and led finally to this attempt to develop a unified approach to syntactic theory as a whole, including a theory of relations among sentences as an integral part. This latter subtheory does not appear here merely as an extension of syntactic theory. On the contrary, it turns out to play a central role in the establishment of the fundamental units of syntax, i.e., in the procedures of constituent analysis. For these reasons, this study is heavily oriented towards the investigation of the formal relations among sentences. Briefly, we will explore the general nature of linguistic theory, emphasizing the problem of validating grammars, the notion of a linguistic level, the problem of determining the subject matter of a grammatical description, and similar topics. We then attempt to construct in an abstract (but sketchy) manner the standard linguistic levels, and to apply this abstract formulation to linguistic material. The central conclusion is that a new level of transformational analysis is needed, for the same reasons that led to the construction of the standard levels.

We suggest a formulation of this level (i.e., a theory of transformational analysis), and investigate, in some detail, the transformational structure of English.

This is basically a study of the arrangement of words and morphemes in sentences, hence a study of linguistic form. Thus it is syntactic study in both the narrow sense (as opposed to phonology) and in the broader sense (as opposed to semantics). In particular, no reliance is placed on the meaning of linguistic expressions in this study, in part, because it is felt that the theory of meaning fails to meet certain minimum requirements of objectivity and operational verifiability, but more importantly, because semantic notions, if taken seriously, appear to be quite irrelevant to the problems being investigated here.

There can be no definitive formulation of syntactic theory at this point, and in the study which follows many more questions are asked than answered. Lack of data is the fundamental reason for this. There simply is not enough detailed syntactic work available, in the proper form, for theoretical conclusions to be able to receive empirical confirmation. On the other hand, the scarcity of adequate syntactic material is no doubt a result of the overwhelming complexity of the syntactic structure of natural languages. I will attempt to show that a good deal of this complexity can be eliminated by transformational analysis, i.e., by a more adequate syntactic theory. It is elementary that theoretical investigation and collection of data are interdependent activities. One cannot describe a linguistic system in any meaningful way without some conception of what is the nature of such a system, and what are the properties

and purposes of a grammatical description. For this reason, it is important to develop a precisely formulated and conceptually complete construction of linguistic theory, based on the clearest possible elementary notions, even when the more elaborate constructions based upon these notions cannot, because of insufficient evidence, be empirically supported. The establishment of such a theory may be an essential step towards obtaining this evidence. Nor can we demand that all lower levels of linguistic theory be thoroughly and finally established and empirically validated before higher level theoretical studies are undertaken. It is true that the higher levels of linguistic description depend on results obtained at the lower levels. But there is a good sense in which the converse is also the case. It would be absurd to attempt to give principles of sentence construction in terms of phonemes, but only the development of such higher levels as phrase structure indicate that this futile task need not be undertaken on the phonemic level. Thus even though higher level constituent analysis cannot be well-grounded unless the principles of phonemic analysis are firmly established, the scope of phonemic analysis cannot be delimited unless such higher levels are constructed at least in outline. Similarly, we will argue below that an attempt to describe sentence construction fully in terms of phrase structure will also fail, because it is attempting to do too much. But only the development of the still higher level of transformational analysis, and the examination of its potentialities, will give content to this assertion, and will thus prepare the way for the development of a more successful technique of constituent analysis with narrower

limits. The grammar of a language is a complex system with many interconnections between its parts. In order to develop a thorough characterization of some part of grammar, it is often useful (or even absolutely necessary) to have at least some picture of the character of a completed system of grammar.

At the same time, it is important to formulate clear and precise criteria, and to apply these with complete rigor and consistency, even when it appears likely that they are only partially adequate. In this way we may hope to expose the source and exact location of this inadequacy. Pushing a precise, but inadequate formulation to an absurd conclusion may be an important method of discovery. Below, we will see that careful pursuit of this course exposes a gap in linguistic theory, and leads to the construction of a theory of transformations. Obscure and intuition-bound conceptions can of course never be pushed to absurd conclusions, but this can scarcely be regarded as a point in their favor.

Below, we will suggest definitions for linguistic elements and criteria for the validation of grammatical description within the framework of what has come to be known as 'distributional analysis.' The resulting sketch of a theory should be understood, in the sense of the preceding paragraphs, as suggesting a program of research, i.e., a specific model for syntactic description to be tested and elaborated. The following investigations are divided approximately equally between theory construction and application of the theory to linguistic material. The exact point where formal construction should stop and application should begin is a matter of personal preference. At several places below, I have

indicated that I can see no reason for preferring any one of several alternative ways of developing the theory, and have left it at that. It would be misleading, then, to describe this as a proposed theory of linguistic structure. Rather it is an attempt to sum up and organize a certain set of theoretical investigations into linguistic structure, and to examine the implications of these constructions for syntactic description of actual linguistic material. Since these constructions are, necessarily, so tentative and incomplete, the motivation for the construction is often more important than the actual construction. For this reason, I will often give the general requirements that a construction must apparently meet in some detail, then giving what seems to be the natural way of meeting these requirements, instead of collapsing this into one step. Similarly, in the grammatical examples of chapters 7 and 9, many analyses will be discussed in some detail, even if ultimately to be rejected.

Footnotes - Introduction.

(1) Cf. Z.S. Harris, Discourse Analysis and Discourse Analysis: A Sample Text, Language, 1958.

(2). As presented, for instance, in Harris, Methods of Structural Linguistics.