

The example (6)–(7) serves to illustrate two important points. First, it shows how unrevealing surface structure may be as to underlying deep structure. Thus (6) and (7) are the same in surface structure, but very different in the deep structure that underlies them and determines their semantic interpretations. Second, it illustrates the elusiveness of the speaker's tacit knowledge. Until such examples as (8) and (9) are adduced, it may not be in the least clear to a speaker of English that the grammar that he has internalized in fact assigns very different syntactic analyses to the superficially analogous sentences (6) and (7).

In short, we must be careful not to overlook the fact that surface similarities may hide underlying distinctions of a fundamental nature, and that it may be necessary to guide and draw out the speaker's intuition in perhaps fairly subtle ways before we can determine what is the actual character of his knowledge of his language or of anything else. Neither point is new (the former is a commonplace of traditional linguistic theory and analytic philosophy; the latter is as old as Plato's *Meno*); both are too often overlooked.

A grammar can be regarded as a theory of a language; it is *descriptively adequate* to the extent that it correctly describes the intrinsic competence of the idealized native speaker. The structural descriptions assigned to sentences by the grammar, the distinctions that it makes between well-formed and deviant, and so on, must, for descriptive adequacy, correspond to the linguistic intuition of the native speaker (whether or not he may be immediately aware of this) in a substantial and significant class of crucial cases.

A linguistic theory must contain a definition of "grammar," that is, a specification of the class of potential grammars. We may, correspondingly, say that a *linguistic theory is descriptively adequate* if it makes a descriptively adequate grammar available for each natural language.

Although even descriptive adequacy on a large scale is by no means easy to approach, it is crucial for the productive development of linguistic theory that much higher goals than this be pursued. To facilitate the clear formulation of deeper questions,

it is useful to consider the abstract problem of constructing an "acquisition model" for language, that is, a theory of language learning or grammar construction. Clearly, a child who has learned a language has developed an internal representation of a system of rules that determine how sentences are to be formed, used, and understood. Using the term "grammar" with a systematic ambiguity (to refer, first, to the native speaker's internally represented "theory of his language" and, second, to the linguist's account of this), we can say that the child has developed and internally represented a generative grammar, in the sense described. He has done this on the basis of observation of what we may call *primary linguistic data*. This must include examples of linguistic performance that are taken to be well-formed sentences, and may include also examples designated as non-sentences, and no doubt much other information of the sort that is required for language learning, whatever this may be (see pp. 31-32). On the basis of such data, the child constructs a grammar — that is, a theory of the language of which the well-formed sentences of the primary linguistic data constitute a small sample.<sup>14</sup> To learn a language, then, the child must have a method for devising an appropriate grammar, given primary linguistic data. As a precondition for language learning, he must possess, first, a linguistic theory that specifies the form of the grammar of a possible human language, and, second, a strategy for selecting a grammar of the appropriate form that is compatible with the primary linguistic data. As a long-range task for general linguistics, we might set the problem of developing an account of this innate linguistic theory that provides the basis for language learning. (Note that we are again using the term "theory" — in this case "theory of language" rather than "theory of a particular language" — with a systematic ambiguity, to refer both to the child's innate predisposition to learn a language of a certain type and to the linguist's account of this.)

To the extent that a linguistic theory succeeds in selecting a descriptively adequate grammar on the basis of primary linguistic data, we can say that it meets the condition of *explanatory adequacy*. That is, to this extent, it offers an explanation for the

intuition of the native speaker on the basis of an empirical hypothesis concerning the innate predisposition of the child to develop a certain kind of theory to deal with the evidence presented to him. Any such hypothesis can be falsified (all too easily, in actual fact) by showing that it fails to provide a descriptively adequate grammar for primary linguistic data from some other language—evidently the child is not predisposed to learn one language rather than another. It is supported when it does provide an adequate explanation for some aspect of linguistic structure, an account of the way in which such knowledge might have been obtained.

Clearly, it would be utopian to expect to achieve explanatory adequacy on a large scale in the present state of linguistics. Nevertheless, considerations of explanatory adequacy are often critical for advancing linguistic theory. Gross coverage of a large mass of data can often be attained by conflicting theories; for precisely this reason it is not, in itself, an achievement of any particular theoretical interest or importance. As in any other field, the important problem in linguistics is to discover a complex of data that differentiates between conflicting conceptions of linguistic structure in that one of these conflicting theories can describe these data only by *ad hoc* means whereas the other can explain it on the basis of some empirical assumption about the form of language. Such small-scale studies of explanatory adequacy have, in fact, provided most of the evidence that has any serious bearing on the nature of linguistic structure. Thus whether we are comparing radically different theories of grammar or trying to determine the correctness of some particular aspect of one such theory, it is questions of explanatory adequacy that must, quite often, bear the burden of justification. This remark is in no way inconsistent with the fact that explanatory adequacy on a large scale is out of reach, for the present. It simply brings out the highly tentative character of any attempt to justify an empirical claim about linguistic structure.

To summarize briefly, there are two respects in which one can speak of "justifying a generative grammar." On one level (that

of descriptive adequacy), the grammar is justified to the extent that it correctly describes its object, namely the linguistic intuition — the tacit competence — of the native speaker. In this sense, the grammar is justified on *external* grounds, on grounds of correspondence to linguistic fact. On a much deeper and hence much more rarely attainable level (that of explanatory adequacy), a grammar is justified to the extent that it is a *principled* descriptively adequate system, in that the linguistic theory with which it is associated selects this grammar over others, given primary linguistic data with which all are compatible. In this sense, the grammar is justified on *internal* grounds, on grounds of its relation to a linguistic theory that constitutes an explanatory hypothesis about the form of language as such. The problem of internal justification — of explanatory adequacy — is essentially the problem of constructing a theory of language acquisition, an account of the specific innate abilities that make this achievement possible.

### § 5. FORMAL AND SUBSTANTIVE UNIVERSALS

A theory of linguistic structure that aims for explanatory adequacy incorporates an account of linguistic universals, and it attributes tacit knowledge of these universals to the child. It proposes, then, that the child approaches the data with the presumption that they are drawn from a language of a certain antecedently well-defined type, his problem being to determine which of the (humanly) possible languages is that of the community in which he is placed. Language learning would be impossible unless this were the case. The important question is: What are the initial assumptions concerning the nature of language that the child brings to language learning, and how detailed and specific is the innate schema (the general definition of "grammar") that gradually becomes more explicit and differentiated as the child learns the language? For the present we cannot come at all close to making a hypothesis about innate schemata that is rich, detailed, and specific enough to account for the fact of language acquisition. Consequently, the main