THE 'INNATENESS HYPOTHESIS' AND EXPLANATORY MODELS IN LINGUISTICS

I. THE INNATENESS HYPOTHESIS

The 'innateness hypothesis' (henceforth, the 'I.H.') is a daring - or apparently daring; it may be meaningless, in which case it is not daring - hypothesis proposed by Noam Chomsky. I owe a debt of gratitude to Chomsky for having repeatedly exposed me to the I.H.; I have relied heavily in what follows on oral communications from him; and I beg his pardon in advance if I misstate the I.H. in any detail, or misrepresent any of the arguments for it. In addition to relying upon oral communications from Chomsky, I have also relied upon Chomsky's paper 'Explanatory Models in Linguistics', in which the I.H. plays a considerable rôle.

To begin, then, the I.H. is the hypothesis that the human brain is 'programmed' at birth in some quite specific and structured aspects of human natural language. The details of this programming are spelled out in some detail in 'Explanatory Models in Linguistics'. We should assume that the speaker has 'built in' a function which assigns weights to the grammars $G_1$, $G_2$, $G_3$, ... in a certain class $\Sigma$ of transformational grammars. $\Sigma$ is not the class of all possible transformational grammars; rather all the members of $\Sigma$ have some quite strong similarities. These similarities appear as 'linguistic universals' - i.e., as characteristics of all human natural languages. If intelligent non-terrestrial life - say, Martians - exists, and if the 'Martians' speak a language whose grammar does not belong to the subclass $\Sigma$ of the class of all transformational grammars, then, I have heard Chomsky maintain, humans (except possibly for a few geniuses or linguistic experts) would be unable to learn Martian; a human child brought up by Martians would fail to acquire language; and Martians would, conversely, experience similar difficulties with human tongues. (Possible difficulties in pronunciation are not at issue here, and may be assumed not to exist for the purposes of this argument.) As examples of the similarities that all grammars of the subclass $\Sigma$ are thought to possess (above the level of phonetics), we may mention the active-
passive distinction, the existence of a non-phrase-structure portion of the grammar, the presence of such major categories as concrete noun, verb taking an abstract subject, etc. The project of delimiting the class $\Sigma$ may also be described as the project of defining a normal form for grammars. Conversely, according to Chomsky, any non-trivial normal form for grammars, such that correct and perspicuous grammars of all human languages can and should be written in that normal form, "constitutes, in effect, a hypothesis concerning the innate intellectual equipment of the child".\footnote{2}

Given such a highly restricted class $\Sigma$ of grammars (highly restricted in the sense that grammars not in the class are perfectly conceivable, not more 'complicated' in any absolute sense than grammars in the class, and may well be employed by non-human speakers, if such there be), the performance of the human child in learning his native language may be understood as follows, according to Chomsky. He may be thought of as operating on the following 'inputs'\footnote{3}: a list of utterances, containing both grammatical and ungrammatical sentences; a list of corrections, which enable him to classify the input utterances as grammatical or ungrammatical; and some information concerning which utterances count as repetitions of earlier utterances. Simplifying slightly, we may say that, on this model, the child is supplied with a list of grammatical sentence types and a list of ungrammatical sentence types. He then 'selects' the grammar in $\Sigma$ compatible with this information to which his weighting function assigns the highest weight. On this scheme, the general form of grammar is not learned from experience, but is 'innate', and the 'plausibility ordering' of grammars compatible with given data of the kinds mentioned is likewise 'innate'.

So much for a statement of the I.H. If I have left the I.H. vague at many points, I believe that this is no accident – for the I.H. seems to me to be essentially and irreparably vague – but this much of a statement may serve to indicate what belief it is that I stigmatize as irreparably vague.

A couple of remarks may suffice to give some idea of the rôle that I.H. is supposed to play in linguistics. Linguistics relies heavily, according to Chomsky, upon 'intuitions' of grammaticality. But what is an intuition of 'grammaticality' an intuition of? According to Chomsky, the sort of theory-construction programmatically outlined above is what is needed to give this question the only answer it can have or deserves to have. Presumable, then, to 'intuit' (or assert, or conjecture, etc.) that a sentence is grammatical is to 'intuit' (or assert, or conjecture, etc.) that the sentence