Notas

How does a child learn a first language: Cognitivism vs. Behaviorism

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A few short years ago –before Chomskyan influence pervaded the fields of linguistics, psychology, sociology, anthropology, and psychiatry– how a child learns his native languaje was explained in terms of behaviorism rather than of cognitivism, and language was "learned" rather than "acquired". In the 1940s and 1950s language learning was identified with structuralism in linguistics, and language was defined as "learned behavior consisting of habits of speech". The learner of any languaje, whether it was his first or second language, learned typical sentence patterns plus a store of vocabulary items with which to fill the various slots of the pattern. Language learning was seen by behaviorists as an extension of the learning theory, and by some language was considered the oral result of automatic sequences of responses to particular stimuli. Other behaviorists, however, believed that the connection between stimulus and response is seldom automatic, and is modified by the conditions in which the speech act occurs as well as by the speaker's past history. Moreover, the stimulus did not need to be external, and the response did not have to be physical.

There was general agreement that language behavior was initiated by the association of the human voice with the satisfying experiences of food and the presence of the mother. In time the infant began to associate his own babbling with adult voice sounds, and the mother reinforced real and supposed imitations on the part of the child with her own appreciative behavior. This appreciation, when taken together with the pleasure the child took in hearing himself, induced further vocal output. The continuing cycle of imitation, reinforcement, and generalization brought the child ever closer to real speech, and finally to adult speech patterns. There was no true creativity in this view, since the closest approximation to it was the generalizing of new utterances on the basis of heard utterances. Language learning was determined in part by the general level of intelligence, and in part by training and expansion of the child's language by the parents. While behaviorists differed on the role of imitation in language learning, they agreed that such learning relies to a great extent on observation, modeling, and other similar learning processes.

The cognitivist or mentalist view of language acquisition, inspired by theories of generative transformational grammar, challenges many of the most basic behavioristic concepts of language learning. In Chomskyan terms, language is not learned but acquired. The child determines from a limited sample of language the underlying system of rules necessary to produce and understand language. From this data he can fit together a generative grammar of the language he hears. One may wish to question how the child can undertake such a complicated task given his general immaturity and limited conceptual powers. According to Chomsky (1965: 56), each human comes equipped with a language acquisition device, which is only one of the faculties of the mind.

Linguists of this persuasion do not agree, however, on the exact nature of the language acquisition device. It may be a set of procedures for processing linguistic information. For example, it may have the ability to make distributional analyses of linguistic data or apply inference rules for discovering other aspects of structure (Fodor 1966: 114, 115). Or it may have an already organized body of linguistic information, including such information as the basic makeup of sentences, information about the existence of nouns and verbs, etc. Conceivably it might include both the procedure and the information (McNeill 1970: 70). If the language acquisition device is fairly comprehensive, with vast stores of knowledge regarding the form which language may take, it will have the effect of controlling the direction of language drift and language change in no small way. There is, however, nothing in this innate mechanism which is in any way inconsistent with those aspects of language which are universal. In fact, such knowledge as is stored innately in the brain at birth is considered to be the substance of language universals. Much effort has been expended in recent years to determine the nature and extent of language universals, and while many aspects of human language are universal, it appears that many other aspects of language are language-specific. The difficulty with the pursuit of universals in language is that at some points they seem to blend into concepts, concept-formation, and the nature and organization of the universe. Universals such as nouns, which name something, may only reflect the makeup of the universe; and universals such as verbs may only reflect the power and mobility of certain nouns.

Cognitivists also point to the extremely short time which it takes the child to acquire the complex form of communication that comprises languages. It is much easier to assume sppedy language acquisition, they say, given the innate procedures or information, or both, that cognitivists posit, than it is to assume sppedy acquisition from the *tabula rasa* of the behaviorists. Not only is the highly complex and abstract language system mastered in a surprisingly short time, largely independent of the general intelligence level, say the cognitivists, but the model turns out to be surprisingly close to others in the speech community. Language is acquired to a comparable degree by all children, who at the same time may ot may not acquire certain other skills.

Another factor in language acquisition, which ultimately may prove invalid, is the theory that there is a maturational schedule for language acqui-

sition in much the same way as there is a maturational schedule for intellection, sitting, walking, and teething. The emergence of language supposedly occurs at approximately the same time for each individual in spite of great differences in intelligence and environment. The ability to speak is aproximately the same for all normal adults.

It is further believed by those who subcribe to this theory that the language acquisition system may be fully operative only during a critical period when most language learning and intellectual development takes place, and that this ability to learn language becomes largely inoperative when the individual reaches adulthood (Lenneberg 1967: 125-178).

A point which looms large in the minds of cognitivists is the matter of uniqueness in human language. Language is considered species-specific, an endowment uniquely human, which sets it apart from animal forms of communication. This is in direct contradiction to the ideas of certain behaviorists, linguists, and anthopologists, who have long sought to make a meaningful connection between the various communications systems of animals and that of man. These scholars have sought to determine how primitive man, who might have had a primitive signaling system someting like the other primates, found it possible to evolve his primitive system into something more sophisticated, much as he may have evolved in other ways.

Another characteristic of language acquisition from the cognitivist point of view is the fact that the language acquisition device, once operative, has the ability to abstract and organize large amounts of random and fragmentary data and to store it in what may be supposed to be a very economical set of rules and lexicon.

There is some reason to believe that intellectual abilities precede and outstrip language abilities in their development rather than proceeding side by side. Many small children, when they begin to speak, use single word utterances to express complex ideas which would require entire sentences in adults. This ability, called holophrastic speech, seems to be evidence that while they can mentally formulate a sentence-like proposition, they cannot utter it. Further evidence for this belief comes from parents who interpret such utterances as "milk" to mean that the child wants some milk.

One view of child speech which has gained wide popularity in recent years has to do with the open-pivot distinction in word acquisition. Whether it can be viewed as behaviorist, as some researchers believe, or as rule-governed as others do, depends on whether you see the arrangement of newly acquired vocabulary into pivot and open classes as a rule-governed arrangement. Braine (1965a: 303-320) was the first to use this distinction. Pivot words were those which the child learned to position in two-word phrases. The open (or x-class) consisted of all those words which were not pivot words. The pivot word class remains small, and the open class is the one exhibiting the greater degree of growth. Detractors of the theory point out that Braine has not posited any theoretical explanation of the mechanism which positions pivot words in sentences. However, classifying words according to their relative position in a sentence has come to be known as contextual generalization. The mechanism must inevitably suffer with the appearance of three-word utterances and even more involved speech, and it eliminates the possi-

bility of recursiveness. MacNeill (1970: 68) points out that the pivot-open theory deals exclusively with the surface structure of sentences, ignoring varying underlying structure. Braine (1965b: 483) revised his theory as applicable only to simple declarative sentences where the order of elements is more likely to be stable and consistent. However, this does not account for the fact of how children learn deep and surface structure, for in McNeill's view (1970: 3) deep structure is acquired first. The chief failing of Braine's theory is that it does not explain the evolution from the basic pivot-open distinction to more complex rules in child grammar development.

A view somewhat closer to the ultimate view of McNeill is that of 'telegraphic' speech. Brown and Fraser (1963: 158) referred to the stripped-down speech of young children as 'telegraphic', for in such cases inflections, articles, auxiliaries, and a number of unessential or redundant features of speech are eliminated. This view assumes that the child knows what is essential and what is not, and it does not seem too far-fetched to accept this as either a part of the speedy learning which happens in child language acquisition, or as a part of the innate information at his disposal. At any rate, telegraphic speech looks a great deal like deep structure in both content and arrangement. As one who has been deeply involved in language acquisition research, MacNeill appears to offer a theory which is a natural outgrowth of both the pivot-open theory and the telegraphic speech theory. McNeill (1970: 3) views language acquisition as a two-step process. There is a preliminary analytic phase during which the general properties of language are recognized, organized, and utilized. In this view one might conclude that the holophrastic all-encompassing utterances are the first step in a tentative organization, at least from the point of syntax. Realizing the inadequacies of this mode of communication, the parent encourages greater complexity, and —to state it in behaviorist terms— such reinforcement leads to the desired greater complexity. This greater complexity may have a pivot-open phase, which is later realigned or rejected entirely in favor of the deep structure-like telegraphic speech. The ultimate refinement of phase one is to bring telegraphic speech fully in line with deep structure. The prelminary phase is followed, in McNeill's terms, by a constructive phase when transformations are introduced and the details of language are elaborated. The final result is adult language, but in the meantime a few years have passed.

While some linguists entirely reject one theory in favor of the other, others see the differences between behaviorism and cognitivism as being mainly one of terminology and emphasis. Both sides agree that language is acquired only in the presence of language, and that therefore access to human society and human language data are both e sential. The two schools of thought also agree that there is a difference in linguistic perfomance among individuals and groups, but the cognitivists profess to see an unchanging language competence for everyone regardless of performance. The behaviorists, however, are willing to limit themselves to observable performance as proof of language knowledge.

While Chomsky claims that language behavior cannot be viewed in terms of habit, Carroll (1971: 103) finds little basic opposition between rule-governed behavior and habit. Habit results from repeated rule utilization.

Admittedly there is not a one-to-one correspondence between linguistic habit and linguistic rule, for we are only interested in those habits or rules which are uniform throughout the speech community and that are therefore truly a part of the language system. Carroll does, however, attack the theory of competence as being inadequate unless it is related in some definite way to performance. He admits that there is disagreement as to how much of language is learned, but that nevertheless there is some overlap. Behaviorists also believe that the human organism in and of itself restricts in certain ways what a language can be or what individual can master. Due to such limitations a language system must be finite.

The question of how the child actually acquires language is still far from resolved. Obviously the ultimate goal of child language acquisition research must be a complete answer to this problem. As yet the theory of elaborate language-processing information in the infant is still a mater of speculation. Scholars are not in accord as to the language acquisition device; neither are they in agreement as to the amount of innate information available before language acquisition begins. It will also be necessary to determine the nature and size of the universal grammar as opposed to the language-specific grammar which develops its rules from exposure to samples of language. Some determination of when a language is learned must be made, for until then there can be no final determination of how long the process takes. In spite of all the thorny problems which remain, there has been tremendous progress in recent years in child language development research. This has been due in large measure to the innovative ways of looking at language resulting from widespread interest in generative transformational grammar.