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PSYCHOLINGUISTIC SIMILARITIES IN THE ACQUISITION OF ENGLISH AND RUSSIAN AS NATIVE LANGUAGES.

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ONE APPROACH TO CHILD LANGUAGE ACQUISITION IS THAT OF TRANSFORMATIONAL, GENERATIVE GRAMMAR WHICH EMPHASIZES MAN'S ABILITY TO UNDERSTAND AND PRODUCE AN UNLIMITED VARIETY OF SENTENCES THROUGH CONTROL OF A LIMITED NUMBER OF LANGUAGE RULES. THUS, A CHILD LEARNS TO SPEAK BY DEVELOPING HIS OWN THEORIES OF THE STRUCTURE OF HIS LANGUAGE. STUDIES OF RUSSIAN AND ENGLISH CHILD LANGUAGE ACQUISITION SHOW THAT THE PROCESS OF MAKING THESE RULES IS QUITE SIMILAR, IN SPITE OF THE IMPORTANT STRUCTURAL DIFFERENCES BETWEEN THE TWO LANGUAGES. IN BOTH LANGUAGES, FOR EXAMPLE, THE UNMARKED FORMS OF LEXICAL ITEMS ARE LEARNED FIRST, SIMPLE SENTENCES NEXT, AND MORPHOLOGY LAST. BOTH RUSSIAN AND ENGLISH CHILDREN LEARN THIS WAY, IN SPITE OF THE FACT THAT WORD ORDER IS LESS IMPORTANT THAN INFLECTION IN RUSSIAN. IT WOULD SEEM THEN THAT EVERY CHILD'S BUILT-IN "LANGUAGE ACQUISITION DEVICE" FAVORS BEGINNING LANGUAGE WITH ORDERED UNMARKED CLASSES, REGARDLESS OF THE DEGREE OF CORRESPONDENCE OF SUCH A SYSTEM WITH THE INPUT LANGUAGE. SIMILAR PATTERNS OF GENERALIZATION, OVERGENERALIZATION, AND LEARNING OF GRAMMATICAL DISTINCTIONS CAN ALSO BE FOUND IN ENGLISH AND RUSSIAN LANGUAGE ACQUISITION. THESE OBSERVATIONS INDICATE THAT A GREAT DEAL MAY BE LEARNED ABOUT GENERAL CHILD LANGUAGE ACQUISITION THROUGH COMPARING RESULTS OF STUDIES DONE IN DIFFERENT LANGUAGE FAMILIES. THIS PAPER WAS READ AT A SYMPOSIUM ON GRAMMAR AND VERBAL BEHAVIOR IN CHILDREN, CONVENTION OF WESTERN PSYCHOLOGICAL ASSOCIATION (HONOLULU, JUNE 18, 1965). (JD)

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PSYCHOLINGUISTIC SIMILARITIES IN THE ACQUISITION OF ENGLISH AND RUSSIAN AS NATIVE LANGUAGES*

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In this Symposium we will briefly touch upon various aspects of the child's linguistic development with reference to the grammar of language. Some of the papers you will hear reflect what has become a "new look" in studies of child language--the approach stimulated by the sort of generative, transformational grammar developed in the last decade by Noam Chomsky and his co-workers at M.I.T. (Chomsky, 1957; Fodor and Katz, 1964). The hallmark of this sort of approach is its emphasis on man's ability to deal with an endless variety of novel sentences. We are almost never called upon to create new words to be understood, but we are continually being called upon to create and understand new sentences. And so one of the prime questions of modern linguistics (a question which is very much a psychological one) is this: How can a new sentence be produced and understood? We can learn our vocabularies by rote; we cannot learn our sentences by rote. This impels us to speak of the learning or formation of rules, whereby we can project a limited amount of experience with a limited number of sentences to the capacity to produce and understand an unlimited number of sentences.

The use of the word "rule" in this context is perhaps unfortunate--it leads people to think that we believe that children can state explicit

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rules of grammar. This, of course, is not what I have in mind; none of us can state all of the rules of English grammar. What I mean is that the child has learned much more than a list of specific word combinations; that he has acquired knowledge that makes it possible for him to go beyond the specific collection of sentences he has heard. The picture we are now beginning to form is that of a child who is creatively constructing his language on his own; a child who, undoubtedly guided by inherited predispositions for such activity, is engaged in developing new theories of the structure of his language, modifying them, discarding them, and so on. This is a picture which differs radically from the traditional picture of a child whose learning is governed by variables such as frequency, recency, and reinforcement, and whose prime activities are imitation and mechanical practice.

The overwhelming majority of the work in support of this approach, however, has dealt with the acquisition of English as a first language. Unfortunately, extensive data on child speech in non-Indo-European languages are not yet available; there is, however, a sizeable Soviet body of literature which I would like to bring to your attention.* Although Russian is also an Indo-European language, it is sufficiently different from English--most clearly in its highly inflectional grammatical structure --to serve as a useful contrast case to sharpen notions of universal aspects of language acquisition and linguistic competence. I have examined much of the excellent and careful Soviet research on child language, and in the short time I have this morning I would like to show

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* For a fuller discussion of this literature, and extensive bibliography, see Slobin (1965, and forthcoming). References can also be found in Ervin and Miller (1963).

you some of the striking parallels in the processes of acquiring English and Russian as native languages.

The beginning stages of syntactic development in Russian look very much like those of English-speaking children as described by Martin Braine (1963a), by Roger Brown and Colin Fraser (1963, 1964), and by Susan Ervin and Wick Miller (Miller and Ervin, 1964). One cannot speak of grammar in child language until the emergence of two-word utterances. But even at that early stage--in both English and Russian--combination of pairs of words seems to be systematic, rather than random, and to be productive, rather than merely imitative. The general picture at this stage is strikingly similar in both languages. Two classes of words can be discerned on distributional grounds at this two-word level: there is a small class of what have been called "pivot-words" by Braine, or "operators" by Ervin and Miller, and a large, open class of words which were previously one-word utterances. To give some English examples, a child may say things like: "bandage on," "blanket on," "fix on," "take on," and many other sentences of this type. The word "on" is a sort of pivot here--it is always in second position, and a large collection of words can be attached to it. The child may also say things like: "allgone shoe," "allgone vitamins," "allgone outside," and "allgone pacifier." (This is obviously an American example!) In this case one can say that there is a pivot in first position--"allgone"--which is followed by a large class of words in the child's speech. On distributional grounds, then, it seems that one of the classes is small and contains words of high frequency in the child's speech. The membership of this class is stable and fairly fixed; these words can be called pivots because other words can be attached to them. They may be the first or the second member

of two-word sentences--but whichever they are, their position is fixed. The other class is large, open, and contains all the words not in the pivot class. Words from the open class can also be combined in two-word sentences, but the sentence position of these words is not fixed. That is, taking the word "car" as an example, one can find utterances like "man car," meaning, "a man is in the car," and also "car bridge," meaning, "the car is under the bridge." The first sentence types in Russian and in English are two-word sentences combining a pivot and an open-class word, or two open-class words.

Both in English and in Russian it is clear that the strangeness of many of these early utterances--from the point of view of the grammar of the adult language--argues against the notion that the child's sentences are a recall, or a delayed, reduced imitation of things he has heard adults say, and argue for a generative, productive system even at this early stage of language development. Examples of utterances which do not seem to be simple derivations from the adult system are numerous and very easy to come by. To give you but a few charming examples, drawn from Braine's data (1963a): "allgone outside" was said when a child came home and the door was shut, apparently meaning, "the outside is all gone." "More page" meant something like, "don't stop reading." "There high" meant something like, "it's up there"; and "more high" meant, "there's more up there." There are also many reversals, like "other fix" for "fix the other one," and "this do" for "do this."

When two-word sentences appear in a child's speech they very rapidly become the dominant utterance type, and hundreds of new utterances of this form are produced in a very short time. Both the Russians and the Americans

note that new pivots are often playfully practiced, the child uttering long series of pivot sentences, holding the pivot constant and substituting a variety of words from the open class. For example, a twenty-one month old Russian boy was heard practicing the pivot-word pruá, which means something like "walking," in combination with the names of people and animals: Léna pruá, Tósya pruá, kíska pruá, and so on. Indeed, Dr. Weir has amply demonstrated that children even go through this sort of linguistic drill when lying alone in bed, before falling asleep (1962). Again, one is struck by the autogenic nature of child language development.

As the length of sentences in child speech increases, word order is quite inflexible. Susan Ervin, for example, has spoken of the development of what can be called "slot grammars," in which the relative order of word classes is fixed, though not every item in a sequence need be selected. For example, in a sentence like "that a big truck," the entire sequence can be uttered, or parts of it may be uttered in fixed order--for example: "truck," or "big truck," or "that truck," or "that big truck," and so on. Likewise, a child may adhere to a subject-verb-object order for all actor-action constructions.

Russian word order, like that of Latin, is very flexible because the language is highly inflected; for example, all possible orders of subject, object, and verb can form grammatical sentences. One might have predicted that Russian children, being exposed to a great variety of word orders, would first learn the morphological markers for such classes as subject, object, and verb, for example, and combine them in any order. This is, however, hardly the case. Child grammar in Russian, as in English, begins with unmarked forms--generally the noun in what corresponds to the nominative singular, the verb in its imperative or infinitive form, and

so on. Morphology develops later than syntax, and word order is as inflexible for little Russian children as it is for Americans. The flexibility of adult Russian word order depends on the inflectional systems. Arguments have been advanced by Braine (1963b) and by Jenkins and Palermo (1964) which rely upon the ordinal sequences of words in adult language to account for the order of elements in child sentences, and for the formation of word classes. Not only do the Soviet data cast doubt on these interpretations, but, as Bever, Fodor, and Weksel have pointed out (1965), even in English, which does not make great use of inflection, order is not as important a feature of syntactic structure as might be imagined. It is certainly a much less important feature in Russian, thus lending further support to the critique developed by Bever et al. There would seem to be something in the child's built-in "language acquisition device," to use Chomsky's term, which favors beginning language with ordered sequences of unmarked classes, regardless of the degree of correspondence of such a system with the input language.

When morphological principles, such as word endings, are acquired, they are rapidly overgeneralized--both in English and in Russian. For example, it is well-known that children regularize the past tense of irregular (or strong) verbs--"comed," "breaked," "goed," "doed," and so on. (This is, by the way, in itself a sort of evidence for the child's forming of rules --he could never have heard these forms, and so he could not have learned them through imitation, yet they are clearly a regularization of a grammatical rule.) This tendency to regularize continues well into elementary school for some children.

From a traditional psychological point of view, one would expect to find that children begin by using some weak, or regular forms correctly--

like "walked," and "helped," and so on--and that they extended--overextended this rule to the strong verbs. The real story, however, is much more interesting. In all of the cases which we have studied (and these are children of homes where standard English is spoken, and are usually first-born children) the first past tenses used are the correct forms of irregular verbs--"came," "broke," "went," and so on. Apparently these irregular verbs in the past tense--which are the most frequent past tense forms in adult speech--are learned as separate vocabulary items at a very early age. Then, as soon as the child learns only one or two regular past tense forms of weak verbs--like "helped" and "walked"--he replaces the correct irregular past tense forms with their incorrect overgeneralizations from the regular forms. Thus children actually say "it came off," "it broke," and "he did it," before they say "it comed off," "it breaked," and "he doed it."

This is very puzzling from the point of view of the psychology of learning. The correct irregular forms were already learned, practiced, presumably reinforced--sometimes for many months. Then suddenly the child begins saying things like "goed"--which could not be imitations, since he has never heard this form from his parents, and which are certainly not reinforced by his parents--yet these overgeneralizations persist, sometimes for years. The crucial point here is that the irregular verbs, though they are frequent, are each unique--they do not follow a pattern, and evidently it is patterns that children are sensitive to. As soon as they find one, they try to apply it as broadly as possible, producing words which are regular, but which they have never heard spoken before.

The very same phenomenon is found again and again in the acquisition of Russian as a native language: a form which has been highly practiced

will suddenly be driven out by another, more regular form, and only much later will a proper balance be achieved. Practice clearly does not insure the survival of a form in child speech--regardless of whether or not that form corresponds to adult usage (and, presumably, regardless of whether or not its usage by the child is "reinforced" by adults).

There are many other interesting parallels between first language learning in Russian and English, illustrative of basic processes in developmental psycholinguistics. Let me point out just one more. The early grammatical learning is accomplished very rapidly. The Russian child, by the time he is three, uses almost all of the complex and complex-subordinate sentence types of adult Russian, and knows all of the generic grammatical categories--case, gender, tense, and so on--and has a good idea of their meanings. No new uses of grammatical cases enter after about age four. By contrast, the learning of morphology and morphophonemics goes on for very much longer. It takes until seven or eight to sort out all of the proper conjugational and declensional suffixes and categories, stress and sound alternations, and the like. The Russian child does not fully master his morphology until he is about eight, which is several years older than the age at which the American child is believed to have essentially completed his primary grammatical learning--though Mrs. Sachs will show you that grammatical learning may go on for much longer in English-speaking children than we have imagined. However, although the basic learning is accomplished very rapidly in both languages, there may be some sense in which it is more difficult to learn to speak Russian natively than English. This remains to be examined in detail.

Careful examination of Russian child language seems to show that the semantic correlates of grammatical distinctions are more important in

determining their order of emergence and rate of development than are their purely structural characteristics. This point will also be made by Mrs. Sachs in regard to English. One line of evidence in this argument is the observation that lexical items—that is, words—referring to certain semantic categories appear at the same time as those categories become morphologically marked. For example, in the speech of one Russian child, at age 22 months one finds the first use of the word mnogo (much, many) at the same time as the emergence of the singular-plural distinction in noun markings. The words "right away" and "soon" enter at the same time as the future tense. And so on. One also finds in Russian that the conditional is learned quite late, although its grammatical structure is exceedingly simple—again, it seems to be the semantic, and not the grammatical aspect which poses difficulties for the child. Likewise, grammatical gender is responsible for what is perhaps the most difficult and drawn-out linguistic learning of the Russian-speaking child, although it is almost always unequivocally marked phonetically. This is a category almost entirely lacking in semantic correlates, and apparently such correlates are an important aid in learning form-class distinctions.

These are but a few examples of what we could learn about the psycholinguistic processes of language acquisition if we had a large and varied collection of cross-linguistic data. I hope that some of you will be encouraged to gather such data, or send your students out to do so.

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