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ON THE QUESTION OF THE CHILD'S LINGUISTIC COMPETENCE

Our study deals with three types of grammars, i.e. the pivot grammar, the transformational generative grammar and the case grammar, each of which has been — especially in American paedolinguistics — proclaimed as the representation of children's linguistic knowledge. In this paper we shall test the three grammars both for their ability to represent data from English speaking children upon whose speech they were originally based and their applicability to children learning Czech.

Prior to the early 1960s studies of child language dealt mostly with such topics as the growth of the vocabulary, the gradual mastering of the phonetic realization of the phonemes, the most frequent substitutions for them and the like. As for the acquisition of grammar, the appearance of grammatical forms in various traditionally defined grammatical classes were studied. The result of the influence of linguistic theory upon the study of language acquisition was that students started to look at children's utterances as though they had been produced by speakers of an unknown language. *Syntactic classes*, i.e. groups of words whose members share privileges of occurrence with each other and have different privileges of occrrences from words in another class became the core of interest. In applying distributional analyses to discover what syntactic classes children use, three groups of researchers, namely Braine (1963), Brown and Fraser (1963) and Miller and Ervin (1964) working independently at different American Universities, discovered similar phenomena. Common features of their findings have been summarized and have entered into paedolinguistic literature as the pivot and open-class distinction. Students in child language were enthusiastic. The eternal problem of how children actually do grasp their early grammar seemed to be solved. Even with a small diary corpus one can, on distributional grounds, separate two classes of words occurring in two-word utterances. One of the classes is small and contains words of high frequency. The membership of this class is stable and fairly fixed. The words were called pivots because other words (those belonging to open-class) could be attached to them. A pivot may be the first or the second member of a two-word utterance — but whichever it is, its position is fixed. Most child utterances consist of a combination of a pivot + an open-class word. Two open-class words can also enter into construction, and these, unlike pivots, do not have fixed position with respect to each other. To sum up, the

early syntactic knowledge of the child is represented by a grammar which generates their utterances with rules concatenating pivot and open-classes according to their distinct privileges of occurrences, i.e. $P_1 + O$, $O + P_2$, $O + O$ and O. The grammar, on the other hand, does not generate P or $P + P$, since these are considered ill-formed according to the child's own system.[1]

The distinction pivot — open class has been accepted as the well-substantiated characteristics of early child speech in English, and, moreover, was proposed as a possible universal of language acquisition in general.[2]

Let us turn to the data of the original studies by Braine, Brown and Fraser, Miller and Ervin in order to explore to what extent the pivot model is congruent with the facts. From what has been said follows that identifying a pivot involves satisfying the folowing conditions: fixed position, high frequency, never occurring in isolation and never combining with another pivot. The most frequently quoted examples are *"on"*, *"do"*, *"bye bye"*, *"this"*, *"here"*, *"there"*, *"yes"*, *"no"* in utterances like *"blanket on"*, *"baby do"*, *"doggie bye bye"*, *"this apple"*, *"Mummy here"*. *"Daddy there"*, *"no cat"* etc. The exquivalents of most of these pivots in Czech, cf. *"dělat"*, *"pá"*, *"toto"*, *"tady"*, *"tam"*, *"ano"*, *"ne"* do not, in our opinion, satisfy the characteristics attributed to the pivots. First, their position is not fixed, as each of them can be either the first or the second part of a two-word utterance, cf. examples as *"táta pá"* (= Daddy bye bye) — *"pá pudeme"* (= we shall go out), *"toto nechcu"* (= this I don't want) — *"chcu toto"* (= I want this), *"je tady"* (= he is here) — *"tady je"* (= here he is), *"papat ne"* (= to eat no) etc. As the examples illustrate, the word-order varies, the inversion being one of the marker of emphatic speech, where the most important word in the given utterance, be it a pivot or an open-class word, is shifted to the end of the sentence. One can agree with the second attribute of pivots — their high frequency in children. Nevertheless, there are open-class words such as *"Mummy"*, *"Daddy"*, *the child's name, his favourite toy* which are certainly no less frequent. The third attribute — never occurring in isolation is, in our opinion, most vulnerable. The idea that pivots do not occur as single word utterances seems to have originated with Braine's statement that, whereas all the words which appeared in a frame with pivot could also occur alone, the pivots, on the other hand, never did. This approach of course completely ignores the fact that child speech is not a soliloquy but a dialogue in most of cases and one can hardly expect that none of the pivots would appear as a holophrase in the child's reaction on the questions like *"Where is Daddy"*. The use of an isolated pivot such as *"pá"* (= gone), *"tady"* (= here), *"tam"* (= there) is quite natural. And it would be very surprising if certain pivots like *"here"*, *"there"*, *"broken"*, *"all gone"* did not occur in isolation nor in combination with other such words in English speaking children since such utterances are common in the speech of Czech children, and we see no reason why they should not be common in other languages speaking children.

The open class is—in Braine's definition (1963, p. 13)—'a part of speech mainly in a residual sense and consists of the entire vocabulary except for some of the pivots'. In other words, it is represented by a group of words which belong to

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[1] For further details see Slobin, 1966b, p. 12 ff., McNeill, 1970, p. 1076 ff., Bowerman, 1973, p. 27 ff.
[2] Cf. D. I. Slobin, The Acquisition of Russian, 1966a, p. 129.

different grammatical classes in the adult model. Whether all words which are not pivots should be considered undifferentiated is questionable. The analysis shows that certain pivots occur only with nouns, others only with verbs, cf. *"broken glass"*—*"it goes"*. This suggests that the child differentiates at least between nouns and verbs and is aware of the fact that constructions like *"broke come"*, *"shut bye"* etc. are non-grammatical.

In summary, the pivot-open model of early speech does not adequately represent the data either from the English or from the Czech speaking children. Words in early utterances do not conform distributional privileges of occurrence specified by the rules of a pivot grammar. Children use words of a relatively large proportion of constructions, but these words rarely incorporate simultaneously all the properties attributed to pivots. Moreover, the existence of undifferentiated open class is not corroborated. The facts of early child speech are far more complex than the pivot-open model indicates and, in our opinion, cannot be accounted for simply by the form and arrangement of words, the properties of which are, moreover, often disputable.

Transformational generative grammar, on the other hand, is an approach to grammar writing which provides for the representation of information about meaning. Let us here concentrate on those aspects which are necessary for an understanding of the grammar written for children.

As generally known, in a transformational generative grammar, a sentence receives two representations, i.e. a surface and a deep structure. These are related to each other by transformational rules. The surface structure represents the structural and the physical characteristics of the sentence, as it is spoken. The deep structure, then, is an abstract representation of the essential syntactic characteristics of the sentence and is never realized directly in speech.[3] The grammar consists of three components, the syntactic, the phonological and the semantic. The syntactic component which specifies both deep and surface structure, is central in that the other two components operate on its output. The phonological component operates on surface structures to indicate the acoustical properties of sentences, while the semantic component operates on the abstract accounts of sentences provided by deep structures to produce semantic interpretations. It is the syntactic component which has so far been applied to the child language in most of the cases, cf. the studies by McNeill (1966a, 1966b, 1970, 1971), by Brown, Cazden, Bellugi-Klima (1968), Bloom (1970), Bowerman (1973), Söderbergh (1973) et al.

The syntactic component, nevertheless, has two parts, a base component and a transformational component. Rules of the base component generate underlying structures of sentences and indicate how particular lexical items are inserted into these structures. They must have grammatical categories with which to work. Distributional analysis of privileges of occurrence is effective in revealing the grammatical classes of a language as it is spoken by adults. The presence of inflectional clues usually aids the analysis. It is, however, not clear whether a careful distributional analysis of the arrangement of words in one child's constructions can reveal the syntactic classes needed for an adequate representation of the child's linguistic knowledge. It is possible that children sometimes distinguish cognitively between groups of words on the basis of meaning, but that this distinction

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[3] For particulars see N. Chomsky in his 1957 and 1965 studies.

is not initially reflected in a difference in distributional privileges of occurrence but only in difference in the semantic or syntactic functions performed by the words. Whether words distinguished in this way should be considered members of different classes before clear-cut distributional differences emerge is uncertain. M. Bowerman (1973) in classifying the Finnish, Luo and Samoan child words, applied the method designed to allow the grammars to generate the desired strings with categories which looked like reasonable guesses at the word classes the children themselves might have used. L. Bloom (1970) used a similar method for classifying her subjects' words. It takes into account both privileges of occurrence and grammatical function. Bloom noted that noun forms of adult language were the most abundant words in the children's vocabularies and that children's developing ideas of syntax apparently had to do with an increasing appreciation of possibilities for combining *nouns* with *other nouns* and with new and different forms like *adjectives, verbs* and *prepositions*. This seems to be true also of other languages speaking children, Czech included. The class membership of other lexical items is determined by reference to their occurrence with nouns in various syntactic relationships. Thus *verbs* may be defined as words which occur with nouns in constructions in which one or more of the following grammatical relationships hold: predicative = N + V or V + N with the noun functioning as the sentence subject and the verb as the sentence predicate; directive objective = = V + N or N + V with the noun functioning as direct object of the verb; locative = V + N or N + V with the noun indicating the location, state or activity identified by the verb. *Adjectives* can be defined as words which occur before (or after) the noun with an attributive relationship (*"nice boy"*—*"the girl not nice"*). *Adverbs* are the words which occur either before or after verbs with a modifying relationship of time, place or manner. Most words classified as verbs, adjectives and adverbs in the children's vocabularies have the same categorizations in adult language with few exceptions: inherent features, strict subcategorization frames and selection restrictions—obligatory in adult language—are missing in early child speech (cf. the non-differentiating between transitive and non-transitive verbs, animated versus inanimated substantives, hard versus soft declension in adjectives, the non-respecting of the existence of irregular forms in any of the inflected category in Czech children).

A cross-linguistic comparison of children at an early stage of language development points out many similarities. All the children evidently work on the expression of subject—verb—object relationships. Words in these roles are combined in subject—verb, verb—object, subject—object and subject—verb—object. Other productive patterns for most of the children are noun—locative, adjective—noun and demonstrative pronoun—noun. Word order is fairly stable, though inversion may occur in emotional speech. Personal pronouns are as yet rare, or completely absent. The grammar lacks provisions for copulas, prepositions and numerals. Inflection is not utilized. The constructions are simple and consist mostly of two or three morphemes. Observations of children learning English has led to the hypothesis that children's early utterances can be generated almost entirely by the base component of a transformational grammar, while the transformational component is thought to be largely absent early in development.[4] It was McNeil who has suggested that 'it is not too unreasonable

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[4] Cf. McNeill, 1966b, p. 51; Brown, Cazden, Bellugi—Klima, 1968, p. 40.

to think of children talking the base strings directly' (1966b, p. 51). This opinion, however, has been criticized on the grounds that morphonemic and pohonological rules do not operate on the abstract symbols present in base structure but only on the output of the base and transformational component, i.e. upon surface structures. According to Bowerman (1973, p. 72) the claim might be reworded to state that the surface structures of most *children's utterances can be generated directly by the rules of the base component* and do not require transformational modifications. Her data from the *Finnish, American, Luo* and *Samoan* children's speech samples support this hypothesis, with a few qualifications, and so do our data from *Czech* speaking children. McNeill (1966c, p. 52) on the other hand argues: 'if children begin their productive linguistic careers with a competence limited to the base structures of sentences, it is difficult to see how it can be explained by any theory of language acquisition that restricts attention to what a child might obtain from the observable surface characteristics of parental speech. Such theories would have to predict the opposite course of development: first, the surface structure, then, the base structure.' In other words, since children's early utterances are base structures and base structures are abstract and never directly observable in speech, 'a child cannot acquire language only by observing and making inferences from the speech he is exposed to, and innate linguistic knowledge is needed' (McNeill, 1970, p. 1088). The conclusion that children must have a body of innate linguistic knowledge does not, however, follow, as M. Bowerman (1973, p. 173) justly points out from the observation that their utterances look rather like base structure strings of adult grammars. While it is evidently true that most of children's early constructions can be generated without transformations, they are not in themselves base structures, i.e. those abstract and unobservable entities to which McNeil refers. The great majority of them are very similar to the simple, active, declarative sentences which abound in mother-to-child speech, such as "*miminko je v kočárku*" (= the baby is in the pram), "*pejsek dělá haf*" (= the dog does bow-vow). Constructions like these are not base structures but they provide models from which children derive the rules they need to produce utterances like "*miminko kočárek*", "*pejsek haf*". As the examples show, children do not utilize all aspects of the surface structure they hear. They omit, e.g., the f u n c t o r s, such as c o p u l a s, p r e p o s i t i o n s, a u x i l i a r y v e r b s and—at the earliest stages—also the i n f l e c t i o n. The problem posed by the selectivity is not how children can possibly learn something that is bastract and never directly observable without a considerable amount of help from innate knowledge, but rather, why all of them select some elements and relationships expressed in the surface structures of the speech they hear and not others, e.g. "*pejsek haf*" and not "*pejsek dělá*". Answering this question will involve finding out more about the cognitive capacity of children and the kinds of semantic concepts they are capable of comprehending at different stages of language development.

To sum up, the fact that most of children's utterances can be generated by the base structure rules of a transformational grammar without the intervention of transformational rules, does not constitute the evidence that children have innate linguistic knowledge corresponding to the abstract and unobservable base structure representations of sentences. It appears instead that almost all the rules needed for generating children's constructions could be derived directly from the surface strings modeled by the adults.

From what has been said follows that the theory of transformational generative

grammar may provide a useful approach to child language. Unlike the pivot grammar, which takes into account only the superficial form and arrangement of words, it enables the formalization of some of the significant syntactic and semantic characteristics of children's utterances and the allowance of fruitful comparison among children learning different languages. However, the use of transformational generative grammar to represent children's competence involves postulating certain kinds of linguistic knowledge to which there is little evidence in child speech. And this is the most important drawback to the transformational approach.

A semantic approach to grammar writing is offered by Fillmore (1966, 1968, 1969, 1971). Though his suggestions for a theory of case grammar were motivated purely by linguistic considerations[5] and were not influenced by the characteristics of child language, the case grammar, as shown by Bowerman (1973, p. 197 ff.) seems well suited to represent children's linguistic knowledge, especially in two respects: first, it gives formal recognition to semantic relationships which are no doubt of high importance in early speech, and, secondly, unlike transformational generative grammar, it does not postulate the presence in deep structure of the constituent structure, or subconfiguration of sentence elements which defines the basic grammatical relations. The grammatical relations like *"subject of"* and *"predicate of"* which are basic to deep structure in the transformational generative theory are regarded by Fillmore as surface structure phenomena which need not occur in all languages and where needed should be accounted for transformationally. In his theory, syntactically significant semantic concepts called case relations are the basis elements of deep structure. Languages differ in the particular devices they employ to mark given case relations. Fillmore believes that observations made about case relations and the structures containing them will turn out to have considerable cross-linguistic validity (1968, p. 5). The needed cases are, in his opinion, the following:

Agentative ... typically animate — perceived instigator of the action identified by the verb (the qualification 'typically animate' left out in his 1969 study);

Instrumental ... inanimate force or object causually involved in the action or state identified by the verb ('inanimate' left out in 1969 study);

Dative ... animate being affected by the state or action (the term Dative changed to Experiencer in 1969 with the following definition: the entity which receives or accepts or experiences or undergoes the effect of an action);

Factitative ... object or being resulting from the action or state identified by the verb, or understood as a part of the meaning of the verb (= partially identical with the case called Result in 1969 study);

Locative ... location or spacial orientation of the state or action (does not appear in Fillmore's 1969 study);

Objectative ... the semantically most neutral case: conceivably the concept should be limited to things which are affected by the action or state (=replaced by *Object* in 1969 study with the following definition ... the entity that moves or changes or whose position or existence is in consideration).

As for rewriting the case symbols. Fillmore suggests **K** (for Kasus) + **NP**. Depending on the language and the case, **K** might be *a preposition, postposition, case*

affix or *zero*. Applied to early child speech, the rewriting would be only N or NP. The symbol K here is always zero, as children omit all case endings and prepositions and, concomitantly, nouns are not marked to indicate the case relations they have to verbs or to other nouns. The case relationships which seem to be of importance for children at early stages of grammatical development are Agentative, Dative, Locative and Objectative—in Fillmore's newer conception, as the contrast animate vs. inanimate is not relevant. Most of the early constructions consist of either two cases (A + O, D + O, L + O) or one case + a verb (A + V, V + O). From the three term constructions the sequence A + V + O is the most typical.

Compared to the transformational grammar account, the case grammar account of children's linguistic competence has, in our opinion, several advantages. First, it allows to dispense with the deep structure division between subject and and predicate, a division which, in our opinion (and here we are in agreement with e.g. Kernan (1970), Schlesinger (1971), Bowerman (1973) Aitchison (1976) et al.) credits the child with a more abstract linguistic knowledge than his behaviour gives evidence of. Secondly, it offers a concise and non-language-specific account of many of the elements missing from early child speech. It is generally known that children of all nationalities omit almost all functors, such as prepositions, case endings, conjunctions etc. Their speech consists mainly of *nouns and verbs in various implicit semantic relationships*, but with the exact nature of these relationships not marked as in adult speech. Thirdly, the case grammar approach provides for the generation of deep structure elements in unordered sets. The cross--linguistic studies show that children's early utterances in all languages share certain semantic and syntactic characteristics. Having this in mind, we may formalize our knowledge of these universal aspects of language acquisition in a sort of universal grammar foi early child speech. The purpose of such a grammar would be to represent the shared foundation of linguistic knowledge from which children work towards the grammar of their mother tongue. The chief value of case grammar for a theory of language acquisition is, in our opinion, in its insistence on the grammatical significance of semantic concepts and in its rejecting certain fundamental assumptions of transformational grammar which are inappropriate to child speech, cf. e.g. the above mentioned division between subject and predicate. Nevertheless, even case grammar is found to have its drawbacks in the sense that at least some of the semantic categories it employs do not correspond to the functional categories of children's linguistic competence (e.g. Dative and Objectative are propably more abstract categories than children actually work with).

In summary then, none of the approaches to grammar writing provides an entirely satisfactory system for representing the early linguistic knowledge of children. The pivot grammar is most inadequate, since it does not even provide an accurate account of the superficial characteristics of children's utterances. Transformational grammar and case grammar, on the other hand, have some features which appear to be essential to a grammar which can generate the kinds of utterances the children produce. The points at which the formulations and basic assumptions of both transformational generative and case grammar apparently fail to provide an appropriate model of children's developing linguistic competence suggest other features which an optimal grammar for child language should incorporate, such as: *adaptability in assigning constituent structure, flexibility with regard to the kinds of concepts and categories postulated as functional in the child's competence,*

pliantness in enabling shifts over time to new levels of abstraction and, last but not least, *the capability of operating with both semantic and syntactic concepts.* It is hoped that—after the pioneering work of M. Bowerman who was the first in applying theoretical and methodological tools developed in America to the acquisition of languages other than English—further comparative material will appear and help in gradually revealing the universals of early syntactic development and of children's linguistic competence in general.

K OTÁZCE JAZYKOVÉ KOMPETENCE U DÍTĚTE

Ve své stati podává autorka rozbor tří gramatických modelů, tj. model gramatiky pivotní, gramatiky transformační a gramatiky pádové, které byly svého času — zejména v americké pedolingvistice — považovány za reprezentace jazykové kompetence dítěte v procesu osvojování jazyka.

Autorka ověřuje jednak platnost proklamovaných tezí na dokladech anglicky mluvících dětí, jednak je aplikuje na promluvy dětí osvojujících si češtinu. Dospívá k názoru, že žádná z předkládaných teorií neřeší danou problematiku vyčerpávajícím způsobem. Nejméně vhodná je gramatika pivotní, jež bere v úvahu pouze formu i pořádek slov. Teorie vytvořená v rámci gramatiky transformační je přínosnější v tom smyslu, že umožňuje osvětlit některé syntaktické charakteristiky dětských promluv a provádět konfrontaci u dětí různých národností. Jako přednost pádové gramatiky pak vidí autorka zejména v její orientaci na sémantickou stránku jazyka i ve skutečnosti, že při vytváření lingvistické kompetence se nevyžaduje jako podmínka vrozená znalost hloubkových struktur. Nicméně i tato gramatika operuje s kategoriemi, které jsou pro dítě příliš abstraktní. Jinými slovy, žádnou z předkládaných teorií nelze považovat za definitivní a vědecky náležitě fundované vysvětlení procesu osvojování jazyka. Pokoušejí se sice vysvětlit podstatu, ev. vytváření jazykové kompetence, přehlížejí však funkci této kompetence, stejně jako fakt, že v základu jazykového chování při osvojování jazyka jako komunikačního procesu spočívá zřejmě kompetence komplexnější než lingvistická, tj. kompetence komunikační.

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