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TRANSITION FROM BABBLING TO WORD STRUCTURE

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0. Introduction

The process of transition from babbling to word structure in child language can be approached from different perspectives. With his collection of crosslinguistic data, Slobin (1985) found out that the regularity and transparency of morphological systems in the respective languages help children to develop their own rules. MacWhinney (1978) has shown that in the process of acquiring morphology children use regular patterns with apparently transparent semantics and morphotactics with fewer errors than opaque ones. Peters (1994) underlined the role of prosody and typology in the acquisition of grammatical morphemes, so that the preferences for syntactic vs. morphological strategies are dependent on the type of a given language. It has also been demonstrated that the evolution of the voice does not depend only on the maturation of the child's speech apparatus, but from the very beginning babbling is already differentiated in diverse situational contexts: during solitary play and in interactions with an adult, babbling is characterized by specific syllabic, temporal, vocal and melodic levels (Konopczynski 1990, 1991). Summing up, we may say that physiological, sociological and logical (cognitive) factors influence the language perception and production of a child from the very beginning of his/her linguistic development.

According to Dressler and Karpf (1995), the premorphological stage of language acquisition is a stage where morphological operations occur (both extragrammatical ones and precursors of later grammatical rules), but where no system of grammatical morphology has yet become dissociated. In contrast, the protomorphological stage of language acquisition is a period where the system of morphological grammar and its subsystems start to develop, but the status of full-fledged module or sub-module is not yet reached. A fruitful attitude in the data-analysis could be formed by assumptions that the sensory, motor and symbolic representation of language is inconceivable without the interaction of modular systems and subsystems (Karpf 1991: 353) and that extragrammatical morphology has great universal naturalness (Dressler 1994). These ideas form the theoretical bases of the present investigation.

In this paper I would like to discuss two phenomena related to the construction of early words by Russian children that have been, to my mind, overlooked by researchers. The first is the role of babbling in the appearance of first words. The second is a specific type of analogical operation, called "popular etymology" in adults' language. Both of these mechanisms represent part of the transitional constructions on the way towards the full grammar.

1. Empirical data

The empirical data are corpora of records and diary materials from two Russian girls, Varja and Marusja, observed from their birth up to age 3;0 for the first and 2;5 for the second child. Varja is a case of an early talker, Marusja is a case of a late talker (cf. Bates, Dale and Thal 1995).

1.1. Varja

Quasisounds started to appear by the age of 0;6.07 (*aj-jaj-jaj, aj-jaj-jaj-jaj, aj-jaj-jaj-jaj-jaj*), 0;6.23 (*tja-tja-tja-tjatj, dja-dja, ab-ba, atja*), 0;6.27 (*ba-ba-ba-...* - in longer periods). These cycles were repeated many times one after another. Later came syllables *ka kja ga gja*. By 0;10 the variant *kai* started to be frequent.

Pairs of syllables were combined at 0;9-0;10; these pairs were also entering into cycles. By 0;11 the syllable CVC started: *kam* ← *kamen'* 'stone', *gom* ← *gnom* 'dwarf'. The chains of the syllables in the cycles were growing and *J* as a syllable-formator appeared. The first quasi-words had a word-like structure, but no meaning; later these structures were used for naming things, e.g. *apa, aba, byka, yba* 'bread, apple, caterpillar, fish'. At 0;10-0;11 the background babbling consisted of three-syllable quasiwords, first with "old" well known sounds like *batika, patika, matika*, then with more new sounds: *gadika*, then with other models: *katiba, bamaka*. These structures were logically developed from phonetical acquisition, and now they were "waiting" for the meanings of perceived words. Many models in this set obtained a real meaning in the child's language use.

At 0;12-0;13 the vocabulary was growing rapidly, so that synonyms and situative predication occurred. The unintelligible words decreased (from 25% to 15%) and were more similar to real words. Varja seemed to pay attention to the combinations of syllable structures she was producing and watched the adult's reaction: did the combination of syllables she had built mean anything or not? When Varja tried out a phonetic word, she first pronounced it several times, so that it seemed to be prosodically good for her, nevertheless it could differ from the source-word in phonetic structure. The next step was to try to imitate the sounds of the basic word even if her own system lacked suitable sounds. In the next attempts Varja made up her own variant of the word, adequate to her articulation abilities, and thus it entered her speech. So, the already trained and easy word *kaka* was used at 0;11 to call a doll *kukla Karlson* (doll Karlson), though she was able to repeat the complex of two words after an adult; when a new doll entered the girl's life at 1;0, it got the name of *kukaka* ← *kukolka* (doll+Dim), and at 1;1, with optional subtraction of the element *-ka, kuka* and *kukaka* became variants for one and the same denotate.

By the age of 1;2, the unknown words were substituted by known ones: instead of *po kochkam*, Varja said *patotitiki* ← *platochek* 'a chief', instead of *bux v jamu*, she said *bux mamu* 'to fall, mother'. The quality of softness/hardness in consonants was not yet stable, but it sometimes influenced the pronounciation of all sounds in the word (as a characteristic of the whole word). The same irregularity affected voiced/voiceless consonants and nasalized/normal vowels and consonants.

The first inflections were elements of babbling: 1;0 *-ba* or *-bi*, 1;1 *-ka*, 1;2 *-uka*, later also *-uika, -sja*. At 1;3 there was a large number of inflections: *-ika, -tika, -sika; -ik, -tik, -sik; -kok*. These units are sometimes represented in normal adults' Russian by only slightly diverse suffixes and endings, but sometimes they are not found there at all. Not only the formal gender appeared, but Sg and Pl forms occurred with the inflections: *-iki, -tiki, -siki*, but this was often purely formal. So, mother could be called: *mambi, mamba, mamaka, mamasja, mamasika, mamuka, mamuika, mamiki*, and not only this word took different endings. It did not mean that all words had constant gender, especially if inflection was added and if it was an old and frequent word, but for some words some variants were preferred.

When a new toy called *ff* was given to Varja (1;0), she said: *f, fff, faka*. When the letter A was shown to her (1;1): 'Here is the letter A', she said: *A, A, aka*. So whatever the stem was, the girl tried her extragrammatical operations on it.

Another tendency was observed: Varja tried to pronounce as many words as possible according to the same acquired model. So, *kajeka* or *kajaka* (free variation) meant all the following things: *koljaska* 'pram', *krovatka* 'bed', *kolechko* 'ring', *kolenka, koleni* 'knee, knees', *korzina, korzinka* 'basket', *kasseta* 'cassette', and only later were the last two united with *gazeta* (newspaper). Before, Varja gave a newspaper the same name as a book, namely *nika* or *niga*, and by that time she became capable to discern these types of written text in her surrounding. The reason for this change could be the frequency of the use of a recently acquired item and the fact that the newspapers were not interesting for her to have read aloud.

The reason for identification of a new word structure with an old one seemed to be relatively vague. E.g. *tjop* ← *top* (an onomatopoeic word for a step, meaning in baby-talk 'walking') was applied to the denotate *dom* 'house', maybe because of the stressed central vowel, and because the child was unable to discern that the first consonant was voiced and not palatalized whereas the last was nasalized. There was already a good, familiar model in her language for that type of word and she did not need to develop another one for a new reality.

The role of stress in emerging words is not very clear to me. For example, *bati* ← *botinki* 'shoes' with the second syllable stressed at the age of 0;10 was the first really unprovoked, freely chosen word in Varja's speech. The pronounciation varied between *badi, bati, pati*, the word was applied to every kind and sort of shoes, but a little bit later meant also 'to walk', 'to be outside', 'not to be at home'. Because Varja was still at that age in the babbling-period, the word entered into babbling cycles (many times *batibatibatibati...* and so on, repetitions) and acquired there the formant *-ba*, whereas the stress was not stable. The formant *-ba* was adjusted to other roots and, with the plural inflection *-i* acquired, also became *-bi*.

Another possible explanation of this finding is the need to have at a given time three syllables in the word *botinki* 'shoes' and only *-ba* was already a trained formula at that moment. That is why *batíba* was also used instead of trisyllabic *mashínka* 'a toy car', and initially stressed *pati* or *bati* meant *plachet* 'is crying'.

The names of close relatives (as *mama, batata, babuka, papa*) were frequent and served often as models of identification for the recently acquired words. With 1;2 *banan* 'banana' was produced as *manan* or *batat*, *baranka* 'a ring-shaped roll' was called *babuka*, *babochka* 'butterfly' was usually *babyka*, but sometimes also *mamyka*. The cat was, to Varja's mind, saying *mam-mam* instead of *mjau-mjau*. The period of false identifications could last about a week, but some structures persisted for months. Sometimes both variants, an older and a newer one, were used in parallel.

If the new word represented a difficult case of pronunciation, Varja tried different models. So, *okno, okoshko* 'window' was approached by the age 1;2 through one of the oldest words *kam* ← *kamen'* 'stone', through the newer and not yet stable *karman* 'pocket', maybe also through *korobka* 'box' and *moloko* 'milk', so that the variants *kamako, kaonko, kamoko* and later, at the age of 1;5, *akonik, akom* and *akosika* were written down. The same tendency was observed for other long words. I can suppose that maybe analogical strategies are functionning when contaminations take place, e.g. for a fallen book: *baxaja* ← *bax* (onomatopoeic interjection for 'to fall') and *ploxaja* 'bad'. Such operations could be considered as consequences of a more general law of economy of tools.

1.2. Marusja

I hope to be able to analyze Marusja's language development more precisely in future, so for the purposes of this paper I shall just add some more examples of the tendencies which were already noted for Varja's speech.

Surprisingly enough, in the same words, Marusja had to cope with the same difficulties as Varja using not the similar, but the homologue tools usually at a later period of time, that means at a later stage of general cognitive development. She had not had an intensive babbling period, preferring to speak in the presence of adults. Still, by 1;0-1;6 the truncations *apa* or *aba* or *epa* or *eba* were the name for *xleb* 'bread', *jabloko* 'apple', *shljapa, shapka* 'hat', and many other words having *a* or *e* and *b* or *p* at the beginning of the word. One and the same type of model was noticed for the first words: *banka* 'jar' had the name *bamba*, whereas *banan* 'banana' was called *mamba* (at the stage of phonetic accommodation), with the later development into *banban* (reduplications and nasalizations were frequent at that age) and *bamaj* (at the stage of imperatives and *j* at the end of the syllable). *Akom* and *ako* were used for *moloko* 'milk' as well as for *okno* 'window'. The name *deduka* 'greatgrandfather' was approached through *deda, guka*, later *guguka, gaguka* and once *kukulja*. *Kamka* meant *krasnyj* 'red' because *kama, kamaka* existed for *kamen', kameshek* 'stone, stone+Dim' and *baba* or *mama* were inspired by *babochka* 'butterfly'. So, phonetic and prosodic structures played a great role in the strategies of morphological identification, but the extragrammatical operations were also inspired through the extralinguistic associations. These abilities and capacities interfered with word production.

Her proper name *Marusja* was not discerned from the word for *mama* 'mummy', both pronounced as *mama*, till the age of 1;6. As *m* and *n* started to be differentiated, Marusja applied to herself the word *njama*, later also *njamanja*, imitating the length or the source word, but only *Njama* was picked up by adults and remained. I assume that the fact that only some patterns are understood and supported by the caregivers is crucial for the development of child language, because it testifies to the social importance of any unit to be acquired.

2. Conclusions

These selected spontaneous data can support the following conclusions. An alternative system of extragrammatical operations started to develop very early, even at the level of transition from babbling to word structure: the first extragrammatical operations appeared when the majority of the sound production was still babbling. The rule-like formations of the first words with the help of babbling components were afterwards generalised as precursors of syntagmatic compounding and paradigmatic morphological rules. The analogical buildings on the very first stages of language acquisition sometimes appeared to be similar to "popular etymology" in adults' language. The word structure does not change as quickly as the new level of perception and production is reached. The previously frequent words remain on more primitive structural levels, while the recently acquired words correspond to the higher type of organization; these "relics" change only with cognitive and systematical reorganization of signifiant-signifié relations. The differences in the acquisition strategies between the observed children lead respectively to certain preferences in types of extragrammatical operations.

These findings support Dressler's idea (1994: 101): "In general, non-prototypical categories should emerge early. If precursors of prototypical categories emerge early, they should not yet have acquired the properties of a full-fledged (sub)module, i.e. they should be similar to non-prototypical categories. And if non-prototypical categories are acquired later, then they should be morphologically isolated categories that are not members of closely-knit morphological classes or subclasses (i.e. subsubmodules within submodules)."

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