

REPLACING A WORD-ORDER STRATEGY IN INFLECTIONS: THE DEVELOPMENT OF SENTENCE CONSTRUCTION BY A RUSSIAN-SPEAKING CHILD

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1. INTRODUCTION

Child language-learners quickly learn to recognize and rely on the sentence patterns that are characteristic of their native language. English, for example, has a rigid SVO word order; and it has been demonstrated that children learn at an early age to assign an interpretation of Agent-Verb-Object to an NVN sequence in the main clause (Bever 1970). As an operating principle, this strategy is inadequate when applied to some constructions such as the passive but it holds good for most of the sentences that children encounter. Gradually the semantic notions of agent and object are replaced by the broader grammatical categories of subject and object. The practices learned at an early age serve as a foundation on which subsequent learning can be built without radical reorganization.

In adult Russian, however, syntactic roles are not indicated by word-order but by inflectional suffixes. Russian, like other Indo-European languages, has an underlying, unmarked SVO word order,¹ but variations such as SOV or OSV are common. The word-order found in spoken sentences is often chosen to reflect certain factors that relate to the content of the sentence rather than its syntax. Typically the new and most important information is placed at the end of the sentence.²

Russian children, then, are faced with a complex task in learning sentence construction. First they must learn the basic, unmarked word-order and the relationships that it encodes; subsequently they must be prepared to suppress this strategy in favour of using inflections to mark basic grammatical relationships. Further, word order is reassigned to take on another function. In effect, the basic operating procedures have to be modified as the approach to sentence structure is reorganized.

Slobin (1981), Ammon and Slobin (1979), and Slobin and Bever (1982) carried out a series of cross-linguistic comprehension experiments with children between the ages of 2;0 (years; months) and 4;4 years, spaced at 4-month intervals. It was found that children learning inflectional languages (Turkish and Serbo-Croat) performed significantly better overall in interpreting causative and transitive sentences (in which the subject and object are often distinctively marked) than children learning word-order languages like English and Italian. It was concluded that the local clues provided by inflections facilitated comprehension. However, notable differences emerged between the data for the Serbo-Croat and Turkish children at certain ages. The Turkish children showed a steady improvement in performance from the initial age-level on, and this fact was attributed to the clear and unambiguous morphological system of Turkish. The Serbo-Croat children, however, failed to show any improvement in performance until after the second age-level (i.e. 2;8 years), and their earlier performance was significantly different from chance only on those sentences which are formed with neuter nouns and thus do not have

a distinctive object marking.

It was suggested that for the younger children studied, the presence of a distinctive inflection leads to confusion over which of the conflicting strategies should be followed, whereas the absence of a marked inflection encourages the application of a word-order strategy. The greatest increase in correct responses by children of the third age-group was for the object-marked sentences; by the fourth age-level the performance on them reached 100%.

It is stated that, at the second age-level, "children begin to be aware that case inflections can countermand basic, word-order strategies in sentence processing, but they have not yet mastered the necessary inflectional strategies to allow them to identify grammatical relations on the basis of inflectional cues alone".

How the transition is made from a word-order strategy to an inflectional system in language production, as against comprehension, has not received much attention. Some valuable insights can be obtained by examining the Russian data provided by Gvozdev, a Russian linguist who made a meticulous and exhaustive study of his son's development in the 1930s (the somewhat idiosyncratic arrangement of the material in the original tends to obscure some of the developmental tendencies contained in the findings). I have drawn selectively upon the data and also on Gvozdev's perceptive comments. I have devoted attention to those events which I find especially salient and attempted to explain the motivation for some of the less obvious procedures resorted to. The emphasis is mine and also the independent conclusions.

2. FIRST UTTERANCES

Single words, often with sentential force, were produced between 1;3 and 1;8. They were restricted to a few words, labelling people, animals, parts of the body, objects and some activities.

The same form of a word was used to express different meanings, distinguished by intonation: *mama* 'there is mama' or 'mama, come here!'; *papa* 'there is papa' and 'that is papa's'; *maka* 'there is milk' or 'give me milk'; *p'is'i* 'write' and 'pencil'.³

The base form for most nouns was the nominative. The exception was *maḳa* for 'milk', a mass substance in frequent demand which was first produced as a partitive genitive, the form for requesting some of a mass noun. There was no single dominant form of verb; the first forms to appear were the imperative and the infinitive.

Baby talk or caretaker items made their appearance and were used heavily. These are amorphous words borrowed from the child or invented by adults to approximate children's speech. They functioned as nominals: *mu* 'cow'; verbally: *prua* 'walking'; and were also used to refer to a state or condition: *t'utu* 'invisible, in hiding'; *bo-bo* 'ill, painful'.

3. FIRST WORD COMBINATIONS

The first word combinations appear at 1;7 and they remain fairly short and simple, consisting of 2-3 words, until approximately 1;10. The utterances fall into two main

groups composed of requests or statements. The requests call for an object or for an action to be carried out (see Table 1).⁴ In all but one case, the first word announces a request is being made, the second word specifies what is needed: 'papa, go!' 'more milk'.

Table 1. Early Requests.

is'o mak-a (more milk-GEN)	'more milk' (1;8)
mama, sup-a (mama-NOM soup-GEN)	'mama, some soup' (1;9)
papa, d'i (papa-NOM, go-IMP)	'papa, go' (1;8)
mama, l'as' (mama-NOM lie-down-IMP)	'mama, lie down' (1;9)
t'ap'i p'ec'ka (stoke-IMP stove-NOM)	'stoke the stove' (1;9)

The exception is formed by a transitive verb in the imperative: 'stoke stove'.

The partitive genitive which is, in effect, the request mode for many substances such as bread and milk, is applied to mass nouns at 1;9: *mama, sup-a* 'mama, some soup'. This is at a time when the nominative *sup* is being produced in utterances other than requests and the suffix, which is only applied to nouns of non-feminine gender, is extended, incorrectly to feminine nouns: *daj *sol'-a* (for *sol-i*) 'give [me] some salt'.⁵ It therefore appears that he has learned the function of the suffix, if not its precise context.

4. STATEMENTS

Particular attention is given to utterances which express actions and specify a location as they illustrate admirably the progressive stages of sentence construction.

The first words usually occur in a single, unbranched form. In intransitive combinations with a single argument and a verb (N V), the actor or thematic subject is always in initial position, followed by the verb, which may consist of a root only, a root + stressed suffix, or a baby-talk item which is never inflected (see Table 2).

There are few instances of early transitive constructions, with two arguments. The first ones produced lack an inflected verb, even in strings of more than two words (see Table 3). These utterances contain an agent, or, in one case, a beneficiary, in initial position, followed by an object or an instrument, an N N sequence. One utterance has a sequence of three nouns without a verb: 'grandma mouth stick', i.e., grandma put a stick (toothpick) in her mouth. In three examples a verb in the infinitive appears at the end of the clause. In two cases these infinitives are glossed by Gvozdev as verb complements, after a missing verb of motion: 'mama crust buy'; 'mama butter buy', i.e., mama [has

Table 2. Early Intransitive Sentences.

mac'ik baba (boyØ sleep=BT)	'the boy is sleeping' (1;9)
T'os'a prua Tosja walk=BT)	'Tosja is walking' (1;9)
d'ad'a t'ut'u grandpa-NOM knock=BT)	'grandpa is knocking' (1;9)
baba pl'a (grandma-NOM cry=VSTEM)	'grandma is crying' (1;9)
mak-a k'ip'-it' (milk-GEN boil-3PRES)	'the milk is boiling' (1;9)
papa s'id'-it' (papa-NOM sit-3PRES)	'papa is sitting' (1;9)

gone] to buy bread/butter.

These examples of agentive constructions without a verb are in striking contrast to sentences produced by children learning other languages. Studies by Bowerman (1973), Bloom, Lightbown and Hood (1975), Braine (1976) and Anglin (1980) cited few examples of an SO combination in early utterances by Finnish, Swedish, Samoan and English-speaking children. Braine, indeed, settles on the combination of act + object moved/manipulated as the typical formula for describing an agentive relationship. Further, Bloom et al. state that the four English-speaking children they studied between the ages of nineteen and twenty-six months showed no developmental difference between speech data encoding the two kinds of action events: transitive, with an agent, and intransitive, with an actor only.

Locative statements also show a preferred pattern (see Table 4). They contain two components, an entity in subject position and in second place its location or state, formed by either an adverb, another noun, or a baby-talk item: *Tosja tam* 'Tosja there', i.e., 'Tosja is over there'. It should be noted that as the present tense of the copula is not expressed on the surface in Russian, this formulation is a complete, well-formed sentence in Russian. The nouns, typically, appear in a single, unchanging form, whether they act as subjects or locatives, and there are no prepositions. With a second nominal argument, then, the locative meaning is derived entirely from the word order: *baba kl'es'a*, 'grandma chair', i.e., 'grandma is sitting on the chair'.

5. SUBSEQUENT DEVELOPMENT

5.1 Morphology

After 1;10 the child becomes capable of longer utterances and he starts to add grammatical suffixes regularly in rapid succession. Between 1;10 and 2;0 he marks contrasts between nominative singulars and plurals, and between the nominative,

Table 3. Early Agentive Statements.

d'ad'a bad'a (grandpa water-NOM)	'grandpa [poured] water' (1;9)
mama s'os'ka (mama-NOM brush-NOM)	'mama [is sweeping the floor] with a brush' (1;9)
mama kol'ka kupat' (mama-NOM crust-NOM buy-INF)'	'mama [has gone] to buy bread' (1;9)
mama mas'a kupat' (mama-NOM butter-NOM buy-INF)	'mama [has gone] to buy butter' (1;9)
mama t'am n'is'ka c'itac' (mama-NOM there book-NOM read-INF)	'mama is reading a book there' (1;9)
n'et, mayc'ik blin-a no boy \emptyset pancake-GEN)	'no, some pancake [for] the boy' (1;9)
d'ad'a n'ik (grandpa-NOM snow- \emptyset)	'grandpa [is carrying] the snow' (1;10)
baba l'ot pal'en'-i (grandma-NOM mouth \emptyset stick-?)	'grandma [put] a stick in her mouth' (1;11)

Table 4. Early Locative Statements.

T'os'a t'am (Tosja there)	'Tosja is there' (1;7)
s'anc'ik d'un'd'u (hare \emptyset chest \emptyset)	'the hare is [behind] the chest' (1;8)
k'is'en' p'ec'ka (jelly \emptyset stove-NOM)	'the jelly is [on] the stove (1;9)
baba kl'es'a (grandma-NOM armchair-NOM)	'grandma [is sitting down in] the chair' (1;9)

accusative and genitive cases in the singular. Diminutive morphemes appear. A distinctive accusative suffix, the feminine allomorph, is added, at first to objects affected by verbs of transmission and relocation such as 'give', 'carry', 'put', and 'throw'. Later the accusative ending appears after other transitive verbs such as 'read', 'draw', and 'do' and the category is considered learned by 2;0.

Where the semantic notions expressed are unambiguous the case system is easily grasped; the child, typically, learns one allomorph for each case, usually a phonologically distinctive one, and overgeneralizes it: thus the feminine accusative *-u* is applied to accusative nouns of all genders; similarly the masculine and neuter instrumental suffix, *-om*, is added to feminine nouns in preference to the correct, more ambiguous one.

Learning verbal morphology poses greater problems. Russian has a complicated system for showing person agreement, whereby suffixes denote first, second and third person singular and plural in the present tense, gender and number in the past tense. Stems, in turn, may show mutation and suppletive forms. Stress is mobile. The child, inevitably, simplifies this proliferation of forms. At first he uses the infinitive, both for the imperative and the present tense. The use of the infinitive in place of the present drops out between 1;10 and 1;11, shortly after the infinitive begins to appear as the complement of tensed verbs: *citac' ac'-u* (read-INF want-1PRES) 'I want to read' (1;10). The past did not appear until after 1;10. One dominant allomorph was overgeneralized in both the past and the present; the feminine *-a* in the past and *-it* for the third person present. However, the difference between the present and the infinitive is not always clear as the child tends to palatalize dental (and other) consonants after a non-low, non-back vowel, especially before 1;11, so that *t'* is often produced instead of *t* (and *t'* is the characteristic ending of the infinitive). The stress patterns of the verb were also regularized.

The difficulty of acquiring tensed verbs is in contrast to the readiness with which the child masters the feature of aspect. The distinction of telicity, whereby verbs in the past and future are marked with reference to an end result, such as the completion of an action, is a vital one in Russian. The difference between perfective and imperfective, or telic and atelic forms of the verb is made, in many cases, by adding a prefix. As soon as tensed verbs enter the child's speech, and he is phonologically capable of the discrimination, which may mean adding a third syllable to a word, he marks the distinction virtually without error.

6. EXPANDING THE SENTENCE

6.1 Checking and Culling the Roots

It is reasonable to assume that, as the child slots in grammatical suffixes, he learns to phase out the word order strategy. The task, however, is not straightforward and examination of the data shows that in some cases it takes several stages to complete an operation. It can be seen from the data how the major difficulties are resolved.

The period between 1;10 and 2;0 is one of intense morphological development as previously unanalysed units are analysed and turned into differentiated forms. The stem is of paramount importance in this process and it is clear that roots are carefully screened. Most of the lexical units that the child has been using contain roots that can act as stems and add affixes but this is not true of all the terms he has been using indiscriminately; amorphous components that were hitherto accepted are now found wanting so they are discarded and replaced.

One group of words stands apart, isolated from this process of analysis and differentiation: the baby-talk items. They first entered the child's speech when all words were treated as unanalyzed wholes, and they resembled other words in having not only a semantic value but also a syntactic role, as demonstrated by their distributional

privileges. For example, baby-talk items stood in first place if they represented nominal subjects and followed the subject if they represented verbs. As utterances expanded in length, these components retained the distributional privileges of other members of their syntactic class and combined with other words as desired, acting as singulars or plurals, infinitives or tensed verbs though never changing in form: *l'uhl'u pr'id-ut* 'oink-oink will come-PL' (the pigs will come); *S'en'ic'k-i tam bobo* 'Ženečka-DAT there ouch' (it hurts little Ženja there); *mak-i baj-baj* 'shoes bye-bye' (the shoes are sleeping); and *mac'ik prua b'elac'-a hoc'-ic* 'boy wants to get-ready walky' (where the baby-talk verb *prua*, 'walk', is in a construction involving three verbs).

No attempt is ever made to regularize these anomalous forms or to use them as a basis for derivation, for example by constructing an infinitive from *baj* 'sleep', such as *bac'*, along the model of *daj* 'give', *dac'* to give; grammatical affixes are also never added. The treatment of baby-talk items separates them from other categories of indeclinable words. Adverbs such as *tam* 'there' are also never declined but they have no constraints on their placement and they move freely within the sentence, occurring initially, medially, or finally. Later, the child unhesitatingly adds case-markers to indeclinable foreign nouns: *pal'to* 'overcoat', locative *v *pal't-e* (at 2;10).

The baby-talk items do not disappear all at once but they are phased out over a period of time and replaced by their regular counterparts. A clear picture of how the replacement procedure works is given in utterances where the child translates from the baby-talk register to standard Russian by placing the two terms side-by-side either at the word or the phrasal level: *tal'ik t'ut'u pl'ac'-ic'* 'the old man hidey (BT) is hiding'; *mal'c'ik l'igl-a pat'*, *baj l'igla* 'the boy lay down to sleep, lay down bye'.

Other unorthodox units were replaced during this period in the same way. The imperative *p'is'i* 'write' was used in two ways upon its appearance; to express both 'pencil' and 'write!'. The use of the word as an imperative continues, but it ceases to function as a nominal and the regular term *karandaš* 'pencil' was substituted; again, the substitution occurred at the surface level: *daj gal'anda daj p'is'-i* 'give pencil give write' (1;11).

6.2 Treatment of the Verb

The ability to add grammatical suffixes to a string does not necessarily keep pace with the child's desire to expand the sentence and, when faced with several new tasks, as will be demonstrated, he sometimes adopts short-term, interim measures that temporarily relieve his work-load. Sentences with more than one noun argument and a tensed verb mean that he has to deal with problems both of affixation and placement before he has fully mastered either process.

When only one operation at a time has to be performed on an already familiar word combination, little difficulty is experienced, for example when tense is added to an intransitive verb, an N V sequence. (The tense marker is often in an over-generalized form as the personal endings are not learned until after 2;0): *n'is'ka l'is'it* 'the book is lying' (1;10), *man'c'ik s'id'el'a* 'boy sat' (1;10). Combining a subjectless imperative (an unchanging form) with two case-governed nouns in the predicate (V-tense N N) also presents no discernable problem: *al'i vad'-i kl'us'k-u* 'pour water-GEN mug-ACC' (1;11); *daj l'apa s'en'ic'k-i* 'give hat-NOM Ženečka-DAT' (1;11).

More of an obstacle is encountered by combining a tensed verb with a noun in the predicate, for example in agentive or locative statements. According to Gvozdev, before

1;11 the verb follows the noun in the predicate in seven instances and precedes it, the standard order, in only two utterances. Between 1;11 and 2;0 the verb occurs before the noun five times, and after it twice (see Table 5). (In some of these sentences the subject is expressed only by person agreement on the verb.) These facts seem to point to a developmental progression, OV > VO. Gvozdev explains the displacement of the verb in the earlier utterances by the theory that the most recently acquired element is added to the end of the string, that is, the choice of word order recapitulates the sentence's evolution; verbs which enter last in these combinations are placed after the other items. Similarly, at a later date, modifiers that have to be inflected first start to appear at the end of the sentence without agreement; later, equipped with a suffix, they are moved in front of the head noun. Gvozdev's theory explains what happens, but not why this step is taken.

The strategy may, it seems to me, result from having to insert an inflected constituent into the middle of an existing word combination at the same time as the child is learning to add grammatical markers on a regular basis. Earlier utterances showed that the child relied on the positional pattern N N when the first noun represented the agent or thematic subject, and the second the object, instrument or location: 'papa snow', 'grandma chair'. Now suffixes must be added: the accusative as a category is developed between 1;11 and 2;0. Verb morphology also has to be factored into these constructions. The development of verbs as a category has already been mastered: as shown, both verb roots and their baby talk equivalents occurred in N V sequences among the first combinations. The problem, then, seems to lie in having to prepose the verb before the noun in the predicate, at the same time as tense (and aspect) are being added.

If one examines the sentences produced between 1;10 and 2;0 which combine two arguments and a tensed verb, it transpires that when the infinitive is used as the present tense it always occurs at the end of the clause, whereas the tensed verbs occur both finally and medially. These data suggest that there is a progression whereby the child starts from a sequence, formed by the subject in first place and the object, instrument or locative in second; next he learns to add the necessary verb in untensed form to the end of the sequence while he works out how to mark the feature of tense; finally, having done so, he inserts the verb medially between the two original constituents. For an agentive statement, then, the sequence reads:

S O > S O V-tense > S O V+tense > S V+tense O

Locative clauses with a tensed verb and a noun in the predicate observe a similar pattern; the undifferentiated verb first occurs in final position and is not moved up until tense has been added.

Locative clauses with a tensed verb and a noun in the predicate observe a similar pattern; the undifferentiated verb first occurs in final position and is not moved up until tense has been added.

This observation holds true even when Ženja starts to show the subject by agreement on the verb only. (He first refers to himself in the third person as 'boy' or Ženja).

The acquisition of the inflected adjective shows a similar pattern. Attributive adjectives first found at the end of the sentence in uninflected form were not moved into position before the head noun until some form of agreement had been added.

As soon as the basic word order has been acquired variations in it start to creep in almost immediately. By the middle of 1;11 sentences are produced with inversion in

Table 5. Verb Placement in Later Agentive and Locative Statements.**a) Verb in Final Position**

fampa *n'is'-it' (lamp-NOM carry-3PRES)	'I am carrying the lamp' (1;10;17)+
ic'ka *nas'-ol-a (egg-NOM find-PAST-F)	'I found the egg' (1;11;8)
mamyc'k-u l'ubl'-u (mama=DIM-ACC love-1PRES)	I love mummy' (1;11;10)
gus'k'-i kan'tink-u *klad'-il (goose-PL basket-ACC put-PAST=M)	'I put the geese in the basket' (1;11;20)
papa n'is'ka c'itac' (papa-NOM book-NOM read-INF)	'papa is reading a book' (1;10;7)
mama bl'oda *n'is'-it' (mama dish-NOM carry-3PRES)	'mama is carrying the dish' (1;10;25)
mac'ik pal'ena *kl'ad'-it (boy∅ stick-NOM put-3PRES)	'the boy is putting the stick' (1;11;25)
baba l'ep kup-al'-a (grandma-NOM bread∅ buy-PAST-F)	'grandma was buying bread' (1;10;13)
mac'ik kl'es'a s'id'-it' boy∅ armchair-NOM sit-3PRES)	'the boy is sitting in the armchair' (1;10;3)

b) Verb in Medial Position

l'am-al'-a puc'-ik (break-PAST-F twig∅)	'I broke the twig' (1;11;10)
d'ad'a n'is'-ot' muka (grandpa-NOM carry-3PRES flour-NOM)	'grandpa is carrying the flour' (1;11;29)
S'as'a gl'ib-al'-a ugl'-i (Sasa rake-PAST-F coal-PL)	'Sasa raked the coals' (1;10;18)
joka val'a-s'-c'a pal'-u (Christmas-tree -NOM roll-3PRES-REF floor-LOC)	'the Christmas-tree is rolling [on] the floor' (1;11;28)
ic'ka l'it'-el'-a dunduk (egg=DIM fly-PAST-F chest∅)	'the little egg flew [behind] the chest' (1;11;8)

+ The age is in: years; months; days.

which the subject follows the verb in an intransitive sentence: *val'a-ic'-c'a tam katuka* (spin-#PRES-REF there bobbin) 'the bobbin is spinning over there' (1;11;27); and the subject follows the object in a transitive sentence: *l'apatk-u baba d'e-l-a* (spade-ACC grandma-NOM make-PAST-F) 'grandma made a spade' (1;11;16). In other words, even before the case endings are all in place, word order is already being disassociated from its original function of helping to define relationships between items and is assuming a new role in a schema in which constituents are ranked in terms of the importance of the information they carry.

7. CONCLUSIONS AND DISCUSSION

Several points of interest emerge from the above outline.

From the perspective of linguistic development one is struck by the great emphasis placed on the thorough checking of roots to make sure that no inadmissible items are treated as stems. The strict insistence on retaining only regular base forms at the time when grammatical affixes are being introduced is at odds with events some months later when children start to make innovations. Innovations come to be formed on a wide variety of words, and not only on stems but also on particles and even on already inflected items, with a conspicuous disregard for morphological rules, the same rules that are being observed here so scrupulously.⁶

The urge to bring order into the assortment of terms in use means that words now come to be assigned to classes and are no longer allowed to stray across syntactic boundaries, as when 'write' is blocked from signifying 'pencil'. Presumably this move ensures that only the appropriate affixes are attached to the members of each word class and therefore it can be regarded as a step in the direction of setting up formal categories, such as noun and verb. There has been considerable discussion and controversy in the literature over precisely how grammatical categories evolve from children's semantic notions (Braine 1976; Maratsos 1981). In Russian it appears that this process is linked with the onset of differentiation.

There is plainly a developmental difference between the acquisition of transitive and intransitive sentences, with transitive sentences taking longer before they are fully developed. These findings conflict with data from several other languages, and they may be related to language-specific features of Russian, such as the need to add case and verb markers.

It is suggested that the child first controls the verb as a lexical item. He also realises that its place is after the thematic subject and he puts it there in N V combinations but it is the missing element in N V N constructions (expressed as N N) when his utterances are still of limited length. A little later he turns his attention to these incomplete clauses, conscious that they need a verb, that it must follow the subject and that the feature of tense must be attached for the sentence to be well-formed. However, he is not able to perform these operations simultaneously, and so he adopts an interim strategy. He retains the original N N formula and tacks the verb on at the end while he learns to apply a tense marker. Once tense has been added he moves the verb into position between the two original sentence constituents. Placing the verb at the end of the sentence has the advantage of letting him tackle one grammatical operation at a time in morphologically complex clauses.

In terms of cognitive development, it appears that output at a given moment is influenced by what lies ahead, anticipating future developments. For example, verbs, like other words, are first produced in truncated or unchanging form. Nevertheless, verbs are left out of early word combinations if they deal with a transitive situation, though not elsewhere. It seems that future problems with verb declension cast a shadow over the linguistic decisions made at an earlier date. Similarly, flexible word order is introduced relatively early, before the case system is fully in place, indicating that the child has already started to remodel his sentence structure to satisfy the criteria of adult speech.

In the broader field of linguistic theory, the data may help shed some light on the properties of a transitive clause.

The effortless ease with which Ženja discriminated between telic and atelic (or perfective and imperfective) verbs may be compared with the early emergence of object marking. Each of these distinctions represents a clear semantic notion and one which is linked to transitivity. Hopper and Thomson (1980), in their analysis of the transitive clause, suggest that it represents a continuum, bringing together concrete actions and definite nouns. They draw up a transitivity hierarchy, according to which telic verbs and affected objects are higher in transitivity than atelic verbs and unaffected entities. They point to Gvozdev's data on object case-marking, reported by Slobin on various occasions and discussed more fully in 1981, as support for their suggestion that object case-marking is functionally motivated by the transitivity of the clause as a whole, rather than the need to distinguish subject from object. Slobin further claims that the notions which languages grammaticize are closely related to children's cognition of 'prototypical' events and that there is a correlation between object case-marking and the cognitive perception of 'prototypical' transitive events. The early introduction of the telic/atelic distinction in Russian likewise points to strong functional motivation for such treatment. Thus, this feature which discriminates between the presence or absence of concrete, directed action may be another factor entering into the perception of what constitutes a prototypical transitive event and its high ranking in the transitivity hierarchy appears to be justified.

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NOTES

- ¹ A.R. Lurija (1946) determined in experiments with aphasic patients that they fell back on a SVO strategy to disambiguate transitive sentences and, in the process, ignored inflectional clues which would have given another interpretation.
- ² This topic has received detailed attention in the literature by, among others, O. Krylova and S. Havronina (1976).
- ³ I have used the ISO transcription system. I have retained Gvozdev's phonetic rendering of the consonants produced, but I have simplified his description of the vowels, using the symbols *i* and *y* for both stressed and unstressed variants.
- ⁴ The tables give a representative sample of utterances, not the complete corpus, except for the early agentive statements. The abbreviated grammatical morphemes are NOM: nominative, ACC: accusative, GEN: genitive, LOC: locative, Ø: zero ending, M: masculine, F: feminine, PRES: present, PAST: past, PL: plural, VSTEM: verb stem, REF: reflexive, DIM: diminutive, INF: infinitive, IMP: imperative, BT: baby talk and ?: difficult to classify.
- ⁵ Forms with * denote errors produced by systematic over-generalization. A rule has been learned and applied without exception, even where not appropriate.
- ⁶ The well-known children's author, K.I. Čukovskij, collected and published a collection of children's colourful sayings, including a number of innovations. A linguistic analysis of these innovations is included in my thesis.