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FORMATION OF THE VERB SYSTEM IN RUSSIAN CHILDREN

Problems associated with the functioning of early temporal and aspectual forms are still under discussion among developmental psycholinguists (for a review see e.g. Behrens, 1995). Some of them favor the aspect-before-tense hypothesis (Antinucci & Miller, 1976). Studies on the acquisition of Polish language do not support this hypothesis (Weist et al., 1984; Smoczyńska, 1986). It was found that tense and aspect are marked simultaneously from the very beginning: past tense forms are restricted neither to telic verbs nor to perfective aspect. The article presents the results of analyses of three Russian children' corpora: Varja (1;2-3;0), Kirill (1;8-3;0) and Anja (1;2-3;5). A total of 34000 verb forms were identified. The findings are very similar to those of Weist. The analyses presented here also negate Antinucci & Miller's hypothesis. They show children's early ability to mark both tense and aspect.

Data

The present paper is based on the data of three Russian children: Varja, Kirill and Anja, all from middle-class families, speaking the standard version of Russian in their homes. The data were collected by the children's mothers who were psycholinguists. The children were under observation up to the end of their third year. The material of Varja and Anja comes both from tape-recordings and diary studies, while Kirill's data only from tape-recordings.

Reference for the language under acquisition is that of the surroundings the child is growing up in. In analyzing the process of first language acquisition, one should consider what the child actually hears. Lacking a systematic description of the Russian language used in talking to children, I decided to analyze the adults' language registered in the material under analysis. For this purpose I chose the most representative, tape-recorded

corpus of data, that of Kirill's mother. In all, ca 34.000 different verb forms were analyzed. About 19.000 of these forms came from the children's corpora, the remainder registered in the speech directed to them.

The quantitative structure of the material is presented in Table 1.

Table 1. Quantitative analysis of the material

	Diary	Recordings	Total
Varja	6628	3135	9763
Kirill		6340	6340
Anja	782	2292	3074
Total for children			19177
Kirill's mother		14677	14677
Total			33854

All the data were computerized and elaborated according to CHILDES (Child Language Data Exchange System: MacWhinney, 1991).

Form distribution in the adult language

Percentages of the particular forms counted for each month separately remained on a fairly equal level during the period under observation in the corpus of Kirill's mother. Therefore I refer to the form frequency counted for the corpus taken together. These data are shown in Table 2:

The analysis below shows which verbal categories are central in the language and which are peripheral. Indicative forms constitute 70% of all noted verb forms. Present tense forms constitute about 1/3 of all the forms, and past tense forms about 22%. The

Table 2. Percentages of verb forms in the corpus of Kirill's mother

	Total
PRESENT TENSE	32
FUT. PFV. TENSE	11
FUT. IPFV. TENSE	6
PAST TENSE	22
CONDITIONAL	>1
IMPERATIVE	14
INFINITIVE	13
PARTICIPIA	1
VERBAL NOUNS	>1
Total	100
N	14689

percentage of future tense forms is 17%, containing simple (perfective) future forms (11%), and analytic (imperfective) future forms (6%).

There was also a significant number of imperative forms (14%) as well as infinitives (13%). The percentage of other forms is low: conditionals and verbal nouns constitute less than 1%, participia about 1%.

The emergence of verb categories

In the early phase of verb morphology formation the majority of forms used by children do not correspond to their functions in adult speech[1]. It can even be said that words used in the early phases of language acquisition are amorphic, "fossilized". The meanings of such proto-forms in children's speech are often very wide. For example, the lexeme *poekai* (=*poexali*: PFV:PAST:PL, 'we went'), found in Varja's data from 1;2, was used in initiating any form of movement (e.g., when a doll Varja plays with starts "walking"), in everyday, ritual situations (e.g., while putting a hand into a sleeve) as well as to name a car, wheels, a baby-carriage, sleigh, tank, etc.

It is difficult to determine when the actual process of formation of the verb morphology system begins in children. Verb forms used by a child must correspond to their functions. The quantitative criterion is also important: a child must use at least two or three different forms belonging to the same category but derived from different verb stems (e.g., *davaj*: IPFV:IMPER:SG:2 'give', *pishi*: IPFV:IMPER:SG:2 'write', *risuj*: IPFV:IMPER:SG:2 'draw'). Gvozdev (1949) suggests that a child should be able to create different forms on the basis of the same stem (e.g., *dat'*: PFV:INF 'to give', *daj*: PFV:IMPER:SG:2 'give', *dal*: PFV:PAST:SG:M 'gave', *dam*: PFV:FUT:SG:3 'I will give'). According to this author, one can be certain that a child has fully acquired a particular category when he/she creates neologisms by analogy (e.g., instead of *risuj*: IPFV:IMPER:SG:2 the child says **risovaj*).

The language development of Kirill and Anja was quite similar. Varja's way, however, was completely different. The girl started to talk very early, and she was a so-called *phrasal child* (Pine & Lieven, 1993). Such children first memorize whole long phrases (formulae), use them in situations similar to those in which they were heard, and only then they analyze them:

(1) VAR 1;5
situation: Varja is giving a book and commenting:
            Pasiba (=spasibo), Ain'ka (=Varen'ka), o (=vot) tak, daj – daj – daj.
            thanks, Varen'ka:NOM:SG, like+this, give:PFV:IMPER:SG:2
            – give:PFV:IMPER:SG:2 – give:PFV:IMPER:SG:2
            'Thanks, Varen'ka, like this, give – give – give.'

Such formulae started to disappear in Varja's speech at the end of 1;6. Tables 3a, 3b, 3c present percentages of forms counted in the children's corpora. Early stage data are shown at monthly intervals and later data, when the percentages are already stabilized, at quarterly intervals.

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[1] This phenomenon regards not only verb forms but all others as well.

Table 3a. Percentages of verb forms at quarterly intervals in Varja's corpus

| | Early phase | | | | VII | VIII | IX | X | XI | XII | |
	1;2	1;3	1;4	1;5	1;6-1;9	1;9-2;0	2;0-2;3	2;3-2;6	2;6-2;9	2;9-3;0	Total
PRESENT	3	27	43	40	37	41	34	35	37	35	37
FUT. PFV.	-	3	14	10	12	7	8	9	8	11	9
FUT. IPFV.	-	1	1	4	2	3	6	7	5	7	4
PAST	34	9	12	14	16	22	24	24	25	24	21
CONDITIONAL	-	-	-	-	>1	>1	1	2	1	1	1
IMPERATIVE	9	4	2	14	11	8	12	9	7	7	10
INFINITIVE	54	56	28	17	20	17	15	12	14	13	17
PARTICIPIA	-	-	-	1	1	1	1	2	3	1	1
VERBAL NOUNS	-	-	-	-	>1	-	>1	>1	>1	>1	>1
Total	100	100	100	100	100	100	100	100	100	100	100
N	32	124	102	370	2234	2117	1576	1502	622	1084	9763
Stems*	10	45	70	107	208	296	364	429	454	495	

*stems in all the children are counted cumulatively

Table 3b. Percentages of verb forms at quarterly intervals in Kirill's corpus

| | Early phase | | | | IX | X | XI | XII | |
	1;8	1;9	1;10	1;11	2;0-2;3	2;3-2;6	2;6-2;9	2;9-3;0	Total
PRESENT	-	4	11	17	35	35	38	38	35
FUT. PFV.	-	-	1	8	14	12	11	11	11
FUT. IPFV.	-	-	-	2	3	4	5	3	4
PAST	33	-	1	2	16	26	24	27	22
CONDITIONAL	-	-	-	-	-	>1	1	1	1
IMPERATIVE	-	24	65	41	15	10	8	8	13
INFINITIVE	67	72	22	28	16	11	11	10	13
PARTICIPIA	-	-	-	2	1	1	2	2	2
VERBAL NOUNS	-	-	-	-	-	-	-	-	-
Total	100	100	100	100	100	100	100	100	100
N	6	50	105	338	1102	1187	1968	1584	6340
Stems	2	7	23	56	161	235	333	406	

Table 3c. Percentages of verb forms at quarterly intervals in Anja's corpus

| | | IX | X | XI | XII | | |
	1;11	2;0-2;3	2;3-2;6	2;6-2;9	2;9-3;0	Total	
PRESENT	17	31	37	34	30	32	
FUT. PFV.	15	5	5	10	11	9	
FUT. IPFV.	1	5	5	7	9	7	
PAST	26	28	25	16	11	17	
CONDITIONAL	-	>1	>1	>1	>1	>1	
IMPERATIVE	31	17	10	20	22	21	
INFINITIVE	10	13	18	11	16	13	
PARTICIPIA	-	1	-	1	1	1	
VERBAL NOUNS	-	-	-	-	-	-	
Total	100	100	100	100	100	100	
N	82	464	125	145	7946	3074	
Stems	57	172	193	263	286		

The early phase of verb morphology formation ended in Varja (see Table 3a) at about 1;5/1;6, and in Kirill (Table 3b) and in Anja (Table 3c) at about 1;11. Despite the speed at which Varja acquired the basics of the verbal system, I noticed the same trends in all three children. In Varja and Kirill, the period from the appearance of first verbal forms to the coherent consequent temporal system took only a few months. According to Smoczyńska's research on Polish-speaking children, the turning point in formation of verbal morphology in children appears in the period when they build verbal forms on about 50 different stems. The analysis of Russian children supports this thesis. In Kirill, the turning point appeared when the boy used 56 different stems, in Anja probably when she used 57 stems. Varja's case was unlike theirs: the break appeared when the girl had already built verb forms on the basis of 107 stems. This resulted probably from the phrasal strategy she adopted.

In Varja's data (Table 3a) from 1;2 the forms of the indicative (present and perfective past), infinitives and imperatives were noted. At the age of 1;2-1;3 imperatives constituted more than half of all noted forms, but the percentage of these forms later decreased. However, the percentage of indicative forms rose systematically: at the end of the early phase, the percentage of present forms was 40%, past forms 14%, future perfective 10%, and future imperfective 4%.

In Kirill's early data (Table 3b) verb forms were rare. At 1;8, only a few past forms and infinitives were spotted. In the following month, a high percentage of infinitives was observed (more than 70%). In this month, some imperatives were noted and – sporadically – present tense forms. Infinitives and imperatives predominated still at 1;10-1;11. At 1;10, the first future perfective form was noted and at 1;11 the first future imperfective. The percentages of various verb forms started to stabilize in the period of 1;11-2;0: the percentage of indicative forms increased to almost 70%, and that of infinitives and imperatives dropped to the level of a dozen or so percent.

As regards Anja's data (Table 3c), it is difficult to follow her development at the earliest stage. The data from the period of 1;2-1;10 were very scant, totalling only 60 verb forms. The material at 1;11 was more abundant: a high share of imperatives can be noted here (more than 30%). Present tense forms constitute 17%, future perfective 15%, future imperfective 1% and past tense 26%.

Temporal and aspectual forms

Child language researchers agree that the child's temporal system is different from that of the adult: they do not agree, however, on the interpretation of this difference. Some claim that the very young child (up to the age of 2;6) using verbal forms does not mark deictic temporal relations, only the aspect. Others claim that the abilities to express particular temporal configurations are acquired gradually with age, in which sense children's temporal system is unlike that of adults.

The most influential version of the hypothesis underlying the first standpoint was published in 1976 by Antinucci and Miller and referred to by Richard Weist as the *defective tense hypothesis* (Weist et al., 1984). Antinucci and Miller analyzed the data of Italian-speaking children and of one English-speaking child. The data were collected at 1;6-2;6. They observed that children used only telic verbs (i.e. describing actions having a clear end point) in the past tense, but static and activity verbs only

Table 4a. Temporal forms in adult's material

PRESENT TENSE	31
PAST TENSE	45
FUTURE TENSE	24
Total	100
N	10397

Table 4b. Temporal forms in Varja's material

		Early phase			VII	VIII	IX	X	XI	XII	Total
	1;2	1;3	1;4	1;5	1;6-1;8	1;9-1;1	12;0-2;2	2;3-2;5	2;6-2;8	2;9-2;11	
PRESENT	8	67	61	59	54	55	48	47	49	46	51
PAST	92	22	17	20	25	30	34	32	34	31	30
FUTURE	0	10	21	21	21	14	18	21	17	23	19
Total	100	100	100	100	100	100	100	100	100	100	100
N	12	49	70	252	1533	1547	1113	1105	463	831	6975

Table 4c. Temporal forms in Kirill's material

		Early phase			IX	X	XI	XII	Total
	1;8	1;9	1;10	1;11	2;0-2;2	2;3-2;5	2;6-2;8	2;9-2;11	
PRESENT	0	50	85	60	52	45	40	47	46
PAST	100	0	8	8	23	34	36	34	32
FUTURE	0	50	8	32	25	21	24	18	22
Total	100	100	100	100	100	100	100	100	100
N	2	4	13	98	740	924	1334	1252	4367

Table 4d. Temporal forms in Anja's material

		IX	X	XI	XII	Total
	1;11	2;0-2;2	2;3-2;5	2;6-2;8	2;9-2;11	
PRESENT	29	44	51	51	50	49
PAST	44	42	36	25	18	27
FUTURE	27	13	13	24	32	24
Total	100	100	100	100	100	100
N	48	315	90	971	568	1992

with present tense endings[2]. Children did not determine the transformation that took place, but only the end state of given objects after it had ended. According to Antinucci and Miller, children at 1;6-2;6 are not able to express abstract temporal relations, which the authors explain within Piaget's theory: past events that have clear-cut or specific effect in the present are easy to comprehend and do not require representations in the mind, it being enough to see them. In early child speech, therefore, only events from the most recent past could be expressed. This thesis is confirmed by some researchers of other languages: Turkish (Aksu-Koç, 1996), English (Bloom, Lifter & Hafitz, 1980), Greek (Stephany, 1981a, 1981b). Slobin (1985) also claims that the child is initially oriented to one of two temporal perspectives: to the perspective of the result or to the perspective of the process. In the early phase of development children with the help of past tense forms express punctual, complete events with the seen effect (result perspective). Non-punctual and incomplete events, on the other hand, receive present tense endings (process perspective).

Research on Slavonic languages does not confirm the above results. Weist (1984, 1985, 1986) analyzed the material of Polish children at 1;7-2;2 from tape recordings and experiments. According to Weist, in the early stages there appear temporal forms, children having already developed an abstract conception of time (see Antinucci & Miller, 1976) which can be represented in the language. They are able to describe an event as complete, punctual etc. (from the external perspective) and as incomplete, durative etc. (from the internal perspective). Temporal forms are without doubt used deictically, while aspectual forms express their specific meanings characterizing action time progress. Nevertheless, the fact that children mark tense very early does not mean that their temporal system is the same as for adults. Weist agrees with Smith (1980) that children's abilities to express temporal relations are acquired gradually. At the very beginning, the child's temporal system is limited to two components: speech time and event time[3]. At 2;6-3;0 reference time becomes an integral part of the whole temporal system in children.

Results very similar to Weist's were reached by other psycholinguists. Smoczyńska (1986), in analyzing very abundant corpora of Polish speaking children, did not find any confirmation for Antinucci & Miller's proposition. Russian data collected by Gvozdev (1949) also negate the defective tense hypothesis: at 1;10 he noted examples of using perfective and imperfective forms in the past tense. Later research on Russian language (Kiebzak-Mandera, Smoczyńska, and Protassova, 1997) also confirm children's early ability to mark both tense and aspect. Radulović (cf. Weist, 1984), in her data collected on Serbo-Croatian children at the age of 2;0-2;2, also noted imperfective past tense forms. Behrens (1995), who elaborated the material of German-speaking children, disputes Antinucci and Miller's hypothesis as well.

My own analyses also negate the above-mentioned hypothesis that children lack an abstract conception of time:
1. From the appearance of the first temporal forms to the emergence of the full adult-like system of temporal-aspectual oppositions it takes only a few months: Varja's system

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[2] The verb division into static, activity, achievements and accomplishments was done by Vendler (1967). In this paper, following Comrie (1976), achievements and accomplishments are referred to as telic verbs.
[3] Reinchenbach's model (1947) was used. He described the following components of the temporal system: speech time, event time and reference time.

became adult-like at 1;5/1;6, and Kirill's and Anja's at about 1;11 (see Tables 4a, 4b, 4c, 4d);

2. In no child's corpus did I find support for the theory of aspect primacy over tense in the early stages. Although in the very early material only perfective verbs had past tense endings, still their semantics was very diversified. Imperfective past forms appeared in Varja's speech at 1;5, in Kirill's at 2;0 and in Anja's at 1;11 – hence, much earlier than Antinucci and Miller suggested. All the children used imperfective past forms of activity verbs.

(2) VAR 1;7
Vain'ka (=Varen'ka) gujaa (=guljala), 0s mamyj (=mamoj) gujaa (=guljala).
Varen'ka:SG:NOM walk:IPFV:PAST:SG:F mama:SG:INS walk:IPFV:PAST:SG:F
'Varen'ka was walking, with mommy was walking.'

static verbs:

(3) VAR 1;7
Nadi ni (=ne) naja (=znala), ni (=ne) naja (=znala).
Nadja:GEN:SG no know:IPFV:PAST:SG:F, no know:IPFV:PAST:SG:F.
'Did not know Nadja, did not know.'

and telic verbs:

(4) VAR 1;7
Papa isaal (=risoval) mishku (=mishku).
daddy:NOM:SG draw:IPFV:PAST:SG:M bear:SG:ACC
'Daddy was drawing a bear.'

3. The analysis of the meanings of imperfective forms made on the basis of Russian classic works (Bondarko, 1971, Grammatika, 1980) demonstrated that Russian children are aware of semantic nuances of particular aspectual forms from the very beginning.

4. It is true that imperfective past verbs appear in children's speech far more seldom than do perfective ones: in no corpus their participation was higher than 1/4 of all the past forms. In the adult's data, however, they were 26%. Thus children's data do not show their special inclination to associate the past with perfectivity, but are a simple reflection of statistical trends in the Russian spoken language.

5. I found no support for the thesis that past endings in the early stages of verbal morphology development are attached only to verbs describing events with results visible in the present. The children talked very early also about remote past events:

(5) VAR 1;6
situation: Varja came back from a walk. During the walk she met her friend Rita and
             phoned from the telephone box:
             Jita (=Rita) pixadila (=prixodila), Jita (=Rita) 0na gujan'i (=guljan'e), budka,
             budka, xadii (=xodili), budka.
             Rita:SG:NOM come:IPFV:PAST:SG:F Rita:SG:NOM walk:SG:LOC,
             box:SG:NOM, box:SG:NOM
             'Rita was coming, Rita on the walk, the box, the box (we) were going to the box.'

6. The usages of present tense forms in children's material were also very diversified, and children hardly ever had problems with deictic future tense forms. Still, one should remember that the children used only absolute tense during the period reported.
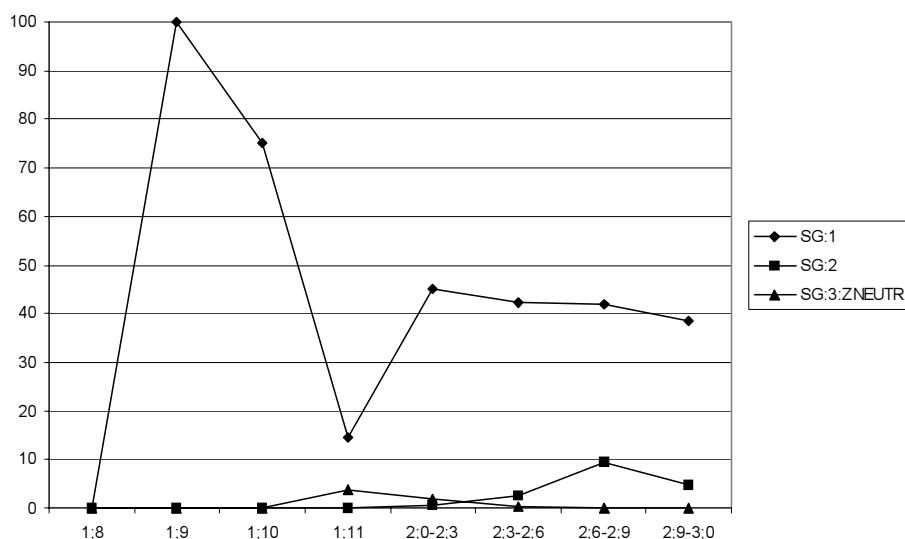
The above-mentioned conclusions were drawn from the analysis of Russian children's material that had a specific temporal-aspectual system, typical for Slavonic languages. The particular language structure itself may thus be an important factor in influencing and even determining child language acquisition and it should not be expected that the development of the category of tense and aspect in Slavic children will develop in the same way as in English, Italian or Turkish children.

Personal forms of the indicative[4]

As the research showed, adults as well as children mark a speech addressee and addresser in two ways. They use either standard forms of 1:SG and 2:SG or instead of them they use forms of 3:SG, e.g., the mother says to Varja: *Varja chego **vyp'jot?*** ('What **will Varja** drink?'), and after a while: *Chego **ty vyp'josh"***? ('What **will you** drink?').

In the analyzed material two trends were noted. In the material of Kirill's mother the forms of 3:SG used to mark addressee and addresser were rare and, moreover, used rather on special occasions: when the mother praised her son: *Kakoj **Kirjusha** bol'shoj mal'chik, sam pizhamku **nadevaet*** ('Oh, what a big boy Kirjusha is, **he is putting** his pyjamas on by

Figure 1. Percentages of 1:sg and 2:sg forms and the 3:sg forms used to mark the speaker and hearer in Kirill's corpus

Figure 2. Percentages of 1:sg and 2:sg forms and the 3:sg forms used to mark the speaker and hearer in Kirill's mother's corpus
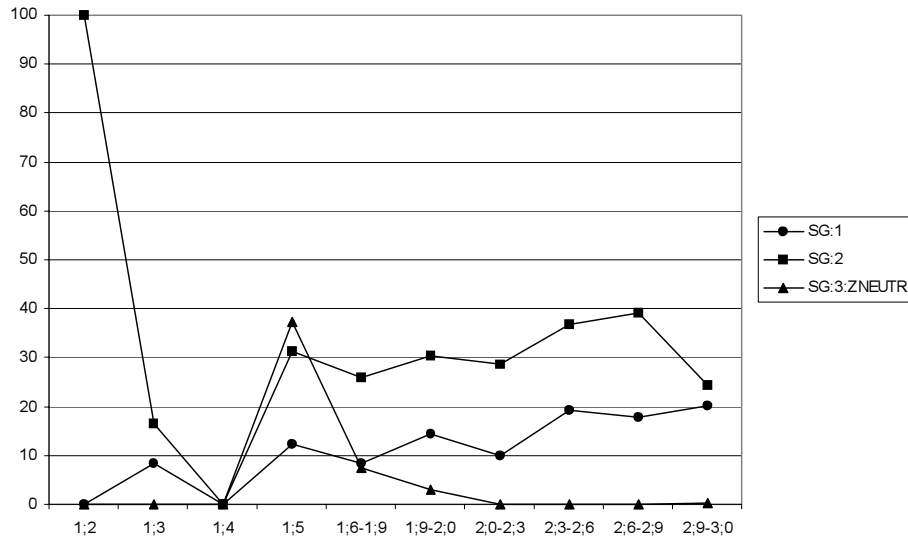

Figure 3. Percentages of 1:sg and 2:sg forms and the 3:sg forms used to mark the speaker and hearer in Varja's corpus
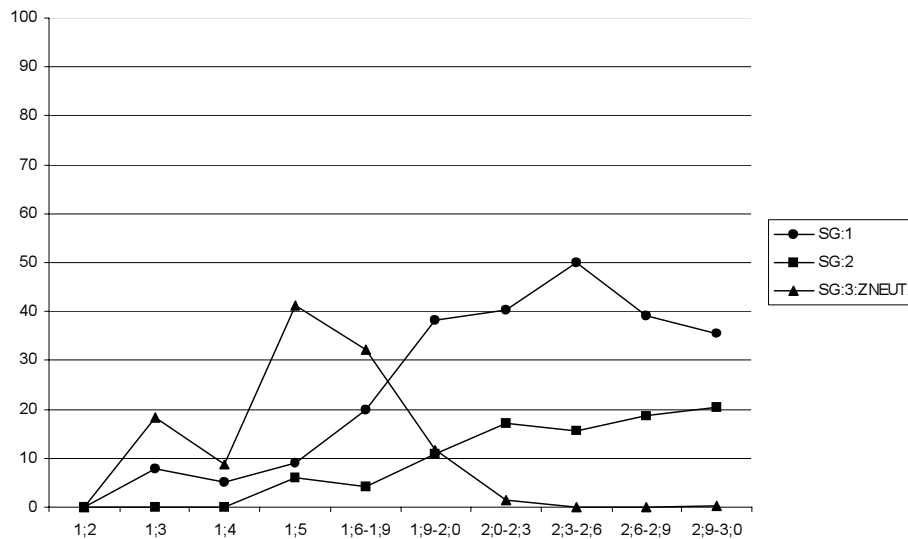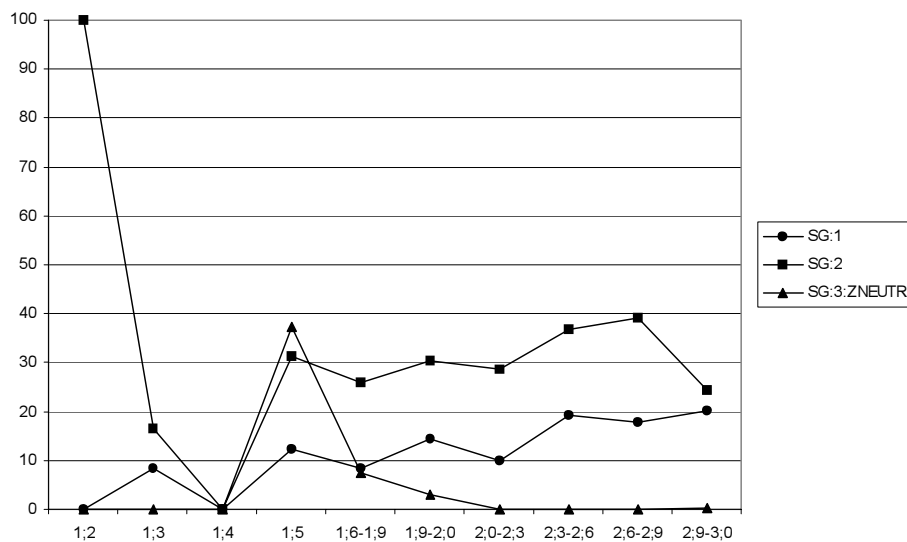
Figure 4. Percentages of 1:sg and 2:sg forms and the 3:sg forms used to mark the speaker and hearer in Varja's mother's corpus

himself.'), when she spoke with authority and forbade something: *Esli **mama govorit**, chto mozhno e~ti jagodki kushat', znachit ix mozhno rvat' i est', a esli nel'zja, to mozhno umeret'* ('If **the mother says** you can eat those berries, it means you can pick them and eat them, and if she says you cannot, then you can die.') etc. The percentage of these forms was low in all the material: within a few per cent, see Figure 1. I noted a similar result in the boy's corpus: the forms of 3:SG used instead of the forms of 1:SG and 2:SG were in the majority of cases used in specific situations. The percentage of these forms did not exceed 10%, see Figure 2.

I found completely different results in analyzing Varja's and her mother's data. They both treated the form of 3:SG as one of the normal ways of marking the speaker and hearer. The percentage of these forms was high at the early stages and gradually dropped later, see Figures 3 and 4.

The sequence of personal form emergence in Varja's material was the following: the girl first started using verbs in 3:SG (referring to herself and to third persons), then forms of 1:PL. Next in order there appeared 1:SG, 3:PL and 2:SG. The last were forms of 2:PL. In Kirill this sequence was as follows: 1:SG and 3:SG emerged at the same time, the latter first used only when directed to third persons; next were 3:PL, 1:PL and 2:SG.

The period from the appearance of first singular past tense forms to the emergence of the full system of gender oppositions took only a few months (in Russian in the past tense the category of person is neutralized: ***ja** pisal* 'I wrote', ***ty** pisal* 'you wrote', ***on** pisal* 'he wrote'). In Varja this period lasted from 1;3 to 1;6 (or 1;7), in Kirill 1;8-2;0, in Anja 1;10-2;1. Masculine and feminine forms first appeared, and later neutral ones.

Imperative and conditional mood

The forms of the imperative are usually noted among the first verb forms used by children. Conditionals are rare in a spoken language, and they appear quite late in children's speech. The emergence of conditional sentences with *esli* ('if') in children's speech is usually preceded by the emergence of clauses with the conjunction *chtoby* ('in order to'), see Smoczyńska, 1986. Sentences with *chtoby* were built by all the children: among them, purpose sentences predominated over object sentences in the whole material:

(6) VAR 2;2
A xochu, **chtoby u nego byla tjoplen'kaja** [OBJ], *xochu spinku zakryt',* **chtoby emu ne bylo xolodno** [ADV].
and I want:IPFV:PRES:SG that:COND he:GEN be:IPFV:COND:SG:F
warm:NOM:SG:F want:IPFV:PRES:SG:1 back:ACC:SG cover:PFV:INF in+order+to
he:DAT not be:IPFV:COND:SG:N cold
'I want his back to be warm, I want to cover his back so that he was not cold.'

Only Varja made references to hypothetical events, and only very seldom:

(7) VAR 2;4
Eshchjo by ona prishla k nam.
and if :COND she:NOM come:PFV:COND:SG:F to we:DAT
'If she could come to us [it would be nice].'

Non-finite forms

The majority of infinitives used by children appeared in different modal constructions, i.e. in the function close to that of imperative mood forms:

(8) VAR 1;5
A (=na) metja (=mesto) **paazit'** *(=polozhit'), pazjatita (=pozhalujsta).*
on place:ACC:SG put:PFV:INF please
'Please put (it) on the (right) place.'

and in constructions with non-personal modal predicatives (nado 'one must', nel'zja 'it is not allowed', nuzhno 'it is necessary', mozhno 'one can', nikak 'in no way' etc.):

(9) VAR 2;1
E~to kak mjachik, ego **mozhno** *vot tak* **brosat'** .
it like ball:NOM:SG it:ACC:SG one+can like+this throw:IPFV:INF
'it is like a ball, one can throw it like this.'

Infinitives in the function of the object were spotted more rarely, e.g.:

(10) VAR 2;0
   *Mama, xochu k tebe, **pomogi** gorshok **nesti**.*
   mama:SG:NOM want:IPFV:PRES:SG:1 to you:DAT help:PFV:IMPER:SG:2
   potty:ACC:SG carry:IPFV:INF
   'Mummy, I want to (have) you, help me carry the potty.'

similarly, in the function of adverbs:

(11) VAR 1;4
   *Pit', **pojdjom pit'**.*
   drink:IPFV:INF go:PFV:FUT:PL:1 drink:IPFV:INF
   'To drink, let's go to drink.'

   Participia and verbal nouns are very rare both in children's and adult's speech. In the data, passive past participia were most common; the remaining three other possible types (i.e. participia of the present tense – active and passive, and active past participia) were found only in Varja's corpus. This child was also the only one to use verbal nouns.

Error analysis

   There were not many errors found in the children's material.

Tense and aspect. As regards tense, I found three erroneous choices of temporal forms in Varja and Kirill, and one in Anja. Once, having been asked in the future tense Varja answered in the past tense. It is possible that the girl recalled the last excursion to the forest and wanted to tell about it, but she did not use the formal means sufficient to express this:

(12) VAR 1;10
   *MAM: *A chto my najdjom v lesu?*
            'and what will we find in the forest?'
   *VAR: *Griby **sobirali*** (instead of: *budem+sobirat'*) .
            mushroom:ACC:PL collect:IPFV:PAST:PL
            'We collected (instead of: we will collect) mushrooms.'

   Kirill, having been asked about a past event, answered using the present tense form. He probably had problems with rightly conjugating the verb *drat'sja* ('to quarrel'):

(13) KIR 2;4
   *MAM: *Chto ty delal s Dikom ?*
            'What did you do with Dik [a dog]?'
   *KIR: ***Dirjosh'sja*** (instead of: *dralsja*).
            'I am quarrelling (instead of: I was quarrelling).'

   The interpretation of aspectual errors is made difficult due to the phonetic characteristics of a child's speech. In all the children, there were spotted some perfective forms (both past and future) whose phonological realization was different from the adult pat-

tern. The context unambiguously indicated that a prefixed perfective form should be used, while the children used non-prefixed forms, phonologically the same as imperfective ones, e.g. *padjot* (instead of: *napadjot*:PFV:FUT:SG:3, 'to attack), *bit'* (instead of: *sbit'*:PFV:INF, 'to beat'). The phenomenon of syllable reduction in words and of simplifying consonant clusters is common at the early stages of language development and it has a phonological, and not morphological, character. Therefore, considering these forms as morphologically erroneous is not justified.

In Varja, in the past tense, I spotted only two aspectual errors. In the first situation, the context required the perfective form, but the girl used the imperfective one:

(14) VAR 1;10
   Chto ja sdelala?
   what I:NOM do:PFV:PAST:SG:F
   'What did I do?'
   *Nosok **snimala*** (instead of: *snjala*).
   sock:ACC:SG take+off:IPFV:PAST:SG:F
   'I was taking off the sock.' (instead of: I took off the sock)

in the second case, the adverb of time celyx polchasa 'the whole half an hour' required imperfective form, and not the durative perfective one:

(15) VAR 1;11
   *Ja **pokushala celyx polchasa**, vidish', vsjo, u menja poluchilos', chto ja pokushala.*
   I eat:PFV:PAST:SG:F whole half+an+hour, see:IPFV:PRES:SG:2, well, I:GEN
   happen:PFV:PAST:SG:N that I:NOM eat:PFV:PAST:SG:F
   'I ate for the whole half an hour, you see, well, I happened to eat   [for the whole half an hour]'

Kirill did not make such errors. Anja, however, used imperfective forms three times instead of perfective ones. Incorrectly used verb forms belong to the non-productive conjugation classes, their paradigms are difficult: this might be the only reason the girl made the errors:

(16) ANJ 2;6
   *Ja **daganjala** (instead of: dognala) ejo, da?*
   I catch+up:IPFV:PAST:SG:F she:GEN yes?
   'I was catching up (instead of: caught up) her, wasn't I?'

Kirill several times used a definite movement verb in the position where normally an indefinite movement verb should be expected:

(17) KIR 2;8
   *Ja xodil k Diku v gosti i k Natashe, **shli** (instead of: xodili) k tjote Ire, net, net.*
   I go:IPFV:PAST:SG:M to Dik:SG:DAT to friend:ACC:PL and to Natasha:SG:DAT
   go:IPFV:PAST:PL to aunt:SG:DAT Ira:SG:DAT, no, no
   'I went to see Dik and Natasha, we were going (instead of: went) to aunt Ira, no, no.'

I found also some attempts to create periphrastic forms of the future tense for perfective verbs. I spotted 12 such mistakes in Varja; Anja had similar problems as well, but Kirill had none. Here is an example:

(18) ANJ 2;6
*Mama, ja tebja **budu pitesjat'*** (instead of: *prichjosyvat'*).
mummy:SG:NOM I you:GEN be:AUX:FUT:SG:1 comb:PFV:INF (instead of:
be:AUX:FUT:SG:1 comb:IPFV:INF)
'Mummy, I am going to comb you'

The children, particularly Varja, also had problems with acquiring the rules of using aspectual forms in some types of negative sentences. There are specific interactions between the aspect of infinitives used in modal constructions and between imperatives and negation in Slavonic languages. Some linguists, e.g., Kučera, 1985 (for the Czech language), Holvoet, 1989 (for the Polish language), explain these interactions in the following way: when the situation is under the hearer's control, there is an imperfective form used after the negation, e.g. *ne pishi*:IPFV:IMPER:SG:2 *karandashom*! ('don't write with a pencil'). Usage of the perfective form (*ne napishi*:PFV:IMPER:SG:2 *karandashom*!) in such a sense is limited to special contexts. However, when the hearer does not control the action, the perfective form is used after the negation.

(19) VAR 2;9
*Snimi ochki i nichego **ne naden'*** (instead of: *ne nadevaj*).
take+off:PFV:IMPER:SG:2 glasses:ACC:PL and nothing:GEN no dress:
PFV:IMPER:SG:2 (instead of: dress:IPFV:IMPER:SG:2)
'Take off the glasses and do not dress anything.'

(20) VAR 2;0
*VAR: *Daj mne morkovku.*
         give:PFV:IMPER:SG:2 me:DAT carrot:ACC:SG
         'Give me some carrot'
*MAM: *Sejchas pochishchu* .
         'I will clean it up at once'
*VAR: **Tol'ko ne nado po'varit'** (instead of: *varit'*).
         only no one+must boil:PFV:INF (instead of: boil:IPFV:INF)
         'But it should not be boiled'

Person. In Varja's material I observed on a large scale the phenomenon of exchanging persons, i.e., using forms of 1:SG in order to mark the hearer:

(21) VAR 1;5
*MAM: *Chto ja derzhu?*
         what I hold:IPFV:PRES:SG:1
         'What am I holding'
*VAR: *Asjaku (=loshadku) **dizju** (=derzhu).*
         horse:ACC:SG hold:IPFV:PRES:SG:1
         'I am holding a horse'

and forms of 2:SG in order to mark a speaker:

(22) VAR 1;7
   *MAM: *Chto ty delaesh' ?*
            what you do:IPFV:PRES:SG:2
            'What are you doing?'
   *VAR: **Susais** *(=slushaesh') tupku (=trubku).*
            listen:IPFV:PRES:SG:2 receiver:ACC:SG
            'You are listening to the receiver.'

This phenomenon is probably connected with the phrasal strategy the girl adopted. The same kind of errors I found also in Anja's material, but with much lower frequency.

Gender. Erroneous gender forms in Varja were 1% of all singular past forms, in Kirill – 0.5%, in Anja – less than 2%. The most frequent error cencerned the use of masculine forms instead of feminine ones:

(23) VAR 1;6
   Ain'ka (=Varen'ka) kapait (=kopaet), abotyt' (=rabotat') **pasjoj** *(=poshjol)*
   [instead of: *poshla*].'
   Varen'ka:SG:NOM dig:IPFV:PRES:SG:3, work:IPFV:INF go:PFV:PAST:SG:M
   [instead of: go:PFV:PAST:SG:F]
   'Varen'ka is digging, she has left to work.'

and otherwise:

(24) VAR 1;5
   Nozhik **upaja** *(=upala)* [instead of: *upal*].
   knife:NOM:SG fall+down:PFV:PAST:SG:F [instead of: fall+down:PFV:PAST:SG:M]
   'The knife fell down.'

Number. The most common type of errors connected with the category of number was exchanging plural forms with singular ones. All the children made such errors:

(25) KIR 2;4
   Tam koljosiki **lezhit** (instead of: *lezhat*).
   there wheels:NOM:PL lie:IPFV:PRES:SG:3 [instead of: lie:IPFV:PRES:PL:3]
   'Wheels are lying there.'

Conjugation classes

The Russian conjugation system is simple and regular as regards endings, but the acquisition of particular conjugation classes is quite difficult. Errors of class paradigms are the most common in all the children's material. Erroneous forms were in Varja – 2;8%, in Kirill – 4%, in Anja – more than 7% of all verb forms.

In Russian verb forms are built on the basis of two stems: past tense (infinitive) stem and present (future perfective) tense stem. The conjugation classes are determined by relationships between those two stems. I used – with some modification – the classification of conjugation classes proposed by *Grammatika*, 1980. The characteristics of productive patterns in Russian is presented below:

<div align="center">First conjugation</div>

	past tense stem	**present tense stem**
class 1.	root ended on vowel: ***chita****-l-a*	root + -j-: ***chita-j****-ut*
class 2.	root + -ova-: ***ris-ova****-l-a*	root + -uj-: ***ris-uj****-ut*
class 3.	root + -nu-: ***dvi-nu****-l-a*	root + -n-: ***dvi-n****-ut*

<div align="center">Second conjugation</div>

	past tense stem	**present tense stem**
class 1.	root ended on -i-: ***nosi****-l-a*	root + ∅: ***nosj****-at*

All the children, like the adult, used most often verb roots belonging to the productive patterns *chitat'* ('to read') and *nosit'* ('to carry'): about 60% of the verb roots used (and heard) by the children belonged to these two patterns. The remaining 40% of roots was divided into the other 34 conjugation groups, whose members were found in the analyzed data. With a frequency higher than 1% there appeared also the roots of the last two productive patterns: *risovat'* ('to draw') and *dvinut'* ('to move') as well as of a few non-productive patterns. The children's data were all alike: as an example, I have chosen Kirill's corpus and compared it to his mother's data.

Table 5. The distribution of conjugation classes in Kirill and Kirill's mother

Conjugation classes	**Kirill**		**Kirill's mother**	
	N	%	N	%
Pattern *chitat'*	146	36,0	220	39,8
Pattern *risovat'*	16	4,0	22	4,0
Pattern *dvinut'*	29	7,1	37	6,7
Remaining 26 patterns of first conjugation	80	19,7	102	18,4
Total first conjugation	**271**	**67,0**	**381**	**68,9**
Pattern *nosit'*	97	24,0	128	23,1
Remaining 2 patterns of second conjugation	30	7.3	36	6.5
Total second conjugation	**127**	**31,3**	**164**	**29,7**
Irregular paradigms	8	1,7	8	1,4
Total	**406**	**100,0**	**553**	**100,0**

Shifts on different levels were observed. The most numerous were those to the two productive types: *chitat'* and *nosit'.*

According to the pattern of *chitat'* the following forms, among others, were conjugated: ***isa'vaju*** (instead of: *risuju*:IPFV:PRES:SG:1 'I draw'), ***narisovaj*** (instead of: *narisuj*:PFV:IMPER:SG:2 'draw'), ***plakaet*** (instead of: *plachet*:IPFV:PRES:SG:3 'she cries'), ***tancevaju*** (instead of: *tancuju*:IPFV:PRES:SG:1 'I dance').

These shifts can be interpreted in two ways. The first possibility is to assume that these verbs were conjugated according to the pattern of *chitat'*, see the description of conjugation classes above. It is also possible that the children built the forms requiring a present tense stem on the basis of the past tense stem, which means they missed the stems. I rather incline to the first interpretation: it is supported by the fact that most often to the pattern chitat' there were shifted the verbs of the following patterns: *risovat'* (productive pattern!), *iskat'* ('to seek') and *davat'* ('to give'). Infinitives of these verbs resemble the infinitives of verbs belonging to the *chitat'* pattern.

While classifying shifts to the pattern *nosit'* I neglected those forms which had no stressed ending. It could have only been the reduction of the unstressed vowel, and not the actual shift to this conjugation class, see *kusit'+budit* (= *kushat' + budet*: IPFV:FUT:SG:3). In *kushat'* the root is stressed: phonological realization of *kusit'* is thus acceptable. It may happen that in some of the forms classified as erroneous, only the stress was shifted from the ending to the root and, at the same time, the vowels were reduced. Nevertheless, it is impossible to verify this assumption: the data I received had already been transcribed. Some examples: ***privi'zil*** (instead of: *privjazal*:PFV:PAST:SG:M 'I tied'), ***ukolil*** (instead of: *ukolol*:PFV:PAST:SG:M 'I stung'), ***ispe'chila*** (instead of: *ispekla*:PFV:PAST:SG:F 'I baked').

Shifts to the remaining two productive patterns were much more seldom: to the pattern of *risovat'*: ***pridevaetsja*** (instead of: *pridelyvaetsja*:IPFV:PRES:SG:3 'it is being done'), ***vtaskavaet*** (instead of: *vtaskivaet*:IPFV:PRES:SG:3 'he pushes in') and to the pattern of *dvinut'*: ***ljagnul*** (instead of: *ljog*:PFV:PAST:SG:M 'he lay down'), ***umernut*** (instead of: *umrut*:PFV:FUT:PL:3 'they will die').

The children also used the present tense stem in building forms requiring the past tense stem: ***idjol*** (instead of: *shjol*:IPFV:PAST:SG:M 'he went'), ***priceplila*** (instead of: *pricepila*:PFV:PAST:SG:F 'she fixed') and otherwise. Imperfective forms built on the perfective stems were also noted: ***ulazhivaet*** (instead of: *ukladaet*:IPFV:PRES:SG:3 'he puts in order'), ***razvjazhivaj*** (instead of: *razvjazyvaj*:IPFV:IMPER:SG:2 'untie'). The equalizations within the paradigms of one verb were also quite often: *pasadu* (instead of: *posazhu*:PFV:FUT:SG:1 'I will sit sth.'), *uxadu* (instead of: *uxozhu*:IPFV:PRES:SG:1 'I leave'). Forms with unnecessary consonant alternations were spotted too: ***zovlju*** (instead of: *zovu*:IPFV:PRES:SG:1 'I call'), ***zazhglila*** (instead of: *zazhgla*:PFV:PAST:SG:F 'I burnt') etc.

Summary

The process of forming the verb system in Russian children takes very little time: after the early phase of system formation, which takes a few months, children's material becomes comparable with adults' language. Before children end the third year of life, all the verb categories in Russian should be considered as acquired. Errors are rare, and the most common ones regard conjugations of particular verb classes. Our children's data were abundant and varied – both formally and lexically. Varja built verb forms on the basis of 495 different stems, Kirill – 406, Anja – 286. To compare, in the material of Kirill's mother 555 verb stems were noted.

In Table 6 below the frequencies of verb forms are presented for the whole corpora of the children and the adult.

Table 6. Percentages of verb forms in the children's and adult's corpora

	Varja	Kirill	Anja	Kirill's mother
PRAESENS	37	35	32	32
FUT. PFV.	9	11	9	11
FUT. IPFV.	4	4	7	6
PRAETERIT.	21	22	17	22
CONDITION.	1	1	>1	>1
IMPERATIV.	10	13	21	14
INFINITIVUS	17	13	13	13
PARTICIPIA	1	2	>1	1
NOM. VERB.	>1	-	-	>1
Total	100	100	100	100
N	9763	6340	3074	14689

The percentages of verb forms in the corpora of Varja, Kirill[5] and Kirill's mother were either the same or <u>very</u> close: both for the adult and children, the present and past tense forms are the most frequent. The future perfective tense, imperatives and infinitives are also common. Imperfective future forms are rare: only a small per cent in each corpus. The remaining verb categories, i.e., conditionals, participia and verbal nouns, occur only occasionally or not at all. It is difficult to avoid the impression that the structure of the language of a three-year-old child is practically the same as that of the spoken language the child hears.

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[5] The frequencies in Anja's material are a little different from the above-presented results. The reason may be in the small amount of data available.

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