Early verb inflection in Lithuanian

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1. Adult oral verb inflection of Lithuanian

Lithuanian is a highly inflected synthetic language belonging to the Baltic branch of Indo-European languages. The only other living language belonging to this group is Latvian[1]. Baltic is closely related to Slavic.

1.1. The Lithuanian verb system[2]

The inflectional system of the Lithuanian verb is based on tense/mood distinctions: There are three moods (Indicative, Conditional, Imperative) and three synthetic tenses (Present, Past, Future[3]). Verbs are inflected for three persons and two numbers. Nominal/pronominal reference is optional. There is no number distinction in the 3rd person, and, except for participles, no gender distinction in verbs.

The markers of categories are fusional endings; in some verbs, tense is additionally marked by means of morphophonemic alternations in the stem.

Aspectual distinctions (imperfective vs. perfective and habitual in the Past) are introduced by means of prefixes and suffixes. However, there are no systematic oppositions between perfective and imperfective forms, as there are in the case of the Slavic languages, so that aspect is considered a semi-grammatical category in Lithuanian.

Non-finite categories are represented by the Infinitive and a large set of participles (declinable and indeclinable, marked for tense and voice).

1.2. Inflection

In Lithuanian there are three main conjugations in the Present and two conjugations in the Past tense (for examples of inflectional paradigms see Table A1 in the appendix). The Future tense and the marked moods (Imperative, Conditional) are derived from the Infinitive stem. Thus, normally, the three basic forms one has to know in order to construct the whole paradigm are: the Infinitive, the 3rd person Present and the 3rd person Past.

Traditionally, verbs are assigned to a conjugation class according to their stem suffix. This stem suffix is most transparent in the 3rd person forms, which consist of bare stems. In the Present tense, verbs with the stem suffix *-a* form the 1st conjugation, verbs with the stem suffix *-i* - the 2nd conjugation, and verbs with *-o* - the 3rd conjugation.

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[1] The acquisition of Latvian has been studied by Velta Rūķe-Draviņa (see Rūķe-Draviņa, 1982 for references).

[2] Authors of contemporary grammars of Lithuanian differ in their opinion as to the number of grammatical categories of the verb and to the way of classifying particular categories. Here, an approach similar to that of Paulauskienė, 1979 is taken. For a more detailed description of the Lithuanian verb system see Ambrazas e.a., 1997.

[3] Most of Lithuanian grammars include into the system of tenses the fourth synthetic tense - Past Frequentative (based on the Infinitive stem and denoting habituality). The category did not occur in the data studied.

In the two conjugations of the Past tense, verbs with the stem suffix *-o* (as in the 3rd conjugation in the Present tense) form the first (A) conjugation, and verbs with the stem suffix *-ė* - the second (B) conjugation. Verbs belonging to the 1st or the the 3rd conjugation in the Present may belong to either conjugation, A or B, in the Past. All verbs belonging to the 2nd conjugation in the Present have the stem suffix *-o* in the Past.

One can thus distinguish five major conjugational classes in Lithuanian (cf. Wójcik and Smoczyńska, 1997): 1A, e.g. *supti*, ***supa***, ***supo*** 'swing'; 1B, e.g. *kelti*, ***kelia***, ***kėlė*** 'lift, pick up'; 2A, e.g. *turėti*, ***turi***, ***turėjo*** '1. have, 2. must'; 3A, e.g. *žinoti*, ***žino***, ***žinojo*** 'know'; 3B, e.g. *daryti*, ***daro***, ***darė*** '1. do, 2. make'

Verb inflection is, in general, strikingly regular. The endings are superstable markers (cf. Dressler, 1995) - they are the same across all synthetic tenses and in the Imperative plural: 1sg - *-u*, 2sg *-i*; 1pl *-m(e)*; 2pl *-t(e)*.

In some verbs belonging to the 2nd conjugation (*mylėti* 'love'), the forms of the 2sg and the 3rd person are homophonous in the Present tense. In others (e.g. *turėti*) - the 2sg and 3rd person forms are differentiated by stress.

1.3. Verb structure

According to their stem structure, Lithuanian verbs are divided into three classes: (i) primary verbs with the structural pattern *root-ending*[4] in all basic forms (*sup-ti*; *sup-a*, *sup-o*); they may belong to conjugation 1A or 1B; (ii) secondary verbs with the structure *root+suffix-ending* (*aug+in-ti*, *aug+in-a*, *aug+in-o* 'to grow sb. or sth.'); these belong to conjugation 1A; and (iii) mixed type verbs (*dar+y-ti*, *dar-o*, *dar-ė*; *žin+o-ti*, *žin-o*, *žin+oj-o*) which may belong to conjugation 2A, 3A or 3B.

Morphophonemic modifications in primary verbs (consonant infixes and suffixes, quantitative alternations, qualitative gradations) are quite frequent.

As mentioned above, prefixation is one of the devices used to mark aspectual distinctions in Lithuanian. Moreover, prefixes often convey spatial relations (e.g. *dėti* - 'put': *pa-dėti* - 'put down'; *su-dėti* - 'put together'; *į-dėti* - 'put into'); sometimes they also modify lexical meaning (e.g. *pa-dėti* - 'help').

Verbs are negated by means of the prefix *ne-* (also *nebe-* 'no more'). Reflexivity is marked with a mobile affix *s(i)* which takes final position in simplex verbs and moves to the position directly before the root when a verb is prefixed or/and negated, e.g. *supa-si* 'is swinging', *ne-si-supa* 'is not swinging'.

In the case of reflexive forms, the use of a prefix influences the inflection. When reflexive verbs are not prefixed (i.e. when the reflexive affix is at the end of the word), the 1sg and 2sg markers of the 1st and 2nd conjugation of the Present tense, as well as the 1sg and 2sg markers of the Future tense, change from *-u* and *-i* to *-uo-* and *-ie-* respectively: Pres.1sg *sup-u* - rfl. *sup-uo-si*, Fut.1sg *sup-s-iu* : rfl. *sup-s-iuo-s*. In the plural of all moods and conjugations the markers have the long vowel *ė*: Pres.1sg *sup+a-m(e)* - rfl. *sup+a-mė-s*.

[4] Or *stem suffix* in the 3rd person.

2. The database

2.1. General data description

The source of the data used in this paper are recordings of conversations with a Lithuanian girl, Rūta. Rūta lives in Vilnius and is the only child in the family. Both parents speak standard Lithuanian without dialectal influences. The recordings were taken on a free basis without a fixed schedule, then transcribed by the mother of the child, double-checked and coded in accordance with CHILDES by the author of the paper. At the moment of writing this contribution the data taken between 1;7-2;5 have been fully processed. Over this period about 34.5 hours of recordings were collected.

Table 1. Rūta's data processed

AGE	DURATION	PRODUCTIONS (Rūta / input)	VERB TOKENS (Rūta / input)
1;7	35 min.	293 / 383	42 / 304
1;8	1h 5 min.	1018 / 1448	119 / 1156
1;9	3h 45 min	2635 / 3120	416 / 2504
1;10	4h 15 min.	2735 / 2978	897 / 2603
1;11	2h 40 min.	1590 / 1466	925 / 1196
2;0	3 h 15 min.	1796 / 2008	871 / 1553
2;1	3 h 20 min.	1776 / 1410	1291 / 1348
2;2	3 h 45 min.	1861 / 1644	1355 / 1633
2;3	3 h 45 min.	2011 / 1789	1372 / 1716
2;4	3 h 35 min.	2065 / 1467	1303 / 1292
2;5	3 h 10 min.	1809 / 1469	1074 / 1428
TOTAL	**34h 20 min**	**19589 / 19182**	**9665 / 16733**

2.2. Data portion analysed for this contribution

The data portion studied in this paper covers the period from 1;7 till 1;10 when Rūta begins the protomorphological stage of linguistic development. Over that period about 9.5 hours of recordings were taken during which the girl produced 6491 utterances[5].

The numbers in the third column of Table 2. show the number of days in the course of which the recordings were taken. It can easily be seen that both the duration of the data portions and the number of sessions differed for particular months. This fact should be borne in mind especially when analysing the results of calculations given in absolute numbers.

Table 2. Rūta's data used in the paper.

AGE	DURATION	No. of SESSIONS	UTTERANCES
1;7	35 min.	5	283
1;8	1h 5 min.	15	959
1;9	3h 45 min	19	2576
1;10	4h 15 min.	24	2673
TOTAL	**9h 40 min**	**73**	**6491**

[5] Utterance - a production with at least one identifiable unit.

2.3. Verbs singled out for the analysis

Two different kinds of methodological approaches in selecting verbs for analysis were adopted in this paper. In the sections 3-4 and 6, where the process of verb acquisition in general is discussed, we excluded from the analysis: (i) amorphous baby talk forms, onomatopoeia etc., (ii) verbs which could not be clearly identified even if their form and/or syntactic position attested that they might be predicates, and (iii) citations, nursery rhymes, songs etc. Verb forms which occurred in directly preceding utterances of adults (e.g. forms used in answer to yes/no questions, also non-reversals) are not excluded. It seems impossible to judge in advance which of them might have been imitated and which were creative uses. In the section on the emergence of paradigms (5.0.) a few additional restrictions are made.

3. The emergence of verb categories in Rūta[6]

At the age of 1;7 the only categories recorded in the girl's speech were Present tense and Imperative 2sg (see table A1 in the appendix). In the following month Rūta started using infinitives. At 1;9 Past and Future tense as well as the first participles emerged. At this time a verb spurt could be observed. Conditionals were first recorded at 1;10; however, they were used very rarely and almost exclusively in the form of 3rd person.

As far as the category of person is concerned, 3rd person and 1sg forms could be found in the first portion of the data studied. 2sg forms were recorded at 1;8 but all of them were non-reversals occurring in answers to yes/no questions. The first correct instance of 2sg was found at 1;10 but it should be emphasised that only at 2;1 the ratio of non-reversals decreased significantly (from 67% at 2;0 to 3% at 2;1). A 1pl form was used already at 1;8 (in a hortative expression) and the number of 1pl increased in the course of the following months. 2pl verbs were rare in the whole corpus.

Most frequent were 3rd person verbs which were commonly used in self-reference and in addressing the interlocutor. As shown in Table 3, most of the 3rd person forms referred to non-plural subjects. The conversations were child-oriented, so 1sg forms were more numerous in the girl's utterances than 2sg forms.

Table 3. The number of the 3rd person forms used in singular and plural contexts in Rūta's utterances.

	1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5	TOTAL	(%)
3sg	21	63	198	439	503	437	535	533	567	502	395	4193	**94,5**
3pl	0	6	10	1	12	17	34	66	43	28	27	244	**5,5**
total	21	69	208	440	515	454	569	599	610	530	422	4437	**4437**

4. Development of the verbal lexicon

4.1. Predecessors of verbs

In the first months of the data one can find a number of onomatopoeias and words belonging to the common Lithuanian baby-talk lexicon (BT)[7] used in predicative function, e.g.: *bū* 'go (by a vehicle)', *puški-puški* 'BT - wash, have a bath'; *popa* 'BT - hurts', *tepu-tepu* 'BT walk'; *babak!* 'BT fall'. Moreover, Rūta used a large number of other BT words and onomatopoeias

[6] For a more detailed analysis see Wójcik, 1998, Wójcik *in press*.
[7] See also Wójcik, 1994.

whose function is not clear (they might also be used in nominal function), e.g. *kar-kar* 'BT 1. to fly; 2. a bird', *niam-niam* 'BT 1. eat; 2. food'; *au-au* '1. bark; 2. dog'; *miau-miau* '1. meow; 2. cat' etc.

BT verbs and onomatopoeias were still present in Rūta's speech at 2;5, e.g. *padarysiu pyp* 'lit. I will do *beep*' when about to press a computer's button.

4.2. Verb production

When studying the development of the lexicon and the problems connected with the emergence of inflection in Lithuanian, one has to be aware of the role of prefixation. In Lithuanian, as mentioned above, prefixes modify the lexical and/or aspectual meaning of verbs. For a long time, however, Rūta tended to omit them or replace them with fillers (Section 6.1). Therefore, when the situation is not completely clear, it is often difficult or even impossible to establish beyond doubt what the verb the child wanted to use exactly was.

What is even more important, in the data studied prefixation did not affect inflection - the non-prefixed reflexive forms referred to in Section 1.3. were very rare in the parents' speech and practically did not occur in the girl's utterances. Thus, when dealing with the development of the lexicon and the acquisition of paradigms, in addition to the notion of lemma, the term *identical root with the same stem formations*[8] (further on abbreviated to ISF and written in CAPITALS) will be used. An ISF is defined as an abstract representation of a group of verbs sharing a common root and differing only by the presence or absence of prefixes and/or the reflexive marker. For instance, the lemmas: *mokyti* 'teach', *mokyti-s* 'learn', *pa-mokyti* 'teach for a certain period of time' represent the ISF 'MOKYTI'.

Table 4. presents the development of Rūta's active vocabulary. The calculations were done cumulatively, i.e. new items were added to those found in the earlier portions of the corpus. It can easily be seen that between 1;7 and 2;5 Rūta's lexicon developed considerably. The relatively most rapid growth of the girl's vocabulary took place till 1;11, but later on the number of new ISF and lemmas increased considerably.

Table 4. The number of ISF's and lemmas in Rūta's utterances.

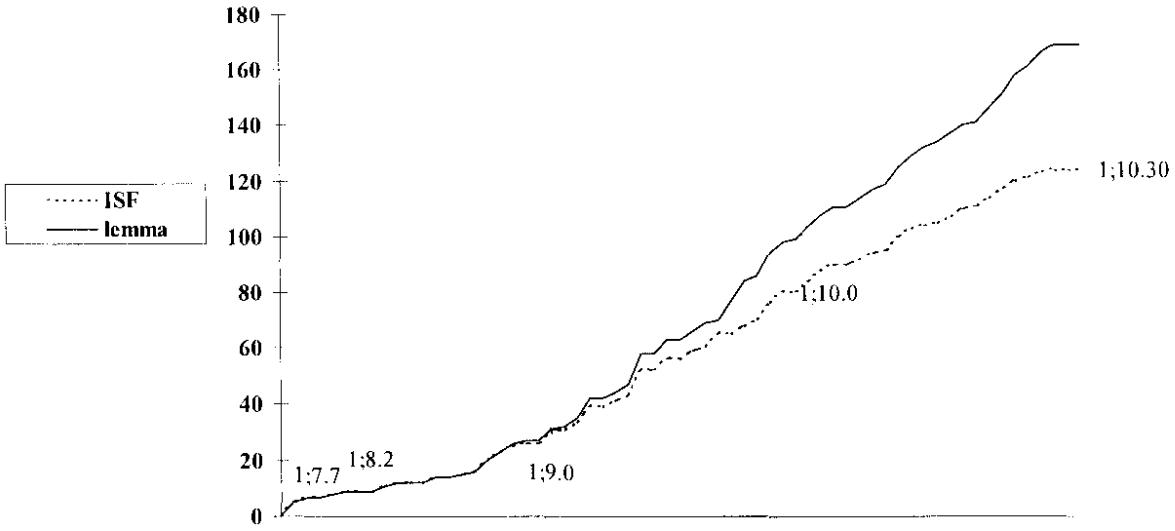
	1;7	**1;8**	**1;9**	**1;10**	**1;11**	**2;0**	**2;1**	**2;2**	**2;3**	**2;4**	**2;5**
ISF	8	26	70	116	144	165	188	213	239	254	267
LEMMA	8	27	91	167	223	275	327	380	440	482	513

A very important point of time in the development of Rūta's lexicon was the age of 1;9, when an expansion of derivational processes took place - the difference between the number of ISF's and the number of lemmas became conspicuous for the first time. In the following months the difference gradually became more salient. Their ratio is represented in Figure 1., where the results of calculations of the data coming from particular sessions recorded during the four months in question are given[9].

[8] The term was proposed by Wolfgang U. Dressler during the workshop of Pre- and Protomorphology (Berlin, 2000). In Wójcik, *in press* the term 'lemma' is used in the meaning of ISF, and the term 'lexeme' is used for 'lemma'.

[9] For the sake of lucidity only the dates of the first and last sessions are given.

Figure 1. The number of verb ISF's and lemmas in Rūta's utterances.



The end of 1;8 and the beginning of 1;9 was the point when a verb spurt could be observed. However, one has to bear in mind that at 1;9 twice the amount of data was collected when compared to the preceding month. On the other hand, the relative frequency of utterances containing a verb (last column of Table 5.) did not change considerably. Only at 1;10 the amount of utterances with verbs reached one-third of all utterances.

Table 5. The development of Rūta's verbal lexicon till the onset of protomorphology[10]

	ISF	lemmas	verb token	utterances	v/utterance
1;7	8 (8)	8 (8)	42	283	14,8
1;8	23 (26)	24 (27)	118	959	12,3
1;9	68 (70)	87 (91)	419	2576	16,2
1;10	97 (116)	131 (167)	897	2673	33,5

5. The development of paradigms

5.1. Method

When studying the emergence of inflectional paradigms we excluded from the analysis[11] the verb forms occurring in such contexts for which it might be suggested that they were not produced fully spontaneously or that they were modelled in some way on directly preceding adults' utterances. Therefore, the 3rd person verbs used in answers to yes/no questions were excluded, even though such a way of answering questions is a common phenomenon in colloquial Lithuanian. All non-reversals which occurred in analogical contexts were left out of consideration as well. However, the 1sg forms used in answer to yes/no questions asked in 2sg were analysed, since their correct use attested that the girl had mastered the category actively.

The assumption was made that if a verb form was used spontaneously at some age, it should be considered acquired when analysing the later portions of the data and recording another form of the same lemma. Thus, when constructing the list of paradigms given below, the search was done cumulatively.

[10] The columns 'ISF' and 'lemmas' present the numbers of units in particular months and cumulative results (in brackets).

[11] In addition to the instances listed in section 2.3.

5.2. Paradigms at 1;7

ISF 8, lemmas 8, verb tokens 42, utterances - 283
categories - Present: 1sg, 3rd; Imperative: 2sg

In the first portion of the data collected at this age (1;7.7) no instances of verb forms were recorded. However, during the following sessions the first instance of a two-member paradigm was recorded:

MOKĖTI 1A 'can-dynamic'

7 tokens of *(ne)moku* Pres.1sg (the first item at 1;7.14) - in answer to a yes/no question containing a Pres.2sg form;

2 tokens of *moka* Pres.3 - one fully spontaneous (1;7.18) and one classified as modelled.

Most of other Pres.3 forms were used correctly in answer to yes/no questions. The most frequent verb *miega* 'sleep:Pres.3' (15 tokens) was used also in answer to wh-questions.

5.3. Paradigms at 1;8

ISF 23 (26); lemmas 24 (27); tokens 118; utterances - 959
categories - Present: 1sg, *2sg, 3rd, 1pl; Future: *2sg (1 item); Imperative: 2sg; Infinitive

At 1;8 no instances of mini-paradigms fulfilling the criteria mentioned in 5.0 were found. An unclear instance was MYLĖTI 'love' used erroneously in Pres.3 form **mylia* 'love' in answer to a question asked in 2sg. Another form of the paradigm was *myliu* Pres.1sg.

5.4. Paradigms at 1;9

ISF 68 (70); lemmas 87 (91); tokens 419; utterances - 2576
categories - Present: 1sg, *2sg, 3rd, 1pl; Past: 1sg, *2sg, 3rd; Future: 1sg, *2sg, 3rd; Imperative: 2sg; Infinitive

As mentioned in Section 4.2.1., at 1;9 a verb spurt was observed. In the same month the first 50 verbs were recorded and the first two-member mini-paradigms appeared. Moreover, two three-member mini-paradigms were recorded, one of them (*būti* 'be') suppletive.

5.4.1. Two-member mini-paradigms

1. KALBĖTI 1A 'talk'
1 *kalba* [=*kaba*] Pres.3; 2 *kalbėti* [=*kabėti*] Inf.
2. SĖSTI 2A 'sit down'
1 *sėsk* Imp.2sg; 2 *sėst* Inf.
3. LAUKTI 1B 'wait'
1 *laukiu* [=*aatiu*] Pres.1sg; 2 *palauk* Imp.2sg;
4. NORĖTI 2A 'want'
1 *noriu* [=*noju*] Pres.1sg; 2 *(ne)nori* [=*nenionia; nenoja*] Pres.3;
5. TUPĖTI 2A 'squat'
1 *tupiu* [=*tupu*] Pres.1sg; 2 *tupi* [=*tipa*] Pres.3
6. ŽIŪRĖTI 2A 'watch, look'
1 *žiūriu* [=*ziūju*] Pres.1sg; 2 *žiūrėti* [=*ziūjėti*] Inf.;
7. EITI 1A 'walk, go'
1 *neik* neg.Imp.2sg; 2 *einam* [=*eimam*] Pres.1pl (hortative)

5.4.2. Three-member mini-paradigms

1. BŪTI 1A 'be'
1 *yra* [=*yja*] , NEG: *nėra* [=*nėja*] Pres.3; 2 *bus* Fut.3; 3 *buvo* Past.3
2. GULĖTI 2A 'lie'
1 *guliu* Pres.1sg; 2 *gulėti* Inf.; 3 *guli* [=*gulia*] Pres.3;

5.5. Paradigms at 1;10

ISF 97 (116); lemmas 131 (167); tokens 897; utterances - 2673
categories - Present: 1sg, *2sg, 3rd, 1pl; Past: 1sg, *2sg, 3rd, 1pl; Future: 1sg, *2sg, 3rd, 1pl; Conditional: 3rd; Imperative: 2sg, 1pl; Infinitive

The age of 1;10 was the point of time when the emergence of new mini-paradigms was particularly spectacular. In the data, one can find a very large amount of new two-member mini-paradigms. Moreover, many new forms of the lemmas already recorded in the earlier portions of the data emerged, which accounts for the rise of new three-and-more-member paradigms. For lack of space only the paradigms with at least three different forms are listed below.

5.5.1. Three-member mini-paradigms

1. GRIŪTI 1A 'fall'
1 *nenugriūsiu* [=*nekakūsiu*] Pres.1sg; 2 *nugrius* [=*agus*] Fut.3; 3 *nugriuvau* [=*agavau*] Past.3;
2. LIPTI 1A 'climb'
1;9: 1 *lipa* Pres.3;
1;10: 2 *lipti* [=*diti*] Inf.; 3 *lipu* Pres.1sg;
3. LUPTI 1A 'peel'
1;9 1 *lupu*;
1;10 2 *lups* Fut.3; 3 *nulupau* [=*alupau*] Past.1sg
4. MIEGOTI 1A 'sleep'
1;7: 1 *miega* Pres.3;
1;10: 2 *miegos* [=*megos*] Fut.3; 3 *miegot* [=*magot*] Inf.;
5. TEPTI 1B 'smear'
1 *patepu* [=*atepu*] Pres.1sg; 2 *patept* [=*atep*] Inf.; 3 *patepk* Imp.2sg;
6. SĖDĖTI 2B 'sit'
1;9: 1 *sėdi* Pres.3;
1;10: 2 *sėdžiu* [=*sėdu*] Pres.1sg; 3 *sėdėk* [=*tedėk*] Imp.2sg;
7. STATYTI 3B 'build; put on'
1 *statom* Pres.1pl; 2 *pastatyk* [=*patesyk*] Imp.2sg; 3 *pastatysiu* [=*pastetysiu*] Fut.1sg;

5.5.2. Larger paradigms

1. DĖTI 1A 'put' - *padėti* '1. ts. PF; 2. help'
1 *sudedu* Pres.1sg; 2 *padės* Fut.3; 3 *padėsiu* Fut.1sg; 4 *padėk* Imp.2sg;
2. EITI 1A 'walk, go'
1;9: 1 *neik*; 2 *einam*;
1;10: 3 *eini* Pres.2sg; *atėjo* [=*atejo*] Past.3; 4 *ateis* Fut.3; 5 *eiti* Inf.; 6 *eisiu* Fut.1sg; 7 *eikim* [=*eikam, eikim*] Imp.2sg;
3. VAŽIUOTI 1A 'go (by a vehicle)'
1;9: 1 *važiuos* [=*teziuos*] Fut.3;
1;10: 2 *važiuoja* [=*atioja*] Pres.3; 3 *važiuojam* [=*aziuojam*] Pres.1pl; 4. *važiuosiu* [=*vaziuosiu*] Fut.1sg; 5 *važiuosim* [=*aziuosim*] Fut.1pl;
4. DUOTI 1B 'give'
1;7: 1 *duok*;
1;9: 2 *duoda*;
1;10: 3 *duosi* Fut.2sg; 4 *duosiu* Fut.1sg; 5 *paduotas* (?) Ptc.pf.pass.; 6 *neduodu* neg:Pres.1sg;
5. ŽIŪRĖTI 2B 'watch, look'
1;9: 1 *žiūriu* [=*ziūju*]; 2: *žiūrėti* [=*ziūjėti*];
1;10: 3 *žiūrėk* [=*ziūjėk*] Imp.2sg; 4 *žiūrim* [=*ziūjem*] Pres.1pl; 5 *žiūri* [=*ziūja*] Pres.3;
6. DARYTI 3B 'do' *padaryti* 't.s. PF.', *uždaryti* 'close', *atidaryti* 'open'
1 *padaryt* [=*padyt*] Inf.; 2 *uždaryta* [=*adedyta*] Ptc.pf.pass; 3 *daro* [=*dajo*] Past.3; 4 *atidaryk* [=*atejėk*] Imp.2sg.

6. Morphological substitutions

6.1. Fillers

In the data studied, no instance of a whole verb being replaced with a filler was recorded; the occurrence of fillers instead of prefixes as well as of the reflexive affix in prefixed verbs, however, was quite frequent. Two kinds of fillers were involved in verb production:

(i) a neutral vowel *a*; e.g. Inf. **a-dėti* for *į-dėti* 'put into'; *už-dėti* 'put onto, dress'; *pa-dėti* '1. put; put onto; 2. help'[12].

(ii) reduplication: **de-dėti* for *pa-dėti*.

In the same data portions one can find forms with omitted prefix and with both kinds of fillers alongside correct forms, e.g., at 1;10 the following productions of the perfective verb *nukristi* 'fall' were recorded (adult form in brackets): (i) correct - Inf. *nukist*, *nukist* (*nukrist*), Past.3 *nukito* (*nukrito*); (ii) forms with *a*-filler - **a-kito* (*nu-krito* or *už-krito*); (iii) a form with a reduplicated syllable - **ne-ki-kisiu* (*ne-nu-krisiu*); (iv) a form with omitted prefix - **ne-Ø-kisiu* (*ne-nu-krisiu*).

Reduplicated syllables also replaced the reflexive marker *-si-* in prefixed verbs (cf. 1.3): Fut.1sg **a-ma-mausiu* for *už-si-mausiu* 'put on shoes', Past.3 **a-ki-kėlė* for *at-si-kėlė* 'get up'.

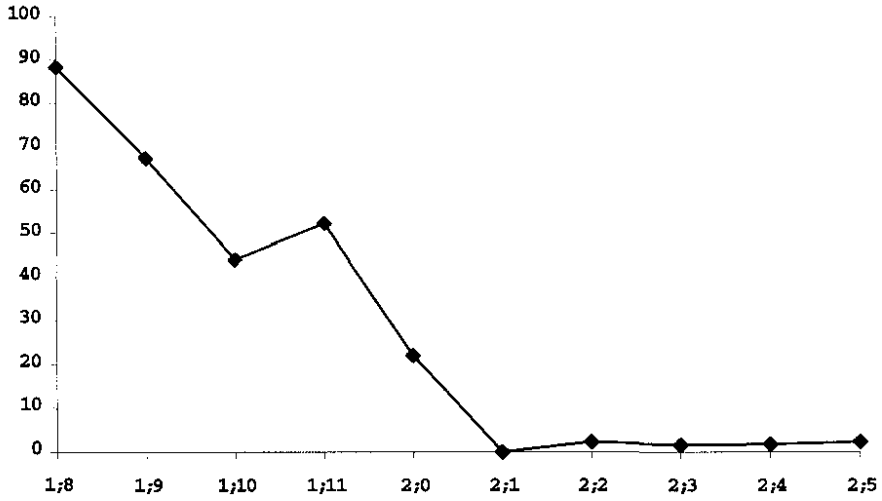
6.2. Class shifts

The most conspicuous phenomenon, as far as class shifts are concerned, is that of 2nd conjugation verbs shifting to the 1st conjugation. This could be observed, first of all, in 3rd person forms. The first items of 2nd conjugation verbs were recorded at 1;8. At this age, almost all 3rd person forms took the stem suffix *-a* instead of the expected *-i*, e.g. **noj-**a*** for *nor-**i*** 'want'; **sėd-**a*** for *sėd-**i*** 'sit'; **gul-**ia*** for *gul-**i*** 'lie'; **tup-**a*** for *tup-**i*** 'squat' etc. In the following months the relative frequency of errors decreased gradually and it became insignificant after the age of two. However, in the last portions of the processed data isolated instances of shifts still could be spotted (see Figure 2.). As mentioned above, the shifts could be found not only within the set of the 3rd person forms. Isolated errors such as 1pl.Pres. **žiujam* instead of *žiūrim* 'watch' (1;11) or 1pl.Imp. **mamaukiam* instad of *užmaukim* 'put on shoes' were also recorded.

Other kinds of shifts between conjugational classes were sporadic (limited to 2-3 items which often occurred alongside correct forms in the same portions of the data).

[12] The *a*-filler was also used instead of prepositions.

Figure 2. The proportion of shifts from the 2nd conjugation to the 1st conjugation



The explanation for the occurrence of such shifts should be sought in two factors[13]:

First, the 1st conjugation verbs constitute the largest class in Lithuanian. The relative frequency of ISF types in the input and in Rūta's utterances exceeded 70%. 2nd conjugation ISF types were the least numerous: 7% in Rūta and 4.5% in the input, and the relative frequency of the 3rd conjugation IFS was about 18% in both registers. With regard to token frequency the situation was slightly different, as most modal verbs belong to class 2A. Thus, the relative frequency of the 1st and 3rd conjugation ISF tokens was smaller than the frequency of ISF types. The ratio of 2nd conjugation ISF tokens was 15% in Rūta and 14% in the input.

Verbs belonging to the 3rd conjugation were not shifted, though. Thus, one may conclude that the relevant factor inducing the shifts was the formal similarity of the 1st and 2nd conjugations.

An additional trigger could be the fact that 2sg and 3rd person forms in the 2nd conjugation have the same endings. The child might have wanted to disambiguate these forms. However, Rūta shifted not only the lemmas in which 2sg and 3rd person are homophonous, but also those in which these categories are differentiated by stress.

Interestingly, in the data studied one can find very few instances of overregularisations involving morphohonemic alternation in primary verbs (all of them after the age of two).

7. Concluding remarks

When analysing the emergence of verb inflection in Lithuanian and comparing it with the development of inflection in other languages, one has to bear in mind that the acquisition of Lithuanian has not been thoroughly studied, and the present contribution is based on the data of one child only. Therefore, one should avoid drawing far-reaching conclusions. One should also take into concern the fact that particular portions of the Lithuanian data differ in their amount which might influence obtained results.

7.1. At 1;7 Rūta used very few lexical items. No derivational processes were involved in verb production and the only morphological categories were the Present tense and the Imperative.

[13] See Wójcik and Smoczyńska, 1997, Wójcik *in press*.

Only one two-member mini-paradigm was recorded. In the following month the situation was similar, however the first 2nd conjugation verbs emerged and the process of early pattern selection could be observed: the child shifted the 2nd conjugation verbs to the 1st conjugation, which was a strongly dominant class in the input during the whole period in question.

The age of 1;9 should be considered a point of transition from premorphology to protomorphology. At this time Rūta's active vocabulary expanded and the first prefixed verbs were recorded. Past and Present tense emerged and the first two-member mini-paradigms were found. The ratio of utterances containing a verb form was still very small.

At 1;10 the girl was at protomorphological stage. The relative frequency of utterances with verbs increased significantly. A very large number of two-member, as well as the first three-member and larger mini-paradigms were recorded.

7.2. Lithuanian is a highly inflected language, therefore one could expect Rūta to become aware of the role of morphology and to apply it earlier than children speaking languages with little morphological marking. This held true for the data studied. By the end of 1;10 almost all categories of the Indicative were represented in Rūta's speech. Not all of them, however, were productively and spontaneously used.

As far as the order of acquisition of categories is concerned, one could observe a general tendency in the emergence of unmarked categories before marked ones. The first tense to emerge was the Present tense. Past and Future forms were used by the girl two months later, and periphrastic constructions with participles (so-called 'compound tenses') did not emerge by the age of 2;6. As for the marked moods, the Imperative was frequent in the very first portions of the data, and conditionals were productively used only after the age of two.

Person distinctions emerged before tense distinctions. 3rd person and 1sg forms were recorded already at 1;7. 2sg forms were used relatively early as well, however, till the end of the second year of life most of them were non-reversal errors occurring in answers to yes/no questions.

The first form of plural emerged already at 1;8 and in the following months the number of plurals gradually increased. It has to be marked, however, that during the period under investigation they were used only in modal (mainly hortative) or modelled utterances.

References

Dressler, Wolfgang U. (1995): Inflectional morphology: Grammar - theoretical preliminaries. Paper presented at the first workshop on Pre- and Protomorphology in Language Acquisition, Vienna, February, 1995.

Ambrazas, Vytautas *et al.* (eds) (1997): Lithuanian Grammar. Vilnius: Baltos lankos.

Paulauskienė, Aldona (1979): Gramatinės lietuvių kalbos veiksmažodžio kategorijos. Vilnius: Mokslas.

Rūķe-Draviņa, Velta (1982): No pieciem mēnešiem līdz pieciem gadiem. Stokholm: The Baltic Scientific Institute in Scandinavia.

Wójcik, Paweł (1994): Some characteristic features of Lithuanian Baby Talk. Linguistica Baltica, 3, 71-86.

— (1998): The Acquisition of the Category of Person in the Verb by a Lithuanian Child. Linguistica Baltica, 7.

— (*in press*): The Acquisition of Lithuanian Verb Morphology. A Case Study.

— / Magdalena Smoczyńska (1997): Acquisition of Lithuanian verb morphology: a Preliminary report, in: Dressler, W.U. (ed.). Studies in Pre- and Protomorphology, Vienna, 83-100.

Appendix

Table A1. Inflection of the Lithuanian verb[14]

PRESENT
(inflection based on the Present stem)

	1.		2.				3.	
	supti		*turėti*		*mylėti*		*daryti*	
	singular	plural	singular	plural	singular	plural	singular	plural
1. person	sup-u	sup+a-m(e)	tur-iU	tUr+i-m(e)	mYl-iu	mYl+i-m(e)	dar+a-u	dar+o-m(e)
2. person	sup-i	sup+a-t(e)	tur-i	tUr+i-t(e)	mYl-i	mYl+i-t(e)	dar+a-i	dar+o-t(e)
3. person	sup+a		tUr+i		mYl+i		dar+o	

PAST
(inflection based on the Past stem)

	A.		B.	
	supti		*daryti*	
	singular	plural	singular	plural
1. person	sup+a-u	sup+o-m(e)	dar+ia-u	dar+ė-m(e)
2. person	sup+a-i	sup+o-t(e)	dar+e-i	dar+ė-t(e)
3. person	sup+o		dar+ė	

IMPERATIVE
(inflection based on the Infinitive stem: marker *-k(i)-*)

	supti		*daryti*	
	singular	plural	singular	plural
1. person		sup-ki-m(e)		dary-ki-m(e)
2. person	sup-k	sup-ki-t(e)	dary-k	dary-ki-t(e)

FUTURE
(inflection based on the Infinitive stem: marker *-s(i)-*)

	supti		*daryti*	
	singular	plural	singular	plural
1. person	sup-s-iu	sup-si-m(e)	dary-s-iu	dary-si-m(e)
2. person	sup-s-i	sup-si-t(e)	dary-s-i	dary-si-t(e)
3. person	sup-s		dary-s	

[14] Only the categories which will be discussed in the paper are shown.

Table A2. The distribution of verb forms in Rūta's utterances

	1;7	1;8	1;9	1;10	1;11	2;0	2;1	2;2	2;3	2;4	2;5	TOTAL
PRESENT												
1SG	7	9	40	98	58	88	87	111	145	89	102	834
2SG		3	16	22	4	1	25	56	21	81	58	287
3	21	69	169	286	348	337	363	438	373	325	277	3006
1PL		1	2	6	12	8	16	36	39	55	24	199
2PL						2						2
total	**28**	**82**	**227**	**412**	**422**	**436**	**491**	**641**	**578**	**550**	**461**	**4328**
PAST												
1SG			3	15	27	28	45	28	18	55	46	265
2SG			3	6	2	2	7	10	11	13	14	68
3			30	57	76	72	113	51	84	126	93	702
1PL				3	9	4	3	16	6	11	16	68
2PL											1	1
total	**0**	**0**	**36**	**81**	**115**	**106**	**168**	**105**	**119**	**205**	**170**	**1105**
FUTURE												
1SG			2	30	99	68	113	97	80	106	54	649
2SG		1	3	5	1		1	4	3	4	2	24
3			9	101	90	44	91	97	148	75	46	701
1PL				12	17	18	28	28	44	40	11	198
2PL												
total	**0**	**1**	**14**	**148**	**207**	**130**	**233**	**226**	**275**	**225**	**113**	**1572**
CONDITIONAL												
1SG						1					1	2
2SG											1	1
3				11	1	1	2	13	6	4	7	45
1PL								1				1
2PL												
total	**0**	**0**	**0**	**11**	**1**	**2**	**2**	**14**	**6**	**4**	**9**	**49**
IMPERATIVE												
2SG	14	28	97	146	103	92	205	176	183	181	177	1402
1PL				5	2			1				8
2PL							1			3		4
total	**14**	**28**	**97**	**151**	**105**	**92**	**206**	**177**	**183**	**184**	**177**	**1414**
INFINITIVE												
total		**8**	**37**	**75**	**33**	**57**	**98**	**137**	**129**	**99**	**88**	**761**
PARTICIPLES												
total			**2**	**19**	**40**	**30**	**34**	**11**	**17**	**9**	**19**	**181**
'galima'												
total			**3**		**2**	**18**	**59**	**44**	**65**	**27**	**37**	**255**
TOKEN	***42***	***119***	***416***	***897***	***924***	***871***	***1291***	***1355***	***1372***	***1303***	***1074***	***9664***