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THE ACQUISITION OF THE FIRST CASE OPPOSITIONS BY A LITHUANIAN AND A RUSSIAN CHILD

1. Introduction

The acquisition of a case system by children is a complicated continuous process that may be characterized by different strategies and may be influenced by several factors, for instance by the individual differences between children (Lieven 1997) and by the systemic characteristics of the case marking in a given language (Slobin 1997: 6ff). Theoretical predictions in this field are extremely risky since the individual differences among children are significant both concerning the order of forms acquired and the age when children acquire them.

Our investigation describes the first stages of this process, namely, the formation of the first case oppositions in the speech of one Russian and one Lithuanian child, both observed longitudinally for the project *«Early stages in the acquisition of morphology»* guided by W.U. Dressler (Vienna). The acquisition of case, alongside the acquisition of number and diminutives, was chosen for the primary comparative investigation. The goal of this paper is to describe the first occurrences of case oppositions at the protomorphological stage from the crosslinguistic point of view. We share the principal theoretical assumptions of the project, namely, the idea that the morphological module is not innate but is created in the child's brain during the selective interaction with the linguistic environment (Karpf 1990, Dressler & Karpf 1995, Dressler 1997). The goal of our investigation was to show whether the difference between two morphologically close languages influences the process of their acquisition starting from the protomorphological stage. To investigate this we used a

computer program, especially designed by G. Durieux (University of Antwerpen)¹. The program makes it possible to compare the time of occurrence of two given morphological forms (see the procedure description in 3).

The preliminary comparison of data from different languages in the project has shown that there was a difference in the occurrence of the first case forms between the groups of languages with the agglutinating case marking on the one hand, and the synthetic and periphrastic inflectional case marking on the other. Children learning agglutinating languages start to use the first opposed case forms 2-3 months earlier than children speaking inflecting languages. Synthetic case marking (mostly in nouns) also starts earlier than the periphrastic one (in nouns and articles). Making such a comparison for several languages using the material of a few children is problematic. We decided to start with the smaller fragments of it investigating pairs of closely related languages.

2. Case marking in Lithuanian and Russian

Russian and Lithuanian were chosen as closely related languages in which the case systems are rather similar. Lithuanian is a synthetic language belonging to the Baltic branch of Indo-European languages. The only other living language that belongs to this branch is Latvian. Baltic languages are closely related to Slavic languages, especially to Russian.

The case indicates syntactic and semantic relations of nouns in a sentence and is marked by the variations in its morphological form. Each case is characterized by a specific range of functions and meanings; e.g. the nominative is primarily the case of the grammatical subject of the sentence, the accusative is primarily the case of the direct object.

Most case forms in the grammatical system have more than one prototypical syntactic and semantic function. It is well-known that the attempts to define one general meaning for every case results in an abstract description that goes far beyond the intuition of a native speaker (Jakobson 1936, 1958), see the detailed discussion of this approach in (Brecht & Levine 1986).

¹ We would like to express our gratitude to Gert Durieux for his enormous help and patience.

Case is marked synthetically in nouns in both languages. The system of cases contains several peripheral cases except the core set including nominative, genitive, dative and accusative. Locative and instrumental are common peripheral cases in both languages, however, unlike Russian, the Lithuanian locative is used without a preposition. Traditionally, the vocative is considered to be the 7th case in Lithuanian, although it does not indicate the syntactic function of a noun in a sentence. It merely refers to a person or thing addressed by the speaker. In the plural the vocative coincides with the nominative.

In Russian this role belongs to the nominative which also serves as a base form. Some grammarians describe a special «colloquial vocative» in Russian as well. It is characteristic of the spoken language in which the absence of the obligatory inflectional ending *-a* in personal names and kinship terms serves as a marker of a person to whom the speech is addressed, e.g. *mam* instead of *mama* 'mother' can be the example of the «colloquial vocative». Another kind of phenomenon is adding of *-a* to some kinship terms like *deda* instead of the normative *ded* 'grandfather'. These examples are rather rare in our texts. We coded them as vocatives in spite of the fact that this form does not exist in the written variant of Russian. However, these rare occurrences are not enough for the comparison of Russian data to the regular Lithuanian vocative.

Gender for nouns is a classificational category based on the opposition between the masculine and the feminine in Lithuanian. That means that every noun is either masculine or feminine, but one and the same noun is not inflected for both genders. In Russian there are neuter nouns as well.

The gender of the noun in both languages determines the gender of all other words – adjectives, participles, some numerals and some pronouns – which can be inflected for gender and which stand in agreement with the noun in a sentence.

The number system in both languages consists of two groups of morphological forms – singular forms and plural forms. Declension endings of nouns indicate not only the case, but also the number and the gender of the noun. For example, in the noun *miškas* 'forest' (Lit) the ending *-as* has three meanings: (1) nominative, (2) singular, (3) masculine. Differences in the

inflectional forms of the same case are determined by the stem of the noun, or rather, by the final vowel of the stem.

In Russian the gender may not always be clear from the inflectional ending. Both zero and *-a* in the nominative may indicate the feminine or the masculine gender. To choose the proper ending one must have the information about the inflectional endings of other forms and about grammatical patterns.

The fact that, unlike Russian, Lithuanian has no vowel reduction in the unstressed syllables is already a big systemic difference that may influence the whole process of its acquisition. Russian unstressed endings cannot contain certain vowels, for instance, *o* is substituted by *a*, thus making the whole system non-consistent. For example, *vodoj* 'water:INSTR' has a stressed inflectional ending which is pronounced like clear *oj*, whereas *mamoj* 'mother:INSTR' sounds like *mamaj* with *aj*. The same is true for *e* and *i*: *vode* 'water:DAT' ends with the stressed *e*, whereas *mame* 'mother:DAT' sounds like *mami* with the unstressed *i*. M. Smoczyńska has pointed to this fact comparing the acquisition of case in Russian and Polish. She considered this particular feature of the Russian case system as an obstacle for the quick and early acquisition of case by Russian children (Smoczyńska 1985). Lithuanian is close to Polish in this respect having no vowel reduction and a clear phonological opposition of inflectional endings irrespective of the stress.

After the first steps in the cross-linguistic comparative study in the project, we concluded that the process of the acquisition of case is not homogeneous. It includes the occurrence of the first formal oppositions followed by the formation of paradigms, as well as the acquisition of the first case meanings and functions (Christofidou, Stephany 1997, Dressler et al. 1995-1996). The procedure of analysis, and even of the coding of the first case distinctions in the data, may be based on formal, or on semantic features. In the form-oriented approach, all the word-forms with certain case markers are coded as case forms without any evidence that they were used in a correct context. In the meaning-centered approach, the target forms are coded as cases irrespective of the formal marker they contain. These two polar points of view have many combinations, so that we find it necessary to define what is considered to be a form in our study. We coded as a correct case form every word form

containing a correct inflectional ending and used in a correct context. Other cases (correct form in a non-proper context, or words used in a context without a proper inflectional ending) were coded as errors. By default only correct forms are given in the following tables. It must be mentioned that the percentage of erroneous forms is very low. Children learning inflecting languages seem rather to use different avoidance techniques than erroneous word formation. Therefore the cases of «inflectional imperialism» (preference for more frequent and/or systemic inflectional endings – term by D.Slobin) seem rare. They are also the later phenomenon which develops when a child already has a good command of using inflectional technique (modular morphology). Typical semantic and syntactic functions are presented in Table 1.

Table 1. Typical semantic and syntactic functions of Lithuanian and Russian cases

Case	Semantic function		Syntactic function	
	Lithuanian	Russian	Lithuanian	Russian
Nominative	Agent	Agent	Subject	Subject
Genitive	Possessor	Possessor	Possessive	Possessive
Accusative	Patient	Patient	Direct object	Direct object
Dative	Beneficiary	Beneficiary	Indirect object	Indirect object
Instrumental	Instrument/ Comitative	Instrument/ Comitative*	Adverbial	Adverbial
Locative	Location	Location/ Theme*	Adverbial	Adverbial
Vocative	Form of addressing	Form of addressing **	Not a part of synt. structure	

* This case, or this case function may be only expressed by a prepositional phrase in Russian

** There is no vocative in standard Russian, this coding is reserved for some rare occurrences of the «colloquial vocative» mentioned above

Case functions can be divided into syntactic and semantic ones. Nouns are most often linked to the verb which forms the center of the sentence and requires a certain case. Some case forms are linked to other nouns.

The accusative and the nominative cases are most important in the formation of the sentence. According to their primary syntactic functions, they are determined by the verb transitivity and correlate among themselves as the nominative case of the subject with the accusative case of the object. The genitive case is closely related to the nominative and to the accusative cases since it may replace both of them in the negated sentences. The genitive case linked to verbs is related to the accusative case because it can also perform the function of the object. The specific role of the genitive case is connected with its role of «a noun qualifier».

However, the number of case functions is not limited to those given in the table – there are far more of them. This is confirmed by the research material of the Lithuanian language. For example, the genitive case in collocations with verbs means the object, its part, or quantity undefined. Moreover, transitive verbs with the negation *ne-* which govern the accusative case are linked with the genitive case (genitive of negation). The genitive with a preposition can perform the function of an adverbial modifier – of place. The accusative without the direct object can denote adverbial modifiers of place and time. The dative denoting an object can perform various semantic functions: those of terminative, beneficent, or percipient. The instrumental case, apart from the meaning of the object (instrument and comitative), can denote adverbial modifiers too: those of place and time. The locative case, apart from place, can denote time. It follows that cases have principal and peripheral meanings.

This is, in general, also true for Russian. However, the set and number of peripheral functions may vary even in closely related languages. For instance, the genitive in Russian may only express location as a starting point of movement (*iz doma, ot doma* 'from the house'), or its goal (*do ugla* 'up to the corner'). The instrumental may express time only in some adverbialized expressions (*letom, zimoj* 'in summer', 'in winter'), but the function of location, or – more exactly – the path of movement (*polem* 'along the field') is freer. It may

also be used as an adverbial modifier of manner in some frozen phrases like *letet' streloj* 'to fly as an arrow' (lit. to run, or move quickly).

3. Procedure

The data from the Lithuanian girl Rūta (from 1;7 to 2;6) and from the Russian boy Fillip (from 1;4 to 2;9) were transcribed, checked by the mother of each child and coded morphologically by investigators. We used for this investigation a special procedure elaborated by G. Durieux (University of Antwerpen) for our project. This procedure allows us to compare the emergence of two grammatical categories in the speech of one speech partner (in our case these were the children) from the data coded morphologically in a CHAT format of the CHILDES system. A special program **dsummary** creates a table in which all morphological forms of a certain grammatical class (in our case these were nouns) are given together with the date when this or that form occurred in the transcript. This table may then be analyzed by another program **catcmp** which allows us to compare the dates of occurrence for any two specific grammatical items by going through all the data. The resulting file will give the information about the number of words which occur in the speech of a child only in one of the two given morphological forms. For instance, if we compare the nominative and the accusative, words that were used only in the nominative by the child will be calculated separately from the words that were used only in the accusative. For the words that were used in both forms, the program will calculate the number of words that occurred earlier in the nominative, or in the accusative, and an average number of days between the occurrence of two forms. As an example, we may cite here the lines resulting from the comparison of the nominative and the accusative for the Russian boy Fillip. Category X is the nominative and category Y is the accusative:

«Category X is the sole category for 424 lemmas.

Category Y is the sole category for 89 lemmas.

Category X appeared earlier than Category Y for 102 lemmas,
with an average difference of 135.9 days.

Category Y appeared earlier than Category X for 41 lemmas,
with an average difference of 129.2 days.»

Except for this information, the resulting file also contains the table of all noun forms with the dates of their occurrence, so that it is possible to find out immediately whether the data is reliable and make some detailed investigation in the case that some of the results seem unusual. The data of Fillip contain transcripts of all the sessions from the age of 1;4 to the age of 2;9. Four hundred twenty four words were used by him only in the nominative and 89 words only in the accusative. Other case forms are excluded from the comparison, so it may happen that these 424 words were used in other indirect case forms (except the nominative and the accusative). The automatic comparison includes only the given categories. Eighty nine words had no nominative form. For 102 words both forms were possible, but the nominative occurred earlier than the accusative, which is quite normal. However, 41 words came first in the accusative. The average difference between such occurrences was similar – 135 and 129 days. To explain this, we should mention that the nominative and the accusative for inanimate masculine and neuter nouns, as well as for feminine nouns ending with any consonant is the same. Such words were coded as accusative in spite of the fact that they do not need a special marker to express it. Twenty one out of 41 words belong to this group. One word was erroneously coded as a noun. Seven of the remaining 19 forms are «latent citations». This means that the child learned these frozen forms from some nursery rhymes or games. However, the context of their occurrence was not exactly that game or rhyme. It seems that the frozen accusative became a basic form for these words and that the child does not yet use them in the nominative. The remaining 12 forms may be explained by the fact that some object names are first used in the context of request, so that the whole situation of request may be marked by the use of the accusative. Thus, the number of words that occur in the accusative earlier than in the nominative is quite reasonable.

We consistently made the automatic comparison between all possible cases for both languages separately starting this comparison from the opposition of the nominative to other cases.

4. *Nominative vs. other cases*

We examined the occurrences of each case compared to the nominative separately but first, we made a comparison of the occurrences of the nominative to all other case forms taken together. Each table contains the results of the binary comparison of the nominative to another case (all non-nominative cases, accusative, dative, genitive, instrumental and locative). The comparison between the number of nominative and vocative forms in the Lithuanian was executed separately since there is no grammatical form of the vocative in Russian. The second column of each table contains the absolute number of words in the nominative that were not opposed to the second case. For example, 255 «sole nominative forms» in the first row for the Lithuanian means that 255 words in all the amount of Lithuanian data were used in the nominative, but had no other case forms. The results of the category comparison are given in table 2.

Table 2. Nominative compared to other case forms in Russian and Lithuanian (results of the automatic category comparison)

Nom - All other cases	Sole Nom (N words)	Sole Oth (N words)	Nom earlier than Oth (N words)	Nom earlier than Oth (avd: days)	Oth earlier than Nom (N words)	Oth earlier than Nom (avd: days)
Lithuanian	255 (71.6%)	101 (28.4%)	88 (70.4%)	73.0	37 (29.6%)	60.8
Russian	350 (67.2%)	171 (32.9%)	125 (63.5%)	135.7	72 (36.5%)	123.3

It is natural that the nominative which is the base form in both languages occurs earlier than other case forms for more than 60% of the opposed pairs. The striking difference can be registered in the average day distance between forms in the Lithuanian and Russian language: it is almost twice as big in the speech of the Russian boy compared to the Lithuanian girl. This means that the Russian child needs more time to acquire new forms after the first one (base, initial form) occurs. The reasons for this may be the following: 1) the first form occurs very early as a simple repetition; the gap between the first and the second form is big because it includes not only the acquisition of the second form, but also the reanalysis of the first one; 2) it may show the individual differences between two children, 3) it may reflect the systemic differences between languages. To explain this, we made the analysis of all the words in which the difference in the occurrence between the first and the second form was more than 100 days.

It is interesting to note as far as the Lithuanian data is concerned, that there are not many words with such a big distance between the base form and the second form which occurred earlier than the nominative. These words are: *laikrodukas* 'wath:DIM', *tualetas* 'toilet', *sūris* 'cheese', *beždžione* 'monkey', *sodas* 'garden', *pianinas* 'piano', *mamytė* 'mother:DIM', *sesytė* 'sister:DIM'. We suggest that the words 'toilet' and 'garden' were used by the girl for spacial meanings, e.g. *tualetas* 'in the toilet:LOC' and *sodas* 'in the garden:LOC' or *važiuoti į sodą* 'to go to the garden:ACC' (the meaning of direction with preposition). The other words most probably were used to denote the direct object (expressed by the accusative or genitive), e.g. *myliu sesytę* '(I) love sister:DIM:ACC' etc.

The words which appeared earlier in the nominative with more than 100 days distance are not numerous as well. The majority of these nouns denote animate beings (semantically animate nouns). In general, more than half of the nouns in the nominative case used by Rūta are animate nouns (see Savickienė 1999). The other nominative forms belong to the LSG (lexico-semantic group) 'Food' and 'Toys', e.g. *tortas* 'cake', *saldainis* 'candy', *jogurtas* 'yogurt'; *mašinėlė* 'car:DIM', *raktelis* 'key:DIM', etc.

We conclude that there is no big difference in the quantity of the nouns that appeared in the distance of more than 100 days, but just their semantic quality. The nouns which

occurred earlier in the nominative case forms are mostly animate, whereas other nouns were inanimate.

Russian data represent a different situation. All in all, there are more nouns that occur earlier in the oblique case forms. Those of them in which the distance is significant (more than 100 days) are: *dedka* 'granpa' (col.), *vnuchka* 'granddaughter', *korablik* 'ship:DIM', *shtanishki* 'panties:DIM', *nebo* 'sky', *zemlja* 'Earth', *chashka* 'cup', *garazh* 'garage', *sapozhok* 'boot:DIM', *lapka* 'paw:DIM', *tapka* 'slipper', *krashka* 'little one', *repka* 'turnip:DIM', *medved* 'bear', *kostocka* 'bone:DIM', *konec* 'end', *pugalo* 'scarecrow', *palec* 'finger', *kacheli* 'swing', *chashechka* 'cup:DIM', *parovoz* 'steam locomotive'. They may be divided into the following groups: latent citations (forms that are not directly imitated or cited but remind us of the usual citation forms (*dedka*, *vnuchka*, *repka* all occur in the accusative borrowed from the tale «Repka» 'Turnip'). Close to them are some words that tend to be used in the locative, such as *nebo* 'sky', *zemlja* 'Earth' being used mostly as locative adverbials. Words denoting vehicles also tend to be first used in the locative, since this is the normal way to express the means of transport – 'by car' will be literary 'on car:LOC' in Russian. *Kacheli* 'swing' and *chashechka* 'cup:DIM' as typical 'containers' also tend to be first acquired in the locative. However, two other containers (*chashka* 'cup' and *garazh* 'garage') were first used in the accusative, probably expressing direction. It is not by accident that many of the cited words are diminutives; this may mean that their base form is already acquired in the nominative and the diminutive form serves as a secondary nomination. We shall come to the more detailed analysis of these cases later on discussing the oppositions of certain cases to the nominative. The most important of these oppositions is the opposition «Nominative – Accusative», given in the Table 3.

Table 3. Nominative vs. Accusative

Nominative - Accusative	Sole Nom (N words)	Sole Acc (N words)	Nom earlier than Acc (N words)	Nom earlier than Acc (avd: days)	Acc earlier than Nom (N words)	Acc earlier than Nom (avd: days)
Lithuanian	290 (82%)	64 (18%)	77 (78%)	81.2	22 (22%)	62.7
Russian	424 (82.6%)	89 (17.4%)	102 (71,3%)	135.9	41 (28.6%)	129.2

We may expect the occurrence of the base form earlier than any other case form for every word. However, Lithuanian data shows that the accusative case forms appeared earlier than the nominative forms for 22 lemmas ('Other cases' earlier than the nominative for 37 lemmas). Thus we have very similar results to those that we had from the comparison of the nominative vs. other cases. We can conclude now that almost all the words from 'Other cases' were the accusative case forms except *mamytė* 'mother:DIM' and *sūris* 'cheese'. (6 out of 8 words with a distance of 100 days). All the words in the accusative case used earlier than the nominative belong to different LSG, and mostly they mean things (inanimate), which are around the child: toys, clothes, body parts, etc.

The nominative case forms occurring earlier than the accusative are again mostly animate nouns and the largest part mostly belong to LSG 'Persons'.

Russian data shows almost the same percentage of the nominative and accusative forms in spite of the fact that the absolute number of them is higher which results from the amount of data. Part of the early accusatives may be explained by the fact that the accusative and the nominative are the same for inanimate masculine and neuter nouns, therefore, the usage of this hybrid nominative – accusative form in a proper accusative context was coded as accusative. About 50% of the early accusative forms, however, are feminine nouns that were overtly marked for case. All of them are inanimate, except *karakatica* 'cuttle-fish'. This is the boy's favorite toy which he plays with in the bath. The only animate masculine noun that

takes the marked form of the accusative is *slon* 'elephant' which refers also to the toy. Both toys probably serve as an object of request. Most words that occur first in the accusative are prototypical objects referring to the LSG: 'Food' (28%), 'Furniture and static objects' in his surroundings (21%), 'Body parts' (17%), 'Vehicles' (10%), 'Clothes' (7%), individual (non-groupable) objects (17%).

Nominative vs. Dative

It is interesting that there is only one word that appeared in the dative earlier than the nominative, and it is a proper masculine name *Pauliukas*:DIM. The distance is very short – only 10 days, which is a significant difference if we would look at the Russian data (see Table 4). Such a low occurrence of the dative case forms for the Lithuanian (see Savickiene 1999) could be explained as follows: the range of meanings that the dative was used to express was not very varied. At the beginning a more frequent use was the dative of object, and then from the age of 1;11 it was used to denote logical subject. As far as the use of the dative is concerned, the reason for this difference is the fact that the dative is the most likely candidate for the functions of the beneficiary, percipient, or experiencer. The dative performing these functions denotes an animate noun, i.e., a person or an animal. Thus the dative in Rūta's and Mother's speech belongs to the LSG 'Persons', 'Animals', and 'Toys'. All the examples that appeared earlier in the nominative are also animate nouns and belong to the LSG 'Persons'. The results of comparison are given in the Table 4.

Table 4. Nominative vs. Dative

Nominative - Dative	Sole Nom (N words)	Sole DAT (N words)	Nom earlier than DAT (N words)	Nom earlier than DAT (avd: days)	Dat earlier than Nom (N words)	Dat earlier than Nom (avd: days)
Lithuanian	399 (99.8%)	1 (0.2%)	18 (94.7%)	92.9	1 (5.3%)	10.0
Russian	565 (98,6%)	8 (1.4%)	16 (72.7%)	195.2	6 (27,3%)	93.5

The Russian data is not as extreme, especially concerning the order of the acquisition. The coincidence of the percentage of sole forms in both languages is remarkable. This means that the dative has no chance to appear as a frozen form before the modular morphology phase. Case forms are systemically unequal and their prototypical functions influence their acquisition. Four of the 6 nouns that occurred first in the dative express location: *A vertoljoty i samoljoty po chemu letajut?* 'And the helicopters and airplanes, where do they fly?'. *Po nebu* - 'By sky:DAT' (2;0,12). This dialogue may also be regarded as latent imitation since the context shows that it took place several times in the past and that the boy at first simply imitated the answers as it happened also with other «small talk». However, these examples are the first occurrences of the dative in our data produced from three different stems (*no neby* 'by sky', *no vode* 'by water', *no ulice* 'by the street'). Others are proper nouns *Sonja* and *Filja*. Their dative forms express the meaning of a beneficiary. These observations show that the dative is not of the same significance as the nominative, or the accusative, so that we can hardly use the syntactic explanation of the acquisition of case forms, that is connected with the development of the sentence structure and treats all case forms as having the same systemic value (Babyonyshev 1993, Clahsen, Eisenbeiss et al. 1994). The forms that denote locative adverbials are learned rather by listing than by rule. More significant forms, like accusative ones, may be learned by rule from the very beginning. The indication for this is that the accusative forms were formed simultaneously from many different stems in several appropriate contexts.

Table 5. Nominative vs. Genitive

Nominative -Genitive	Sole Nom (N words)	Sole Gen (N words)	Nom earlier than Gen (N words)	Nom earlier than Gen (avd: days)	Gen earlier than Nom (N words)	Gen earlier than Nom (avd: days)
Lithuanian	346 (92%)	29 (8%)	40 (74%)	65.0	14 (26%)	57.1
Russian	488 (91%)	50 (9%)	63 (80%)	174.5	16 (20%)	130.5

The genitive case forms appeared earlier than the nominative forms for 14 lemmas and the nominative forms appeared earlier than the genitive forms for 40 lemmas with an average distance of about 60 days for both (see Table 5).

In Lithuanian data the genitive was used as an object (it can perform a partitive function, or denote indefinite quantity of an object) or possessor. The genitive case forms belong to LSG 'Food' (*obuoliukas* 'apple:DIM', *pomidoras* 'tomato', *sūris* 'cheese', *saldainiukas* 'candy:DIM', *duona* 'bread', *arbatytė* 'tea:DIM'), 'Persons' (*mamytė* 'mother:DIM', *tėvelis* 'father:DIM', *Giedrius* 'masculine name'). The function of partial object was determined by the very frequent phrase 'I want', which requires the genitive case, e.g. *Aš noriu sūrio, duonos* 'I want some cheese:GEN, bread:GEN'. The use of the possessive genitive was determined by adult's question 'whose?', which takes the genitive case form as well, e.g. *Giedriaus* 'Giedrius:POSS:GEN'. There were a very limited number of case forms, both the nominative and genitive, which appeared with a distance of 100 days: the nominative just in 8 cases (6 from the LSG 'Persons' and 2 from 'Food'), the genitive only in 3 words (2 from 'Persons' and 1 from 'Food'). The greatest majority of the genitive case forms belong to the LSG 'Persons' and that means that the girl perceives the meaning of possession very early: she is able to answer the question *kieno?* 'whose?' correctly on her own even at a very young age - 1;7. The frequencies of the use of the genitive arises in Rūta's speech from the age of 2;0 (see Savickienė 1999). This higher frequency is related to the acquisition of other meanings that the genitive case can express. It is at this period that the use of object genitive, especially the genitive of negation, becomes especially intensive.

The functions of the genitive in Russian are similar: possessive, partitive and genitive of negation play a most important role. Possession and part of the whole (partitive genitive) are the most frequent functions of early genitive in the speech of Russian children (Gvozdev 1949). However, the words that were acquired first in the genitive form express neither possessor, nor uncountable substance (only 2% of such forms refer to possession, another 2 % fall into the category «uncountable nouns», like *moloko* 'milk'). Most of these words are object names used in the context of negation, such as *pugici net* 'There is no button'. Our explanation for this fact

is that the partial quality and possession relations are characteristics of the words that have been earlier acquired in the nominative. The genitive of these words is formed by rule. For instance, *mama* 'mother' was marked for the genitive of possession 82 days after it was first used in the base form, the genitive from *Fantik* 'the cat's name' – occurred even 294 days after the nominative, the word *kartoshka* 'potatoes' in the partitive genitive was used 84 days after the nominative, etc. In spite of the fact that the possessive genitive is connected with animacy, and even with personality, and the partitive genitive is mostly characteristic of food, the words of these LSGs were first acquired in the nominative.

Table 6. Nominative vs. Instrumental

Nominative - Instrumental	Sole Nom (N words)	Sole Instr (N words)	Nom earlier than Instr (N words)	Nom earlier than Instr (avd: days)	Instr earlier than Nom (N words)	Instr earlier than Nom (avd: days)
Lithuanian	391 (98%)	8 (2%)	17 (89%)	89.4	2 (11%)	15.5
Russian	558 (98%)	11 (2%)	28 (90%)	188.4	2 (10%)	69.0

The semantics of the instrumental case in Lithuanian is quite complicated. It can be governed by nominals and verbs and used with or without prepositions. The range of meanings characteristic of the instrumental varies widely: it can denote an instrument, an object, a mutual action (a comitative function), state, manner, time, place, etc. The instrumental case mainly denotes the instrument or conveys the function of comitative. The relevant examples are *auka teliu* (i lauką troleibusu) '(we are going) out by trolley-bus:INS', *teliu* (šaukšteliu) '(with) a teaspoon:DIM:INS', *patepė su stedieliu* (piršteliu) 'spread (something) with a finger:DIM:INS', *su maišu ateis* 'is going to come with a sack:DIM', *pažaisim su kamuoliuku* 'we are going to play with a ball:DIM:INS'.

The instrumental appeared earlier than the nominative just for two lemmas, both belonging to LSG 'Persons', e.g. *tėtė* 'father', *Pauliukas* 'Paulius:DIM'. If we look at the

Russian data, the instrumental shows the same tendencies: appears earlier for 2 lemmas, but with a huge difference in time (4.5 time more than the Lithuanian). The sole instrumental appearance both in the Lithuanian and Russian shows similar results again: it occurs for 8 lemmas in the Lithuanian and for 11 in the Russian.

The nominative appeared earlier than the instrumental for 17 lemmas (for 5 lemmas with an average of 100 days) which could be used mostly with the preposition *su* 'with' and denote mostly functions of instrument or comitative, e.g. *su Aušryte* 'with Aušra:DIM', *su Edita* 'with Edita', *su šuniuku* 'with a dog:DIM' (do something or go somewhere); *su kamuoliuku* (žaisti) 'with a ball:DIM (play)', *su rakteliu* 'with a key:DIM (do something)'.

The identical percentage of the sole instrumental forms and the division of the earlier acquired forms in both languages show the peripheral place of the instrumental in the case hierarchy. It may also be clear from the fact that the instrumental has the longest inflectional endings in Russian. Both words that occur first in the instrumental are latent citations and illustrate the comitative function of it: *s vedrom* 'with the bucket', *s ljagushonkom* 'with the frog:DIM'. Other functions of the instrumental in the words that were first acquired in the nominative are: comitative (41 %), locative with the preposition (for instance, *pod odejalom* 'under the blanket') (18%), ingredients (*kasha s molochkom* 'porridge with milk:DIM:GEN) – 16%, individual (non-groupable) cases – 15%. The instrumental in its prototypical function (instrument) was used only twice (*stuknul mjachom* 'hurt with the ball:Instr', *tolkaj nozhkoj* 'push:IMP with the leg:DIM:INSTR'. The difference in the average distances is hardly comparable between two languages since only two words in every language are discussed.

Table 7. Nominative vs. Locative

Nominative - Locative	Sole Nom (N words)	Sole Loc (N words)	Nom earlier than Loc (N words)	Nom earlier than Loc (avd: days)	Loc earlier than Nom (N words)	Loc earlier than Nom (avd: days)
Lithuanian	405 (98%)	9 (2%)	3 (43%)	71.7	4 (57%)	153.8
Russian	544 (95%)	29 (5%)	29 (71%)	169.8	12 (29%)	102.0

The meaning of the locative in Lithuanian is not influenced by the meaning of the word it forms a phrase with. The most prominent adverbial functions of the locative are those of place and, to a lesser degree, of time.

The meaning of space can be denoted by using grammatical cases or prepositional phrases. The basic meaning denoted by the locative is that of *place*, i.e., the state of being located inside the place denoted by the noun. A child is faced with two types of spatial relations: being located inside (expressed by the locative case) and direction (expressed by prepositional phrases). It would be interesting to find an answer as to which meaning is acquired by a child first. Most probably, the first the child masters would be the use of the case without preposition. Such development is influenced by the fact that children acquire prepositions at a relatively late phase.

The interesting information comes with the locative case for Lithuanian. The nominative and the locative that appeared earlier show almost the same numbers (4 lemmas for the locative and 3 for the nominative). The locative case forms have a meaning of container: *tualetė* 'in the toilet:LOC', *garaže* 'in the garage:LOC', *sode* 'in the garden', *ausytėje* 'in the ear:DIM:LOC' and only 2 words (*toilet*, *garden*) appeared with a distance of 100 days. The only one word (*balkonas* 'balcony') appeared in the nominative with the period of 100 days. The information on the dates shows very interesting results concerning the locative case: all the other case forms appeared later than the nominative, except the locative (avd: days is 153). The question arises, why is the locative so exceptional? The possible explanation could be related with the meaning that the locative denotes, and it is very transparent meaning – the data demonstrate that the locative case in Rūta's speech is mainly used to signal the place inside. The locative, as well as the dative and the instrumental, singular case forms appear in Rūta's speech at 1;8, e.g., *kur tėvelis?* – *gale* (*garaže*) 'where's Daddy?' – 'in the garage'. Its appearance is quite rare throughout the whole period of observation, i.e. it reaches 1.4%. Examples include such cases as *auke* (*lauke*) 'outdoors', *kaime* 'in the country', *tolete* (*tualetė*) 'in the toilet', *kame* (*kambaryje*) 'in the room', *alytėj* (*lovytėj*) 'in bed:DIM', *kibile* (*kibire*) 'in the bucket'.

In Russian the locative may express location (surface and container which depends on the use of prepositions *na* 'on' and *v* 'in') and theme of the conversation with the preposition *o*

'about'. The use of the preposition is obligatory. Words that were first acquired in the locative are all inanimate and belong to the following LSGs: containers: *zhivot* 'stomach', *kuchnja* 'kitchen', *pechka* 'stove'; surfaces: *krysha* 'roof', *krovatka* 'bed:DIM²'; vehicles: *korablík* 'ship', *poezd* 'train', *paroxod* 'steamer'; non-groupable objects like *um* 'mind'. Using the locative case forms before the nominative ones is typical for some nouns in many languages (Laalo 1997) since such case forms of the locative adverbials tend to become frozen phrases close to the adverbs. These first non-opposed locative forms occur very early giving an impression of the early acquisition of case forms. However, in fact, they are all frozen forms that are learned by listing and do not indicate the capacity of a child to distinguish between the changeable and unchangeable parts of the word.³ The locative forms represent a clear distribution of frozen and produced forms: those that are learned earlier than the base forms are ready-made, those that are first learned in the locative and then in the nominative are a bridge between two ways of learning and those that occur first in the nominative are produced by the child. Not only does the average distance play an important role here: the forms that occur both in the nominative and in the locative refer to the later period than the first frozen locatives.

The vocative is the case of address. The morphological marking of the vocative case in Lithuanian varies widely. For masculine nouns, the inflectional endings include *-ai* (*Linai*) 'masculine name', *-ø* (*Poliuk* (*Pauliuk*) 'masculine name', *-i* (*Adi* 'masculine name', *vilkti* 'wolf:DIM', *teti* 'father'), and *-(i)au* (*Daliau*) 'masculine name'; the inflectional endings for feminine nouns are *-a* and *-e*, as in *mama* 'mother', *močiute* 'grandmother', *Ūyte* 'Rūta:DIM'. According to the frequency of occurrence, this case occupies the place immediately after the nominative, the accusative, and the genitive cases. The meaning of the case is very transparent, consequently, the acquisition of the case was not complicated. The first words used in the vocative were *mama* 'mother' or *mamyte* 'mother:DIM'; later there appeared the names of the family members, friends, or relatives. Moreover, Rūta also addresses her toys in the vocative thus treating them as equal members of the act of communication. This is exemplified by the

² *Krovat* 'bed' may be seen as a surface and as a container in Russian. In the given example it was used as a surface.

³ Most adverbs denoting location in Russian originate from prepositional phrases (compare *naverxu* 'above, lit. on top', *vnizu* - 'below, lit. in bottom', both in the locative).

following: *lialia* 'little child:VOC', *akuti* (vilkuti) 'wolf:DIM:VOC', *bezionė* (beždžionė) 'monkey:VOC', *mesiukai* (meškiukai) 'teddy bear:DIM:VOC'.

The nominative case appeared earlier than the vocative case for 18 lemmas with an average distance of 80 days and the vocative case appeared earlier than the nominative for 3 lemmas with an average distance of 72 days. From this statistical information we see that difference in time is almost the same – more than 70 days. All 3 instances that occurred earlier in the vocative are persons: *tėte* 'father', *mama* 'mother', *mamyte* 'mother:DIM'. The high frequency of feminine vocative nouns was caused by the constant use of the noun *mama* 'mother'. The nominative case forms also belong to 'Persons' LSG and all the words are exclusively proper names (including such nouns as *sesė* 'sister', *dėdė* 'uncle', *tėvelis* 'father:DIM').

There are some examples when Rūta pronounces the inflectional ending of the nominative *-is* without the final sound /s/, but these are mainly proper names. Most probably, such forms were used in the vocative by grown-ups, therefore, the girl could have memorized them as the basic forms. Examples of this kind are *Adi*, *Doli* (the names of the dogs), *tėleli*, *tėti* (*tėvelis*, *tėtis* 'father:DIM:VOC, father:VOC'). Consider:

M: *Koks šuniuko vardas?* 'What is the doggie's name?'

R: *Adi.* 'Adi.' (< Adis).

M: *Ar tu jį taip šauki, kad jis ateitų?* 'Do you call him like this when you want him to come?' (1;8).

Having only the colloquial vocative, Russian is not comparable to Lithuanian in this respect. The forms that may be defined as colloquial vocatives are: **deda* (from *ded*) 'grandpa' and **mam* (from *mama*) 'mother'. Both forms may also be explained phonologically – by the tendency to CV structure in the first case and by the opposite tendency for truncation in the second case. The functions of the Lithuanian vocative are all fulfilled by the nominative in Russian, therefore this latter form has more weight in the whole system. The bigger average difference between the nominative and other cases in the speech of the Russian child compared to the Lithuanian child may be partly explained by the fact that the opposition of the nominative to other cases in the Lithuanian case system is comparably less significant.

5. Average distance (AD)

The average distance shows the mean distance between the occurrence of two forms in days. For example, the nominative forms occur earlier than the other case forms with an average distance of 73 days in the Lithuanian and 135,7 days in the Russian data (see Table 2). This measure may only be used for the cross-linguistic comparison if we take into consideration the following assumptions. The AD depends on morphological coding. We can define at least two main ways of grammatical coding in the current practice: 1) the coding of the target form, 2) the coding of the marked form. The first way of coding consists in the marking of the form required in the adult language. For instance, if a child uses the nominative case instead of the accusative this will be coded as a wrong accusative form, *give me milk:ACC**. The second way of coding is to define this form as a correct (giving priority to the grammatical marker), or incorrect (giving priority to the function) nominative form. The advantage of the first way is the fact that the obligatory context is given on the morphological line. The disadvantage is that we do not have the information about the grammatical marking. This information may be given in addition if the form pronounced by a child is cited later on (N|kniga:ACC*=niga). In this case the same phonological form will be counted as two different types if a child pronounced it in 2 different contexts. Two slightly different phonological forms will also be recognized as different types that makes statistical analysis rather difficult.

Using the second way of coding, we may not regain the information about the context. For instance, if a child uses the word *kniga* 'book' in the right and in the wrong context we will count it twice without the distinction. Marking the wrong context does not give the information about the type of error.

The Lithuanian data were consistently coded for the target form. The Russian data were coded for the grammatical marker. However, the extremely low percentage of the erroneous forms in both data shows that this difference should not influence the result. The average distance between the nominative and any other form in the Russian language is almost twice as big as in the Lithuanian. The influence of morphological coding may also be excluded due to the fact that the distance between other forms and the nominative is also twice as big in the

Russian data (see the last column in tables 2-6). The only exception is the locative which appears without the opposition much earlier in the Lithuanian data. However, since this exception is based on four types only we must presuppose that these are the examples of the typical adverbial-like use of the locative.

The analysis of the average distance between case pairs within the same language shows that it may be almost the same or, for some oblique cases, may vary dramatically. For instance, nominative forms occurs earlier than the accusative ones with an average distance of 81,2 days for the Lithuanian and, vice versa, the accusative forms which are obviously rarer, appear with the distance of 62,7 days. For the Russian data this distance is even less: 135.9 and 129.2 days accordingly (see table 3). In this respect the dative case differs from both the accusative and the genitive since these latter are comparable to the nominative. The distance between the first occurring nominative and dative forms is twice as big in Russian and may be counted as 1 to 9 in Lithuanian. A big distance is also characteristic of the instrumental and locative (see above that the words that occur first on the locative in Lithuanian have the bigger average distance than those that come first in the nominative). The first possible explanation for this is in the fact that such forms are rare and may not be analyzed statistically. The right analysis for our data starts with the number of types more than 10 (compare tables 3, 5 to the tables 4,6, 7). The insignificant number of the earlier occurring dative, instrumental and locative forms shows also that these cases have a lower range in the children's hierarchy of case forms for two languages.

6. Summary

Our analysis has shown that the automatic category comparison may be used both for the observation of morphological forms within one language and for cross-linguistic comparison. Within one language it shows the hierarchy of case forms and the level of their productivity. We may expect that the extremely rare and early locative forms in the Lithuanian data were simply reproduced by the child as frozen forms.

The cross-linguistic comparison between the Russian and Lithuanian data has shown that both children acquire their first case oppositions in a similar order and with the similar

percentage of case forms in every opposition. This may be typical for closely related languages. The average distance between the base form and every next occurring case is, as a rule, bigger in the Russian language. The explanation for this phenomenon may be connected with the individual strategy of the child and the mother who demonstrates rather instructive behavior. The different sex of the children may also play a role. The Lithuanian girl is rather an early-talker in contrast to the Russian boy who demonstrates the intermediate level of speech development. This phenomenon may also happen due to the vowel reduction and the absence of phonological opposition between Russian vowels in the unstressed position. This question will need another investigation with the bigger number of informants for each language.

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Zusammenfassung

In diesem Papier werden Daten der Langzeitbeobachtung eines russischen und eines litauischen Kindes analysiert. Wir untersuchen die frühen Stufen des Erwerbs von Kasusformen mit Hilfe des für den Vergleich der grammatischen Formen geeigneten Computerprogramms CATCOMP (G. Durieux, Antwerpen). Das Programm berechnet einen durchschnittlichen Zeitabstand zwischen dem Auftreten zweier grammatischer Formen, z.B. zwischen Nominativ und Akkusativ. Die Ergebnisse unserer Analyse zeigen, daß dieser Zeitabstand in der Sprachproduktion beim russischen Knabe in den meisten obliquen Kasusformen zweimal so hoch ist, als beim litauischen Mädchen. Der Unterschied kann von der Analyse, von den individuellen Strategien der Kinder, oder von dem Sprachsystem abhängig sein. Der Prozentanteil der Formen in allen Kasuspaaren ist aber gleich oder ähnlich. Das kann nur mit der Ähnlichkeit des Sprachsystems erklärt werden.

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