

ACQUISITION OF ADJECTIVAL INFLECTIONS (SECONDARY PARADIGMS IN CHILD RUSSIAN)

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1. Introduction

This paper deals with the early stages of adjectival acquisition by a Russian child in the framework of the project "Early stages in morphological development". We share the main ideas of the project, that is:

(1) there is a special premorphological stage in the early development of a child, during which the language-specific grammar module is not yet formed and a child uses special extragrammatic operations to denote grammar and lexical distinctions (Dressler 1994; Dressler and Karpf 1995).

(2) language capacity is innate but concrete language-specific skills are learned by the child in a special order defined by the grammar mechanism of his own language (see, for example, Tonelli, Dressler and Romano 1995: 3-8).

(3) naturalness and productivity of forms and models are the most important features (Dressler 1987; Dressler and Thornton 1996: 2-4) that govern this order (Dressler, Drażyk, Drażyk, Dziubalska-Kołodziejczyk and Jagła 1996).

(4) the system of language is, to some extent, independent from the speaker; it influences the child in the form of an input and helps the important self-organizational processes (Karpf 1991: 339-360; 1992: 7-20), which end with the forming of normal paradigmatic set of categories by the end of the protomorphological stage.

2. Primary and secondary paradigms at the early stages

The demarcation problem for the study of early language development in children cannot be resolved without taking into consideration that different parts of speech do not occur simultaneously in child language (Lieven, Pine and Barnes 1992; Dale 1996: 21). First verbs and nouns are to be found in every primary lexicon, whereas pronouns, adjectives and numerals form a "second echelon" in child development, and the acquisition of these paradigms is strongly language-specific and individual (depending mostly on the cognitive level of a child).

The inflectional system of these parts of speech can thus be considered as a secondary one in relation to the nominal paradigm. It is indeed secondary in the history of many languages also, e.g. in Russian the paradigm of short adjectives (that function as predicates now) did not differ from the nominal one and the inflections of fully-formed adjectives (functioning both as predicate and attribute in modern language) was built by the adding of the demonstrative pronouns to the stem in corresponding cases. Compare the paradigm of the full-formed adjective *sinij* 'blue' to the paradigm of the personal pronoun *on* 'he' that served as a demonstrative pronoun earlier:

Nom	<i>ON</i>	<i>sinIJ</i>
Gen	<i>EGO</i>	<i>sinEGO</i>
Dat	<i>EMU</i>	<i>sinEMU</i>
Acc	<i>EGO</i>	<i>sinEGO</i> (Anim)
Instr	<i>IM</i>	<i>sinIM</i>
Loc	<i>o NEM</i>	<i>o sinEM</i>

The same system is manifested in the paradigm of ordinal numerals, of the cardinal numeral *odin* 'one' and, with slight variations, in most pronouns: demonstratives (*tot* 'that'; *e~tot* 'this'), qualitatives (*ves* 'entire'; *vsjakij* 'every'; *sam* 'one-self'; *takoj* 'such'), possessives (*moj* 'my'; *tvoj* 'your'; *nash* 'our'; *vash* 'your'), personal pronouns of the 3.Sg etc. Giving the detailed description of the adjectival and nominal inflectional system in Slavic languages, Roman Jakobson noticed two essential facts that are important for our investigation:

1) adjectival inflections are longer than nominal ones; they are often disyllabic, while nouns have disyllabic inflection only in Instrumental Plural;

2) only four consonants are used to form these inflections: *m*, *v* (orthographic *g*), *j*, *x* (Jakobson 1985).

We can see following distinctions between primary and secondary paradigms:

a) primary paradigms belong to those parts of speech that occur early in the lexicon of a child (noun and verb);

b) primary grammar categories reflect external differences in language meaning that are based on the different function of the object in the real situation, whereas secondary paradigms support syntactic boundaries inside the phrase and in most cases reflect the syntactic information.

c) secondary paradigms have more complicated inflections than the primary ones (which seems to be natural in the sense of natural grammar).

We share the idea of early modularisation of grammar, i.e. that grammar is not an innate separate mechanism but that grammar information and rules are singled out in the process of the early acquisition. That does not mean that all paradigms occur simultaneously but a good command of nominal inflectional types helps the child to acquire later adjectival categories. We investigated the period from 1;8 approximately, when we had noticed the first adjectives in the dialogues between the child and his mother.

3. Cognitive basis of the acquisition of adjectives

Adjectives do not behave like other parts of speech in the acquisition. We are accustomed to the fact that a word appears first in comprehension and then in the production; that a child learns a concept first and then gives a name to it. The acquisition process does not go this way with the adjectives (and maybe with other abstract concepts).

Many children first start to pronounce adjectives and only after that do they refer them to the concept. According to the data analyzed by Chistovich (1996: 221-222) the situation depends on the type of adjective: parametric adjectives are first understood and then pronounced, but many adjectives denoting colour (for example blue, white and yellow) are first pronounced and then differentiated.

The concept of colour is language or even region-specific and the colour division is imposed by the system of language (see for example Dal' 1978: 370). The child that we observed uses parametrical, colour and evaluative adjectives in wrong or embarrassing contexts, and demonstrates complete indifference to the choice of adjectives: (1;8.12):

- M: Kakož zajac, malen'kij, bol'shoj?
'what kind of hare is this: small or big?'
- C: Bol'shoj.
'big'
- M: Bol'shoj, razve bol'shoj?
'Big, is it really big?'
- C: Alja. (malen'kij)
'small'

From the age of 2;0 he is already capable of differentiating the real quality of an object. At first it happens with evaluative adjectives: bad, good, angry, kind etc., because it is supported by mother's intonation. Then parametric adjectives (big – little) come to their reference. Numerous mistakes with colour adjectives still remain but from 2;5 he uses them correctly in 80% of cases. We can conclude that early adjectives are first acquired by repetition without reference and many of them are first pronounced and then understood correctly. Not only the meaning of the first adjectives is imposed by language but their inflectional system too. In contrast to the first words, adjectival inflections are influenced not only by the input but also by the forming nominal paradigm.

4. Types of adjectival agreement

The Russian adjective has a short and a long form from which the short one is used only as a nominal part of the predicate and has gender and number but no case forms. Long forms are much more inflected having 3 genders, 2 numbers (plural adjectives are the same for all genders) and 6 cases. The pronunciation of inflections depends on the stress: *o* and *e* sounds distinctly only in stressed inflections (*o bol'shOM stole* – 'about the big table'). If unstressed they are changed respectively

into *a* and *i*, compare *o malen'kAM stole* 'about the little table' (we wrote the phonemic form of the inflection; the orthographic form will be *malen'kOM*).

We would like to investigate the casual forms of adjectives from the morphological point of view, comparing their inflections to the inflections of nouns. For historical reasons adjectival inflections have much in common with nominal ones. As Franz Miklosich wrote "language is trying to depict the entity of attribute and noun by their similar inflections and in the presence of their polar opposition in other spheres" (1883: 20).

Comparing the nominal type of conjugation to the adjectival one we can divide all the inflections into three groups:

1) tautological pairs, in which the inflection of noun and adjective is the same; For example, pure tautological inflections occur in Feminine (1) Sg Instr *bol'shOJ nogOJ* 'big foot'; *belAJ koftAJ* 'white jacket' (examples of the stressed and unstressed inflection, the upper-case letters represent pronunciation of words and not the orthographic variants).

2) reduplicative pairs, in which the inflection of the adjective presents the reduplicated inflection of the noun; reduplicative inflection is triphonemic with two similar vowels divided by [m, v, j, h] consonant, compare *serAVA zajcA* Gen 'gray hare'.

Reduplicated agreement can be illustrated by Feminine (1) Nom *bol'shAJA nogA*; *belAJA koftA*; Feminine (1) Acc *bol'shUJU nogU*, *belUJU koftU*; Pl Nom – Feminine and Masculine *bol'shYJI stolY* 'big tables'; *starYJI dokladY* 'old papers' Pl Acc = Pl Nom (for inanimate).

3) contrastive inflections, in which the inflections of nouns and adjectives have nothing in common, e.g. Gen for the Feminine: *belAJ koftY* – unstressed, *bol'shOJ nogI* – stressed.

Between these three pure types there are several transitional types, in which some phonemes of the inflection are similar and some differ. They can be treated as similar if their common part does not depend on the stress.

Transitional cases for tautological agreement are: Masculine Sing Instr *svjatYM krestOM* 'saint cross'; *belyM cvetAM* 'white colour'; Pl Dat *bol'shYM stolAM*; *starYM dokladAM*; Pl Instr *bol'shYMI stolAMI*; *starYMI dokladAMI*; Pl Prep *o bol'shYX stolAX*; *o starYX dokladAX*; Masculine Sing Dat *svjatOMU krestU*; *belAMU cvetU*.

Transitional cases for reduplicative agreement are the following: Masculine Nom – especially the unstressed form *svjatOJ krestØ*; *belyJ cvetØ*; Masculine Gen and Neuter Gen *svjatOVA krestA*; *belAVA cvetA*.

Contrastive agreement is represented in all the cases when there is no phonological connection between the adjectival and nominal inflection.

We can cite the following cases: Feminine (1) Gen, Dat and Prep *bol'shOJ nogI* 'big leg'; *belAJ koftY* 'white jackets'; *bol'shOJ nogE*; *belAJ koftI*; Feminine (3) in all cases, for example in Prep *o bol'shOJ ljubvI* 'about great love'; *o starAJ myshY* 'about old mouse'; Pl Gen *bol'shYX stolOV*; *starYX dokladAF*; Masc Prep *o svjatOM krestE*; *belAM cvetI*; Neuter Prep *o bol'shOM oknE* 'about big window'; *o belAM kresII* 'about white arm-chair'.

The proposed division is open to criticism, especially the "transitional cases" for all types. Drawing the distinction between the types we took into consideration 1) the variance of the stressed and unstressed inflection; 2) the phonemic "vivacity" of the sounds in the inflection. For example, we consider the agreement in Masculine Instrumental as "transitional to tautological" due to the following reasons:

1) the unstressed variant of nominal and adjectival inflection sounds very similar because of the strong reduction (*ym am*);

2) the nasal sonic consonant (*m*) in the inflection is more vivid and striking than the reduced vowel.

We assume that there can be other and even opposite decisions but the acquisition data give good evidence for our representation of the system.

5. Data

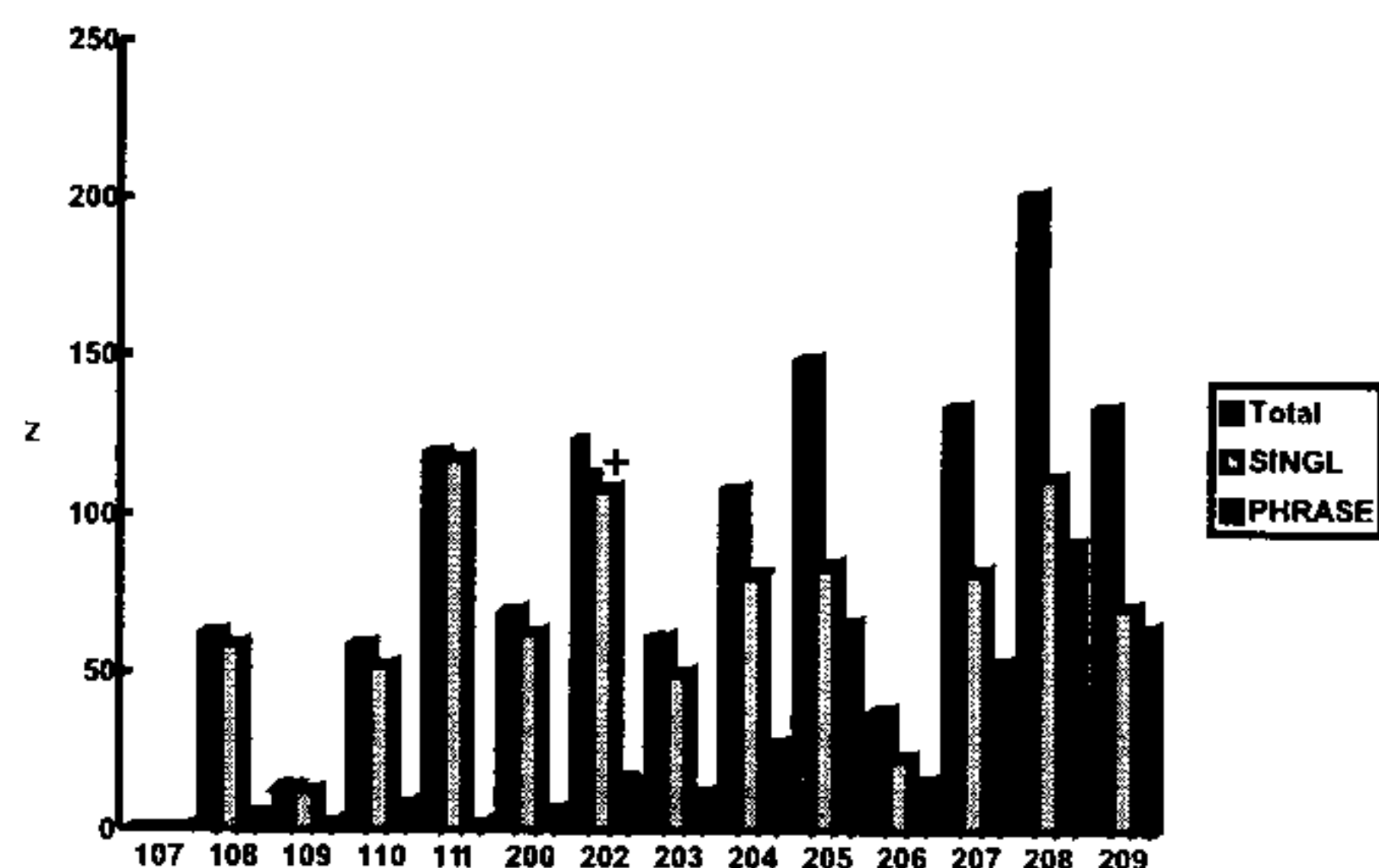
We tried to take into consideration all the tokens but in many cases it was difficult to make distinctions between the short form, phonemic reduction and wrong tautological agreement, as evidenced by such examples as *mysinka main'ka* instead of *mashinka malen'kaja* 'little car' where the form of an adjective can be regarded as a short form, reduction of long form or consequent tautological agreement at the early stage. Another variant is pure reduction of the type *kasni s'ap* from *krasnaja shapochka* 'red cap' that changes the type of nominal declension and thus influences the adjective.

Analyzing our material we made distinctions between adjectives used in a noun phrase and adjectives used separately (as an answer to the question). This was done to discover whether the distance between noun and adjective influences the form of the latter. All the adjectives were then divided into the above-mentioned three types in which right and erroneous forms were counted separately. For example, *masinka main'ka* is regarded as a tautological erroneous form. We analyzed the data with the help of the *FREQ* programme (MacWhinney and Snow 1990; MacWhinney 1991: 168-174). Our presupposition was that a child tries to project the nominal inflectional system to the adjectives. In this case tautological and, especially, reduplicative agreement should dominate the contrastive one. This tendency can be found during the protomorphological stage when the paradigm of the noun is close to the adult one. Contrastive agreement shows the transition to the adult modularized morphology.

6. Results

The calculations on different types of adjectives in the speech of a child are given in Figure 1 which represents absolute figures for the number of adjectives in the data depending on the age of the child, where isolated adjectives and phrases are counted separately.

Figure 1. Total number of adjectives in the data (Total), isolated occurrences (SINGL) and phrases (PHRASE). Age: 1;7-2;9. Absolute figures.



Comments

Total number of adjectives in the file depends on 1) its length, 2) the topics of the discussion. The child started using adjectives at 1;7. This record is taken as the starting point. "Single" means the number of isolated adjectives (used without noun or instead of the noun phrase). This figure decreases permanently. "Phrase" is the number of adjectives used in combination with the noun. This is the constantly increasing figure.

Another calculation represents the percentage of different agreement types in the same recordings.

Figure 2. Right and wrong tautological agreement pairs (percentage to the total number of adjectives).

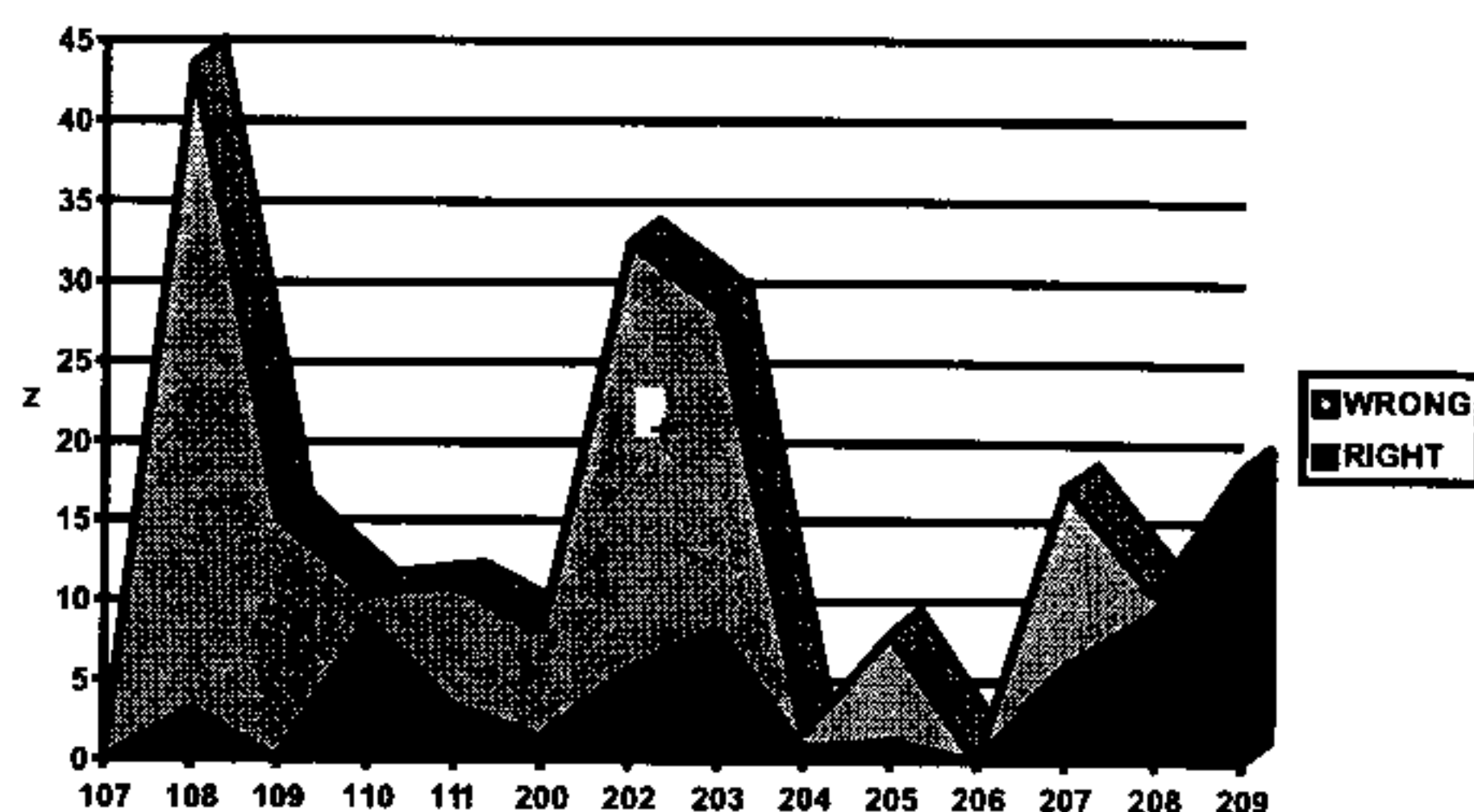


Figure 2 shows the number of right and wrong tautological pairs (see examples below). We had expected that this number should dominate at least at the early stage because of the similarity between the nominal and adjectival inflections in this type. Nevertheless, the data shows that reduplicated agreement (see Figure 3) absolutely dominates from the very first stages. The number of correct tautological pairs increases, whereas the number of errors decreases down to zero. This means that at the very early stages (see 1;8, 1;9) phonemic similarity means more than the correspondence to input examples. Tautological operations dominate at the early stages and this is another reason for the high number of erroneous forms.

The corresponding chart for reduplicative agreement illustrates its prevalence at all stages, and inverse proportion of correct and erroneous forms in comparison to the tautological pairs.

This means that a child distinguishes nouns and adjectives from 1;8 at least grammatically and understands the necessity of special adjectival marking. In order to form the reduplicative inflections he makes less errors in comparison to the cases of simple rhyming.

Figure 3. Right and wrong reduplicative pairs.

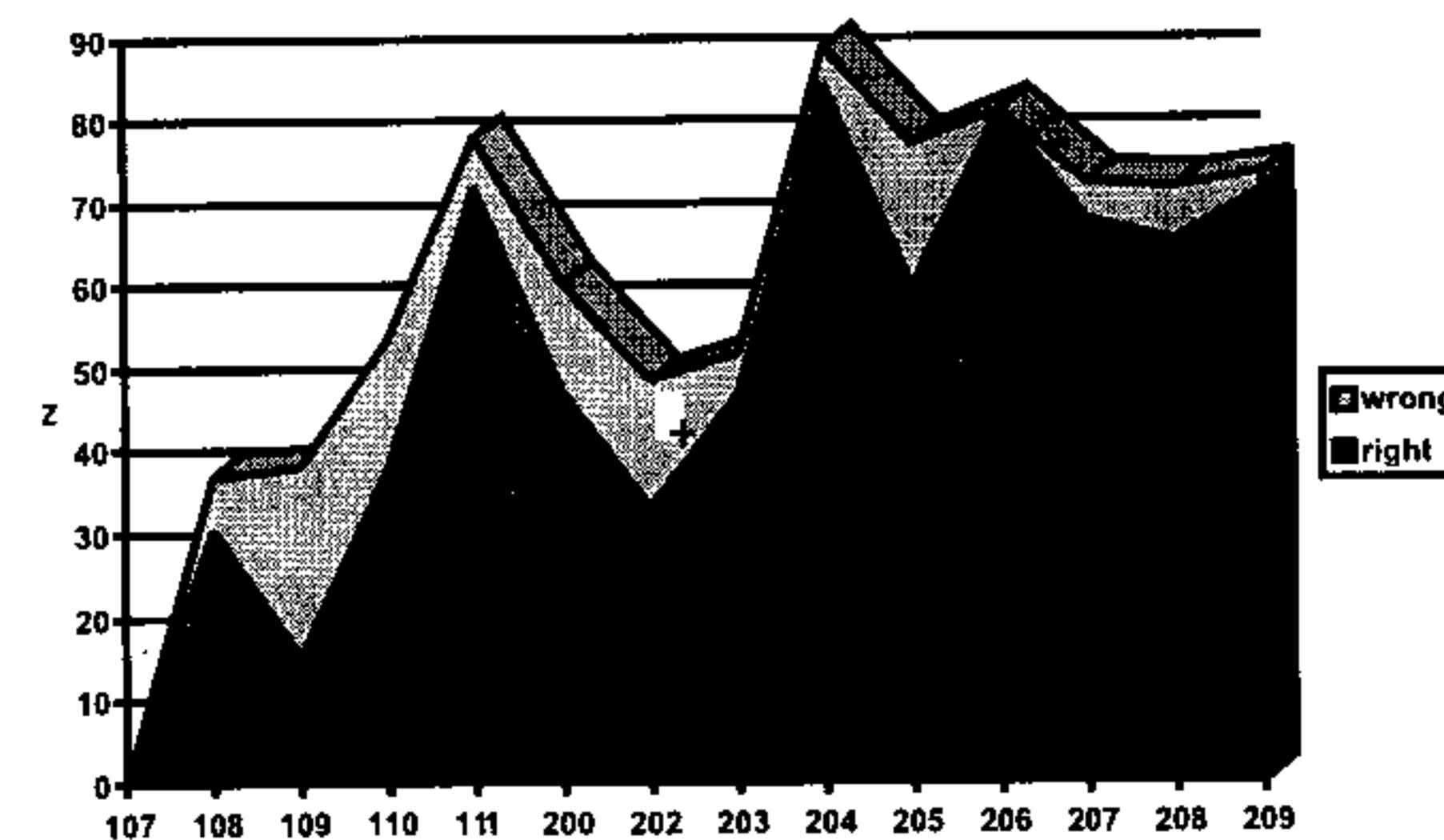
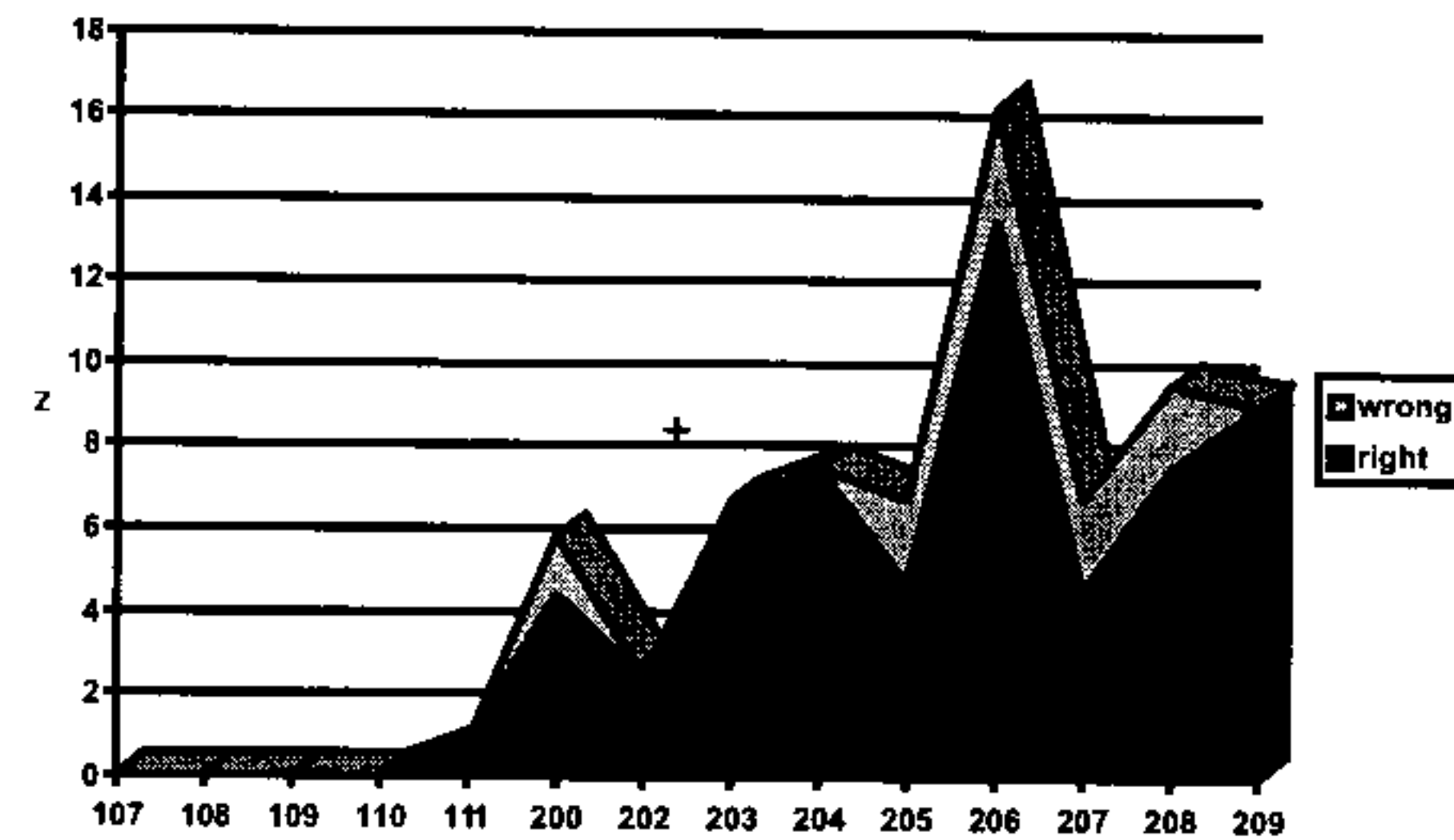


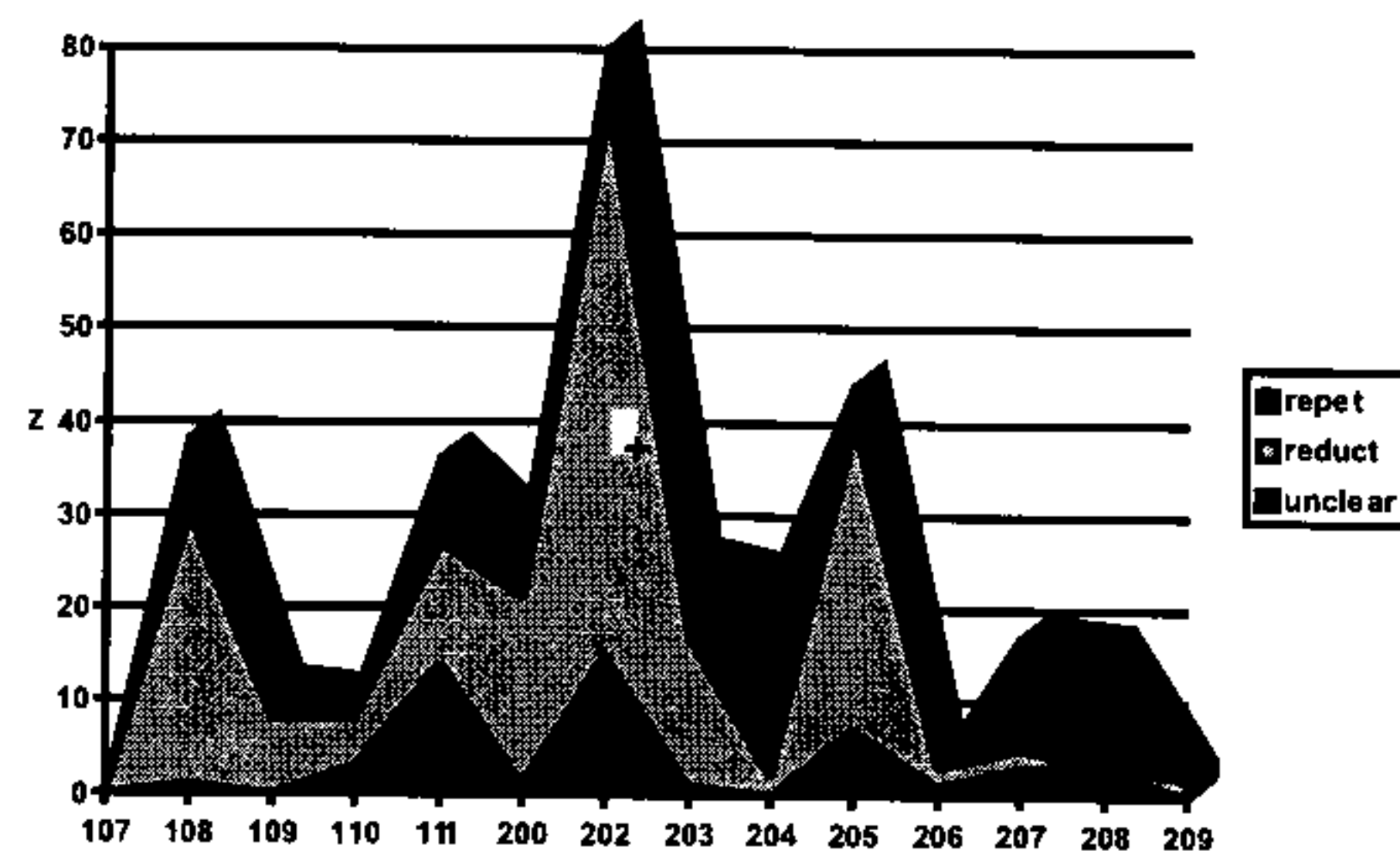
Figure 4 gives the number of contrastive agreement pairs. This kind of agreement emerges 3 months later than the first two types.

Figure 4. Right and wrong contrastive pairs (percentage to the total number of adjectives).



We had to take into consideration also some unclear or uninterpretable cases. "Unclear" is the number of occurrences that cannot be interpreted either because of bad phonetics or because of the poor context. These cases are not included in the types of agreement. "Reduct" is a number of cut forms, usually wrong like *kas'* ← *krasnyj* 'red'. They can be included in the tautological agreement type if the reduced adjective has the same inflection as a noun, for example *gaba* ← *golubaja* 'blue' is interpreted as wrong tautological and reduced form at 1;8. "Repet" is a number of adjectives repeated after the mother in the nearest or second nearest reply. This figure is given to show the child's capacity to form adjectives and is necessary to understand if the mother-child dyad is not too repetitive.

Figure 5. Absolute number of uninterpretable occurrences.



7. Types of mistakes. Mutual agreement between nouns and adjectives

Between the forms that are considered to be erroneous there are typical cases. One of them are reduced forms like *bel'a* (1;9) from *belaja* 'white' or *hajo mako* (1;10) from *holodnoe moloko* 'cold milk'. They are interpreted as erroneous tautological forms.

The percentage of noun phrases increases but the syntax of such phrase differs from the adult one. The child often puts different words (verbs or prepositions) between noun and adjective like in: *na mashinu na main'kuju* (2;2) 'on the car on the little' or *ja chashechku prinesu beluju* (2;4) 'I cup bring white'. This shows that the transition from isolated usage of adjectives to the noun phrase is very slow.

Nevertheless the inflections of adjectives and nouns influence each other.

Sometimes the agreement between a noun and an adjective is executed phonetically with the violation of morphological rules. For example, in the question *A missis Keks bol'shoj?* 'and Mrs. Keks is big (Masc.)? – the masculine inflection of the adjective can be explained by the fact that both words *missis* and *Keks* have "masculine" inflections in Russian and reduplicative agreement here is quite logical.

One of the most frequent errors is a change of noun or adjective inflections in order to make them similar (see about the same tendency in child Finnish Laalo 1995: 153-171). In Russian it can be illustrated with examples like *A myshata tut malen'aja* (2;8) 'And the mice here are little' Fem Sg instead of Pl because the word *myshata* has rare plural with *a*. Phonological concordation is more important than the unclear morphological rule. In another example the child changes the nominal inflection: *kol'osi kasi* 'wheels red' (1.10) according to tautological agreement type, *kol'osy u nego takie* 'wheels it has such' (2;8) same change according to reduplicative type of agreement (the right form has -a- inflection: *koljosa*), *vot takoj i kabin* 'such is the cabin' (both adjective and noun are masculine instead of feminine; reduplicative agreement).

Russian children often use erroneous inflections of the adjective changing its first vowel, for example *belAJU* instead of *belUJU* in Dat Sg Feminine, *zhjoltAM*, *zeljonAM* instead of *zhjoltYM*, *zeljonYM* in Instr Sg Masculine; *malen'kAI* instead of *malen'kIE* in Nom Pl. It may happen due to the wrong morphemic division that is based on nominal inflection experience. Nominal inflections are already acquired at 2;7 (examples are taken from this age) and the child changes adjectives according to the nominal type, adding only one vowel to the stem that is considered to be independent. Such a false stem (*belaj*, *malen'kaj*) sounds the same for all genders if the inflection is not stressed.

The changeable part then is similar to the nominal one, e.g.: *belajU mashinU* 'white car' Dat Sg, *zhjoltAM zvetAM* (we take the unstressed inflection and here the phonetic variant of it is given) Instr Sg, *malen'kAI detI* 'little children' Nom Pl.

8. Conclusion

Cases with erroneous inflection given in section 7. represent the tautological type of agreement with the false morphemic division. We can interpret it as the

protomorphological phase of the acquisition of secondary paradigms: the paradigm of adjective (numeral, pronoun) is influenced by the already acquired primary paradigms. This influence is stronger than the input that imposes another type of inflections. The distinction between primary and secondary paradigms comes with the contrastive agreement type that increases from 0 to 13% from 1;11 to 2;9. Contrastive agreement marks the real transition to the modularized adult morphology.

This tentative analysis shows only one case study of a boy Filipp who was recorded for the project between 1;4 and 3;5. We used the tapes that were available at the time. Further research on the subject seems necessary to determine whether it was an individual or a language-specific way to acquire the adjectival paradigm in Russian.

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