

Declension classes in Latvian and Latgalian: Morphomics vs. morphophonology

NICOLE NAU

Adam Mickiewicz University, Poznań

This paper explores the system of noun declension in Latvian and Latgalian. It is claimed that despite superficial similarities the principles underlying the two systems are different. In Latvian, a characteristic vowel that has no other function than to distinguish classes is present in most case-endings. In Latgalian inflectional morphology, on the other hand, an important feature is the distinction between phonologically hard vs. soft stems. In the case of hybrid nouns, a conflict between inherited membership to a declension class and morphophonological principles leads to variation in case-assignment. The data support the thesis that in the case of external motivation class-membership loses its function of predicting the forms of a paradigm.

Keywords: inflection classes, paradigms, declension, morphophonology, Latvian, Latgalian

1. Introduction¹

Latvian and Latgalian are two closely related languages. They share most of the basic vocabulary (see Andronov 2009 for a lexico-statistical account of the standard languages) and a great part of inflectional morphology. However, we also find some significant differences in inflection, and these are interesting not only for historical linguistics, but also from the point of view of theoretical morphology. In this paper I will compare the declension of nouns in the two languages and try to show that the two systems differ with respect to their organizing principles: Latvian declension classes are built mainly on inner-morphological (or ‘morphomic’) principles, while in Latgalian phonology and morphophonology play a decisive role. Furthermore, there is a tendency in Latgalian to reduce the system up to the point

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where there are no more declension classes. It will be argued that these two facts—the reliance on phonological properties and the reduction of declension classes—are related.

This paper will address several questions concerning inflection classes that have been important in grammatical descriptions from ancient times and are likewise discussed in theoretical approaches to morphology today. These questions include the following:

1. How are paradigms grouped into classes? How are classes organized, what distinguishes classes and what do they have in common on a higher level?
2. What restricts the number of inflection classes?
3. What relations are there among forms of a paradigm? How is information about the paradigm encoded in individual forms? Which forms are more informative in this sense?
4. What is the status of inflection classes, their role in the morphological system of a language?

In modern morphological theory interest in such questions started only in the 1980s, with main works by Andrew Carstairs (1983, 1987) and Wolfgang Ullrich Wurzel (1984); for approaches developed during the 1980s see also articles in Plank, ed. (1991).

Much attention has been paid to the second and the third group of questions given above, including their mutual relation. To predict the maximum number of inflection classes, Carstairs (1983) proposed a bold and astonishingly simple principle called Paradigm Economy, which will be presented and discussed in section 2.1 of this paper. The relations between forms of a paradigm belong to the key issues of Wurzel's work, where they are captured by Paradigm Structure Conditions (*Paradigmenstrukturbedingungen*). This concept was adopted by Carstairs-McCarthy (1991, 1998) who combined it with a revised version of his own principle of Paradigm Economy. One of the main ideas, also to be discussed in this paper, is that some forms of a paradigm play a special role in being 'diagnostic' for the paradigm as a whole and providing information for the building of other forms. More recently, Finkel & Stump (2007) have taken up this issue under the label Principal Parts, and developed a typological classification of languages on this base. Ackerman, Blevins & Malouf (2009), among others, combine the idea of diagnostic forms, or principal parts, with information theory and

put forward a hypothesis of Paradigm Entropy as a tool to measure how difficult it is to determine forms of a lexeme on the base of other forms (the ‘paradigm cell filling problem’).

The first and the fourth complex of questions posed above also turn out to be related. The significance of paradigms is not acknowledged in all currents of contemporary morphology², it is questioned especially in morpheme-based approaches (going back to ‘item-and-arrangement’ or ‘item-and-process’ models; the labels morpheme-based vs. word-based approach follow Haspelmath & Sims 2010). Within such an approach, questions like those given under 1. above are of no importance. On the other hand, when Aronoff (1994) in his now classic book on morphology drew his colleagues’ attention to the neglected field between (morpho)phonology and (morpho)syntax, inflectional classes played a key role in his argumentation: inflectional classes that are not based on either phonological nor morphosyntactic features of the lexemes are manifestations of ‘morphology by itself’. For Aronoff (1994, 65), a noun’s (or other lexeme’s) membership in a certain inflectional class is directly linked to its inflection, for it “will guarantee that the noun has exactly the realization pairs of that class”. This, of course, is a very old idea that for hundreds of years has been used in teaching Latin and other languages. I will come back to it in more detail in section 4, when discussing Latgalian nouns that appear to lose their class membership. Aronoff’s distinction of a purely morphological level of linguistic operations, called by him ‘morphomic’ (Aronoff 1994, 22–29) will be important before, in sections 2 and 3, because, as stated at the beginning, an important difference between Latvian and Latgalian declension classes is that only the former are created on morphomic principles.

In a recent overview of properties of declensional paradigms Blevins (2009, 218) concludes that case paradigms “represent a system ‘où tout se tient’” and therefore should be regarded as complex wholes. The research presented in this paper confirms this view: Latvian and Latgalian declensions have much in common (among other things, the number of categories, the means of expression (suffixation), the small amount of syncretism), but they differ in what makes the forms

² For example, in Distributed Morphology they are treated as epiphenomena (cf. Müller 2007).

of a paradigm as well as the system of classes hold together so that the Latvian system is relatively stable while the Latgalian system is prone to disintegration.

The main aim of this paper is to present and discuss the Latvian and Latgalian data in a way inspired by, and, hopefully, fruitful for contemporary approaches to morphology. The data from Latvian discussed here are well known in Latvian and Baltic linguistics; I only propose a new way of looking at them. Latgalian, on the other hand, is to date very little known even among scholars of Baltic languages so that with my research I am breaking new ground rather than challenging a tradition³. In both cases one has to keep in mind that discussing the system of ‘a language’ always involves abstraction and idealization. In this paper I will consider only modern standard Latvian, but include data from different varieties of Latgalian. A standard variety of Latgalian is still in the course of being developed. Efforts to standardize Latgalian have so far concentrated mostly on orthography; the latest standard for writing Latgalian was officially accepted in 2007 (LPN 2008). However, morphological variation and its normalization has also played an important role in discussions concerning the planning of Latgalian, and several of the ‘orthographic rules’ (in Latgalian: *pareizraksteibys nūsacejumi*, see title of LPN 2008) that make up the standard of 2007 actually regulate the use of inflectional endings. I will refer to the relevant rules explicitly in section 3 of this paper. When I speak of ‘dialects’ of Latgalian, I have in mind traditional local varieties that are typical of a small area, often spoken within the borders of a parish (the kind of regional variety called *izloksne* in Latvian, or *Ortsmundart* in German, and sometimes referred to as *subdialect* in English). These small local dialects are traditionally the subject of description by Latvian dialectologists and thus accessible to the researcher. However, as in other European countries, ‘pure’ subdialects are becoming rare, and new forms of colloquial Latgalian are developing which integrate features of various subdialects as well as the written language. Such varieties are found especially in texts published on the Internet. They contribute to the standardization of Latgalian in a way different from (and often not acknowledged by) conscious language planning.

³ The very instructive article by Lelis (1970) became known to me only after finishing this paper.

I mainly use data from written sources, but will sometimes comment on differences between written and spoken forms. Data are presented in standard orthography with the following minor deviations: (i) in Latvian the diphthong /uo/ will be written as <uo> and not as <o> (for Latgalian this convention is standard), (ii) palatalization in Latgalian will be indicated by a superscript <^j> in case-endings and at the end of stems, because in such positions it is important for the phenomena investigated, but not in other parts of a stem. Latgalian standard orthography marks palatalization only in a few positions, using the letters <ļ, ņ, ķ, ģ> for palatalized [l^j, n^j, k^j, g^j]. In Latvian the same letters represent the palatal consonants IPA [ɮ, ɲ, ç, ʝ].

2. Paradigms and class building in morphology by itself: Latvian

A paradigm is the set of inflected word-forms of a lexeme. A paradigm of a Latvian noun is the set of its case-forms in two numbers, singular and plural. Declension classes can be defined as sets of nouns which build their case-forms in the same way, or as sets of paradigms with identical exponents for each case. Paradigms and declension classes are most often presented in the form of tables, and this paper is no exception⁴. While it is customary to treat all word-forms of a noun as forming a single (coherent) paradigm, in this paper I will work with two separate paradigms for singular and plural. This will make the description easier by avoiding redundancy caused by the fact that there are fewer different patterns in the plural than there are in the singular. Furthermore, it will be shown that singular and plural declension display partly different characteristics which become apparent only when treating each as a separate system of paradigms. Thus, in the approach taken here declension classes are sets of either singular or plural paradigms. This approach may find further support in the considerable number of *pluralia tantum* typical for Baltic languages, or the existence of nouns whose meaning differs in the two numbers

⁴ Another way of presentation is by paradigm rules that contain pairs of case-forms and category labels, for example {(gals, nominative), (gala, genitive) ...}. The two ways of presentation are equivalent, tables can be translated into rules and vice versa (see Haspelmath & Sims 2010, 106).

(for example Latvian *gods* (sg.) ‘honour’, *godi* (pl.) ‘(family) celebration’). An important question, of course, is how the two paradigms are linked for nouns that are inflected in both numbers, which after all is the typical situation. It seems that the genitive singular plays an important role for linking singular and plural declension of a noun. This issue will be taken up in section 2.2.

In Standard Latvian there are five morphologically different productive cases⁵. All case-forms of a noun in Latvian consist of stem + ending⁶. In most instances cases are formed by simply adding a suffix to the stem. Only in the genitive of both numbers does a certain group of nouns have consonant alternation in addition to suffixation. No forms are distinguished by stem alternation only, and there is no ‘zero ending’ for any case. The number of different endings for one case ranges from 1 (genitive plural) to 7 (dative singular).

2.1. Singular paradigms

I will start my presentation ‘bottom up’, considering first the different exponents of cases, given in table 1, and then discuss how they combine to form paradigms. Here and later, an apostrophe before a suffix marks alternation of the preceding (= the stem-final) consonant.

Table 1: Latvian case markers in the singular

Case	Exponents	Amount
Nominative	<i>-us, -s, -š, -a, -e</i>	5
Genitive	<i>-us, -s, -a, 'a, -as, -es</i>	6 (5 endings)
Dative	<i>-um, -am, -im, -em, -ai, -ei, -ij</i>	7
Accusative	<i>-u, -i</i>	2
Locative	<i>-ū, -ā, -ī, -ē</i>	4

⁵ The vocative, whose formation has a more derivational character, is excluded here.

⁶ For convenience we will take the written language as a starting point. In spoken language, the nominative singular ending *-s* is often not segmentable because of phonological processes, for example *mež-s* ‘wood’ [mɛʃ:], *aus-s* ‘ear’ [aus:].

Given this set of endings, how many and what kind of declension classes could we expect? If the choice of ending for each case were completely random, there would be 1680 (= 5 x 6 x 7 x 2 x 4) different possibilities to inflect a noun in Latvian, but it seems highly unlikely that the language should use more than, say, 1% of this logical possibilities. This kind of observation led Carstairs (1983) to postulate his Paradigm Economy Principle. It says that the number of declension classes would ideally be the ‘logical minimum’, that is as high as the maximum choice for one case (here: 7). The Paradigm Economy Principle has been criticized from various points of view and alternative explanations have been proposed (for example, by Nyman 1987, 1988; Plank 1991; Müller 2007). As pointed out by Nyman (1987), the principle does not explain anything, but is itself an explanandum. In my eyes, its usefulness is that of a heuristic tool, providing us with a rule of thumb for the number of inflection classes to be expected. It may also draw our attention to the case where the maximum of choices is found (here: the dative), which can be supposed to play a special role within the paradigm. The principle is suggestive rather than predictive, as the Latvian and Latgalian data discussed in this paper can show.

Regarding the inflection of Latvian nouns in the singular we find 10 recurring patterns (see table 2) and a few irregular nouns⁷. These ten patterns are established on the basis of the first three cases (nominative, genitive, dative). Accusative and locative don’t add anything new, as each pattern combines with only one of the four possible accusative-locative combinations (the combinations will be seen in table 3). Each pattern is associated with one gender—either masculine or feminine nouns inflect in this way.

⁷ As irregular I regard nouns which should follow pattern 4 but do not show consonant alternation in the genitive (their pattern thus is *-is, -a, -im*), for example *viesis* ‘guest’ and personal names like *Atis*, and the word *suns* ‘dog’, which has an irregular nominative (pattern *-s, ’-a, -im*). Two further productive patterns of Latvian nouns are excluded from consideration here: (i) nouns derived by conversion from adjectives with the definite ending and which retain the adjectival declension (*mobil-ais* ‘mobile phone’), (ii) nominalizations of reflexive verbs ending in *-šān-ās* (*tikšān-ās* ‘meeting’), which have a defective paradigm.

Table 2: Ten patterns of Latvian noun declension (singular)

	1	2	3	4	5	6	7	8	9	10
Gen- der	m	m	m	m	m	f	f	m	f	m
Nom.	-us	-s	-š	-is	-s	-s	-a	-a	-e	-e
Gen.	-us	-a	-a	ʹ-a	-s	-s	-as	-as	-es	-es
Dat.	-um	-am	-am	-im	-im	-ij	-ai	-am	-ei	-em
Ex- am- ple	AL- 'beer'	GAL- 'end'	CEĻ- 'way'	GAIL- 'cock'	ŪDEN- 'water'	UGUN- 'fire'	MAL- 'edge'	PUIK- 'boy'	PEL- 'mouse'	BEND- 'hang- man'

It is possible to posit 10 different declension classes on this ground. However, the number of classes can be reduced by two general principles that allow us to treat two patterns as variants of a single class. Thus, patterns 2 and 3 can be united by the following rule:

Rule 1: Nominative *-s* > *-š* for most stems ending in < j, l, ņ, r >.

Examples: *vejš* 'wind', *ceļš* 'way', *ceļiņš* 'way (diminutive)', *karš* 'war'

While this rule has a phonological background, from a synchronic point of view it is not purely phonological, and some nouns ending in one of the consonants mentioned have nominative *-s* (for example *gars* 'spirit', *klajs* 'board, deck', *nomina agentis* derived by the suffixes *-tāj-* and *-ēj-*).

Another general rule allows us to establish pattern 5 as a variant of 6, pattern 8 as a variant of 7, and pattern 10 as a variant of 9:

Rule 2: Dative singular for masculine nouns must end in /m/.

As in these classes the number of masculine nouns is much smaller than that of feminine nouns, it makes sense to treat patterns 6, 7 and 9 as the dominant ones and 5, 8 and 10 as variants that require an additional rule.

With these two rules we arrive at the following six declension classes. From here on, I will use Roman numbers to refer to the classes, in accordance with the practice of Latvian grammatical descriptions.

Table 3: Six declension classes for Latvian nouns (singular)

Class	I	II	III	IV	V	VI
Gender	m	m	m	f (m)	f (m)	f (m)
Example (see tab. 2)	GAL- 'end', CEĻ- 'way'	GAIL- 'cock'	AL- 'beer'	MAL- 'edge' PUIK- 'boy'	PEL- 'mouse' BEND- 'hang- man'	UGUN- 'fire' ŪDEN- 'water'
Nominative	-s, -š	-is	-us	-a	-e	-s
Genitive	-a	'-a	-us	-as	-es	-s
Dative	-am	-im	-um	-ai, -am	-ei, -em	-ij, -im
Accusative	-u	-i	-u	-u	-i	-i
Locative	-ā	-ī	-ū	-ā	-ē	-ī
Pattern (in table 2)	2, 3 rule 1	4	1	7, 8 rule 2	9, 10 rule 2	6, 5 rule 2

This system is almost identical to the traditional system found in Latvian descriptive grammars since the 17th century. The only difference is my grouping of pattern 5 together with pattern 6, while traditional grammar treats pattern 5 as a variant of pattern 4 and thus assigns nouns like *ūdens* 'water' to declension class II. This may be the better solution if singular and plural forms are treated as forming a single paradigm—nouns like *ūdens* build the plural like nouns of class II, not like feminine nouns of class VI. As I assume separate paradigms for the two numbers, the grouping proposed here has the advantage of being captured by one simple rule that also works in other cases. A further argument for grouping nouns of pattern 5 together with pattern 6 and not pattern 4 is given by the formation of diminutives, which in Latvian is very regular and class-sensitive. Nouns of pattern 5 take the diminutive suffix *-tiņ-* (*ūden-tiņ-š* 'water (dim.)') just as most nouns of

pattern 6 (*ugun-tiņ-a* ‘fire (dim.)’), while diminutives of nouns of pattern (4) are built with the suffix *-īt-* (*gail-īt-is* ‘cock (dim.)’).

Of the six declension classes, four (I, II, IV, V) are large and open (productive) classes containing simple and derived stems, inherited as well as borrowed nouns, and attracting nouns of closed classes. Class III contains only seven simple common nouns plus some proper names and does not accept new borrowings (for example, ‘virus’ is allocated to class I as *vīrus-s*). The masculine variant of class VI (type *ūdēns*) is even smaller (6 common nouns), while there are about 50 feminine nouns in this class (but no derivations and no recent borrowings). It may be noted that syncretism is found only in these closed classes: for nouns of class III and VI nominative and genitive singular are homonymous, while in the open classes nouns have different forms for each case.

What are the organizing principles that make this system of paradigms one “où tout se tient”? First, each declension class in Latvian is associated with a vowel. This vowel always shows up in the locative and the dative, in classes III–V also in the nominative and genitive, in class I in the genitive. We may thus speak, for example, of declension III as the “*u*-declension”. This vowel has no extra-morphological function or motivation. Its recurrence in different word-forms of one lexeme is an index of the lexeme’s membership in a declension class. Its function is thus purely morphological, or ‘morphomic’ (Aronoff 1994, 22–29). However, it is not sufficient to characterize the system. There are only 4 characteristic vowels (< a, e, i, u >), and if we try to establish a system with 4 classes on this base, we’ll come up with subgroups and variants that can no longer be explained by simple general rules like the ones used for grouping the 10 patterns of table 2 into the 6 classes of table 3. Therefore the locative despite showing the characteristic vowel most clearly⁸ is of limited value as a diagnostic form. Also functional considerations speak against the locative form as a principal part: the locative is rarely used with nouns denoting human beings (and animate

⁸ In spoken language short word-final vowels are reduced, their quality becomes hardly discernable even in moderate speech, while in allegro speech they are not pronounced at all. Long vowels are reduced in quantity, but retain their distinctive quality. Reduction of vowels also takes place in closed light syllables (here: nominative and genitive endings consisting of vowel + *s*), but not in heavy syllables (here: datives consisting of vowel + *m* or vowel + *i*).

referents in general), and as only few verbs govern a locative, nouns in the locative rarely appear as core arguments.

The second feature that plays a role in the system is gender: classes I–III contain only masculine nouns, while for classes IV–VI feminine is the default gender. Overriding the class default, individual nouns belonging to one of these classes may have masculine gender. In class V this happens solely on semantic grounds: nouns denoting a male human being (like *bende* ‘hangman’) are assigned masculine gender, which is manifest in agreement, but also in the fact that the dative ends in /m/. If the same noun is used to refer to a woman (*bende* ‘female executioner’, ‘hangwoman’), it shows feminine agreement and its dative is *bendei*. Latvian grammar uses the term ‘nouns of common gender’ for such cases. There are only very few such nouns in class V (consequently, the dative ending *-em* is marginal in the system of Latvian inflection), but more than 30 common gender nouns can be found in class IV. In addition this class contains also ‘purely’ masculine nouns, almost all of which are loanwords⁹: (i) nouns that can refer only to male persons (*puika* ‘boy’, *maharadža* ‘maharajah’); (ii) nouns denoting animals irrespective of their sex (*gorilla* ‘gorilla’ (male/female), *koala* ‘koala’); (iii) the noun *rikša*, which may refer to a person running a rickshaw as well as the vehicle itself, thus may have an inanimate referent¹⁰. In cases (ii) and (iii) the gender is not directly semantically motivated. The masculine common nouns in class VI all refer to inanimate objects and thus clearly lack semantic motivation. I have presented these Latvian facts in some detail because they show an interesting case of interference of morphosyntax with morphology. Not only are the masculine nouns of classes IV–VI exceptions to the rule that inflection class determines gender—such instances can easily be found in other European languages, too; what is more curious is the

⁹ A word that has not been borrowed in group (ii) is the name of an insect: *skudrulauva* (myrmeleon, antlion), which is a compound of *skudra* ‘ant’ and *lauva* ‘lion’. The second component has common gender when used as a lexeme: *lauva*, dative *lauvam* ‘male lion’ / *lauva*, dative *lauvai* ‘female lion’. Of course, the sex of a lion is much easier to determine for humans than that of a bug.

¹⁰ It is true that when denoting the vehicle, Latvian *rikša* is often used as a feminine noun in texts (at least in texts on the Internet), but dictionaries mention it only as a masculine noun, and as such it is also attested in texts, including the dative form *rikšam*.

fact that gender has a direct impact on the choice of case-ending and this choice overrides the class default.

Characteristic vowel and gender are thus the two features on which the Latvian system of declension is based. There is one form in each paradigm that overtly shows both: the dative, which consists of characteristic vowel + /m/ for masculine and /i/ for feminine nouns (with /i + i/ > /ij/). This fact has long been noticed, and some descriptive grammars of Latvian use the dative as a label for the respective declension class (I = *am*-declension, II = *im*-declension etc.; cf. Nītiņa 2001, 14. Note that Nītiņa uses the traditional classification where nouns like *ūdens* ‘water’ are grouped into class II). The dative has higher diagnostic value than the locative, and dative forms are good candidates for principal parts. I am not aware of any representative frequency count of Latvian case forms, but there is no doubt that the dative is a very frequent form, at least for nouns denoting human beings. The dative allows us to predict the accusative and the locative for all nouns and we may establish unidirectional implications of the kind (dative, *Xam*) > (locative, *Xā*), (accusative, *Xu*). Datives ending in *-ai*, *-ei*, *-ij*, *-um*, or *-em* also predict the nominative and the genitive of the noun, but dative forms ending in *-am* or *-im* open two possibilities for nominative and genitive.

In my opinion, there is not one form that alone would represent the paradigm, and there also doesn't have to be such a form. The combination of two forms (the dative and either the nominative or the genitive) gives enough information for predicting all other case-forms. However, it would be arbitrary to single out such a pair, for example nominative and dative, as the principal parts. There are implicational relations between various pairs of forms or form combinations, or, as Ackerman, Blevins & Malouf (2009, 69) put it, “in general most cells in the paradigm of most words are of value in predicting the form of most other cells”. The accusative is the least informative form in this sense, and the most predictable: the ending is *-u* if the characteristic vowel is a back vowel (*a*, *u*), but *-i* if the characteristic vowel is a front vowel (*i*, *e*). Note that while this rule refers to phonological properties, the choice of ending for a given noun is still purely morphological: there is nothing in the shape of a stem that triggers the choice of a back or a front vowel (in contrast to Latgalian, discussed below).

2.2. Plural declension

Latvian noun declension in the plural differs from the singular in various ways. There are fewer classes, no subclasses according to gender, and we find more syncretism within and across paradigms. There is only one ending for all nouns in the genitive, and nouns of classes iv–vi have the same form in the nominative and the accusative. These three classes correspond to the singular classes iv–vi. In the plural, the masculine nouns in classes iv and v do not differ in their declension from the feminine nouns, thus here gender does not interfere with morphology (dative plural is *-ām*, *-ēm* for feminine as well as masculine nouns). Plural class vi does not contain masculine nouns: the small subclass of the type *ūdens* ‘water’ belongs to another class in the plural, namely the class that contains all nouns of the singular classes i–iii. All nouns belonging to this class take the same endings. I therefore propose only 4 declension classes for the plural (table 4). In order to make similarities between nominative and accusative forms as well as between dative and locative forms more visible I have changed the order of cases, putting the accusative right after the nominative.

Table 4: Four declension classes for Latvian nouns (plural)

Class	I (pl.)	IV	V	VI
Gender	m	f (m)	f (m)	f
Example (see tab. 2)	GAL-, CEĻ-, AL- GAIĻ-, ŪDEN-	MAL- PUIK-	PEL- BEND-	UGUN-
Nominative	<i>-i</i>	<i>-as</i>	<i>-es</i>	<i>-īs</i>
Accusative	<i>-us</i>	<i>-as</i>	<i>-es</i>	<i>-īs</i>
Genitive	<i>-u</i>	<i>-u</i>	<i>'-u</i>	<i>'-u / -u</i>
Dative	<i>-iem</i>	<i>-ām</i>	<i>-ēm</i>	<i>-īm</i>
Locative	<i>-uos</i>	<i>-ās</i>	<i>-ēs</i>	<i>-īs</i>

Classes iv–vi are distinguished from each other by the characteristic vowel, whose presence is even more conspicuous here than in

the singular, and which links each of these classes to the respective singular class. A further link is provided by the fact that the genitive singular in classes *iv* and *v* is **homonymous with the nominative/accusative plural**. In the genitive plural, there is stem alternation for (almost) all nouns of class *v*, with some phonologically motivated exceptions. In class *vi*, too, many nouns undergo stem alternation in the genitive, but exceptions are numerous and not predictable. Plural classes *iv–vi* are completely parallel and may be united in a super-class with a variable for the characteristic vowel as described by the following paradigm rule: {(/-Vs/, nominative = accusative), (/V:m/, dative), (/V:s/, locative)}. This super-class is opposed to class *i*, which has no evident characteristic vowel that would link it to a class of the singular declension. Within this class, nouns of singular class *ii* (*gail-is*) and masculine nouns of class *vi* (*ūden-s*) differ from nouns of singular class *i* (*gal-s*) or *iii* (*al-us*) in that the plural stem shows alternation of the final consonant: nominative singular *gail-is*, *ūden-s* / nominative plural *gail-i*, *ūdeņ-i* etc. As this stem alternation shows up in all case-forms of the plural, it is a feature of the category plural and not of individual cases (in contrast to the stem alternation that occurs in the genitive plural of nouns of classes *v* and *vi*). Thus, we may distinguish subclasses within plural class *i* according to the stems, but not according to endings. This feature will show up again, and more prominently, in Latgalian. For most nouns of the plural class *i* the stem has the same form in the plural as it has in the genitive singular: with alternation for class *ii* nouns, without alternation for nouns of singular class *i* and *iii*. This provides a link between the two paradigms. Only the small group of nouns of the type *ūdens* ‘water’ deviates from this rule in that they don’t show consonant alternation in the genitive singular, but do so in the plural.

3. Externally motivated classes: Latgalian

3.1. Singular paradigms and the division of stems

Latgalian nouns are inflected for the same categories—two numbers and five cases—as Latvian nouns. Latgalian grammaticography has a shorter history than Latvian grammaticography and is not yet as developed. There is no uniform treatment of declension classes in 19th

and 20th century grammars of Latgalian. The latest and most accurate descriptive/ pedagogical grammar (Cibuļš & Leikuma 2003) is written in Latvian. It presents the same six declension classes for Latgalian as are used in grammars of Latvian, which makes the two languages look more similar than they are in my eyes. The book was published before the standard of 2007 had been adopted; one of the authors was active in the commission developing this standard, and the discussion about normalization of Latgalian morphology is reflected in the grammar. In the section on noun declension, in addition to forms accepted (or to be accepted) for written standard Latgalian the authors give also variants that are not accepted for the standard but are “more widespread in subdialects” (Cibuļš & Leikuma 2003, 25), which makes the description especially valuable for researchers interested in variation.

To start, I will present, in a slightly idealized way, the paradigms of the Latgalian cognates of the Latvian nouns used as examples in the previous section and comment on some straightforward differences between the languages. For cells where two variants are accepted for the standard variety, only one is given (the one first cited in Cibuļš & Leikuma 2003). As mentioned in the introduction, my notation deviates from standard orthography in marking palatalization by a superscript <^j>.

Table 5: Five declension classes for Latgalian nouns (singular)

Class	I	II	IV	V	VI
	GOL- ‘end’ OL- ‘beer’	GAIL ^j - ‘cock’ IUDIN ^j - ‘water’	MOL- ‘edge’ PUIK- ‘boy’	PEL ^j - ‘mouse’	GUN ^j - ‘fire’
Nominative	-s	-s ^j	-a	-e	-s ^j
Genitive	-a	-a	-ys	-is ^j	-s ^j
Dative	-am	-am	-ai	-ei	-ei
Accusative	-u	-i	-u	-i	-i
Locative	-ā	-ī	-ā	-ē	-ī

Comparing these data with the Latvian paradigms presented in table 3 above, it can easily be seen that the Latgalian system is simpler in that

- (i) it contains fewer classes: the cognates of Latvian common nouns of class III like Ltv. *alus* ‘beer’ (Ltg. *ols*) are inflected according to class I; they only retain a genitive -s (< -us) as a free variant to the ending -a. Only proper names, most prominently *Jezus Kristus*, are still optionally inflected in the way of the Latvian class III (genitive *Jezus*, dative *Jezum*);
- (ii) it contains fewer subclasses: masculine nouns that in Latvian belong to class VI (type Ltv. *ūdens*, genitive *ūdens* ‘water’) are regularly inflected according to class II in Latgalian (Ltg. *iudin’s*, genitive *iudin’a* ‘water’); masculine nouns of classes IV (*puika* ‘boy’) and V (Ltg. *tete* ‘daddy’) usually take the same dative ending as feminine nouns (Ltg. *puikai*, *tetei*). Datives ending in -m are possible variants for such nouns, but they are mainly found in some varieties of written Latgalian which are in general closer to Latvian;
- (iii) it contains significantly fewer different endings in the dative: in addition to the simplification described under (ii), class II shows the same ending as class I (-am) and class VI the same ending as class V (-ei). Thus there are only 3 different case endings in the dative in Latgalian, opposed to 7 dative endings in Latvian.

The last point is of special significance, for, as shown above, in Latvian the dative is the best diagnostic form in the paradigm, and it manifests the two criteria that organize the system. The difference between Latvian and Latgalian concerning the dative singular is indicative of principled differences between the two systems of noun declension. The most important difference is the fact that while in Latvian classes are distinguished by a characteristic vowel, Latgalian nouns are classed according to phonological properties of the stem, and the choice of ending is influenced by phonological and morphophonological rules. Two characteristic features of Latgalian phonology are essential for understanding the morphology of that language: palatalization of consonants and the distribution of vowels.

Palatalization occurs with and is, at least potentially, distinctive for all non-alveolar consonants (see Brejdak 1989, 2006; Nau 2011: 11–12). These consonants are palatalized before a front vowel and before a palatalized consonant. This has the consequence that the stems of

nouns of class II, V, and VI end in a palatalized consonant in most of the word-forms, except for stems ending in alveolar consonants (< č, dž, r >), which are never palatalized. So far my examples have involved only stems ending in a dental sonorant (in table 5 above: *gail^l-*, *iudin^l-*, *pel^l-*, *gun^l-*); such consonants remain palatalized in all case forms. For other stems, case endings beginning with a back vowel (genitive *-a* and dative *-am*) trigger consonant alternation¹¹. As a result, the difference between class I and class II in the genitive and dative lies in the stem, not the endings (for the nominative see below). Compare the patterns of class I and class II nouns in table 6.

Table 6: Opposition between singular class I and class II nouns in Latgalian

Class	I	II	I	II	I	II
Stem	GOL-	GAIL ^l -	BĀRZ-	EZ ^l -	DORB-	GUL ^l B ^l -
Nominative ¹¹	<i>gol-s</i>	<i>gail^l-s^j</i>	<i>bārz-s</i>	<i>ez^l-s^j</i>	<i>dorb-s</i>	<i>gul^lb^l-s^j</i>
Genitive	<i>gol-a</i>	<i>gail^l-a</i>	<i>bārz-a</i>	<i>ež-a</i>	<i>dorb-a</i>	<i>gul^lb^l-a</i>
Dative	<i>gol-am</i>	<i>gail^l-am</i>	<i>bārz-am</i>	<i>ež-am</i>	<i>dorb-am</i>	<i>gul^lb^l-am</i>
	‘end’	‘cock’	‘birch’	‘hedgehog’	‘work’	‘swan’

With nouns of classes IV–VI the situation is similar: stems of nouns of class IV end in a non-palatalized consonant¹³, while the final consonant of stems of nouns of classes V and VI is palatalized before endings containing a front vowel or a palatalized consonant (that is, all singular endings).

¹¹ Consonant alternation in Latgalian: (i) palatalized dental obstruents alternate with non-palatalized alveolar obstruents (ex. *ez^l-s* ~ *ež-a*, *ež-am* ‘hedgehog’); (ii) palatalized labial consonants become depalatalized (ex. *gul^lb^l-s^j* ~ *gulb-a*, *gulb-am* ‘swan’). Process (ii) is phonological rather than morphophonological, as we will see in the plural paradigms below. For more details see Nau (2011) or Cibulš & Leikuma (2003).

¹² The pronunciation of some of the nominative word-forms differs significantly from what the writing suggests, due to assimilation processes: Latgalian (in standard orthography) *bārz* [ba:rss], *ez* [es^ss^l], *dorbs* [dɔrps], *gulbs* [gul^lp^ls^l], Latvian *bērzs* [bæ:rɪss], *darbs* [darpɪs]. All transcriptions omit intonational (tonal) markings.

¹³ See next section for nouns like *gaļ-a* ‘meat’ which seem to contradict this statement.

Case endings containing a dental fricative deserve special attention. The nominative of class I and class II nouns differs only with respect to palatalization: class I has /s/ while class II has /sʲ/. A similar situation is found in the genitive of class IV as opposed to class V: the opposition /ys/ (*mol-ys*) vs. /isʲ/ (*peļ-isʲ*) is not based on different vowel qualities¹⁴, but on the palatalization of the consonant, while < y > [i] and < i > [i] are positional variants of the high front vowel. The same endings are found as phonologically conditioned variants in the nominative of class I and class II, used to avoid consonant clusters: class I /ys/ (for example *krāsl-ys* ‘chair’, the Latvian cognate is *krēsl-s*), class II /isʲ/ (for example *zibn-isʲ* ‘flash’). Given that the endings /sʲ/ and /isʲ/ appear exclusively with stems ending in palatalized or alveolar consonants, while /s/ and /ys/ appear with stems ending in non-palatalized consonants, the choice of ending is phonologically rather than morphologically conditioned. The functional (class-building) opposition between the genitives *mol-ys* vs. *peļ-isʲ*, or the nominative forms *gol-s* vs. *gail-sʲ* or *krasl-ys* vs. *zibn-isʲ* lies in characteristics of the stems, not in the endings.

The stems of Latgalian nouns are distinguished not only by their final consonant, but also by the distribution of vowels. This latter phenomenon becomes apparent when comparing the stems of cognate nouns in Latgalian and Latvian. Roughly, Latgalian stems that end in a palatalized consonant have the same vowels as their Latvian cognates (Ltg. *gail-* / Ltv. *gail-* ‘cock’, Ltg. *peļ-* / Ltv. *peļ-* ‘mouse’, Ltg. *guni-* ‘fire’ / Ltv. (*u*)*gun-*), while stems ending in a non-palatalized consonant and thus belonging to classes I or IV show different vowels (Ltg. *gol-* / Ltv. *gal-* ‘end’, Ltg. *mol-* / Ltv. *mal-* ‘edge’, Ltv. *bērz-* / Ltg. *bārz-* ‘birch’). This difference is the result of the ‘Great Latgalian Vowel Shift’¹⁵, which affected monophthongs (with the exception of [u]) and monophthemic diphthongs. The vowel shift did not take place in positions before a palatalized consonant or an alveolar obstruent. As a consequence, there are now two kinds of stems that differ in phonological shape,

¹⁴ The endings *-as* and *-es* for the genitive singular of class IV and V, respectively, are variants accepted for the standard variety (LPN 2008, 38–39), but they are less typical for spoken varieties of Latgalian.

¹⁵ To my knowledge, this telling term was first used by Anna Daugavet in a paper given at the First Conference on Latgalistics, St. Petersburg 2008.

which I call ‘soft stems’ and ‘hard stems’. Their main characteristics are given in the table below.

Table 7: Characteristics of soft and hard stems in Latgalian

soft stems	hard stems
<ul style="list-style-type: none"> • contain palatalized or alveolar consonants; • may contain the vowels [i], [ɛ], [æ], [æ:], but don't contain the vowels [i:], [ɔ], [a:]; • if they contain the vowel [a], its morphophonological alternant is [ɔ]; • examples: <i>zivⁱ-s^j</i> ‘fish’, <i>dzērvⁱ-e</i> ‘crane’, <i>puč^e</i> ‘flower’, <i>acⁱ-s^j</i> ‘eye’ (genitive pl. <i>ocu</i>) 	<ul style="list-style-type: none"> • don't contain palatalized consonants or alveolar obstruents; • may contain the vowels [i:], [ɔ], [a:], but don't contain the vowels [i], [ɛ], [æ], [æ:]; • if they contain the vowel [a], its morphophonological alternant is [æ]; • examples: <i>zyrg-s</i> ‘horse’, <i>lops-a</i> ‘fox’, <i>bārns</i> ‘child’, <i>mad-s</i> ‘honey’ (diminutive <i>medeņš</i>)

On the base of their phonological shape the great majority of Latgalian nouns can be identified as either hard-stemmed or soft-stemmed. This characteristic has direct relevance for morphology: The Latgalian system of noun declension is organized along the two parameters phonological shape and gender. These two parameters largely determine the inflection of a noun (a few remaining problems will be discussed below). In standard Latgalian, there are still two classes of feminine soft-stemmed nouns, corresponding to the classes *v* and *vi* in Latvian. In dialects, but also in other modern colloquial varieties of Latvian we find a tendency to unite these two classes into one, for example by the transition of nouns from class *v* to class *vi* (Rudzīte 1964, 339). The characteristic vowel, which is so important in the Latvian system, plays only a minor role in Latgalian and is on the way to vanish completely. Note that this is not due to phonetic reduction: in Latvian dialects, especially in the westernmost, reduction of vowels is much more common and advanced than in Latgalian dialects. As already mentioned, in Latgalian the distinction by characteristic vowel is lost in the dative of feminine soft-stemmed nouns (class *i* vs. class *vi*). There is a strong tendency to unify also the locative of these two classes. In table 4 above I gave a locative *-ē* for class *V* (*pele*) and a locative *-ī* for

class *vi* (*guns^j*), in line with the standard forms proposed in Cibulš & Leikuma (2003) and LPN (2008, 39; here, only the locative of class *v* is mentioned). However, in various subdialects, but also in written texts that are otherwise near the standard, a locative in *-ī* is often found with class *v* nouns; other dialects use a locative in *-ē* with class *vi* nouns. Still other dialects have the ending *-ie* for the locative of both classes. If the distinction of class *v* and *vi* is given up, the opposition of the two remaining feminine classes will be one of hard vs. soft-stemmed nouns, just as with the masculine classes. Thus, we may speculate that Latgalian is on the way to a system with four declension classes that are distinguished exclusively by ‘extra-morphomic’ features: the morphosyntactic category of gender and the phonological characteristics of stems. Regarding gender, Latgalian does not show the peculiarities found in Latvian: gender is strongly associated with class, only semantic motivation can change the default (masculine nouns in class *v* or *vi* denoting male referents, such as *tete* ‘father’, also personal names like *Aleksandra* ‘Alexander’, but recall that in (spoken) Latgalian gender does not trigger different inflectional endings).

The following table presents the current state of Latgalian noun declension in the singular as I see it, taking into account the frequently found variation in the locative of feminine soft stemmed nouns and generalizing endings containing a dental fricative, based on the discussion above and the following rules¹⁶:

Rule 3: //S// = /s/ for hard stems, /s^j/ for soft stems

Rule 4: //IS// = /ys/ for hard stems, /is^j/ for soft stems

Note that these rules are valid for several cells in the singular paradigms as well as in the plural paradigms that will be discussed below.

The division of nominal stems into soft and hard stems is part of a more general principle in Latgalian which I have named ‘morphophonological harmony’ (Nau 2011: 15–16). As has been pointed out above, both stems and endings are of a ‘soft’ or ‘hard’ shape. Although there are some exceptions, there is a strong tendency to match stems and endings according to this criterion. From a derivational perspective one may say that a soft stem is combined with a soft ending, a hard

¹⁶ A further rule that is of less importance in this paper may be formulated as

Rule 5: //S// = //IS// for stems ending in two consonants
to account for the nominative endings in *krasl-ys* ‘chair’ and *zibn^j-is^j* ‘flash’.

stem with a hard ending. Historically it was rather whole word-forms that first became ‘hard’ or ‘soft’ as result of phonological processes like palatalization and vowel shift. When phonological shape became associated with declension class, all word-forms became ‘informative’ in the sense investigated by Ackerman, Blevins & Malouf (2009), by reducing the uncertainty of how other forms of this lexeme will be formed.

Table 8: Latgalian declension on the way between 5 and 2 x 2 noun classes (singular)

Class	I	II	IV	V	VI
	masculine hard stems	mascu- line soft stems	feminine hard stems	feminine soft stems	feminine soft stems
NOM		-S	-a	-e	-S
GEN		-a		-IS	-S
DAT		-am	-ai		-ei
ACC	-u	-i	-u		-i
LOC	-ā	-ī	-ā		-ē / -ī / -ie

3.2. Plural paradigms

Further evidence for the tendency to organize the declension classes of Latgalian by a division of stems can be found in plural paradigms. Plural class I corresponds to the Latvian class: the endings are the same for nouns of singular classes I and II, but the latter may have a different stem compared to the singular. The details of consonant alternation differ in the two languages. In Latgalian there are more stem-final consonants that don’t alternate, and in these cases class II nouns have the same stem in the singular and the plural¹⁷. In addi-

¹⁷ Soft stems that don’t alternate end in: (a) palatalized dental sonorants (*gail^l*- ‘cock’, *iuden^l*- ‘water’), (b) alveolar consonants (*zač*- ‘hare’, *zuodž*- ‘saw’, *myur*- ‘wall’).

tion, labial consonants show only phonological alternation (positional palatalization / depalatalization according to the following vowel). Therefore it might be questionable whether one should posit two different stems in this case: a singular stem ending in a palatalized labial consonant that is depalatalized in the genitive and the dative (recall the paradigm of *gulb^j* ‘swan’ given above) and a plural stem ending in a non-palatalized consonant (*gulb-* ‘swan’) that is palatalized when the ending begins with a front vowel. The only consonants that are subject to morphophonological alternation in a strict sense (that is, independent of phonological processes) are palatalized dental obstruents that alternate with non-palatalized alveolar obstruents (for example ‘hedgehog’ with a singular stem *ez^j*: nominative *ez^j-s^j*, accusative *ez^j-i*, with alternation: genitive *ež-a*, dative *ež-am*, but plural stem *ež-* used in all case-forms independently of the following vowel).

In the feminine classes we witness, on the one hand, the tendency to unite classes v and vi (as in the singular), and on the other hand a tendency to rely on an opposition of stems instead of endings (as in plural class i). Let us first look at standard Latgalian:

Table 9: Plural paradigms in standard Latgalian

Class	i (pl.)	IV	V	VI
Example (see tab. 2)	GOL-, GAIL ^j -, GULB-, EŽ-	MOL-	PEL ^j -	GUN ^j -
Nominative	-i	-ys	-is ^j	-s ^j , -is ^j
Accusative	-us	-ys	-is ^j	-s ^j , -is ^j
Genitive	-u	-u	’-u	’-u, -u
Dative	-im	-om	-em	-im
Locative	-ūs	-uos	-ēs	-īs

The two variants in the nominative of class vi are given in Cibuļs & Leikuma (2003, 33) as free variants of equal acceptability for standard Latgalian (*gun^js^j* or *gun^jis^j* ‘fires’). In the genitive of this class we find

lexical variation: some nouns show stem alternation in the genitive (for example *nuos^j-s^j* ‘nostril’, gen.pl *nuoš-u*), others don’t (*zūs^j-s^j* ‘goose’, gen.pl *zūs-u*). If we disregard this variation, we see that the opposition between feminine plural classes in the nominative/accusative and the genitive lies in the stems. Recall that *-ys* and *-is^j* are regarded as positional variants of a morpheme /*is*/ and that *-s^j* and *-is^j* are potential allomorphs, too. In the dative and the locative we still see a division into three classes distinguished by characteristic vowel¹⁸, corresponding to the situation in Latvian. However, in subdialects we find several variants and a common tendency to reduce the number of classes. Some dialects use endings containing the diphthong /*ie*/ for both class v and class vi, for example the dialect of Purlova: dative /*iem*/, locative /*ies*/ (Cibuļš 2011, 30–31)¹⁹. Other dialects use the endings of class iv (dative *-om*, locative *-uos*) with nouns of all feminine classes with or without stem alternation for soft stems ending in a dental obstruent. These dialects have thus found the same solution for masculine and feminine nouns, using one set of endings and some form of stem alternation in certain cases. The two sets of endings are shown in table 10; this system is a bit of an idealization, abstracting from variation found within actual subdialects.

In table 11 I give full singular and plural paradigms of feminine nouns as attested in one concrete subdialect. Interestingly, the last resort of distinct classes for soft-stemmed nouns (class v vs. vi) is the nominative singular and (as allomorph) the genitive singular and homonymous nominative/accusative plural. Otherwise the plural paradigm corresponds fully to the idealized system given in table 10—there is only one set of endings for all nouns, plus stem alternation that is not fully predictable in the genitive and the dative of soft-stemmed nouns²⁰. The singular paradigms show the basic split into two classes, one for hard-stemmed and one for soft-stemmed nouns.

¹⁸ In class IV the characteristic vowel has changed from /*a*/ to /*o*/ as a result of the changes /*ā*/ > /*uo*/ and /*ām*/ > /*am*/ > /*om*/. In the Latgalian vowel system the monophonemic diphthong /*uo*/ is the corresponding long vowel of the short monophthong /*o*/.

¹⁹ This dialect also uses the ending *-ie* in the locative singular for both class v and vi. On the other hand, it makes a distinction in the genitive singular and the nominative/accusative plural of these classes, where class v has the ending *-es* (not *-is^j*) and class vi has *-s^j*.

²⁰ The genitive plural form *ocu* ‘eyes’ is the result of the morphophonological processes of depalatalization and vowel alternation front > back (see Nau 2011: 18).

Table 10: Two classes of plural paradigms in some Latgalian dialects (idealized system)

Gender	ī (pl.) m	IV-VI f (m)
Nominative	-i	-is
Accusative	-us	-is
Genitive	-u	-u
Dative	-im	-om
Locative	-ūs	-uos

Table 11: Declension of feminine nouns in the subdialect of Kalupe (data taken from Rudzīte 1964, 337–340, adapted to the notation used in this paper)

	Singular paradigms			Plural paradigms		
	IV	V	VI	IV	V	VI
Nom.	līp-a	prīd ^l -e	ac ^j -s ^j	līp-ys	prīd ^l -is ^j	ac ^j -is ^j / -s ^j
Gen.	līp-ys	prīd ^l -is ^j	ac ^j -is ^j / -s ^j	līp-u	prīdj-u / prīž-u	oc-u
Dat.	līp-ai	prīd ^l -ei	ac ^j -ei	līp-om	prīd ^l -om / prīž-om	ac ^j -om
Acc.	līp-u	prīd ^l -i	ac ^j -i	līp-ys	prīd ^l -is ^j	ac ^j -is ^j / -s ^j
Loc.	līp-ā	prīd ^l -ie	ac ^j -ie	līp-uos	prīd ^l -uos	ac ^j -uos
	‘linden’	‘fir’	‘eye’	‘lindens’	‘firs’	‘eyes’

4. Paradigms lost — the case of hybrid nouns in Latgalian

Let us now have a look at some cases which are in conflict with the principle of morphophonological harmony. There are some nouns in Latgalian that have a phonologically soft shape but are (or may be) inflected according to class I or IV. In Nau (2011: 25–26) I speak of ‘hybrid’ stems. The final consonant of these stems is a palatalized dental sonorant (/lʲ/ or /nʲ/), whose palatalization is independent of the following vowel, or palatal /j/. Nouns with a hybrid stem may be primary (non-derived from a synchronic point of view) or derived. Primary nouns with hybrid stems are not numerous in class I, an example is *ceļš* (or *ceļsʲ*) ‘way’, some more are found in class V, for example *gaļa* ‘meat’, *skaņa* ‘sound’, *kuoja* ‘leg’ (class V). In the history of Latgalian the palatalized or palatal consonant at the end of the stem prevented the shift of short vowels (compare *gaļa* = *gaļa* ‘meat’, but *gola* < *gala* ‘edge’, *ceļš* ‘way’, but *valns* < *velns* ‘devil’). From the point of view of the Latgalian system, these word-forms are ‘accidentally’ soft-shaped: their phonological shape is not the result of palatalization, but a residue from a time when shape was not associated with declension class. In the new Latgalian system word-forms such as locative *ceļā* ‘way’, accusative *skaņu* ‘sound’, or nominative *gaļa* ‘meat’ do not conform to the general principle of harmony and stem classes. Note that these forms do not violate a phonological rule²¹, but a morphophonological principle, which is more ‘tolerant’ towards exceptions than purely phonological rules. Nevertheless, variation in the language shows that the speakers tend to eliminate this kind of irregularity, too. In several dialects nouns with primary hybrid stems have changed their declension class and are now inflected according to the ‘soft’ classes II or V/VI. For example, in the dialect of Purlova we find the lexeme *ceļsʲ* ‘way’ in class II and the nouns *kuoje* ‘leg’, *gale* ‘meat’, *skane* ‘sound’ in class V (Cibuļš 2011, 26, 29). In other dialects we find a ‘mixture’ of declension classes so that the paradigm of one lexeme contains forms that belong to different classes, sometimes as free variants. For

²¹ For phonological reasons, the genitive of class IV nouns ending in a palatalized consonant or the palatal [j] is *-isʲ*, not *-ys* (*galʲisʲ* ‘meat’, *skanʲisʲ* ‘sound’, *kuoʲisʲ* ‘leg, foot’), because [i] does not appear in this environment and [s] is palatalized after front vowels. Also for phonological reasons the nominative singular of hybrid class I nouns cannot be [s], but must be either *-š* [ʃ] or *-sʲ*.

example, for ‘meat’ the nominative is *gaļa* but the accusative *gali*, or *gali* and *gaļu* are free variants in the accusative. One might suppose that this reflects an intermediate stage during the transition from one declension class to another. However, this kind of variation has been found in texts for 250 years and may prove to be more stable than expected. Already in the oldest Latgalian book that has survived to our date (*Evangelium toto anno* 1753, reprinted 2004), accusatives ending in *-i* and in *-u* are found with hybrid nouns, even with the same noun. Examples (given in modern orthography): *ceļš* ‘way’, accusative *ceļu* (1 x), *celi* (7 x), locative *ceļā* (2x); *vaļa* ‘will’, accusative *vaļu* (1x), *vali* (1x); *ziņa* ‘news’, accusative *zini*.

Cibuļš & Leikuma (2003, 29) explain the ‘mixing’ of the fourth and the fifth declension by the (phonetic) fact that /a/ after palatalized consonants is fronted and thus becomes in articulation and perception very close to realizations of /æ/. This makes the second syllable in the nominative form *gaļa* ‘meat’ indistinguishable from the second syllable in *pele* ‘mouse’ and provokes the transfer of words like *gaļa* into class v (thus, nominative *gale*). Although this observation is certainly important and phonetic factors surely contribute to morphological change, I don’t think this is the only or main reason for variation and ongoing changes. First, the phonetic similarity of *-ļa* and *-le* does not explain the direction of the change (why do we have *gaļa* > *gale* but not *pele* > *peļa*?). This directionality can be explained by the morphophonological principles I have postulated: the distinction of declension classes, and thus the choice of endings, is based on phonological properties—soft stems are combined with ‘soft’ endings²². Second, the given explanation implies that first the nominative changes classes and the other case-forms follow, thus: (nominative *gaļa* > *gale*) > accusative *gali*. However, the phonetic problem of discriminating /a/ and /æ/ also affects the dative with /ai/ vs. /æi/ and the locative with /a:/ vs. /æ:/ . This means that already three forms of the paradigm are ambiguous

²² In the grammar by Bukšs (Bukšs & Placinskis 1973) I found two remarks that show that the author had a partly similar view on this subject. He states that there is a tendency to use “palatalized words of *a*-stems like *ja*-stems” (in his terminology, *a*-stems are the equivalent of class I nouns, *ja*-stems of class II nouns), and, for words like *kuoja* ‘leg’, that “the consonant /j/ suggests palatalization, and each palatalization triggers association with ‘high stems’” (Bukšs & Placinskis 1973, 122 and 123, my translation; ‘high stems’ (*šauri calmi*) refers to his *e*-stem (my class v) and *i*-stem (my class VI)). In both cases he adds that this tendency is not acceptable for the written standard.

between class *iv* and *v*. Together with the genitive, which for phonological reasons has the form /-isʲ/ that is associated with class *v/vi*, this gives strong cumulative evidence that the accusative should be *-i* and not *-u*. As noted above, since declension classes are associated with phonological shape (soft or hard) all word-forms with a certain phonological shape are informative for determining the class.

The choice of the accusative ending *-i* instead of *-u* may be made independently of the inflectional class, on the ground that soft stems combine with *-i* (regardless of gender). The forms of the nominative and dative may not imply ‘class *v*’ for speakers who categorize the vowel in the ending as /a/, but in any case these word-forms and the stem they contain will be perceived as ‘soft’. It is interesting that in written texts, the nominative forms *gaļa*, *skaņa* are quite stable, while in the accusative we often find *gali*, *skani* (sometimes used by the same author alongside *gaļu*, *skaņu*). Such a situation is still more common with derived hybrid stems, to which I will turn now.

Among derived hybrid nouns there is one productive and rather numerous group which is especially interesting for the points discussed here: diminutives derived by the suffix *-eņ-* [ænʲ]. In Latvian and Latgalian diminutives are used very frequently, and their formation is highly regular. While there are several suffixes used for the derivation of diminutives, two are by far the most frequent: Latvian *-iņ-*, Latgalian *-eņ-* for nouns of class *i* and *iv*, and Latvian *-īt-*, Latgalian *-eit-* for nouns of class *ii* and *v*. In both languages these suffixes do not change gender and declension class; they are themselves indicators of declension class. For example, when we find the form *galeite* ‘meat (diminutive)’ in Latgalian, we can be sure that the base has been a class *v* noun (nominative *gale*) and not a class *iv* noun (nominative *gaļa*, diminutive *gaļeņa*)²³. On the other hand, the suffix *-eņ-* triggers morphophonological changes in Latgalian with a serious effect: the outcome of the derivation is a soft stem²⁴.

²³ This is not a hypothetical example: I found the form *galeite* in texts of an author who likewise consequently used the forms of the base noun ‘meat’ according to class *v*, thus for her the transition of this noun from class *iv* to *v* has been completed.

²⁴ In Latvian, too, the formation of diminutives by means of the suffix *-iņ-* involves morphophonological alternations, but these are of no consequence for the inflection; also, they affect only one type of consonants, velar plosives, and only the low front vowel /æ/ (long and short, alternating with the mid front vowel).

Table 12: Derivation of diminutives with the suffix *-eņ-*

	Base noun: hard stem		Diminutive: soft stem
'horse'	<i>zyrg-s</i> [zirks]	>	<i>zirdzⁱ-eņ-š</i> [z'irdʒ'æɲʃ]
'fox'	<i>lops-a</i> [lɔpsa]	>	<i>lapsⁱ-eņ-a</i> [laps'æɲ'a]
'child'	<i>bārns</i> [barnts]	>	<i>biernⁱ-eņ-š</i> [b'iærɲ'æɲʃ]

Thus, this derivation includes two conflicting rules:

Rule A: The diminutive suffix *-eņ-* does not change declension class.

Rule B: The diminutive suffix *-eņ-* takes a hard stem (class I and IV) and produces a soft stem (and soft-stemmed nouns are inflected according to classes II and V/VI).

The next table shows the case endings expected according to the two rules. Conflicts arise in the nominative, accusative and locative of both genders as well as in the dative of feminine nouns.

Table 13: Possible endings for hybrid nouns derived by the diminutive suffix *-eņ-*

	masculine nouns		feminine nouns	
	Rule A (class I)	Rule B (class II)	Rule A (class IV)	Rule B (class V)
Nominative	<i>-eņⁱ-š</i>	<i>-eņⁱ-sⁱ</i>	<i>-eņⁱ-a</i>	<i>-eņⁱ-e</i>
Genitive	<i>-eņⁱ-a</i>	=	<i>-eņⁱ-isⁱ</i>	=
Dative	<i>-eņⁱ-am</i>	=	<i>-eņⁱ-ai</i>	<i>-eņⁱ-ei</i>
Accusative	<i>-eņⁱ-u</i>	<i>-eņⁱ-i</i>	<i>-eņⁱ-u</i>	<i>-eņⁱ-i</i>
Locative	<i>-eņⁱ-ā</i>	<i>-eņⁱ-ī</i>	<i>-eņⁱ-ā</i>	<i>-eņⁱ-ī, (-eņⁱ-ē)</i>

There are dialects where diminutives with a suffix corresponding to Standard Latgalian *-eņ-* are completely inflected according to rule B, thus rule A has been lost (for example, the dialect of Purlova, see Cibulš 2011, 25, 28). There are also varieties where all diminutive

forms conform to rule A, although primary hybrid nouns falter in their inflection (this situation is found in the fairy-tales collected in the parish of Viļāni at the end of the 19th century, published in Ulanowska 1895). Many varieties are in between these extremes, and here we often witness a split of the paradigm: nominative, genitive and dative are formed according to rule A (for the dative of masculine nouns and the genitive of both genders both rules yield the same result), while accusative and locative are formed according to rule B, or there is free variation of endings according to either rule (this situation is found in the fairy-tales collected in the 1920s in the parishes of Feimaņi and Silajāņi, published as Kokalis 2009).

I will illustrate the variation found in the accusative with examples taken from texts by contemporary Latgalian authors published on the Internet.

- (1) *Iz smilķšu kaļn-eņ-u voi krematorej-u*
 to sand[PL].GEN hill-DIM-ACC OR crematorium-ACC
aiz-ī-s-im vys-ī.
 PFX-GO-FUT-1PL all-NOM.PL
 ‘We all will leave for the sand hill (= cemetery) or the crematorium.’ (IS)
- (2) *Kod vajaga nū-sorguo-t kaid-u*
 when be.needed:PRS.3 PFX-save-INF some-ACC
smilķšu kaļn-en-i pi jjur-ys
 sand[PL].GEN hill-DIM-ACC at sea-GEN
 ‘When it comes to saving some sand hill at the sea side [...]’ (VL)
- (3) *Staiguoja vys-u laik-u ar moz-eņ-u*
 walk:PST:3 all-ACC time-ACC with small-DIM-ACC
radiv-eņ-u leidza. I ar sumc-en-i puo
 radio-DIM-ACC thereby and with bag-DIM-ACC on
plac-u, kur-ā vysod nogl-ys i
 shoulder-ACC PREL-LOC always nail-NOM.PL and
vasar-s.
 hammer-NOM
 ‘He was walking about with a small radio all the time. And with a bag on his shoulder, where [he had] always nails and a hammer.’ (VL)

Examples (1) and (2) show the same word used with different endings by two authors, while example (3) shows two different diminutives used with different endings by the same author²⁵. The four accusative forms are:

kaļneņ-u/kaļnen-i = diminutive of *kolns* ‘hill’ (class i)

radiveņ-u = diminutive of *radeja* ‘radio’ (class iv or hybrid)

sumcen-i = diminutive of *sumka* ‘bag’ (class iv)

One may speculate about reasons for the use of different endings, but it is hard to find rules. Both authors come from Central Latgalian (is from Viļāni, vl from Rēzekne) and are of the same generation. is always uses the ending *-u* for diminutives, vl shows a preference for *-i* but uses both endings as free variants.

I am not able to show which variant of accusative and locative forms is more frequent or how they are distributed in space and time²⁶. I can just attest that there is variation, and that it occurs in various subdialects and various other forms of spoken and written Latgalian, and has done so for a long time. In my opinion this variation results from a conflict between ‘loyalty’ to the inherited inflection class and the striving for a unified (new) system where morphophonological harmony plays a more important role than class membership. Such variation is a challenge for morphological theories that emphasize the importance of inflectional classes for morphology. For example, Aronoff points out that free variation of case-endings for a given noun is “almost never” found (Aronoff 1994, footnote 8 on page 182), which is one piece of evidence for the crucial role of class-membership, described by him as follows:

The lexical entry for the noun must therefore bear some sort of flag to assure that it will manifest the appropriate set of inflection.

²⁵ There is a further diminutive in example (3), the adjective *mozeņu*, accusative of *mozeņš* < *mozs* ‘small’. Although they use the same suffix, diminutives of adjectives are a case of their own and will not be discussed here; an important difference to nouns is that in adjectives the diminutive suffix does not trigger vowel alternation. One may only speculate that the form *mozeņu* (for which the alternative *?mozeni* is probably not available) played a role in choosing *radiveņu* instead of *radiveni*.

²⁶ In 2012 hopefully a corpus of contemporary Latgalian texts will be available and enable broader empirical research. Of course, research on spoken varieties of contemporary Latgalian is urgently needed, too.

This flag is the inflectional class of the noun. Membership in a given inflectional class will guarantee that the noun has exactly the realization pairs of that class [...] The class thus acts as a rule feature or rule trigger, and the realizations characteristic of a given class or paradigm will all be conditioned by that class name or class flag or rule trigger. (Aronoff 1994, 65)

In a similar way, Ackerman, Blevins & Malouf (2009, 55) maintain:

In a language with inflection classes, a speaker must be able to identify the class of an item in order to solve the PCFP. [= paradigm cell filling problem]

Using Aronoff's metaphor we may say that hybrid nouns in Latgalian are prone to abandoning their flag. Either they gather under another one (= change of inflection class), or they rest in a flagless state, and the speaker must rely on other cues to solve the cell filling problem. As I have shown above, this is possible: the accusative ending *-i* may be assigned on the ground that this is the appropriate ending for soft stems, independently of the class that is manifest in the forms of nominative and dative. Thus, realization pairs such as (accusative, *kaļneni*) or (accusative, *sumceni*) are not necessarily conditioned by a class flag 'ir' or 'v/vr', nor do they—as they would in Latvian—imply a pair (nominative, *kaļnens*) or (nominative, *sumcene*), respectively; instead, they follow directly from phonological/morphophonological cues²⁷. But this in turn shows that inflection classes have lost their importance for Latgalian nouns. This became possible, in my eyes, with the rooting of inflectional classes in extra-morphological properties of words, namely phonological shape and gender. Note that Wurzel (1984), who recognizes the importance of inflectional classes just as Aronoff and Blevins *et al.* do in the quotations given above, starts with a restriction:

Wenn keine außermorphologischen Eigenschaften vorhanden sind, zu denen die morphologischen Eigenschaften von Wörtern

²⁷ Note that although *sumka* 'bag' is a loanword, it fits well into the system of morphophonological harmony, and the same can be said for the diminutive *sumceņa*, which also appears in assimilated forms: *suncēņa* and even *sunčēņa* [sun'ts'æn'æ] with anticipatory assimilation of palatalization from the suffix well into the root (I owe these forms to Ilze Sperga, personal communication).

in Beziehung gesetzt werden können, dann lehnen sich die verschiedenen morphologischen Eigenschaften aneinander an [...] (Wurzel 1984, 118)

[If there are no extra-morphological properties to which morphological properties of words can be related, then the various morphological properties will be informed by each other] (translation NN)

By ‘morphological properties’ Wurzel here understands the realization of morphological categories, and by ‘being informed by each other’ (*sich aneinander anlehnen*) he refers to implicational relations between forms of a paradigm. If we understand the first part of the sentence as a necessary condition, then the Latgalian hybrid nouns are not an exception to the system, but rather an indicator: as there are extra-morphological properties to which morphological properties may be related, there is no need for purely morphological information, and declension classes lose their *raison d’être*.

5. Conclusions

It has been argued here that the crucial difference between the Latvian and the Latgalian system of noun declension lies in the nature of the parameters that organize these systems. The Latvian system is based mainly on inner-morphological (‘morphomic’) principles: classes are distinguished by a characteristic vowel in case-endings that has no other function and is not predictable from phonological properties of the stem. In the Latgalian system, in contrast, the extra-morphological property of phonological shape (‘soft’ vs. ‘hard’ stems and endings) is the main parameter for class-building. In both languages, the second important parameter is gender: there are masculine and feminine classes, the latter containing a few masculine nouns. The data from Latvian and Latgalian show that the nature of a system of inflectional classes—whether it is based, at least in part, on inner-morphological principles or not—may have further consequences. It seems that some properties that have been postulated for inflectional classes and paradigms in morphological theory are less important for systems with extra-morphological motivation: the identification of ‘diagnostic forms’ or ‘principal parts’ which carry information about the system and al-

low speakers to deduce other forms of the paradigm, implicational relations between word-forms of a lexeme, or even class-membership as a ‘rule trigger’.

In Latvian with its morphology-based system of declension, classes are typically distinguished by different sets of endings realizing each case. In Latgalian, on the other hand, more and more forms expressing a certain case differ in phonological properties of the stem, while the endings are the same for two or more classes, or phonologically conditioned allomorphs (see table 8). This leads to a reduction of the number of classes, and it also diminishes the ‘cell filling problem’. Eventually, declension classes lose their function: as shown in section 4, hybrid nouns can build the accusative singular and the locative singular (the two cases that are not associated with gender) independently of the class implied by nominative and dative, solely on phonological grounds. In other cases gender is the only class-building feature that is left, or, putting it the other way around, gender assignment is the only function of declension classes. This situation is found most clearly in the plural paradigms of some Latgalian dialects, shown in an idealized form in table 10. Curiously, a distinction of classes by different endings is sometimes maintained only in the nominative singular (nominative *-e* or *-s* for soft-stemmed feminine nouns, for example in the dialect of Kalupe presented in table 11). This shows that the citation form (which is also probably the most frequently used word-form of the lexeme) is not decisive for the paradigm, a fact that turned up also at other points of the discussion.

While in this paper I have stressed the differences between Latvian and Latgalian, it is evident that the two languages also have a lot in common. In addition to similarities, or regular correspondences, in the form of case markers (which reflect the closer relatedness of Latvian and Latgalian as opposed to Lithuanian) there are also common tendencies of development, which would show up more clearly if data were taken from dialects instead of standard Latvian. A gradual decline of the distinction of classes by different endings can also be seen in Latvian. When comparing the two languages, and assuming that Latgalian is more progressive and standard Latvian more conservative in this respect, we see a common pattern for the spread of this decline, which often, but not always involves an opposition of stem types. As shown

in table 14, the spread progresses along the following lines: plural before singular, masculine before feminine, genitive before other cases.

Table 14: Cases where classes are not distinguished by different sets of endings

Paradigm	Latvian	Latgalian
plural, masculine classes	all cases	all cases
plural, feminine classes	Genitive	genitive, nominative/ accusative some dialects: dative, locative
singular, masculine classes	genitive (many dialects: dative)	genitive, dative, nomi- native
singular, feminine classes	—	genitive

In his groundbreaking and still highly inspiring book on inflectional morphology Wurzel (1984) proposed a set of system-defining structural properties that can be used to characterize the inflectional system of a language as well as for language comparison. The sixth property concerns the existence of inflectional classes. To Wurzel, this is a binary parameter: “Entweder gibt es in einer Sprache Flexionsklassen oder es gibt keine” [Either there are inflectional classes in a language or there aren’t] (Wurzel 1984, 83). I suggest broadening this parameter: in addition to the mere existence of inflectional classes, their nature should be taken into account, that is, whether and to which degree they are based on extra-morphological properties of words.

Nicole Nau
Adam Mickiewicz University
Institute of Linguistics
al. Niepodległości 4, PL-61-874 Poznań
naunicol@amu.edu.pl
<http://www.staff.amu.edu.pl/~naunicol/index.html>

ABBREVIATIONS

ACC — accusative, DAT — dative, DIM — diminutive, FUT — future, GEN — genitive, INF — infinitive, LOC — locative, NOM — nominative, PFX — prefix, PL — plural, PREL — relative pronoun, PRS — present tense, PST — past tense

SOURCES

IS = texts from Ilze Sperga's blog at www.naktineica.lv, also available at the portal www.lakuga.lv
VL = texts written by Valentins Lukaševičs, published in a Latvian newspaper and on the Internet, available at the portal www.lakuga.lv.

REFERENCES

- ACKERMAN, FARRELL, JAMES P. BLEVINS & ROBERT MALOUF. 2009. Parts and wholes: Patterns of relatedness in complex morphological systems and why they matter. In: James P. Blevins & Juliette Blevins, eds., *Analogy in Grammar: Form and Acquisition*. Oxford: Oxford University Press, 54–83.
- ANDRONOV, ALEKSEJS. 2009. *Latgaliešu literārā valoda leksikostatistikas gaismā*. In: *Via Latgalica: Latgalistikys kongresu materiali 1*. Rēzekne: Rēzeknes augstskola, 6–16.
- ARONOFF, MARK. 1994. *Morphology By Itself: Stems and Inflectional Classes*. Cambridge MA: MIT Press.
- BLEVINS, JAMES P. 2009. Case and declensional paradigms. In: Andrej Malchukov & Andrew Spencer, eds., *The Oxford Handbook of Case*. Oxford: Oxford University Press, 200–218.
- BREJDAK, ANTON. 1989. *Fonetika latgal'skich govorov latyšskogo jazyka: diachronija i sinchronija*. Disertacija na soiskanie učennoj stepeni doktora filologičeskich nauk. Rīga 1989. (Published in: Antons Breidaks, *Darbu izlase*. Rīga: LU Latviešu valodas institūts 2007, vol. 1, 239–482.)
- BREJDAK, A[NTON]. 2006. Latgal'skij jazyk. (Article edited by A. V. Andronov and L. Leikuma). In: Vladimir N. Toporov *et al.*, eds., *Jazyki mira: Baltijskie jazyki*. Moskva: Academia, 193–213.

- BUKŠS, MIKELIS & JURIS PLACINSKIS. 1973. *Latgaļu volūdas gramatika un pareizraksteibas vōrdneica*. [München: Latgalischer Verlag Vl. Locis]
- CARSTAIRS, ANDREW. 1983. Paradigm economy. *Journal of Linguistics* 19, 115–125.
- CARSTAIRS, ANDREW. 1987. *Allomorphy in Inflexion*. London: Croom Helm.
- CARSTAIRS-McCARTHY, ANDREW. 1991. **Inflection classes: two questions with one answer**. In: Plank, ed., 1991, 213–253.
- CARSTAIRS-McCARTHY, ANDREW. 1998. **Paradigmatic structure: Inflectional paradigms and morphological classes**. In: Andrew Spencer & Arnold M. Zwicky, eds., *The Handbook of Morphology*. Oxford: Blackwell, 322–334.
- CIBUĻS, JURIS. 2011. *Purlovas grāmata*. Rīga: self-published.
- CIBUĻS, JURIS & LIDIJA LEIKUMA. 2003. *Vasals! Latgaliešu valodas mācība*. [Rīga:] n.i.m.s. [available online at: <http://www.lu.lv/filol/dialekt/publikacijas.htm#vasals>]
- DAUGAVET, ANNA. 2008. Verchnelatyškij sdvig glasnych. Paper held at the conference *Ontona Skryndys Latgališu gramatikai 100. 1. storptautyskuo latgalistikys konference*. St Petersburg, September 2008.
- Evangelia toto anno 1753. Pirmā latgaliešu grāmata*. 2004. Rīga: LU Latviešu valodas institūts.
- FINKEL, RAPHAEL & GREGORY STUMP. 2007. **Principal parts and morphological typology**. *Morphology* 17, 39–75.
- HASPELMATH, MARTIN & ANDREA D. SIMS. 2010. *Understanding Morphology*. Second edition. London: Hodder Education.
- KOKALIS, ANTONS. 2009 = *Feimaņu draudzes pasakas. Tautas dziesmas un pasakas Rēzeknes novada Feimaņu un Silajāņu pagastā*. Pierakstījis Antons Kokalis. Sastādītājs Ojārs Spāritis. Rīga: Nacionālais apgāds.
- LELIS, JOSEPH. 1970. Noun declensions in the Kōrsovan subdialect of Latvian. In: Thomas F. Magner & William R. Schmalstieg, eds., *Baltic Linguistics*. University Park and London: The Pennsylvania State University Press, 103–108.
- LPN 2008 = LR Tieslietu ministrijas Valsts valodas centrs. 2008. *Latgaliešu pareizrakstības noteikumi. // Latgališu pareizraksteibys nūsacejumi*. Rīga, Rēzekne.

[available online at: <http://www.lu.lv/filol/latgalistica/doc/LGP-Nusacejumi.pdf>]

- MÜLLER, GEREON. 2007. Notes on paradigm economy. *Morphology* 17, 1–38.
- NAU, NICOLE. 2011. *A Short Grammar of Latgalian*. München: LINCOM Europa. (Languages of the World/Materials, 482.)
- NĪTIŅA, DAINA. 2001. *Latviešu valodas morfoloģija (konspektīvs lokāmo vārdsķiru apskats)*. Rīga: Rīgas Tehniskā universitāte.
- NYMAN, MARTTI. 1987. Is the paradigm economy principle relevant? *Journal of Linguistics* 23, 251–267.
- NYMAN, MARTTI. 1988. Paradigm economy: a rejoinder to Carstairs. *Journal of Linguistics* 24, 501–513.
- PLANK, FRANS. 1991. Of abundance and scantiness in inflection: A typological prelude. In: Plank, ed., 1991, 1–39.
- PLANK, FRANS, ed. 1991. *Paradigms. The economy of inflection*. Berlin, New York: Mouton de Gruyter.
- RUDZĪTE, MARTA. 1964. *Latviešu dialektoloģija*. Rīga: Latvijas valsts izdevniecība.
- ULANOWSKA, STEFANIA. 1895. *Łotysze Inflanckich, a w szczególności gminy Wielońskiej, powiatu Rzeżyckiego. Obraz etnograficzny. Część iii. Zbiór wiadomości do antropologii krajowej*, t. xviii, 232–406.
- WURZEL, WOLFGANG ULLRICH. 1984. *Flexionsmorphologie und Natürlichkeit. Ein Beitrag zur morphologischen Theoriebildung*. Berlin: Akademie-Verlag. (Studia Grammatica, xxi)