

Balto-Slavic Accentual Mobility



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by

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Preface

This book is a revised, updated and elaborated version of my Ph.D. dissertation, *Accentual mobility: the prehistory of the Balto-Slavic mobile accent paradigms*, which I defended at the University of Copenhagen on 26 May 2006. The most important changes are found in Chapter 4, “The Mobility Law”, which includes a discussion of Henning Andersen’s recent contributions to the question of the Balto-Slavic mobile accent paradigms. The Postscript deals with Frederik Kortlandt’s latest publications on Balto-Slavic accentology. I owe special thanks to Andersen and Kortlandt for their willingness to discuss these matters with me.

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Abbreviations and symbols

acc.	accusative	MHG	Middle High German
act.	active	n(eut).	neuter
adess.	adessive	nom.	nominative
adj.	adjective	num.	numeral
adv.	adverb	OCS	Old Church Slavonic
all.	allative	OENG	Old English
aor.	aorist	OHG	Old High German
AP	accent paradigm	ONOR	Old Norse
ARM	Armenian	OPR	Old Prussian
BG	Bulgarian	opt.	optative
BRU	Belorussian	OSAX	Old Saxon
BS	Balto-Slavic	pass.	passive
ČAK	Čakavian	PBS	Proto-Balto-Slavic
CS	Common Slavic	pf.	perfect
CZ	Czech	PGE	Proto-Germanic
dat.	dative	PGK	Proto-Greek
def.	definite	PIE	Proto-Indo-European
dial.	dialect(al)	PII	Proto-Indo-Iranian
f(em).	feminine	pl.	plural
fut.	future	PO	Polish
GE	Germanic	prs.	present
gen.	genitive	prt.	preterite
GK	Greek (Attic)	ps.	person
GO	Gothic	PS	Proto-Slavic
Hom.	Homer(ic)	ptc.	participle
IE	Indo-European	refl.	reflexive
ill.	illative	RU	Russian
indecl.	indeclinable	sg.	singular
inf.	infinitive	sigm.	sigmatic
inj.	injunctive	SKT	Sanskrit
instr.	instrumental	SLK	Slovak
impf.	imperfect	SLN	Slovene
ipv.	imperative	SLNC	Slovincian
KAJ	Kajkavian	ŠTK	Štokavian
LA	Latin	them.	thematic
LI	Lithuanian	UKR	Ukrainian
loc.	locative	US	Upper Sorbian
LV	Latvian	VED	Vedic Sanskrit (Ṛgveda)
m(asc).	masculine		

Symbols

<i>C</i>	any consonant (not including laryngeals)
<i>C_n</i>	<i>n</i> or more consonants (not including laryngeals)
<i>D</i>	any voiced stop; when appropriate: any voiced dental
<i>ə</i>	any vocalic laryngeal (<i>ə₁ ə₂ ə₃</i>)
<i>H</i>	high tone
<i>h</i>	any consonantal laryngeal (<i>h₁ h₂ h₃</i>)
<i>L</i>	low tone
<i>N</i>	any nasal
<i>R</i>	any resonant consonant (liquid, nasal or semivowel); when appropriate: any sonorant (liquid or nasal)
<i>T</i>	any voiceless stop; when appropriate: any voiceless dental
<i>U</i>	any semivowel (<i>i u</i>)
<i>V</i>	any vowel
μ	mora
#	word boundary
†	non-existing form
>, <	phonetic change
→, ←	morphological change
[]	phonetic representation
/ /	phonological/phonemic representation
< >	graphemic representation

Prosodic diacritics used in reconstructions

^h x	Proto-Balto-Slavic, Proto-Slavic: accent (high pitch)
˘x	Proto-Balto-Slavic, Proto-Slavic: automatic ictus on first syllable of unaccented phonological word
˙x	Proto-Indo-European: accent (high pitch); Common Slavic: long neoacute tone
˘˙	Common Slavic: short neoacute tone, accented short final syllable
˙˘	Common Slavic: long acute tone
˙˙	Common Slavic: initial short syllable of unaccented phonological word (traditionally, “short circumflex tone”)
˙˙˙	Common Slavic: initial long syllable of unaccented phonological word (traditionally, “long circumflex tone”)
˙˘˙	Proto-Indo-European: traditionally, “circumflex” syllable
xʔ	Proto-Balto-Slavic: glottalisation (or similar prosodic marking)

Chapter 1

Introduction

1. The problem

In some Baltic and Slavic languages certain words are characterised by a remarkable alternation between root-accented and desinentially accented forms.¹ For example, the word for ‘head’ is declined in the following way in Lithuanian and Russian, a Baltic and a Slavic language respectively:

Table 1. Declension of the word for ‘head’ in Lithuanian and Russian

	SINGULAR		PLURAL	
	LI	RU	LI	RU
nom.	<i>galvà</i>	<i>golová</i>	<i>gálvos</i>	<i>gólovy</i>
acc.	<i>gálvą</i>	<i>gólovu</i>	<i>gálvas</i>	<i>gólovy</i>
gen.	<i>galvõs</i>	<i>golový</i>	<i>galvũ</i>	<i>golón</i>
dat.	<i>gálvai</i>	<i>golové</i>	<i>galvõms</i>	<i>golovám</i>
instr.	<i>gálva</i>	<i>golovój(u)</i>	<i>galvomis</i>	<i>golovámi</i>
loc.	<i>galvojè</i>	<i>golové</i>	<i>galvosè</i>	<i>golováx</i>

Words of all stem-classes may belong to these so-called “mobile” accent paradigms in Baltic and Slavic. The purpose of the present study is to determine the Proto-Indo-European origin of the Baltic and Slavic mobile accent paradigms.

The prosodic system of the Indo-European proto-language is preserved more or less directly in Vedic Sanskrit and Ancient Greek. These languages show no traces of accentual mobility in the vowel stems. Thus, Vedic and Greek vowel stems that correspond etymologically to Baltic and Slavic accentually mobile words usually have columnar accent on the first syllable of the desinence, e.g. GK nom. sg. *φυγή* ‘flight’, acc. *φυγήν*, gen. *φυγής*, dat. *φυγήῃ* etc. (columnar accent), and VED nom. sg. *jihvā́* ‘tongue’, acc. *jihvám*, gen.-abl. *jihvā́yāḥ*, dat. *jihvā́yai* etc. (columnar accent), corresponding to the accent type LI *algà* ‘salary’, *alḡa*, *algõs*, *alḡai* etc. (mobile accent).

In Vedic and Greek monosyllabic consonant stems, on the other hand, we do find an accentual mobility similar to that of Baltic and Slavic, e.g. VED

1. For the terminology see § 3 below.

nom. sg. *pāt* ‘foot’, acc. *pādam*, gen.-abl. *padāḥ*, dat. *padé* etc.; GK nom. sg. *πούς* ‘foot’, acc. *πόδα*, gen. *ποδός*, dat. *ποδί* etc. Finally, a certain type of consonant stems found in Vedic and Greek plays an important role in the discussion of the origin of the Balto-Slavic accentual mobility. This type has columnar accent from a phonological point of view (accent on the same syllable counting from the beginning of the word) but is morphologically mobile (accent on the suffix alternating with accent on the ending). It may be exemplified by VED nom. sg. *duhitā́* ‘daughter’, acc. *duhitāram*, gen.-abl. *duhitūh*, dat. *duhitré* etc. We shall return to this type below in this section.

In order to give a historical explanation of the relationship between the mobility of Balto-Slavic vowel stems and the immobility of Vedic and Greek vowel stems, it has to be ascertained whether the Balto-Slavic accentual mobility in vowel stems represents an archaism or an innovation compared to the Vedic-Greek immobility in these stems, i.e. the Proto-Indo-European point of departure has to be established. The answers offered to this question by various scholars take quite different directions.

Some authors consider the mobility of the Balto-Slavic vowel stems to be inherited from the Indo-European proto-language. The immobility of Vedic and Greek vowel stems, according to this view, is the result of a secondary generalisation of columnar accent on the expense of inherited mobility. Balto-Slavic, in showing both columnar and mobile accentuation of words of all stem-classes, directly reflects the Proto-Indo-European state of affairs. The accent curves of the Balto-Slavic mobile paradigms basically preserve the accent curves these paradigms had in the proto-language.

Most scholars, however, reject the priority of the Balto-Slavic accentuation system over the Vedic-Greek one. Some assume that the accentual mobility of consonant stems like the word for ‘foot’ given above was copied by the vowel stems in Balto-Slavic. Others propose an accent retraction from medial syllables in consonant stems like the word for ‘daughter’, i.e. pre-PBS acc. sg. **duk^lterin* > LI *dūkterī* (cf., with accent on the final syllable, pre-PBS nom. sg. **duk^ltē* > LI *duktě*), and assume that this new mobility was imitated by the desinentially accented vowel stems in Balto-Slavic. According to these scholars, the Proto-Indo-European accentuation system is most faithfully preserved in Vedic and Greek, whereas the mobility of the Balto-Slavic vowel stems has arisen as the result of an analogical imitation of the accent curves of the consonant stems, in one way or another.

Finally, a third group of scholars, who likewise consider the Vedic-Greek accentuation system to be original, assume that the Balto-Slavic mobility is determined by the phonological properties of the desinential syllables. Desinences of a certain type are accented, desinences of another type are unac-

cented in Balto-Slavic. Most of these scholars assume that certain desinences have attracted the accent from a preceding syllable. It has also been proposed that the accent curves of the mobile accent paradigms are determined by a Balto-Slavic accent retraction from desinences of a certain type.

In this study a hypothesis of the latter type is advanced. As we shall see, there is reason to believe that at a pre-stage of Proto-Balto-Slavic where the Proto-Indo-European laryngeals had disappeared, words originally accented on a final short or hiatal structure became unaccented. Assuming that short vowels had a high tone (accent) on the only mora, and hiatal structures had a high tone on the last mora, we may say that a high tone became low in the last mora of the phonological word:

$$\acute{u} > [-\text{high}] / _ C_0\#$$

Following this introductory chapter (Ch. 1), the prosodic system, the properties of word-final structures and the paradigmatic accentuation system of the Indo-European proto-language are reconstructed through analyses of the relevant parts of the Indo-Iranian, Greek and Germanic linguistic systems (Ch. 2). Then the Proto-Balto-Slavic prosodic system and paradigmatic accentuation system are established on the basis of analyses of the Baltic and Slavic languages (Ch. 3). The proposed hypothesis is tested through a comparison between the reconstructed Proto-Indo-European and Proto-Balto-Slavic systems (Ch. 4), followed by a general conclusion (Ch. 5).

2. Methodological considerations

The theoretical basis of the present work is the comparative method. In the analyses presented here, like in other works where the comparative method is applied, I shall try to find a balance in the plausibility of the sound laws and analogies invoked to explain the data. It is important to keep in mind the general and systematic character of sound laws in contrast to analogical changes, where each case requires a separate explanation.

No attempts will be made at applying theoretical frameworks like optimality theory or “brackets-and-edges” theory to the material.² While such frameworks may lead to valuable insights into HOW and WHY certain developments take place, their contribution to the endeavour of the comparative

2. Considerably more weight is attached to theory in works like Bethin (1998) and Kim (2002), which deal with subjects that are also treated in this study.

method to establish WHAT has happened, which is the primary concern of the present study, seems to be rather limited.

Reconstructing the prosody of a language presents certain problems that are not encountered in segmental reconstruction. Prosody may be subject to systemic restructurings of a kind that is not found on the segmental level. For example, the Proto-Slavic free accent has vanished entirely in Polish, where it has only left a few traces on the segmental level. Moreover, the usual problem of distinguishing between archaisms and innovations is particularly prominent in the reconstruction of prosodic characteristics, which often operate on a binary scale. It frequently happens that we have to pick out as original one of two different accentuations of the same word in related languages or dialects.³ Seen in isolation there is no way to decide whether the desinential accentuation of VED *bāhú-* is less or more original than the root-accentuation of the corresponding Greek word, *πῆχυσ*. The problem may often be solved when the words in question are viewed in the context of the system to which they belong. In the example VED *bāhú-* vs. GK *πῆχυσ*, a closer examination of the systems in which the words occur reveals that in Greek all nominal *u*-stems are root-accented, while in Vedic there is no synchronically transparent principle of distribution of root-accentuation and desinential accentuation in *u*-stems, which makes it plausible that the Vedic word has preserved the original accentuation.⁴

As will be evident from § 4 below, theories about the development of the Baltic and Slavic accentuation systems are numerous and divergent. The diversity of opinions is obviously connected with the fact that the subject is particularly complicated.⁵ A number of unknown factors render possible several different hypotheses about the development of the Proto-Indo-European accentuation system in the prehistory of the Baltic and Slavic daughter languages. I have made the methodological choice to attach considerable weight to simplicity of both the synchronic prosodic systems reconstructed for various language stages and of the phonetic and analogical developments that are assumed to lead to the transition of one system to another. My approach is therefore very different from that of scholars like Kortlandt, who proposes synchronic systems and diachronic developments of high complexity; see § 4 and § 5 below. The practical effects of the different approaches are per-

3. Cf. Stang (1957 [1965]: 3).

4. Cf. Lubotsky (1988: 15).

5. Micklesen (1995: 81) refers to Balto-Slavic accentology as “an intellectual problem of considerable proportions, one of the most difficult problems in Indo-European [...] linguistics.”

haps most palpable in the treatment of the Slavic material. Following Stang,⁶ I relegate several developments to a post-Proto-Slavic period, for example quantitative changes like the one seen in the first syllable of PS *^l*jāgadā* > ŠTK *jāgoda*; see Ch. 3 § 4.1. Kortlandt, on the other hand, incorporates many of these developments firmly in his theory of the development of Slavic accentuation. By giving methodological priority to simplicity and to the overall picture of the systems and developments rather than endeavouring to explain as much of the material as possible, I hope that the views endorsed here, apart from being more transparent, will rest on safer ground. Since the views presented here are less dependent on specific interpretations of various data which do not directly concern the Balto-Slavic accentual mobility, hopefully they will be more compatible with the views of other scholars on contiguous aspects of the development of the Baltic and Slavic languages.

Material

The material applied in this study is excerpted from standard synchronic and historical dictionaries and grammars. No new material has been included. Old Lithuanian is quoted from Kudzinowski's *Indeks-słownik* (1977) to Daukša's *Postilė*. Old Prussian is quoted from the vocabulary of Trautmann (1910). Čakavian is quoted from Belić's description of the Novī dialect (1909). Slovenician is quoted from Lorentz's *Slovinzische Grammatik* (1903) and his *Slovinzisches Wörterbuch* (1908–1912). Evidence from the extinct West Slavic language Polabian, which hardly contributes to our understanding of the Proto-Slavic accentuation system, is left out of consideration. Translations of all example words can be found in the word index in the back of the book.

Because of the general agreement on the reconstruction of the accentuation of most Slavic forms, I offer documentary evidence from the separate languages primarily in controversial cases. The Proto-Slavic reconstructions are based on standard works like Stang (1957 [1965]), Illič-Svityč (1979), Kolesov (1972), Dybo (1981) and Zaliznjak (1985). I presuppose that the reader possesses a basic knowledge of the development of the Common Slavic prosodic system in the individual Slavic languages.⁷

6. Stang (1957 [1965]: 52–55).

7. See the overviews of Illič-Svityč (1979: 75–78); Dybo, Zamjatina and Nikolaev (1990: 11–16) and almost identically Dybo (2000b: 17–20); cf. Jakobson (1963: 164–173).

Delimitations

The prime concern of this study are the diachronic aspects of the Balto-Slavic accentual mobility. While synchronic analyses of reconstructed language stages are necessary and relevant, they remain a means of clarifying the diachronic developments. Likewise, a number of issues in the prosodic and segmental development of various non-Balto-Slavic languages will be treated here in order to clarify the background of the Balto-Slavic mobility.

The primary focus is on the period between the dissolution of the Indo-European linguistic community and the last stage of Proto-Balto-Slavic, with a secondary focus on the period between Proto-Balto-Slavic and the attested Baltic languages and Proto-Slavic. It is thus outside the scope of the study to establish the pre-Proto-Indo-European rules that determine the accentuation of a given word-form or category in the proto-language, for example why some *o*-stems were assigned initial accent and others desinential accent in the proto-language.⁸ What is taken into account here is the actually attested accentuation of a word in the various Indo-European languages. Also, I do not treat accentological problems in specific languages like Čakavian or Russian unless the interpretation of these problems is of direct relevance to the reconstruction of the Proto-Slavic accentuation system.

It is not the prehistory of particular words, but the prehistory of types of words and their position in the system that is at the centre of attention in this study. Lexical correspondences are therefore considered to be of minor importance. To a certain degree this is making a virtue of necessity. If due attention is paid to all characteristics of a word, not only phonological but also derivational and semantic, the number of exact word correspondences between Baltic and Slavic and their sister branches is very limited. Combined with the fact that the actually attested exact correspondences do not always point in the same direction from the accentual point of view, we are faced with the risk of drawing conclusions on a statistically insufficient basis. This obviously does not mean that it is superfluous to compare particular words in order to establish the correspondences, quite the contrary, but the value of comparisons of particular words should not be overestimated.⁹

As for the categories involved in this study, I do not refer to the vocative form of nouns, which in various linguistic systems often takes a special position with regard to prosody.¹⁰ The same applies to pronouns, which are only

8. For this and related problems see Rasmussen (1989a: 197–216).

9. Cf. Kim (2002: 103); Darden (1989: 77–78).

10. Cf. Meillet (1914c: 79); Nieminen (1922: 145).

referred to in special cases. Compounds and prefixed formations, which are synchronically transparent and thus easily subject to systemic reanalysis and secondary reformation, are also left out of consideration. Generally, in the present study we are primarily concerned with words consisting of a root and a desinence (in the sense of “desinence” given in the following section).

The non-Balto-Slavic evidence for the Proto-Indo-European prosodic system is limited to Indo-Iranian, Greek and Germanic, which have all indisputably preserved the Proto-Indo-European accent or traces of it. With the possible exception of Germanic, these language branches have, in addition, preserved the distinction between two types of long final syllables. Since the Proto-Indo-European accent and the structure of final syllables are the crucial factors in the development of Balto-Slavic mobility, language branches like Italic, Celtic, Armenian and Albanian, where these factors have left no or very few traces, are not taken into consideration here.¹¹ The Proto-Indo-European accent is probably preserved in Anatolian languages,¹² but I consider the evidence too insecure to be included here. While the Proto-Indo-European accent may also have survived in Proto-Tocharian, the evidence is too ambiguous to contribute to the reconstructions.¹³

3. Terminology and definitions

Since a number of terms relating to periodisation, prosody and other issues are used differently by different authors – and confusion very often arises already at the terminological level – the following definitions of some potentially difficult and sometimes differently applied terms may come in useful. It applies to all definitions given here that they primarily have a practical purpose.

The term *VOWEL STEM* refers to the Proto-Indo-European nominal *o-*, *ā-*, *i-*, *u-*, *ī-*, *īs-* and *ūs-* stems and their reflexes in the Indo-European language-

11. The Proto-Indo-European accent is referred to as a conditioning factor in the development of some of these languages, but at best the evidence confirms what we know from Vedic, Greek and Germanic; for Italo-Celtic (and Germanic) see Lubotsky (1988: 17) with discussion and references; for Armenian see Olsen (1999: 809).

12. Melchert (1994: 47); cf. Lubotsky (1988: 17); Collinge (1995: 35–36) with references; Hittite evidence is applied in reconstructions of the Proto-Indo-European accent by Kim (2002: 15 and passim).

13. Ringe (1987); cf. Kim (2002: 17).

es.¹⁴ Non-vocalic nominal stems are referred to as CONSONANT STEMS.¹⁵ Proto-Indo-European verbal stems formed with the thematic vowel **e/o* are referred to as THEMATIC STEMS, while verbal stems formed without the thematic vowel are referred to as ATHEMATIC STEMS. Note that in this study a PARADIGM, when applied to a noun, comprises all inflected forms of the noun. When applied to a verb, however, it does not comprise all forms, but only the forms of one tense, mood and voice at a time; for instance, the forms of the present indicative active of a verb constitute one paradigm, those of the aorist indicative active constitute another.

DESINENCE refers to the complex of stem-forming suffix and case-marker, e.g. PIE *o*-stem acc. sg. **(u)ḱ^w-om*, while ENDING refers to the case-marker only, e.g. **(u)ḱ^w-m*. In the case of formations not containing a stem-forming suffix, the term “desinence” is used. For practical reasons, the term PROTO-INDO-EUROPEAN FINAL SYLLABLES is used in a broadened sense, referring not only to final structures containing one syllabic peak, but also to final structures containing two contiguous vowels, possibly separated by a laryngeal.

Periodisation

A linguistic system can be more or less stable, the divergences between the extreme points of the system can be more or less pronounced, but the system will always be in transition. Nevertheless, when the system is observed retrospectively from a certain distance in time, where specific details and systemic inconsistencies tend to disappear, we may establish certain fixed points of reference to various language stages. These fixed points necessarily represent abstractions from the linguistic reality, but with the right precautions they provide us with a useful tool to describe the system and its development. For our purposes, the prehistoric stages of Baltic and Slavic may be referred to as follows:

- 1 Proto-Indo-European (Ch. 2 §4) is the language spoken at the end of the period that precedes the oldest innovation not shared by all (known)

14. For practical reasons I speak of *ā-*, *ī-*, *īs-* and *ūs-* stems instead of the more appropriate designations *ah₂-*, *ih₂-*, *ih₂s-* and *uhs-* stems; by *ī-*, *īs-* and *ūs-* stems I refer to the Proto-Indo-European *devī-*, *vrkīh-* and *tanūh-* declensions respectively.

15. Cf. Bammesberger’s comments (1990: 18 fn. 27) on the terms “thematic” and “athematic” stems in Indo-European.

Indo-European languages; this language is also referred to as “the proto-language”.

- 2 The pre-Proto-Balto-Slavic period is the period following Proto-Indo-European until the oldest innovation not shared by all (known) Balto-Slavic languages; Proto-Balto-Slavic (see below and Ch. 3 § 5) is the language spoken at the end of this period.
- 3 The pre-Proto-Baltic period is the period following Proto-Balto-Slavic until the oldest innovation not shared by all (known) Baltic languages; Proto-Baltic (not treated separately in this study) is the language spoken at the end of this period.
- 4 The pre-Proto-Slavic period is the period following Proto-Balto-Slavic until the monophthongisation of oral diphthongs; Proto-Slavic (Ch. 3 § 4) is the language spoken at the end of this period;¹⁶ reconstructions referred to as “Common Slavic” in this study only serve to present the Proto-Slavic reconstructions in a more easily recognisable manner (see the introduction to Ch. 3 § 4).

The relationship between the Baltic and Slavic language branches is one of the most debated issues in the discussion of the dissolution of the Indo-European proto-language.¹⁷ The “Balto-Slavic problem” is obviously of great relevance to the problem of the development of accentual mobility in Baltic and Slavic. It seems that a pragmatic approach to the problem is recommendable. While certain differences on various linguistic levels between the Baltic and Slavic languages may go back to a very remote period in the prehistory of these branches, for our purposes it is of minor importance whether the Baltic and Slavic languages are viewed in a strictly Stammbaum manner as descendants of a unified Balto-Slavic proto-language,¹⁸ or they are regarded as survivors of a differentiated dialect continuum.¹⁹ In my opinion, the crucial point is that the ancestral dialects of the attested Baltic and Slavic languages

16. For the periodisation of Slavic see Andersen (1985).

17. See the surveys of Szemerényi (1948a; 1948b); Stang (1966a: 1–21); Dini (2002: 152–163); Hock (2006).

18. Cf. Vaillant (1950: 13): “[L]es langues slaves sont surtout proches des langues baltiques, si proches qu’il faut admettre que ces langues représentent deux groupes issus d’une même langue commune et placer, entre la période reculée de l’unité indo-européenne et la période, qui touche aux temps historiques, de l’unité slave, une période d’unité balto-slave.”

19. Andersen (1996: 63–64, 188; 1998a: 420); Holzer (1998: 33) with references; (2001: 33); in (1996: 37), Holzer characterises the Balto-Slavic problem as “in der Praxis unlösbar”.

apparently were close enough to one another to carry through identical innovations shared by all dialects. Furthermore, it is important to note that among the various segmental, prosodic and morphological problems treated in this study we do not encounter cases that are irreconcilable with the conception of a Balto-Slavic “proto-language” in the sense of a group of dialects that were able to carry through common innovations with identical results, at least seen from our distant perspective. What is essential for us is the fact that the accentuation systems of Baltic and Slavic, especially in the nominal morphology, show striking similarities:

Der Akzentwechsel in der Nominalflexion weist so grosse Übereinstimmungen zwischen Baltisch und Slawisch auf, dass es möglich ist, innerhalb jedes Deklinationstypus ein balt.-slav. Akzentparadigma zu rekonstruieren.²⁰

As long as we keep in mind that the relations between the ancestral dialects of the attested Baltic and Slavic languages may have been considerably more complicated than was once thought, I believe it is methodologically justified to refer to a reconstructed “Proto-Balto-Slavic” language as a simple model of describing the common share of these dialects.

Prosodic terminology

PROSODY refers to suprasegmental characteristics of individual words or syllables: accent, ictus, tone and quantity.²¹ The analysis of the prosodic system of a language may often take place on more than one level.²² A system like that of Štokavian, for instance, in a superficial analysis has contrasting tones, e.g. gen. sg. *sèla* with rising tone vs. nom.-acc. pl. *sèla* with falling tone. In a somewhat deeper analysis, however, where rising tone is interpreted as accent on a following syllable, i.e. *se'la* vs. *ˈsela*, Štokavian may be viewed as a non-tonal language.²³ The analysis becomes even more complicated in the case of languages attested only in written form such as Vedic or Greek,

20. Stang (1966a: 287–288); cf. Garde (1976, 1: 1): “Dans le domaine de la prosodie (quantité et tons) et de l’accent, les ressemblances entre les diverses langues baltes et slaves sont si frappantes qu’on ne peut les expliquer qu’en supposant l’existence, à une certaine époque de la préhistoire de ces langues, d’un système ‘balto-slave’ dont les unes et les autres dérivent.”

21. For the definitions given in this section I have consulted above all Hyman (1975: 203–233; 2001); Clark and Yallop (1990 [1995]: 347–348); Bruce (1998: 27–28, 42–44).

22. Cf. Hyman (1977: 69 n. 3); Hyman and Wilson (1991: 361).

23. Garde (1968: 150–154); cf. Browne and McCawley (1973).

let alone reconstructed languages like Proto-Indo-European or Proto-Balto-Slavic. In a diachronic study like the present one, we may allow ourselves to focus on the prosodic characteristics of a linguistic system that are relevant to the development of that system. That is to say, if subsequent linguistic changes in the prosodic system affect its more superficial representation, we may regard that representation as relevant to our purposes, and vice versa. Likewise, while the exact phonetics of the reconstructed prosodic systems treated here are beyond our reach, in most cases it is possible to determine the phonologically relevant characteristics of the various reconstructed language stages by looking at their subsequent development.

A PHONOLOGICAL WORD is constituted by a morphological word-form plus proclitics and enclitics.

The term ACCENTED refers to the prominent syllable of a word in prosodic systems where no more than one syllable of a word is prominent relative to its neighbouring syllables. In the prosodic systems of some languages, e.g. Russian, Bulgarian and English, the prominence includes changes in pitch, intensity, duration and/or quality, whereas in other languages, e.g. Vedic, Greek and Japanese,²⁴ the prominence primarily involves pitch. For the purposes of this study it is of minor importance which parameters are involved in the prominence. I do therefore not consider it necessary to distinguish between those types of prosodic systems, which are often referred to as “stress languages” and “pitch-accent languages”;²⁵ I refer to both systems as ACCENT LANGUAGES, unless it is necessary to make a specific distinction. In some accent languages certain word-forms may, at some linguistically relevant level of interpretation, be unaccented. Unaccented word-forms are found in languages like Vedic and Japanese and, as we shall see, Proto-Indo-European, Proto-Balto-Slavic and Proto-Slavic. Automatic, i.e. non-distinctive, prominence of a certain syllable in a phonological word is referred to as ICTUS. In the linguistic systems treated in this study, ictus coincides with the accent or, in the case of unaccented words, falls on the initial syllable.

In accent languages the accent may or may not be subject to phonologically determined restrictions. At one end of the spectrum we find languages with FREE ACCENT, where the accent cannot be predicted on the basis of the phonological shape of a word-form; Russian and Vedic are of this type. At the other end of the spectrum there are languages with FIXED ACCENT, where

24. For the Japanese accent see Martin (1975: 18–25); McCawley (1978a; 1978b); Vance (1987: 77–107); Hyman (2001: 1376). I am indebted to Mikkel Lotz Felter for his help with references on Japanese accent.

25. See the informative discussion in Hyman (2001: 1376–1377).

the accent is predictable on phonological grounds; this group includes Czech (accent on the first syllable of the word), Polish (accent on the penultimate) and Turkish (accent on the final syllable). In between we find languages whose accent is subject to some restrictions, e.g. Štokavian (in a surface analysis, the accent cannot be placed on the final syllable of polysyllabic words) and Greek (the accent cannot be placed further towards the beginning of the word than the antepenultimate, and if the final syllable contains a long vowel the accent is usually on one of the last two syllables). This type of languages have a RESTRICTED ACCENT.

When pitch, apart from contributing to marking the prominent syllable of a word, has a distinctive function, we may speak of TONE. Examples of languages with accent and distinctive tone are Štokavian, Čakavian, Lithuanian and Greek. In most languages with distinctive tone, the distribution of tones is subject to some restrictions. Note that languages like Vedic and Japanese may also be said to have distinctive tone. For instance, Japanese /hašiwa/ and /hašiwa/, consisting of /haši/ ‘edge’ and /haši/ ‘bridge’ followed by the topic marker /wa/, are realised tonally as LHH and LHL and are thus only distinguished by the tone of the final syllable.²⁶ As can be seen from the phonological representations of the words, however, we may account economically for prosodic systems of this type also in terms of accent. It is of theoretical relevance to observe that there are languages that display distinctive tone independently of the accent.²⁷ In Chinese there are numerous pairs of the type ¹kèi ‘object’ vs. ¹kèi ‘task’, which are only distinguished by the tone of the unaccented syllable. Note that accent is distinctive in Chinese, as shown by pairs like ¹bàochóu ‘reward’ (noun and verb) vs. ¹bào¹chóu ‘revenge’ (noun and verb). Such examples are counterevidence to the claim that tonal oppositions cannot exist in unaccented syllables.²⁸

The prosody of some languages may conveniently be described with reference to MORAS, or “something of which a long syllable consists of two and

26. Vance (1987: 81).

27. Cf. Allen (1973: 94) with references. I am grateful to Christoph Harbsmeier for discussing the Chinese prosodic system with me and providing the examples.

28. Kuryłowicz (1939 [1973]: 234–235; 1952 [1958]: 210); Ternes (2001: 173): “In den Tonsprachen im strengen Sinn ist jede einzelne Silbe durch eine tonale Eigenschaft markiert, d.h. jede einzelne Silbe trägt einen phonologisch distinktiven Ton. Das bedeutet umgekehrt, daß in solchen Sprachen kein Wortakzent möglich ist, der eine dieser Silben gegenüber den anderen hervorheben würde. In bezug auf die Intensität sind alle Silben gleichwertig. [...] Die bekannteste Sprache ist zweifellos Chinesisch.”

a short syllable consists of one” in McCawley’s definition.²⁹ In Čakavian, for instance, the distinction between the rising tone of gen. pl. *brád* and the falling tone of gen. pl. *krâv* may be represented as a distinction between *braʼad* and *krʼaav* with accent on the second and first mora respectively. Tones that are best accounted for in terms of moras are referred to as SYLLABIC TONES.

In the descriptions of the accentuation systems that will be treated here, the phonological terms INITIAL, MEDIAL and FINAL ACCENTUATION are self-explanatory and generally applied, as are also the morphological terms ROOT-, SUFFIXAL and DESINENTIAL ACCENTUATION. From the paradigmatic point of view we speak of COLUMNAR or IMMOBILE ACCENTUATION when in all forms of a word the accent falls on the same syllable counting from the beginning of the word, and of MOBILE ACCENTUATION when desinentially and non-desinentially accented forms alternate in a paradigm. For the morphological terms “acrostatic”, “proterokinetic”, “amphikinetic” and “hysterokinetic” applied to Proto-Indo-European, see Ch. 2 § 4.3.

Reference to LONG and SHORT SYLLABLES is language-specific:

- 1 In languages like Proto-Balto-Slavic and Proto-Slavic, a long syllable contains a long vowel, while a short syllable contains a short vowel, regardless of what follows the vowel.
- 2 In Greek, syllables are referred to as long if they contain a long vowel, or a short or long vowel followed by a semivowel, and as short if they contain a short vowel not followed by a semivowel.
- 3 In Lithuanian and Latvian, long syllables contain a long vowel, or a short vowel followed by a resonant, while short syllables consist of a short vowel not followed by a resonant.

In languages of type (1) there is no need to make a distinction between monophthongs and diphthongs. In languages of types (2) and (3), diphthongs have *VU* and *VR* structure respectively. In languages of the two latter types, diphthongs are functionally equivalent to long vowels. For the use of short, long, hiatal and disyllabic with reference to Proto-Indo-European final syllables, see Ch. 2 § 4.2.

29. McCawley (1977: 262 = 1978a: 288); see also (1978b: 129–131). Note that what counts as a long syllable in different languages may be only \bar{V} or it may include *VR*, or it may include both *VR* and *VT*. Various criteria for regarding languages as “mora-counting” are given by Jakobson (1937b [1971]: 259–261); cf. Fischer-Jørgensen (1975: 35–37).

In Proto-Balto-Slavic, a syllable is ACUTE if glottalised (or similarly marked) and CIRCUMFLEX if not; the same distinction applies to pre-Lithuanian and pre-Latvian syllables in all positions, and to the reflexes of these syllables in Lithuanian and Latvian. In Proto-Slavic, syllables are acute if they contain a long vowel, and circumflex if they contain a short vowel. In Greek, acute refers to short vowels with high tone and long syllables with rising tone, while circumflex refers to long syllables with rising-falling tone.

4. History of research

This section contains an overview, in chronological order, of the most important hypotheses about the origin of the Balto-Slavic accentual mobility.³⁰ It goes without saying that this survey of the views on “one of the most controversial issues of comparative IE grammar”³¹ cannot be complete.³² Scholars who have exclusively treated either the Baltic or the Slavic mobility are included only if their contribution has had significant influence on the evolution of the field of research, as is the case with Ferdinand de Saussure. Accordingly, scholars like Aleksandar Belić, whose main concern was the Common Slavic prosodic system,³³ are not included. Ronald I. Kim’s interesting dissertation (2002) would deserve a place in the survey, but too many points were unclear for me to be able to offer an adequate presentation of his theory.

The question of the rise of accentual mobility in Balto-Slavic obviously cannot be treated in isolation. Different interpretations of the mobility result from different views on various related problems such as the suprasegmen-

30. See also the useful historical overviews of Illič-Svityč (1979: 7–15, 79–81); Birnbaum (1975 [1979]: 116–124, 245–249), cf. Dybo (1987); Birnbaum and Merrill (1985: 12–21); Hinrichs (1985: 5–13); Lehfeldt (1993 [2001]: 7–29); Hock (2004: 13–21, 2005: 1–11); cf. van Wijk (1923 [1958]: 14–16, 48–94).

31. Kiparsky (1973: 826), on the Indo-European prehistory of the Lithuanian accent paradigms; cf. Illič-Svityč (1979: xiii): “It would be difficult to find an area of Baltic and Slavic linguistics in which differences of opinion between individual investigators are more significant than in the area of accentology.”

32. Cf. Sukač (2002: 5), on Slavic accentology: “Kritické zhodnocení všech přístupů by znamenalo vytvořit minimálně životní dílo.” [“A critical evaluation of all approaches would require at least the work of a lifetime.”]

33. See his *Акцентатске студије* [Accentological studies] (1914); Belić’s point of departure, the definite adjective, was rightly regarded as inappropriate by Stang (1957 [1965]: 100).

tal characteristics of Proto-Indo-European final syllables, the origin of the tones found in Baltic and Slavic languages, the correspondences between the various Proto-Indo-European, Baltic and Slavic accent paradigms, the nature of Saussure's Law, etc. I shall therefore briefly mention these issues in the following, focusing on the different opinions about the origin of the Balto-Slavic paradigmatic mobility.

In the overview I have generally retained the various scholars' individual notations of reconstructed forms. In the cases where, for the sake of clarity, I have modified the notations, I have added a note.

Bopp, Kayssler

Already Franz Bopp noted in his *Vergleichendes Accentuationssystem* (1854) the remarkable similarities, especially in the \bar{a} -stems, between the mobile paradigms of Lithuanian and Russian, tracing the principles of accentuation back to "die Zeit der Identität der lettischen und slawischen Sprachen".³⁴ As in Leopold Kayssler's *Die Lehre vom russischen Accent* (1866), however, we do not find any systematic comparison of the Baltic and Slavic accentuation systems with those of other Indo-European languages.

Brandt

A comprehensive attempt at a diachronic explanation of the Baltic and Slavic accentuation systems was endeavoured by Roman Brandt, who in his *Начертаніе славянской акцентологіи* [An outline of Slavic accentology] (1880) made a number of important observations on the reconstruction of the Common Slavic accentuation system on the basis of the modern Slavic languages. Brandt was aware of the close relationship between the Lithuanian and Slavic accentuation systems, which he compared with those of Vedic and Greek. Like his predecessors, Brandt did not systematically analyse the origin and development of the Baltic and Slavic mobile accent paradigms. His comparisons of the Lithuanian and Slavic accentuation systems with those of Vedic and Greek are to a large degree limited to comments on particular forms.

Maretić

Though the regularities hiding behind the effects of Saussure's Law in Lithuanian were still to be discovered, Tomislav Maretić in his paper "Slovenski

34. Bopp (1854: 90–91).

nominalni akcenat s obzirom na litavski, grčki i staroindijski” [“The Slavic nominal accent compared with the accent in Lithuanian, Greek and Old Indian”] (1890) provided a systematic analysis of the relationship between the Balto-Slavic and Greek-Vedic nominal accentuation systems. In the beginning of his paper, Maretić formulated a question which remains central in Indo-European accentology: “što je prvobitno u *o-* i *ā-*deklinaciji, da li grčko-indijska nepromjenitost ili litavsko-slavenska promjenljivost?” [“what is original in the *o-* and *ā-*declension, the Greek-Indian immobility or the Lithuanian-Slavic mobility?”]³⁵ Maretić was inclined to prefer the former option, ascribing the accentual mobility of Balto-Slavic vowel stems to the influence of the mobility of monosyllabic consonant stems like GK nom. sg. *θήρ*, acc. *θήρα*, gen. *θήρός* etc. and VED nom. sg. *pāt*, acc. *pādām*, gen.-abl. *padāḥ* etc.

Finck

The contrast between the Balto-Slavic accentual mobility and the Vedic-Greek immobility was examined in another work written without reference to Saussure’s Law, Franz Nikolaus Finck’s dissertation *Über das verhältnis des baltisch-slavischen nominalaccents zum urindogermanischen* (1895). Rejecting Maretić’s proposal that the mobility of Balto-Slavic vowel stems is analogical to that of monosyllabic consonant stems,³⁶ Finck concluded that the Balto-Slavic mobility, apart from secondary developments, directly continues the Proto-Indo-European state of affairs. The word for ‘hand’, for instance, had a Proto-Indo-European desinentially accented nom. sg. **ronkā*, a root-accented acc. sg. **rónkām*, a desinentially accented gen. sg. **ronkās* etc.;³⁷ cf. RU nom. sg. *ruká*, acc. *rúku*, gen. *ruki* etc.

Thus, already at the end of the nineteenth century, the two main hypotheses in the discussion of the prehistory of the Balto-Slavic accentual mobility had their adherents: those who regarded the mobility as an innovation in Balto-Slavic under influence of the consonant stems, and those who regarded the mobility as an archaism directly inherited from the proto-language. These

35. Maretić (1890: 39).

36. “Es giebt aber einfach GAR NICHTS, was den einfluss dieser vorausgesetzten deklinations-klasse auch nur im geringsten Masse wahrscheinlich machen könnte.” (Finck 1895: 37–38, emphasis as in original).

37. The tones of the desinenes are here, as in Finck’s reconstructions, not indicated.

two hypotheses were to be elaborated upon and discussed throughout the following century.

Saussure

In what was to become perhaps the most influential pages ever written on Balto-Slavic accentology, the article “Accentuation lituanienne” (1896), the Swiss linguist Ferdinand de Saussure, the “Koryphäe der balt[ischen] Akzentologie”,³⁸ presented a concise analysis of the Lithuanian accentuation system.³⁹ By means of internal reconstruction he showed that the Lithuanian accent paradigms are analysable as two succeeding systems. The first system was independent of tone and consisted of an immobile and a mobile accent paradigm. The second system arose when a pre-Lithuanian accent advancement from a non-acute syllable to a following acute syllable (“Saussure’s Law”) caused the two original accent paradigms to split into the four paradigms known from contemporary Lithuanian. In contrast to Meillet, Hirt, Fortunatov and other contemporary scholars, Saussure in his writings on Lithuanian accentuation did not even mention Slavic.

Having examined the alternations caused by the accent advancement in the Lithuanian declension, conjugation and derivation, Saussure proceeded to an analysis of the accent alternations in the mobile accent paradigms, tracing back the accent curves of consonant stems like *duktẽ* to a paradigm with desinential accentuation. To account for the initial accentuation of forms like acc. *dùkteri*, Saussure proposed an accent retraction from medial syllables in the consonant stems:⁴⁰

	pre-LI		LI
nom.-voc.	* <i>duktẽ</i>	>	<i>duktẽ</i>
acc.	* <i>duktẽrin</i>	>	<i>dùkteri</i>
dat.-loc.	* <i>duktẽrĩ</i>	>	<i>dùkteri</i>
gen.	* <i>dukterès</i>	>	<i>dukterès</i>
instr.	* <i>dukterimì</i>	>	<i>dukterimì</i> etc.

38. Nieminen (1922: 158).

39. Cf. van Wijk (1923 [1958]: 68–69); Torbiörnsson (1924b: 9–20); Illič-Svityč (1979: 9–11); Dybo (1977).

40. Saussure (1896 [1922]: 533).