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**SURVEY OF PREVIOUS RESEARCH  
ON LIVONIAN PROSODY\***

**Abstract.** Livonian prosody is unique among the Uralic languages in that it contrasts short and long monophthongs, diphthongs, and triphthongs, prevocalic single and geminate consonants and word-final short and long consonants, word-final short and long consonants, and lexical tones. Studies on Livonian prosody have been written German, Finnish, English, and Estonian. Here a short survey of previous research and discussion on tone is presented.

**Key words:** Livonian, prosody, tone, quantity.

Livonian prosody is unique among the Uralic languages in contrasting at the same time (a) short and long monophthongs, diphthongs, and triphthongs, (b) prevocalic single and geminate consonants and word-final short and long consonants, and (c) lexical tones (at least the plain tone and the broken tone or *stød*) in stressed stem-initial syllables and in using (d) different coda weight to multiply the number of possible sound patterns. Moreover, all the features are actively used in inflectional morphology. In addition, Livonian is unique among Finnic languages in contrasting final short and long vowels in stressed monosyllables. The wide spectrum of rare features has made Livonian prosody both a hard and interesting field of research for all linguists who have ever dealt with it.

1. In the Livonian grammar written by F. J. Wiedemann (1861) the writing of vowels was somewhat inconsistent. F. J. Wiedemann clearly noticed the existence of different tones but explained them as specific vowel or consonant lengths similar to quantity contrasts that were discovered in Estonian at the end of the 1850's (1861 : 11). Such an explanation was based on the fact that, long nuclear vowels with the broken tone are shorter than those with the plain (level or raising) tone, and that coda consonants or coda vowels following a short nuclear vowel, are shorter in words with the broken tone than in words with the plain tone. Livonian broken tone or *stød* as such was first recognized by the Danish linguist Vilhelm Thomsen

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(1890) who noticed this feature, shared with the Danish language, when he interviewed a Livonian sailor for Germanic loanwords in the Copenhagen harbor during 4–5 hours.

2. Livonian tones were acoustically first studied by Lauri Kettunen. In the phonetic introduction (18 pp.) of his book "Untersuchung über die livischen Sprache I" (Kettunen 1925) he writes about DER BRUCH DER STIMME or "STOß-TON". According to L. Kettunen, the essence of that tone is breaking of the voice in the middle or at the end of a sound: the vocal cords can produce a complete closure but most often only a momentary weakening is produced. He also found a similar breaking in post-tonic syllables with a long vowel, which he identified as half-long. In this book, L. Kettunen has no specific term for the plain tone. In the book, there are five pages of kymograms exhibiting the broken tone, word-final stops, geminates, consonant clusters, and vowels. The words in kymograms are segmented and the duration of segments is presented; diphthongs and triphthongs are presented as wholes for understandable reasons. L. Kettunen used his data to improve the phonetic transcription of Livonian. In total his book contains 130 pp. of texts with translation into Estonian.

3.1. Eleven years later a pupil of Lauri Kettunen, Lauri Posti who had studied Livonian tones in Riga together with the Latvian phonetician Anna Ābele, turned his attention to the similarities of Livonian and Latvian tones (Posti 1936). L. Posti used the equivalents of terms used for Latvian tones,<sup>1</sup> cf. Finnish NOUSUINTONAATIO 'rising intonation' and KATKOINTONAATIO 'broken intonation' and Latvian STIEPTĀ INTONĀCIJA and LAUZTĀ INTONĀCIJA. L. Posti presents the hitherto longest list of minimal pairs with the broken and plain tone. As Latvian has also a third tone, namely the falling tone (KRĪTOŠĀ INTONĀCIJA), L. Posti claimed to have found it also "in words with a late irregular lengthening" (*āt(ō)*<sup>2</sup> [*āt'*] ~ [*āt̃*]) 'they are', *jārandiz* 'away'<sup>3</sup>) and hoped that it occurred in the first syllable of words such as *aigā* [*aigā̃*] 'edge', *raigā* [*raigā̃*] 'thigh', *kuoigād* [*k<sup>u</sup>oigā̃d*] 'ships'. Unlike L. Kettunen who transcribed the words *vāztōb* 'makes tired' and *jogst*<sup>4</sup> 'river (relative)' as [*vāstāB*] and [*jo'kst*] L. Posti claimed that the first consonant after a

<sup>1</sup> Note that the Latvian and Lithuanian phonetic tradition never distinguished between tone and intonation.

<sup>2</sup> As the phonetic transcription used by the referred authors depends on the author, here also the current orthographical forms are presented. Letters in parentheses as in *āt(ō)* reflect the existing free variation of shorter and longer forms.

<sup>3</sup> Actually *āt(ō)* belongs to allegro forms of the longer form *umātō* and maintains the vowel length of the former second syllable; *jārandiz*, on the other hand, was at least mostly pronounced as [*jārandiz*]. Both Lauri Kettunen and Lauri Posti have systematically ignored or mistreated the West Livonian and Īra (or Central Livonian) short vowel lengthening from full-short to half-long in open stressed syllables and the parallel shortening of the long vowel of the second syllable. This characteristic change was first described by E. N. Setälä already in 1913 in an unpublished note, see Viitso 1981 : 38.

<sup>4</sup> The form *jogst* is characteristically a West Livonian form, cf. West Livonian *jo'g*, GSg *jo'g*, PSg *jo'ggō*, Īra *jo'ig*, GSg *jo'ug*, PSg *jo'ugō*, ElaSg *jo'ugst*, East Livonian *jo'ug*, GSg *jo'ug*, PSg *jo'ugō*, ElaSg *jo'ugst*. Still it is unclear whether the Livonian words analyzed by Lauri Posti (and Aarni Penttilä) all represent West Livonian. Lauri Kettunen's data represent East Livonian. Characteristically, it remains unknown whether the pre-war researchers L. Kettunen, L. Posti, and A. Penttilä have used one or more speakers for producing their kymograms and oscillograms.

short vowel is always voiced in a stressed syllable with *stød* and the "intonation" in a long unstressed syllable is never glottal. Although L. Posti stressed the similarity of Livonian and Latvian (actually Low Latvian) tones he nevertheless admitted that Anna Ābele when having first heard the Livonian word [li<sup>u</sup>epà]<sup>5</sup> 'alder' (i.e. a word with a short stressed initial syllable followed by a so-called half-long vowel considered long in the modern Livonian orthography, cf. *liepā*), thought that the word has stress on the 2<sup>nd</sup> syllable. (In reality, Livonian has several sound patterns whose prosodic structure conflicts with that of Latvian).

3.2. As Lauri Posti (1936) presented several new ideas concerning phonetic transcription, Lauri Kettunen (1936) in his reaction to the article found them unnecessary and also corrected some word forms presented by L. Posti. Among L. Kettunen's corrections there is, however, an incorrectly pronounced form *k<sup>u</sup>o'igid* alongside the correct form *k<sup>u</sup>oigid* 'ships'.

3.3. Lauri Posti's article (1937a) is a response to L. Kettunen's reaction. The most important part of it is the set of 12 kymograms made together with Aarni Penttilä. Four of the kymograms concern his claim about the falling intonation in Livonian. As it becomes clear from the kymograms that words such as *laigā* 'broad' and *k<sup>u</sup>oigid* 'ships' are not pronounced with the falling tone, and L. Posti thinks that "this intonation must be regarded as the short intonation, the intonation that is characteristic of a short single vowel" (1937a : 193). As the pitch contour of the remaining two words, *pernai* 'landlady' and *jougūz* 'yew'<sup>6</sup>, cannot be considered falling, L. Posti explains that the falling intonation begins with a rise and ends in a fall. When speaking about broken intonation, L. Posti similarly divides it into two parts: the rise and the fall.

3.4. Lauri Kettunen (1937) in his reaction to Posti (1937a) first notes that in L. Posti's kymograms for rising intonation the pitch in the second syllable is lower than in the first syllable. Later he adds that the pitch is mostly plain but in the second syllable there is a sharp drop. This means that in contrast to L. Posti whose discussion of "intonation" remains in the framework of the lexical tone in the first syllable, L. Kettunen was either unable or unwilling to distinguish between "syllable intonation" and sentence intonation. Even more interesting is L. Kettunen's claim about there being no other falling intonation in Livonian than the one that rose when *stød* is absent. Supposedly he had in mind an alternative use of words both (a) with the rising-falling pitch combined with intensive glottalization and (b) with prevalingly falling pitch combined with weak glottalization.

3.5. Lauri Posti (1937b) in an answer to Kettunen 1937 repeats his conviction that there is a special falling intonation in Livonian.

<sup>5</sup> In a voiced environment, shorter strong and voiceless obstruents are transcribed as half-long single obstruents (e.g. *āt̃* and *li<sup>u</sup>epà*) by L. Posti, and as short geminate obstruents (e.g. *ātt̃* and *li<sup>u</sup>ēppà*) by L. Kettunen.

<sup>6</sup> The two words are compounds or at least former compounds. The word *pernai* 'landlady' was a rare, probably West Livonian shortened form of the usual Estonian borrowing *perinai*, cf. Estonian *perelnaine* 'family' + 'woman, wife'. As an apocopated form of the former disyllabic stem, *\*pere* or *\*peri*, *per* would be pronounced with the broken tone. For the word *jougūz* ~ *jovgūz*, the form *jovgūz* is pronounced with two stresses [*jo·ugūz*] and folk etymologically analyzed as 'flour spruce' or 'meal spruce'. Anyway, the tone of the first syllable in the words *pernai* and *jougūz* may be a characteristic of a type of compounds.

4. In the grammatical introduction to his Livonian dictionary, Lauri Kettunen (1938) presents a detailed section on intonation. The section begins with a short description of Latvian "intonations" based on Jānis Endzelīns's grammar. Later L. Kettunen accepts the Latvian German terms also for Livonian. The plain tone is called GEDEHNTE INTONATION 'stretched intonation'. The broken tone is STOSSINTONATION or BRUCHINTONATION; still "depending on a person (especially in West Livonian), the STOSSLAUT<sup>7</sup> (or «BRUCHLAUT») and probably also the weakening of the expiratory stress can be totally absent, and then by ear only a falling intonation can be perceived that differs from the stretched intonation also by shorter syllable quantity" (Kettunen 1938 : xii).

In case of syllables ending in a voiceless stop or *s* instead of *b*, *d*, *g*, *z*, cf. *āgstō* [ā'kstā] 'to harrow', *kādst* [kā'tst] 'from the hand', *ābļō* [ā'ptā] 'to help' vs. *āggōz* [ā'ggāz] 'harrow', *kādud* [kādud] 'hands', *ab* [a'b] 'help', "the syllable is sonorously short and when the break of voice cannot be heard, the syllable intonation is hardly different from in a syllable with a short vowel + voiceless consonant" (Kettunen 1938 : xxi). Interesting enough, L. Kettunen's examples about the hardly different syllable intonation concern the words *ligtō* [li'ktā] 'to soak (tV)' and *liktō* [liktā] 'to move (itr.)', *liktāb* [liktāb] 'he moves (tV)' which are derived from intransitive verbs *liggō* [li'ggā] 'to soak, to get soaked', 3sg. *ligūb* and *likkō* [liktā] 'to move', 3sg. *likūb* [likkūb]. His conclusion "One can then well speak about a short intonation, that according to its character might be falling" probably contains an evaluation of both the length of the domain of the tone of the first syllable and of the characteristic pitch movement of the second syllable.

The falling intonation (proper) occurs in the first syllable ending in what L. Kettunen calls an overshoot (actually half-short) consonant or vowel, e.g. *lazrēt* [lažrēt] 'military hospital', *pernai* [pėrnai] 'landlady', *aigā* [aigā] 'edge', *laigā* [laigā] 'broad', and in words *ātō* 'they are' and *jārandiz* 'away'. (Cf. fn. 3).

5. In 1941 Aarni Penttilä and Lauri Posti published an instrumental study of the plain and broken tone. Here 56 oscillograms and data about duration of segments were published. As the segment boundaries are not indicated in oscillograms, hardly anybody except Kalevi Wiik has ever tried to use the data.

6. Fanny de Sivers (1965) applies the description of *stød* in Latvian, Livonian, and Danish by Jānis Endzelīns in his Latvian grammar, according to which for *Stosston* after a resounding beginning, a momentary glottal stop (which is very often replaced only by the weakening of voice) enters in the middle of the syllable. As also Lauri Kettunen (1938 : xxxv) has explained that the word *rō* 'money' is actually pronounced as *rō'ō* or *rō'ō*, F. de Sivers maintains that *stød* in Livonian is not a tone but *le coup de glotte* 'the glottal stop', i. e. a segment. To support this she shows that there exist counterparts to the Livonian words with *stød* in Finnish and Estonian: e.g. *raha* 'money'; the consonant *h* has been recognized as one of the sources of the Livonian *stød*. F. de Sivers hopes that a complete

<sup>7</sup> The term *Stoßlaut*, Finnish *katkoäänne* has provoked several linguists to look for a sound (German *Laut*, Finnish *äänne*), i.e. a segment, which was done ignoring the characteristic pitch movement.

phonological analysis would explain the phonological role of the glottal stop.<sup>8</sup>

7. Marilyn May Vihman (1971) in her unpublished doctoral dissertation, which contains an interesting approach to the historical phonology of Livonian, dealt also with instrumental study of stød in Danish and Livonian. Here she explains the acoustical essence of stød as a special type of wave forms.

8. In addition to L. Kettunen (1925) and A. Penttilä and L. Posti (1941), data on the duration of segments in different sound patterns have been presented by Seppo Suhonen (1982), Hille Pajupuu and Tiit-Rein Viitso (1986). S. Suhonen studied the total duration of monophthongs, primary and secondary diphthongs, and triphthongs in words in ten patterns with either the plain or broken tone. H. Pajupuu and T.-R. Viitso dealt with the duration of components of all diphthongs and triphthongs in similar patterns. The data analyzed by S. Suhonen are at least partially selected from the recordings by three different East Livonian speakers representing two different subdialects. The data analyzed by H. Pajupuu and T.-R. Viitso were read by one East Livonian speaker.

9. In addition to instrumental studies, problems of historical phonetics/phonology have been dealt with by Lauri Posti (1936; 1937a, and especially 1942), Lauri Kettunen (1938; 1942; 1947, and especially 1960), and most systematically and dynamically by Marilyn May Vihman (1982).

There exist special studies of the rise of metaphony in Livonian by Mikko Korhonen (1969), and of stød by Kalevi Wiik (1989), Seppo Suhonen (1994), and Eberhard Winkler (2000). Unlike L. Kettunen and L. Posti who distinguish several ways of the rise of stød, K. Wiik presents the Syllable Boundary Theory, which is used to give an attempt to describe the formation of Livonian stød as a remnant of a former syllable boundary. Eberhard Winkler argues against the autochthonous nature of the Livonian stød and explains the rise of both Livonian and Leivu South Estonian stød with Latvian influence.

Problems of Livonian phonology were dealt with by Tiit-Rein Viitso (1974; 1975) and reanalyzed in 1981. In Viitso 1981 : 16–22 main types of tone and quantity patterns were established. A set of important patterns participating in Livonian gradation, called quantity alternation by L. Posti, was presented already in Posti 1942 : 296–301.

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<sup>8</sup> It should be noted that it is only the partitive and illative forms of monosyllabic vocalic stems with stød *rō* [r<sup>õ</sup>] and *vō* [v<sup>õ</sup>] 'beeswax; foam' which serve as the strongest argument against the segmental nature of stød: both words take the partitive singular ending *-dō* and the secondary illative singular ending *-zō*, which similarly to the corresponding Estonian case endings *-d* and *-ha/-he/-hu* occur only with monosyllabic vocalic stems, cf. *rōdō* [r<sup>õ</sup>d<sup>õ</sup>] and *rōzō* [r<sup>õ</sup>z<sup>õ</sup>], in Īra and West Livonian [r<sup>ã</sup>d<sup>ə̃</sup>] and [r<sup>ã</sup>z<sup>ə̃</sup>]. See also the partitive and illative forms *mōdō* [m<sup>õ</sup>d<sup>õ</sup>] and *mōzō* [m<sup>õ</sup>z<sup>õ</sup>] of *mō* [m<sup>õ</sup>] 'land, country; soil'; in the illative form the secondary ending was added to the former illative form [m<sup>õ</sup>] < \**māha(n)*; the former illative form has been best preserved in Īra and West Livonian adjective [m<sup>ã</sup>] 'down'.

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*ТИИТ-РЕЙН ВИЙТСО* (Тарту)

#### ОБЗОР ИССЛЕДОВАНИЙ ПО ПРОСОДИИ ЛИВСКОГО ЯЗЫКА

Ливский язык в части просодии занимает особое место среди уральских языков благодаря противопоставлению кратких и долгих монофтонгов, дифтонгов и трифтонгов, превокальных одиночных и геминатных, в конце слова кратких и долгих согласных, а в слове с главным ударением лексических тонов. Исследования по просодии ливского языка издавались на немецком, финском, английском, эстонском и французском языках. В статье дается краткий обзор трудов и дискуссий, посвященных тонам в ливском языке.