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## DISSIMILATORY PLURAL FORMATIONS IN BALTIC FINNIC \*

The history of the plural morphology of Baltic Finnic, especially the western dialects of Baltic Finnic, reveals a clear tendency toward dissimilatory polarization of the singular and plural stem vocalism of disyllabic vowel stems.<sup>1</sup> In my opinion, we can in fact trace a line of dissimilative development from the early stages of Baltic Finnic culminating in nearly optimal singular : plural contrastive systems in various dialects of Estonian. Functional in nature, rather than the direct product of phonetic sound change, these developments have resisted compelling explanation, although a wide range of phonetic and analogical accounts have been proposed.<sup>2</sup> I shall argue here for a somewhat different view — relying heavily, of course, on the previous work and insights of Kettunen, Tunkelo, Posti, and Alvre — but starting from a number of different assumptions as to the phonological nature of Proto-Baltic-Finnic and the nature of the areal contact relationships among its early dialects.

Pre-Baltic-Finnic, in my view, possessed a consistent vowel harmony system, with no neutral vowels. The high central vowel *ɨ* early on merged with *i*, the consequence of contact with languages to its west, but mid *ɛ* remained in Proto-Baltic-Finnic. The loss of phonological *ɛ* occurred over a longer span of time, also generally as an areal phenomenon spreading from west to east, and in stages conditioned by phonological context. Three contexts appear to be relevant: (1) *ɛ* was replaced first in its perceptually weakest context — i. e., unstressed and adjacent to *i*. It is in this position that the substitution of *o* for *ɛ* occurs just in case the stressed (root) vowel is not itself *ɛ* or rounded (yielding the phonological rule *ai* > *oi* known from dialects of Votic). This process was thus neither dissimilatory in nature nor restricted to the plural morpheme, as we see in Figure 1, stage (IV), Substitutive Labialization.<sup>3</sup> (2) Stressed *ɛ* was lost only later, and in a number of stages. Initially it was replaced by *o* (as in Finnish *joki*), also occasionally by *a* (cf. Fi. *sana*), much later by *e*, especially when long (Fi. *vieras*) or before a liquid (Fi. *velka*). (3) Unstressed *ɛ* was primarily replaced by *e* [cf. stage (VI)], either phonetically or by loss of its phonological status. It is this contact-induced substitutive loss of *ɛ*, at times lexical and morphological rather than general, that has led to the strange array of *ɛ* correspondences in the various dialects.<sup>4</sup>

The first dissimilative plural formation arose in early Baltic Finnic as a formal extension of Substitutive Labialization to a simpler phonological process based solely on the feature rounded — the rule as we know it in Finnish today: *a* rounds to *o* before *i* pl just in case the

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(no longer true plurals) as well as paradigmatic options of the type *kalleita* ~ *kalliita* as reflections of this period. Once an *ei* ~ *ii* plural alternation was established for the *a/ä*-stems, extension of the *ei* variant to the *i*-stems by analogy was not only readily available, but functionally desirable [cf. stage (VIII)]. It may well be that it was at this stage that the difference between the *i*- and *e*-stem paradigms was to some extent obliterated in Southeast Estonian.<sup>5</sup>

Finally, in numerous dialects, functional pressures led to the higher *ii* variant being selectively aligned with nonhigh vowel stems while the nonhigh *ei* variant was aligned with the *i*-stems [cf. stage (IX)]: Parallel sporadic instances of alignment with nonlow stems — i. e., *i/-e*-stems — is well documented in Early Finnish.<sup>6</sup> Elsewhere the raising to *ii* was carried to completion with all the stems in question. In any case the *ei* plurals of *i*-stems were well entrenched already at the time of the earliest Finnish literary records. The distribution of Finnish and Estonian dialects with reflexes of a plural *\*-ei* with *i*-stems, as seen in Figure 2, supports the view that this process must have been rather widespread throughout the West Baltic-Finnic area. And in some few southwest dialects it was extended to the present : past opposition as well. I might note, that those Finnish dialects which maintain an *i* : *ii* singular : plural contrast, with the exception of Southern Pohjanmaa, have achieved this contrast only through a secondary analogical restoration of the long *ii*.



Figure 2: Finnish and Estonian analogical *i+i* pl→*ei*

The singular : plural formations of the disyllabic stems in the early Finnish and Estonian dialects, the foundation for subsequent developments, is shown in Figure 3. The origin of the various dissimilatory plurals of Estonian, and Votic as well, are seen as arising from dissimilatory seeds thus already present, in response to functional pressures owing to the severe reduction of unstressed syllables among the Estonian dialects on the one hand, and the presence of inflectional areal models (i. e., Germanic, Slavic and Baltic) for unitary case—number morphological structures on the other. Under the morphological restructuring assumed here, singular and plural in much of Estonian came to be

bound to given case functions and no longer constituted a direct contrastive relationship. In other words, the system of morphological oppositions consisted of gen sg : gen pl, part sg : part pl, etc.

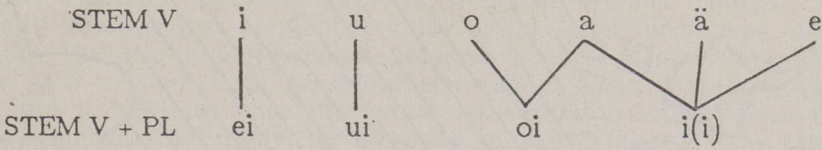


Figure 3: Early-Finnish/Pre-NW. Estonian plural formations

The basic sg : pl contrast of Pre-NE. Estonian, with unstressed syllable reductions, thus became a manifestation of the new part sg : part pl opposition shown in Figure 4. Here the earlier dissimilatory relationships may be considered to have taken on an even more significant role in the paradigmatic morphology of the Estonian dialects. Even without additional restructuring, the inherited system, as expressed in the functional diagram, shows that with the exception of the *u*-stems, not only are the part sg : part pl contrasts clearly marked, but also demonstrate a remarkable phonetic salience. It is this partially dissimilatory pattern which is extended, via analogy and dialect borrowing (contact) to produce the three basic dissimilatory systems of Estonian, shown in Figures 5 and 6. I have arbitrarily assigned these the names of lakes assumed to be near to the area of the prototype each is based on. And further, since I consider the relevant formations to have transpired at a linguistically prehistoric era, I have avoided direct identification with current dialect designations.

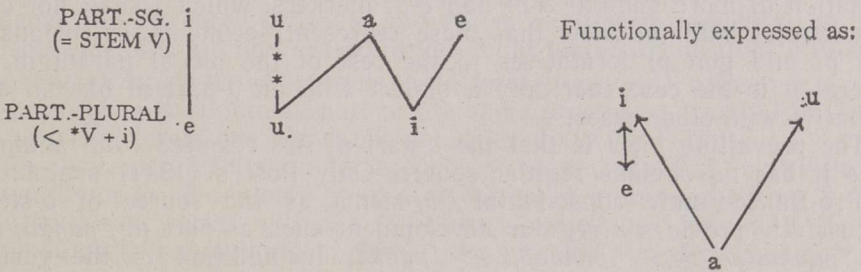


Figure 4: PreNE. Estonian part sg : part pl oppositions as a result of unstressed-syllable reductions

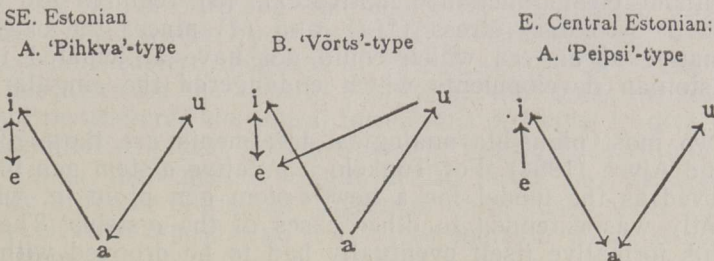


Figure 5: Primary part sg ↔ part pl dissimilative types in Estonian

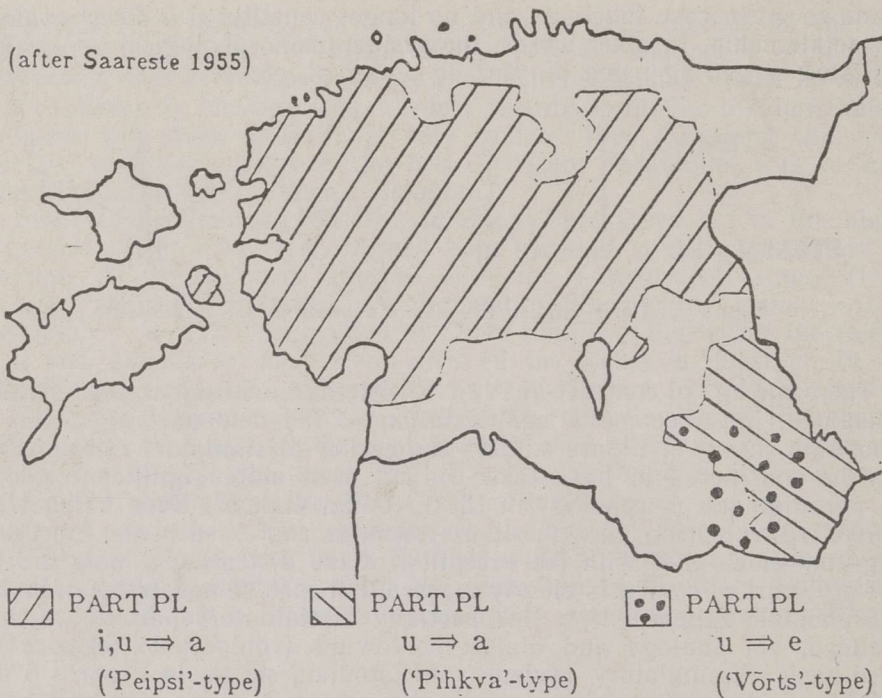


Figure 6: Dialect distribution of the primary dissimilative part pl formations

The problem at hand is thus the origin of the *a*-part pl and *e*-part pl formations of Estonian (and indirectly also of Votic). With regard to the formation of more general *a*-pl and *e*-pl markers, which I shall not deal with here, I hold the view that these represent secondary extensions of part pl and gen pl formatives to the rest of the plural paradigm. In general it is the case that only a dialect with an *a*-part pl has an *a*-pl formative with other cases.

The prevailing view is that the *a*-part pl has resulted from analogy, since it has no obvious regular source. Only Posti's (1934) postulation of Pre-Baltic-Finnic consonantal *\*aj*-stems as the source of *o*-stems successfully provides a regular development such as part pl *\*pankaj-i-ta* > *\*pankaita* >> *\*pankaða* > *panka*. In addition to the various objections raised by Alvre, I should like to add that Posti's approach (1) reconstructs hypothetical consonant stems which are not otherwise necessary to account for later Baltic-Finnic developments, (2) necessitates massive analogical restructuring of his assumed consonant stem paradigms without clear functional motivation, (3) requires the loss of a syllable with secondary stress (*\*j-i*), and (4) places the origin of the *a*-pl formative at an era which could not have anticipated just those purely Estonian developments which endangered the singular : plural contrast.

The two most plausible analogical treatments are those of Tunkelo (1938) and Alvre (1964). For Tunkelo a putative *a*-stem gen pl, such as *silda*, served as the model for a new *o*-stem gen pl in *-a*, which only subsequently was extended to other cases of the *o*-stems. The problem is that this formative itself eventually had to be dropped without trace in its pivotal role as gen pl.

Alvre ties the *a*-pl to widely distributed adverbial constructions such as *võrgale* '[to fish] with nets', in which the *-a*-formative has been

extended from the stem *-a-* in comparable forms such as *kalale* '[to go] fishing', in order to preserve a distinction between *võrgole* 'fish by net' and 'fish with nets'. For me three major problems remain here: (1) The source of the *a-pl* is seen as coming from outside the normal paradigmatic structure. Adverbs are not normally assigned number content; note especially here the loss of number value in the *-eillä* formatives of Finnish. (2) The semantic functional pressure for the primary use of the *a-pl* is said to stem from adverbial structures of the type *võrgo(i)lle*, but I find it hard to sense the actual situational communicative difficulties assumed. (3) Finally, the assumed spread of the *a-pl* into western Votic, where the paradigmatic singular : plural contrast was not threatened, loses all plausible motivation. I am led to conclude that the wide dialect distribution of the limited number of the fixed adverbial *a-forms* is the result of limited lexical diffusion out of *a-pl* areas.

In a sense I agree with Kettunen and others that the Estonian and W. Votic *a* plurals stem from an early common source. I also share the view that dialect borrowing was the basis for this shared feature, but the distributional facts necessitate a more complicated areal basis for this dialect interaction than has been considered heretofore.

The plural formations and dialect relationships I project are shown in Figures 7 and 8. The linguistic evidence clearly places the location of this interaction somewhat further south than usually assumed, between the lakes Peipsi and Pihkva, where I assume the existence of dialects intermediary between Estonian proper and Votic proper — designated here as Čud. The pivotal Estonian dialect has been named Pre-Peipsi.

The S. Čud dialect is seen as undergoing the same general process of syllable weakening which threatened the loss of the singular : plural distinction in the Estonian dialects. But instead of loss, prosodic weakening in S. Čud led to the centralization of back vowels in *V+i* pl sequences. The plausibility of this view is supported by the general dialect pattern for Estonian as well as Veps, both of which demonstrate a clear tendency for increased prosodic as well as qualitative reduction as their dialects extend south and eastward, no doubt the result of areal influence. The centralization noted in such Votic formations as 3 sg past *-e* (< *oi* [*< ai, oi*]) is undoubtedly part of the same process. A parallel unrounding of back vowels has also been noted for dialects of Veps.<sup>7</sup>

As unstressed *Vi* was in the process of being simplified in Pre-Peipsi, although not in all sentence frames, it borrowed from neighboring S. Čud just those case forms with the threatened oppositions for which S. Čud morphology had something to offer (i. e., with the *u/o*-stems but not with the *i*-stems). Since the phonological status of unstressed *e* had already been lost in Pre-Peipsi, the *e* of Čud was perceptually reinterpreted as one of its possible unstressed vowel targets. Vowel harmony required that it be a back vowel, and to have functional value it could not, of course, be *u* or *o*. The only available choice for substitution was thus *a*.<sup>8</sup>

It is this system which I postulate as the source for the W. Votic *a-pl* forms, via a northeastern neighbor of Peipsi, say N. Čud.<sup>9</sup> The fact that W. Votic has extended the *ai-pl* to *e*-stems as well leads me to conclude that N. Čud restructured the plural formations of Peipsi to give the low : nonlow dissimilative plural system shown in Figure 7. Additional support for areal rather than genetic origin in W. Votic may be seen in the significantly different statistical alignment of the *ai-pl* with the various nonlow vowel stem types; e. g., it is more common with *i-/e*-stems than with the *u*-stems.

In the evolution of Pre-Peipsi to Peipsi, with neutralization of the *u : o* contrast, the plural system was formally simplified to yield a high :

nonhigh dissimilative system. Thus the plural of *u-* (< \**o*, *u*) and *i-* stems came to be *a*. It is essentially this system, which I have named the Peipsi-type, which has spread westward throughout the central Estonian dialect area.

A southern branch of Pre-Peipsi, Pihkva, maintained the rounded : unrounded basis of the earlier system. The combination of this with the earlier, more western, *i* ⇒ *e* dissimilation results in the dissimilative pattern of the Pihkva-type.

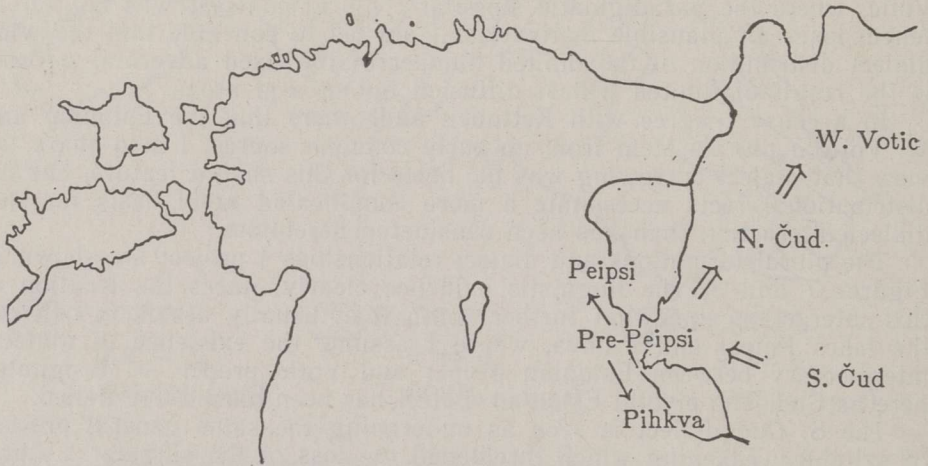


Figure 7: Early E. Estonian — W. Votic contact interaction

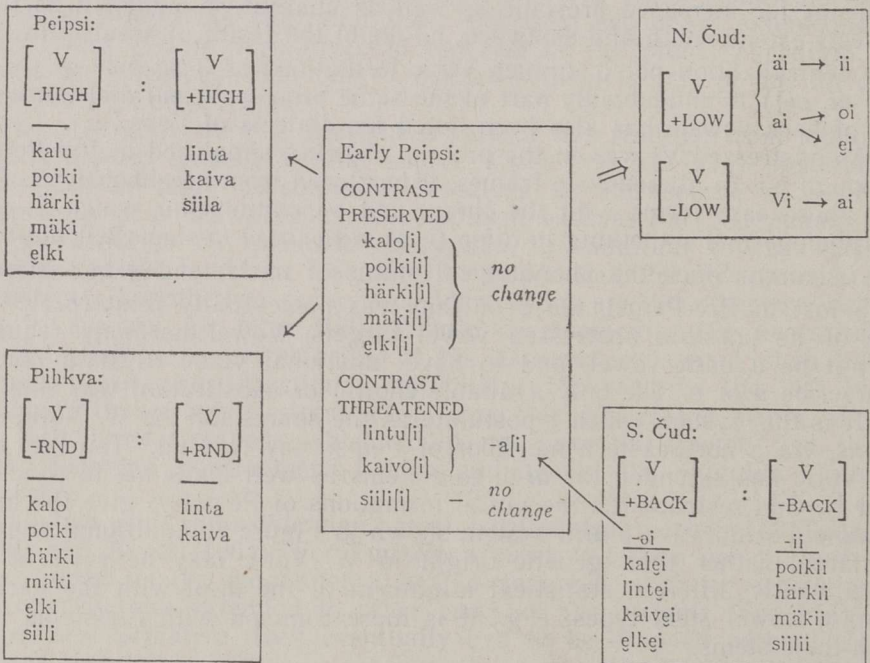


Figure 8: Borrowing and restructuring of Early E. Estonian part pl

The last dissimilatory stage to be accounted for is the *e*-part pl of *u*/*o*-stems in southeast Estonian, yielding the system I call the Võrts type. I consider this type to have arisen from the interaction of the Pihkva-type with west central dialects, and to be based upon the difference in the gen pl formations in these two areas. I reject the prevailing view that gen pl forms of the type *jalke* resulted from a vowel cluster *\*a-e*, with  $V_2$  rather than  $V_1$  being preserved exceptionally in this instance. I consider the *jalke*-type forms to have arisen through a syncope stage — i. e., *\*jalkaten* >> *jalkte* (a form which is attested within the area) > *jalke*. The choice is thus between the unparalleled irregular selection of  $V_2$  on the one hand, and two general rules — syncope and cluster reduction — on the other. Syncope is needed for gen pl forms such as *okste* (< *\*oksa-ten*) as well as numerous verbal forms, such as *maksma* (< *\*maksma-sen*),<sup>10</sup> and cluster simplification, for *añnu* (< *\*anta-nut*) and *kasn(u)t* (with both plain and extralong quantity — < *\*kasva-nut*), which are attested in the region in question.

Two competing gen pl formations thus arose, the syncope form *jalke* and the  $V_1$ - $V_2$  reduction form *jalku*, which according to Saareste seem to have an isogloss boundary centered at Lake Võrtsjärv. An outline of my view is sketched in Figure 9. In the southeast reduction created gen pl — part pl homophony, not itself a functional problem, of course — any difficulty being restricted to those stems with part pl — part sg homophony. Given the relationship part pl = gen pl, and given both an external dialect model with gen pl *-e* and also an internal part pl in *-e* with *i*-stems, the stage is set once more for analogical restructuring in just those paradigms with a threatened loss of the singular : plural distinction.

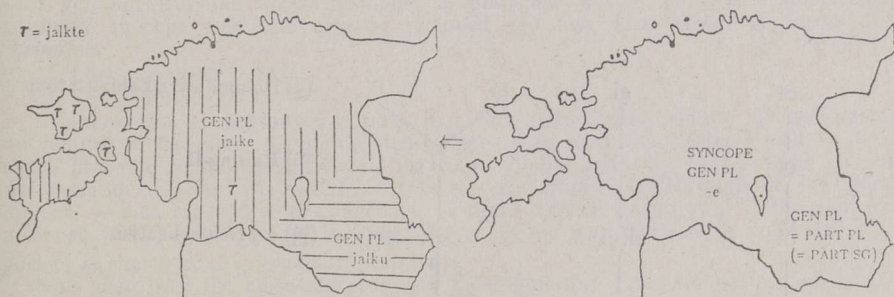


Figure 9: From gen pl to part pl (the 'Võrts' type)

gen pl = part pl (*u* = *u*)

gen pl = *-e* in W. Central dialects

part pl = *-e* with *i*-stems

⇒ part pl = *x* with *u*-stems (*x* = *-e*, new part pl)

The validity of the analogical force associated with the identification of the plural genitive and partitive can be seen in such developments as: (1) Votic has produced analogical gen pl forms identical with part pl forms for most stems, even with the *ai*-pl forms; (2) in certain S. Estonian dialects the *a*-part pl has been analogically extended to gen pl — *linda*;<sup>11</sup> (3) in Tarvastu the *e*-gen pl causes palatalization of preceding stem consonants — *kaške*, again by analogy with part pl.<sup>12</sup>

This resulting *u* to *e* relationship represents a culmination of the dissimilatory part sg — part pl formations. It is the only instance of a reversal in the values for all three basic feature parameters: rounding, backness and height.<sup>13</sup>



And finally, the framework presented here provides a meaningful basis for interpreting the complex-looking dissimilatory patterns of Kodavere, illustrated in Figure 10. The special feature of Kodavere is that Dissimilative Labialization yields  $a \Rightarrow e$  when the root vowel is rounded.

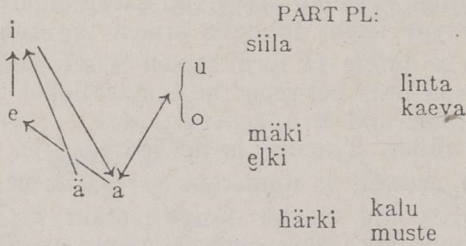


Figure 10: The Kodavere dissimilative part pl

One apparent virtue of this system is that a distinction between *a*-stems and *ä*-stems is maintained in part pl — and although such a factor has not seemed important elsewhere, it may well have assumed special significance in a border area for loss of vowel harmony such as Kodavere. This unique development is readily explained as stemming from eastern features one might expect for this border dialect: (1) only front vowels underwent Raising-II, stage (VII) of Figure 1, revised in Figure 11;<sup>14</sup>

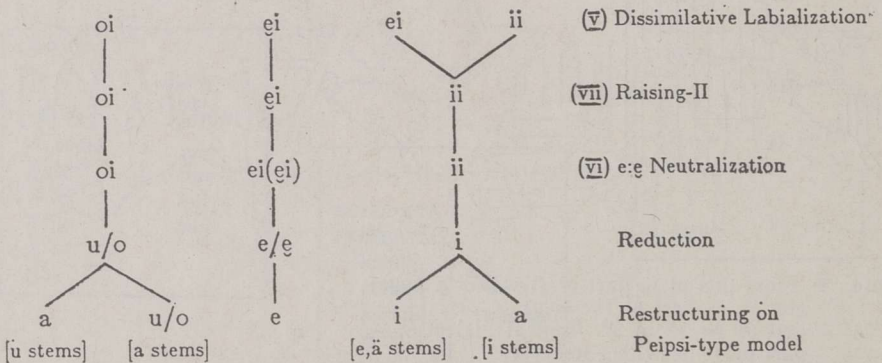


Figure 11: Modification of Fig. 1 for the development of Kodavere

(2) the neutralization of the mid unrounded vowels  $e:\epsilon$ , stage (VI), occurred later than Raising-II [i.e., stage (VI) followed stage (VII)]; (3) it did not develop  $i \Rightarrow e$  dissimilation [no stages (VIII) and (IX)]. With these modifications of the developments in Figure 1, as shown in Figure 11, all that is missing to bring about the Kodavere system is to incorporate the dissimilatory pattern of the Peipsi-type; i.e., high stem vowels are replaced by *a* in part pl. And here too, we note that Kodavere is well situated for just such contact influence.

## NOTES

<sup>1</sup> It must be noted that the term *dissimilation* has been used in two different senses in this paper. First, it refers to the relationship between a phoneme modification and a conditioning phonological context; e.g., Dissimilative Labialization,  $a > o$  before  $i$  when the root vowel in the preceding syllable is unrounded. Second, it expresses a paradigmatic contrast of phonological polarization between directly opposing morphological terms; e.g.,  $a \leftrightarrow u$  part sg : part pl. In the history of Baltic Finnic the first type has evolved into the second, as the above examples, reflecting the samē historical change, clearly demonstrate.

<sup>2</sup> The functional model of historical change assumed here is essentially the same as that employed in the biological sciences to account for evolutionary change. Functional pressures lead to the selection of forms and patterns that must already exist in the same dialect or in a neighbouring dialect or language. The process of contact transfer is, however, frequently marked by formal simplification of the antecedent model, a form of hypercorrection commonly attested in dialect borrowing.

<sup>3</sup> Cf. Harms 1985.

<sup>4</sup> Cf. Viitso 1978.

<sup>5</sup> Tunkelo 1938 : 63 — 'häihtynyt'.

<sup>6</sup> Cf. Rapola 1933 : 269.

<sup>7</sup> Cf. Tunkelo 1946 : 783, 806.

<sup>8</sup> Of interest here are the irregular S. Estonian diminutives in  $a/\bar{a}$  for  $o/e$  noted by Mägiste (1928 : 41): 'võiks neis peituda rudimente mingist  $oi-$ ,  $e\bar{i}$ -diifongi hääliksääduslikust edustusest, mille tumedaid senniseletamatuid jälgi... on arvatud leiduvat just veel ka eL : s'.

<sup>9</sup> Note that in W. Votic dialects the  $ai$ -pl formations are lexically restricted rather than general.

<sup>10</sup> A similar path of development is necessary to account for the gen pl of sonorant  $a$ -stems such as *heina*: ( $h$ )*ein(t)e*, most commonly without the expected extralong quantity. The irregular quantity as well as the gemination of  $t$  are readily explainable on the model of original  $e/e$ -stems — e.g., *soon(e)-*, whose gen pl, *soontte* (in plain quantity) developed from PBF \**soon-ten* with no extralong quantity as expected and, of course, with analogical gemination of the plural  $t$  formative to block merger with gen sg. But the  $e/e$ -stem model is plausible only if one assumes that the Estonian apocope rule has already removed the low stem vowel of forms such as \**heinäten*.

<sup>11</sup> Cf. Kettunen 1929 : 189.

<sup>12</sup> Cf. Tunkelo 1938 : 70.

<sup>13</sup> In the realm of prosody we note that the dissimilatory nature of the part pl in the history of Estonian disyllabic stems appears to have manifested itself in the mora-based prosodic relationship between the root syllable and the case-bearing syllable for the selection of the analogical *-sit(t)* ~ *-si* formations. Throughout the northwest dialects — but especially in Läänemaa — these pattern as follows: if the root syllable is short (CV), then part pl is long *-sit(t)*; if the root syllable is long (CVX), then part pl is short *-si*; e.g., *pada-sit*: *hauDa-si*.

<sup>14</sup> Note also here the close similarity to the diphthong reduction pattern of S. Cud.

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РОБЕРТ Т. ХАРМС (Остин)

### ПРИБАЛТИЙСКО-ФИНСКИЕ ДИССИМИЛЯТИВНЫЕ ОБРАЗОВАНИЯ МНОЖЕСТВЕННОГО ЧИСЛА

В среднезападном прибалтийско-финском ареале заметны три диссимильативных образования множественного числа. 1) Первое из них,  $a+i > oi$ , диссимильативная лабиализация финско-карельского типа, обусловленное качеством коренного гласного, возникло к концу периода прибалтийско-финского праязыка в связи с общей заменой среднего  $*e$  праязыка лабиальным  $o$  (напр.  $*jek_i > joki$ ) под влиянием соседних языков. 2) Впоследствии в западнофинских и эстонских диалектах при новых основах на  $i$  развилось образование мн. ч.  $i+i > ei$  в противоположность первоначальному  $*e+i > i(i)$ . 3) И, наконец, в эстонских диалектах тот же процесс расширился до появления нового признака мн. ч. на  $a$  при основах на  $i$  и  $u$ .  $a$ -множественность первоначально возникла как признак партитивного падежа мн. ч., но не раньше периода редукции безударного слога. Источником множественного числа на  $a$  послужили диссимильативные соотношения между ед. ч. и мн. ч., уже присутствовавшие в системе склонения эстонского языка.