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## THE EASTERN FINNISH DIPHTHONGIZATION OF LONG COMPACT VOWELS AND ITS DIACHRONIC IMPLICATIONS

Eastern Finnish dialects differ from other Finnish dialects by the presence of an opening diphthong  $\text{ɔa} \sim \text{ʉa}$  or  $\text{ɛä} \sim \text{jä}$  as the counterpart of the long stressed compact vowels  $\bar{a}$  and  $\bar{ä}$  found in other dialects and the supradialectal standard language. Thus the counterparts of monophthongal standard Finnish *pää* 'head', *maa* 'land', *saari* 'island', and *väärä* 'wrong' are in the eastern dialects *peä* or *piä*, *mɔa* or *mʉa*, *sɔari* or *sʉari*, *veärä* or *viärä*, etc. A look at the situation prevailing in other Baltic-Finnic speech forms reveals that an analogous diphthongization of stressed compact vowels has taken place in almost all Karelian and Olenetsian dialects, in Lydian dialects, and is currently taking place in many of the southwestern, littoral, and insular dialects of Estonian (cf. Rapola 1966 : 348 f.; Kettunen 1940a : map 154; 1940b : 266 f.; 1962 : 136 f.; Saareste 1955 : maps 14, 16, 95, 102; Palmeos 1962 : 9 f.; Макаров 1963 : 6; Макаров, Рягоев 1969 : 13).

As concerns Karelian, Olenetsian, and the Lydian dialects it is sufficient to note in the context of this article that the administrative, ethnographic, and psychological boundaries upon which linguistic boundaries are based are labile, temporary socio-political structures, the existence and mutual interaction of which can either further or hinder the creolization of geographical, social, and functional norms based on the same linguistic system. For this reason I shall not deal in this article with the admittedly important question of what the role of factors such as inter-dialectal borrowing and lexical diffusion might be in trying to understand the process responsible for the diphthongization of the sounds in question in eastern Finnish dialects and the allied Baltic-Finnic speech forms contiguous to them.

On the other hand, the fact that the same phenomenon appears elsewhere in the Baltic-Finnic area, even in such lects where it would be all but out of the question to attribute the presence of diphthongized forms to interdialectal borrowing, and additionally in such a manner that development follows the sequence  $\bar{a} > \text{ɔa} > \text{ʉa}$ ,  $\bar{ä} > \text{ɛä} > \text{jä}$  (cf. Kettunen 1962 : 137), justifies asking whether the phenomenon in question might be attributed to some typological characteristic inherited from proto-Baltic Finnic.

In this presentation I shall present arguments in support of the view that the diphthongization of long stressed compact vowels to opening diphthongs is part of a considerably more comprehensive continuing process, the purpose of which is to maintain the overall degree of mor-

phophonemic markedness characterizing the language system as a whole within specific boundaries. In addition I shall present some thoughts concerning the relation of diachronic to synchronic linguistics.

As a functioning semiotic system, language is characterized by the need to maintain already existing organization, while simultaneously functioning as a viable means of communication by adapting itself to new communicational requirements. These apparently conflicting factors presuppose in every language the existence of both static and dynamic properties. The success of an individual speech act presupposes the existence in the language system of *morphostasis* — the ability to maintain already existing structure within strictly defined boundaries. The ability of language to function as a viable means of communication providing the means for relating linguistically to events and situations never before encountered presupposes the existence in the language system of *morphogenesis* — the ability to provide new elements which can serve as the raw material for new linguistic signs within the limitations set by the structural characteristics of the system in question. Seen against this background every speech act may be regarded as a realization of the well defined but nevertheless inexhaustible communicative potential of the language system in question and it stands in both an input and an output relation to the language system generating it. In similar fashion different norms, even though they represent entities of a higher degree of abstraction than speech acts, also stand in an input/output relation to the language system which generates them. In each case the abstract system is realized as a subset of some of its elements, this realization serving both as its realization and as the raw material for its reformulation. In this respect speech acts, as well as the individual norms directly reflected in them, possess both a static and a dynamic relation to the system which they generate. The apparent stability of a norm as a delimiter of social intercourse conceals the fact that there are also dynamic aspects in any realization of a language system. These dynamic aspects are in constant interaction with the stability resulting from the function of the language as a social norm and their identification is of the utmost importance if the motivation for linguistic innovations is to be understood.

At any specific moment a language contains a wide spectrum of potential innovations. Each of these which is able to manifest itself as a result of an error in analysis, articulation, or audition is, as is every social innovation, a realization of immanent possibilities. Nonetheless, not all innovations which are able to cross the threshold and become manifested are accorded equal treatment; rather, each language system reacts selectively to the diapason of innovations presented to it by continuous speech activity. In order to understand why a specific innovation has a greater probability of occurring and subsequently becoming established in a specific norm as a change, the linguist must view the system in its entirety. Neither the predictability of innovations nor assessments of their probability of establishing themselves as changes can be based solely on aspects of the language system which are limited to the analysis of a single level such as 'holes in the pattern' or 'symmetry' isolated both from their immediate linguistic environment and their existence in real time. The question of why only specific innovations are viable alternatives to established norms must be presented against the background provided by the fact that a language is an internally structured system the components of which participate in a wide array of relations of interdependence and reciprocity. The importance of taking this fact into consideration will be illustrated in seeking an

explanation for the spontaneous diphthongization of compact vowels in Baltic-Finnic lects.

In spite of its apparent symmetry the vowel system of late proto-Finnic was the object of many pressures. In the period between pre-proto-Finnic and late proto-Finnic the development of the vowel system was determined by a series of innovations which resulted in the formation of a phonological system making maximal use of the correlation of length. Whereas the pre-proto-Finnic vowel system appears to have consisted of two heterogenic subsystems reconstructed by Erkki Itkonen (1969) as:

<i>i</i>	<i>ü</i>	<i>u</i>	<i>ī</i>	<i>ū</i>
<i>e</i>	<i>o</i>		<i>ē</i>	<i>ō</i>
<i>ä</i>	<i>a</i>			

by the late proto-Finnic period a series of sound changes had taken place, the result of which appears to have been in the majority of late proto-Finnic dialects the merging of the two subsystems by extension of the applicability of duration and flatness:

<i>i</i>	<i>ī</i>	<i>ü</i>	<i>ū</i>	<i>u</i>	<i>ū</i>
<i>e</i>	<i>ē</i>	<i>ö</i>	<i>ō</i>	<i>o</i>	<i>ō</i>
<i>ä</i>	<i>ā</i>			<i>a</i>	<i>ā</i>

One of the main sources of the late proto-Finnic long compact vowels was the contraction of the proto-Finnic bisyllabic root-shapes (or Gestalts) CVCV to the monosyllabic C $\bar{V}$  as a result of the lenition and loss of specific intervocalic consonants, e. g. *\*māye* > *\*mā*, *\*pāŋe* ~ *\*pāŋä* > *\*pā*, etc. (cf. Itkonen 1949).

As sound changes *per se* the lenition and subsequent loss of intervocalic consonants are trivial, and there are many analogues to proto-Finnic lenition to be found in the synchronic and diachronic phonology of the most diverse languages (cf. Lass 1971). But the mere recording and classification of changes cannot be regarded as diachronic linguistics; rather it is by its very nature synchronic in that it is restricted to comparison of the differences holding between two synchronic states with no stand being taken as to the factors which brought about the changes noted. As emphasized by Steblin-Kamenskij (Стеблин-Каменский 1966 : 68 f.) the fact that diachronic linguistics presupposes synchronic analysis does not mean that a synchronic description of some no longer spoken language amounts to a diachronic presentation, even if the sounds of that language are compared to those of some later form of the 'same' language. The diachronic linguist must recognize that the seeds of linguistic innovations are to be found in the nature of the mutual relations holding between the elements of the language system affected; his task is the interpretation of linguistic innovations in terms of the system which gave rise to them. This idea, which closely links diachrony to synchrony but does not identify the two or rigidly oppose one to the other à la Saussure, has its roots in antiquity (Varro) and was developed by such pioneers of modern linguistics as W. v. Humboldt, J. Baudouin de Courtenay, J. Vachek, and M. Steblin-Kamenskij, all of whom based their views of the nature of historical linguistics on a conception of language as a dichotomous entity characterized by a dialectic between an abstract preformative sphere and a concrete formative sphere. This conception

views synchrony as necessarily possessing a degree of non-static stability and it enables the linguist to relate linguistic innovations to the morphostatic and morphogenetic mechanisms necessarily present in a functioning open semiotic system. According to this conception the task of diachronic linguistics is a more specific characterization of the dynamic or labile elements of the system in question from the standpoint of the overall degree of organization characterizing the system.

The eastern Finnish diphthongization of long compact vowels must be approached from two standpoints. As a phonetic innovation it is the replacement of an acoustically homogeneous segment by an acoustically heterogeneous one; as a morphophonemic change it represents the replacement of one segment functioning as a syllabic nucleus by an element characterized by a twofold acoustic nature as to sonority and whose components appear, as evidenced by observations concerning the spread and establishment of this phenomenon, to gradually assume first a diphthongal, and then an increasingly heterogeneous realization as vowel clusters.

As far as the phonetic motivation of the diphthongization is concerned, it is possible to find a typological motivation for it. Most languages have only one compact vowel and its most significant property in relation to the other vowels of the same system is specifically the acoustic property of compactness. If a vowel system of this type is presented in such a manner that its distinctive features are depicted so as to illustrate their hierarchical relation to one another, the first division will be [ $\pm$ compact]. Vowels specified as [ $-$ compact] are distinguished from one another by a tonality opposition subordinated to this primary tonality opposition, but the lone [ $+$ compact] vowel will be automatically specified as [ $+$ grave] and [ $-$ flat].

The reason for this extremely widespread state of affairs is to be sought in acoustic and auditive facts. Every tonality opposition presupposes the existence in the system of a vowel pair between which the only difference is that the tonality of one member is lower than that of the other. Thus, the acoustic difference between [ $-$ flat] [i] and [ $+$ flat] [y] is to be found in the relative height of the second and third formants of each vowel in relation to one another:

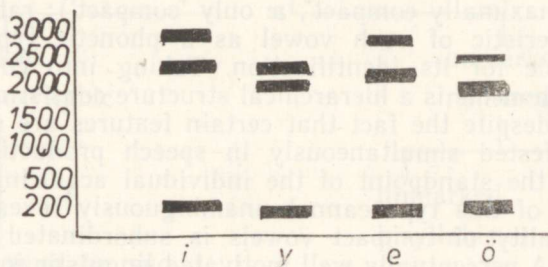


Figure 1: The Finnish vowels participating in the opposition [ $\pm$ flat].\*

\* The values for the formants used in this and the subsequent schematicized sonograms are based on the average values for Finnish long stressed vowels given in Wiik 1965 : 57.

In order for a vowel to be compact its first and second formants must be located in a relatively narrow area. For this reason functionally relevant tonality oppositions are by their very nature in conflict with the narrow portion of the acoustic spectrum associated with the plus value of the feature [ $\pm$ compact], but in harmony with the wide acoustic area in which the sounds specified as [ $-$ compact] are located:

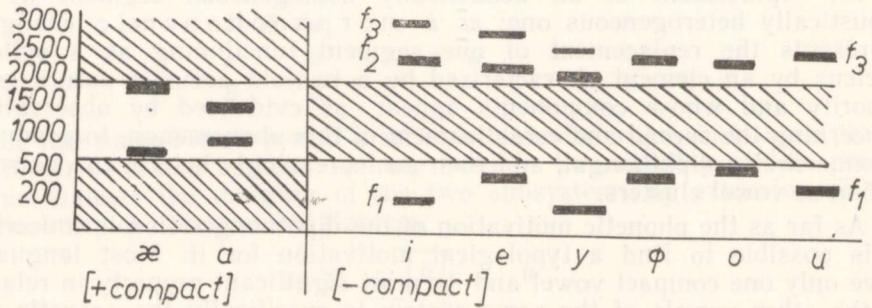


Figure 2: Boundaries of the plus and minus values of the feature [ $\pm$ compact] in the Finnish vowel system.

In languages possessing two compact vowels the situation is problematical in that a relatively narrow acoustic area is bifurcated. Rather than there be one [ $+$ compact] vowel in the system which is automatically specified as [ $+$ grave] and [ $-$ flat] — that is to say as neutral from the standpoint of both tonality oppositions, the existence of two [ $+$ compact] vowels automatically provides tonality with a functionally important role in respect to them. In the acoustic area defined by the boundaries of compactness the hearer of the language does not have to distinguish two vowels solely on the basis of their relative compactness (*a* being 'maximally compact', *æ* only 'compact'); rather the specific tonality characteristic of each vowel as a phonetic type functions as an important cue for its identification. Taking into consideration the fact that every phoneme is a hierarchical structure consisting of distinctive features which, despite the fact that certain features are subordinated to others, is manifested simultaneously in speech production, it becomes clear that from the standpoint of the individual acquiring the language a vowel system of this type cannot unambiguously reveal the fact that the specific tonality of compact vowels is subordinated to the feature of compactness. A perceptually well motivated linguistic innovation would be such an interpretation according to which a perceived acoustic stimulus containing a compact vowel is a two-membered vocalic cluster the first component of which participates in a tonality opposition and the second component of which is compact, with its tonality automatically specified by the component immediately preceding. The gradual progression of this diphthongization to its extremes so that the vocalic onglide of compact vowels is maximally diffuse or maximally grave represents a fully expected minimalization of overall phonetic markedness with respect to tonality;

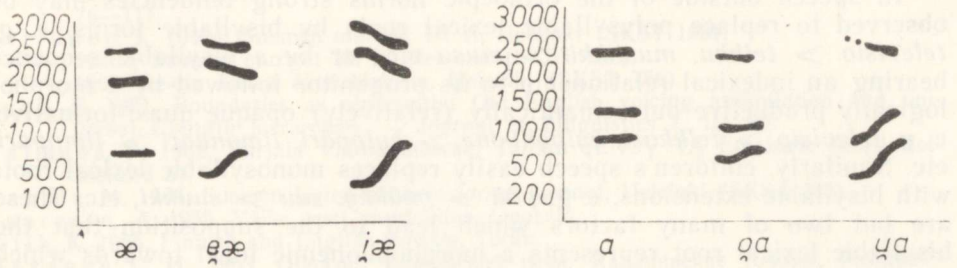


Figure 3. The sequence of the diphthongization of compact vowels.

Viewed in its entirety the background for the innovation is conceptually easy to understand because it exemplifies the interaction between the perceptual limitations of speakers and the organization of the language system. The result is an innovation which improves the communicative acceptability of the system by maximally separating semiotically relevant elements from one another.

As concerns the morphophonological aspects of the innovation in question it should be noted that proto-Finnic *\*ā* and *\*ā̄*, as well as the other long vowels of initial syllables, are intimately connected with the rise of monosyllabic lexical stems. It is well known that one of the typological characteristics of the Finno-Ugric languages is, or, until recent intense language mixing and subsequent creolization, has been, a tendency to make a functional distinction between monosyllabic auxiliary roots and initially bisyllabic, subsequently also polysyllabic lexical roots. Without going into detail it can be maintained that in modern Finnish the hierarchy of markedness of lexical roots is the following:

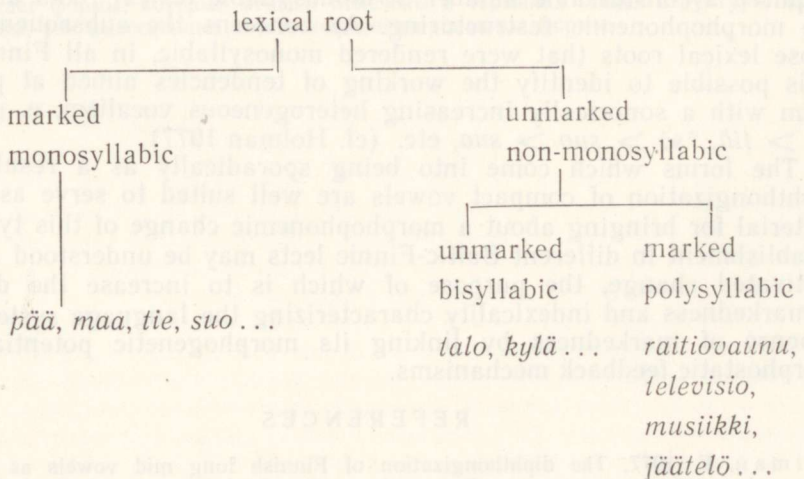


Figure 4. Relative markedness of Finnish lexical root shapes.

In speech outside of the orthoepic norms strong tendencies may be observed to replace polysyllabic lexical roots by bisyllabic forms, e. g. *televisio* > *telkku*, *musiikki* > *musa* etc., or by a bisyllabic sequence bearing an indexical relationship to its progenitor followed by a morphologically productive but semantically (relatively) opaque quasi-formative, e. g. *televisio* > *telkkari*, *kylpyhuone* > *kylppäri*, *limonaati* > *limppari*, etc. Similarly, children's speech easily replaces monosyllabic lexical roots with bisyllabic extensions, e. g. *pää* > *pääkky*, *suu* > *suukki*, etc. These are but two of many factors which lead to the supposition that the bisyllabic lexical root represents a morphophonemic ideal towards which the language system, as represented by the unconscious favoring of specific forms as opposed to others in their everyday speech activity, is striving. The reason for this is obvious. As a consequence of the primarily agglutinative grammatical processes which form the basis for Finnish word form modifications, its bisyllabic lexical roots and word stress patterns together form a unity which is of central importance from the standpoint of grammatical decodification. The first secondary stress which normally falls on the third syllable indicates the termination of the transmission of lexical information and the initiation of the transmission of grammatical formatives which modify and more clearly delimit the meaning of the root. Those lexical roots which are not bisyllabic are outside of this regularity and thus must be understood as morphophonemically marked. This is evidenced by several features of the language, particularly by the fact that many grammatical formatives tend to have a phonologically more complex form when appearing in connection with monosyllabic or polysyllabic roots than when appearing in connection with bisyllabic roots, e. g. *puhelin|ta*, *maa|ta* but *talo|a*, *kylä|ä*, etc. An innovation which would restore roots 'accidentally' rendered monosyllabic as the result of a natural phonetic process such as that described above to a bisyllabic shape can, in this light, be understood as possessing a high degree of probability of somehow becoming established as a less marked alternative to a highly marked form.

I should now like to suggest that against the arguments presented here the lenition and subsequent loss of proto-Finnic intervocalic consonants resulted in a typologically disturbing innovation. The language acquired a considerable number of monosyllabic lexical roots along with the morphophonemic restructuring. As concerns the subsequent fate of those lexical roots that were rendered monosyllabic, in all Finnish lects it is possible to identify the working of tendencies aimed at providing them with a sonorically increasing heterogeneous vocalism, e. g. *\*tē* > *tiä*, *\*sō* > *suo* > *sua*, etc. (cf. Holman 1977).

The forms which come into being sporadically as a result of the diphthongization of compact vowels are well suited to serve as the raw material for bringing about a morphophonemic change of this type. Their establishment in different Baltic-Finnic lects may be understood as a well motivated change, the purpose of which is to increase the degree of unmarkedness and indexicality characterizing the language system at the expense of markedness by linking its morphogenetic potential to its morphostatic feedback mechanisms.

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### ДИФТОНГИЗАЦИЯ ВОСТОЧНОФИНСКИХ ДОЛГИХ КОМПАКТНЫХ ГЛАСНЫХ И ЕЕ ДИАХРОНИЧЕСКИЙ СМЫСЛ

Строгая дихотомия между диахроническим и синхроническим исследованием языка, проводимая Соссюром, никогда не акцептировалась всеми компаративистами, в особенности лингвисты различных функционалистских школ (например, Вахек, Стеблин-Каменский) придавали большое значение «динамическому равновесию» синхронии. Они подчеркивали, что следующая сравнительно-историческому методу лингвистика не может удовлетворяться установлением и описанием языковых изменений, в дополнение к этому она должна стремиться соотнести рассматриваемые изменения с морфостатическими и морфогенетическими механизмами функционирования динамической семиотической системы.

В данной статье с учетом вышеупомянутых положений излагается мнение о том, что дифтонгизацию долгих компактных гласных (активный процесс в восточнофинских диалектах, как и во многих неконтактирующих прибалтийско-финских лектах) можно рассматривать как языковую инновацию, а именно — как результат проявления фонетического универсалия внутренней структуры системы гласных и как закрепившееся языковое изменение во многих лектах; аргумент подтверждает обстоятельство, что это изменение дает формы, которые меньше отмечены в терминах общей структуры языковой системы, чем вытесненные ими монофтонгизированные формы.