

# THE CHANGE OF THE PHONOLOGICAL TYPE OF A LANGUAGE

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## ABSTRACT

A pattern of the change from a phonemic language to a syllabic one is established (mora-counting → isochrony → contact correlation → morphosyllabism) on the basis of the evolution of Germanic languages and dialects.

## INTRODUCTION

The phonological type of a language, as it is understood here, depends upon the smallest unit of phonological segmentation, which in its turn, is determined by the relationship of the syllable and morpheme boundaries. In the languages where these boundaries do not coincide and the syllable-final consonants may become syllable-initial (cf. Russ. *pol* - *pola* with the morpheme boundary after *l* and the syllable boundary after *o*: *pol-g* vs. *po-la*), units of segmentation less than a syllable can be distinguished (i.e. phonemes). In the languages where syllable and morpheme boundaries always coincide and syllable(=morpheme)-final consonants do not become syllable-initial the smallest unit of phonological segmentation is a syllable[1]. Two types of languages immediately follow from this segmentation procedure, viz. phonemic and syllabic. One should remember that the notion of syllable is different in each type: while in the former it is purely phonetic in the latter the syllable is a unit of both morphological and phonological level and should be termed therefor morpho-syllable.

There is a third group: languages where these two types of morpheme - syllable boundary relationships coexist and are opposed, namely the languages with the correlation of contact (or syllable cut). The loose contact words are characterized here by the relations typical of phonemic languages (cf. Engl. *reader* with morpheme boundary after *d* and syllable boundary after the root vowel), while in close contact words the syllable boundary does not separate the consonant from the preceding vowel (cf. Engl. *putting*) inherent to syl-

lable languages.

The three types of languages however can represent three stages of the development from a phonemic language to a syllabic one. The stages of this evolution can be found in Germanic languages with their well documented history and deeply rooted tradition of dialectology.

## 1. PHONEMIC STAGE: FROM MORA-COUNTING TO ISOCHRONY

All Old Germanic languages had free quantitative oppositions of vowels and consonants (CVC, CVC, CVC, CVC) which did not depend upon the differences in segmentation into syllables, i.e. the syllable boundary could be after a vowel irrespective of its quantity as in Modern Estonian or Lithuanian. Prosodic equivalence of one long syllable to two short ones suggests that in Old Germanic languages the quantity was based on mora-counting, both CVC, CVC and CVCV being bi-moric. The situation is similar in some of the modern Swedish and Norwegian dialects where "disyllabic words play the same role in the sentence rhythm as in Early Latin or Old Icelandic: two short syllables being equal to one long"[2].

Most of the root morphemes in Old Germanic languages were bi-moric. According to E.Haugen 75 per cent of Old Icelandic stressed syllables (i.e. root morphemes) were long (i.e. bi-moric) [3]. My own data show that the frequency of mono-moric roots in Old Icelandic did not exceed 12 per cent. Toward the "middle" period mono-moric roots in all Germanic languages were ousted by bi-moric ones which resulted in the lengthening of either vowels or consonants in the original CVC roots and hence in the equal quantity of all root morphemes (CV:C ~ CVC:). The ousting of the remaining last mono-moric root signified the end of the mora-counting. The mora-counting correlation transformed into that of syllable length: the law of syllable leveling by which a stressed syllable is always long and consists either of a long vowel (plus a short consonant)

or a short vowel plus a long consonant (or two consonants). Since long and short vowels are possible before short and long consonants respectively the length of each particular phoneme becomes redundant. The situation which may be for convenience's sake termed isochrony was characteristic of all West Germanic languages and of Danish in the "middle" period of their history and is still characteristic of all modern Scandinavian languages except Danish [4,5].

The transition from mora-counting to isochrony has led in all Germanic languages to numerous phonemic changes caused by the elimination of quantitative oppositions (quantity being replaced by quality:  $\bar{V} - \bar{V} > \check{V} - \check{V}$ ). Moreover in Swedish and Norwegian the establishment of isochrony has resulted in the transformation of moric peak accents into syllable accents. The change of mora-counting to isochrony does not mean a change in phonological typology for here too the syllable division remains as it is in phonemic languages, i.e. with syllable boundary after vowel (cf. Swedish karra [k̄a- r:a] [6]).

## 2. TRANSITION: FROM ISOCHRONY TO THE CORRELATION OF CONTACT

The next stage in the evolution of the typology of Germanic languages comes when the relevance of the syllable boundary becomes established. This stage which replaced isochrony in all West Germanic languages and in Danish is characterised by the opposition of two different syllable divisions (cf. Engl. pulling - pooling, Germ. Ratte - rate). In close contact words the syllable boundary does not separate the postvocalic (=morpheme-final) consonant from the preceding vowel. In loose contact words the syllable boundary separates the consonant from the preceding vowel in disyllabic words. Two types of contacts and two types of syllable morpheme boundary relationship are opposed here. In Danish the establishment of relevant syllable division was followed by the transformation of syllable accents of Swedish type into the markers of contact. Thus in addition to two types of contact of West Germanic languages we have in Danish two more types of contact (superclose and superloose) effected through the Danish stød. The superclose contact is peculiar to the words with the stød on a consonant (cf. Dan. falder [fal'-er]) while the superloose one to the words with the stød on a vowel (cf. huset [hu'-səd]) [7]. The superclose contact in CVCV words provides for a complete coincidence of syllable and morpheme boundaries.

Within the framework of the correlation of contact there are syntagmatic changes that result in the increased number of

words with coinciding syllable and morpheme boundaries which is especially noticeable in English, Low German and Dutch and in still greater degree in Danish with its stød on a consonant (superclose contact). According to L.Brink and J.Lund[8] most frequent changes that occurred in Standard Danish over the past hundred years were the vowel shortening and the shift of the stød, the latter being the change from the superloose contact to the superclose one. The alternations like Danish brev - brevet [bre'v] ~ [breu'] vs. [bre'ved] ~ [breu'ed] reflect various stages of the process leading to the coincidence of the morpheme and syllable boundaries, the forms [breu'] - [breu'ed] dominating in the contemporary usage. In the languages with the correlation of contact the coincidence of the boundaries and close contact have resulted in the monophonemization of all combinations of vowel plus consonant type which can not be separated by either syllable nor morpheme division, including the combination of vowels and velar nasal. The words like English hang and Danish hæng should be regarded therefore as indivisible morpho-syllables for there is no linguistic procedure of separating the vowels in these words both from the preceding and the following consonant.

## 3. Syllabic stage: FROM THE CORRELATION OF CONTACT TO MORPHO-SYLLABLE

This change is exemplified by the Danish dialects of Jutland (especially West and South Jutlandic). The number of monosyllables has increased here due to the apocope and the shifting of the postpositional definite article to the preposition (cf. West Jutlandic [a hu's], [a kuon] - Standard Danish huset, kønen). As far back to the XVIII century the first students of the South Jutlandic observed that "words here are so shortened to look like pure roots" [9]. However the apocope and the shifting of the definite article did not lead to the complete elimination of unstressed suffixal morphemes. The Jutlandic have retained [ə] < [er] which is the formant of verbs and substantives and the formant of past participle [en]. However, in most of the forms mentioned root vowel shortening and shifting of the stød have taken place which resulted in the coincidence of the syllable and morpheme boundaries (cf. Jutlandic [diel]-[djal'e], [gri'v]-[griu'e], [kuon]-[kwone], [brui'-en], [røi'en] Standard Danish dele-deler, gribe-griber, køne-køner, past participles of the verbs bryde and ryge). In some Jutlandic dialects even [ə] < [er] can be apocopated (cf. [fry's], [sgen'], [kwon] - fryser, skinner, køner [10]). The predominance of words in which the syllable and morpheme boundaries coincide has caused

the shifting of the syllable boundary in the remaining few disyllabic words with long root vowels (the frequency of such words in dialectal texts does not exceed 2 per cent). In his description of the dialect of Bjerre B.Nielsen points out that here no syllable-initial consonants are possible in unstressed syllables and a long root vowel does not prevent from the coincidence of syllable and morpheme boundaries (i.e. the words of CV'CV or even CV'CCV types have both boundaries after the last consonant of the root morpheme: CV'C-V, CV'CC-V) [11]. It should be noted here that consonants after long vowels are not syllable-initial in the syllabic languages of South East Asia (e.g. in Viet-Nameese).

The coincidence of syllable and morpheme boundaries in the Jutlandic dialects has led to the elimination of the correlation of contact and to the change of the phonological type of the dialects. This change has in its turn caused the change of the function of the stød and the length which are no longer syllable division (and contact) markers but supersegmental features corresponding to the tones of syllabic languages of the Chinese type. Accordingly the dynamic quality of the stød so important for implementing the type of contact and syllable division are less prominent in the syllabic Jutlandic dialects. In the apocope area either a so called weak stød (with dominating tonal component) or solely tonal movement (as in South Jutland) exist. The ousting of the stød by the tone is especially conspicuous in those apocoping dialects that have retained the postpositional article (e.g. in Himmerland). The monosyllables here are characterised by predominantly tonal distinctions (cf. [bi'l] with rising-falling tonal movement, Standard Danish bil vs. [bi'l] bile) while the disyllables have retained the strong stød (i.e. glottal stop) - (cf. [bi'len] bilen) which is a marker of syllable division [12]. In some of the South Jutlandic dialects the stød and its absence are already ousted by tonal distinctions. Tones in Danish dialects are believed to reflect an archaic stage, due to their similarity with the Swedish and Norwegian accents [13]. However the data from the dialects of Himmerland and Fyn where the process of ousting is a living one show that tonal distinctions here are secondary as compared to the markers of contact (the stød and its absence). Even in those dialects where the stød retains some dynamic features the coincidence of syllable and morpheme boundaries testifies that it should be regarded as a tone functionally similar to that of syllabic languages of Asia. The different value of the stød, the length, and the tone in apocoping and

non-apocoping Danish dialects was quite clear to P.Andersen who noted that "the phonological function of the length, the stød, and the tone in Jutlandic differs from that of island dialects. The stød in island dialects is a marker of a particular syllable structure, while in Jutlandic it manifests relevant tonemes or accents (or probably even phonemes!)" [14]. Different combinations of the length and the stød (or tonal movements) in syllabic Danish dialects are responsible for five types of syllables (=root morphemes) traditionally termed as tones, Dan. tonehold: CVC, CV'C, CV'C, CVC', CVC'. It is by no means a coincidence that the term tone (tonehold) was coined by the prominent Danish scholar of the XVIII. century J.P.Høysgaard who was of Jutlandic origin. In the syllabic languages of the South East Asia the number of tonal oppositions depends on the quality of vocalic and consonantal elements of the syllable. This is just the case with the Jutlandic dialects where all five tones can occur only in the environment of vowel+sonorant, while in the vowel+obstruent position only two types of tones (West Jutlandic stød and its absence) are available. These two tones correspond to so called entering tones of the syllabic languages of Asia.

The similarity between the syllabic languages of Asia and the syllabic Jutlandic dialects is not solely confined to the coincidence of the syllable and morpheme boundaries and to the similar function of prosodic features. The qualitative structure of a syllable in Jutlandic tends to be the same as in the syllabic languages of Asia which is evident from the more intimate juncture of vocalic and consonantal components of a syllable as well as the qualitative and quantitative differentiation of its initial and final components. At the same time Jutlandic differs considerably from modern syllabic Asiatic languages. The syllabic dialects of Jutland are characterised by prosodic and/or qualitative morphological alternations ([hu's] - [hu's] or [hu's] - [hu's] Standard Danish hus - huse, [sɔŋ'] - [sɔŋ'] or [sɔŋ'] - [sɔŋ'] synge - sang). Though in many originally weak verbs the dental suffix is lost (cf. [væn'] - [væn'] vaenne, vaennede - vaennet, [sgei'] skedte - skedt) it remains in some verbal forms (cf. West Jutlandic [lok] - [lo?k] - [lot] - [lo?t] luk, lukke, lukkede, lukkert or [glɔm'] - [glɔm't] - [glɔm't] gløm, glømme, glømde, glømt). The frequency of such forms does not exceed 2 per cent, but the sheer fact of their existence may be regarded as the evidence of phonemic segmentation. However, the syllable-final [t] in Jutlandic does not convert into syllable-initial one and this fact does not allow us to

regard [t] here as a separate phoneme. In such forms as [lot] and [glømt] the morphological meaning is indicated by the alternations of the indivisible morpho-syllables rather than by the phoneme [t]. In phonemic languages the morphological meaning can be signified by a distinctive feature (cf. such morphonological alternations as garsun - garsuin in Irish or lup - lupi in Rumanian). In the same way in the syllabic languages a morphological meaning can be indicated by a distinctive feature of the phonologically indivisible morpho-syllable (its vocalic or consonantal component). Though modern syllabic languages of Asia have now only few examples of morphonological alternations a great number of facultative variants of morpho-syllables here may have resulted from the similar morphophonemic alternations at the early stage of their development [15].

#### CONCLUSION

To sum up, the evolution of Germanic languages and dialects provides a pattern of the change from a phonemic language to a syllabic one. The pattern involves four stages: mora-counting, isochrony, contact correlation and morpho-syllabism that can be exemplified by modern Danish dialects. This pattern may contribute to foreseeing some trends and shifts that can take place in the Germanic languages (it may be suggested that the next stage in the evolution of Swedish and Norwegian isochrony is the correlation of contact, while in West Germanic languages and in Standard Danish the correlation of contact is to be followed by morpho-syllabism). The same pattern can be employed for the reconstruction of changes that have occurred in the syllabic languages of various families. While mora-counting and isochrony may hardly be considered as obligatory stages in the languages other than Germanic, the correlation of contact seems to be indispensable as the predecessor of morpho-syllabism.

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