

TWO-WAY AND THREE-WAY SPLITTING OF TONAL SYSTEMS IN SOME FAR-EASTERN LANGUAGES¹

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SUMMARY

As well as two-way splitting of the tonal system brought on by the confusion of the two kinds of initial consonants: voiceless and voiced, mention should be made of a three-way split caused by the merger of three kinds of initial consonants: glottalized, aspirated and voiced, in the Miao-Yao and Tai-Tung (= Tai-Kam) language families.

0. The two-way splitting of the tonal system in Far-Eastern languages has been known for a long time. Roman Jakobson was able to cite it in his "Principles of historical phonology", as early as 1931, in the following terms:

"In certain Chinese dialects voiced and voiceless consonants have merged. The phonemic feature of voicing which distinguished one series of consonants from another series is replaced by the phonemic distinction of pitch level in the following vowels: low tone of the vowel is substituted for the voicing of the preceding consonant, high tone on the other hand corresponds to voicelessness of the consonant in question. The difference of pitch level, at first a [non-phonemic] combinatory variation, has become a phonemic feature which distinguishes two series of vowels."²

1) Originally appeared as Haudricourt (1961).

2) French text in Troubetzkoy (1949, p. 331). German original: Jakobson (1931, p. 262) and giving as source: Karlgren (1915) chap. 14, 15. A stricter translation is as follows: "... The voicing correlation in the consonants is replaced by the correlation of register in the following vowels... The difference in register, at first a combinatory variant, has become a correlation feature."

0.1 **Praguean phonology: functional, relational typological.** It would be as well here to outline briefly the theory of phonemics (or “phonology”), sound change and sound geography (the variation of sounds in time and place) which is used in this article, since it has not been widely accepted in English-speaking countries. It was developed in Continental Europe in the nineteen-twenties and nineteen-thirties by the Linguistic Circle of Prague. Here are some of its main characteristics.

0.11 **Functionalism.** Phonemics is essentially a classification of sounds according to their use or **function**. For example, in English and Standard Thai, a click sound, “tsk”, is used to express feeling, but not to build words: neither Thai nor English has words like “tskah”, “tskee”, “tskoo” and so on, with the click sound built into them. In both English and Thai, on the other hand, the aspirated stop [t^h] is used to build words, such as **tar, tea, too**, ทา, ตี etc. Thus we have a functional classification into sounds used to build words in a particular language and sounds not so used. Now a sound used to build words may function as a phoneme or as an archiphoneme (see §3.0 below).

0.12 **Relationalism.** Even more important than the discussion of sounds and the function of sounds, is the discussion of the **relationship between** sounds and the function of this relationship. Two sounds in two different words are either the same (relationship of identity) or different (relationship of “opposition” or contrast). Likewise a pair of phonemes in two different words. If two sounds can distinguish two different words from one another, if, that is to say, they represent two different phonemes, then the two sounds are **in phonemic contrast** or “phonological opposition” (relationship of phonemic contrast): for example, in Standard Thai, [b] as in [ba:] บาร ‘bar (place for drinking)’ and [m] as in [ma:] มา ‘to come’. Here the contrast is between a voiced stop and nasal consonant. After we establish a phonemic contrast the next question to ask is **what its position is within the system**: is it isolated or repeated? For example, in English the phonemic relation between the phonemes /r/ and /l/ is the contrast between a retroflex oral sonorant and an alveolar oral sonorant. This is an “isolated” contrast since no other pair of phonemes in the English system is distinguished in just this way. On the other hand, the contrast in English between /b/ and /m/ is not isolated but repeated (or “proportional”). The pairs /d/ and /n/, /g/ and /ŋ/ are distinguished in the same way. So we have a “proportion”: /b/:/m/ = /d/:/n/ = /g/:/ŋ/. This repeated relation is in some cases called a “correlation”. In studying sound change from the **relational** point of view we ask not “What new **sound** was added?”, or “What sound was lost”, but rather “What new **phonemic contrast** was added?”, or “What phonemic contrast was lost?” and further “Was the phonemic contrast isolated in the system or was it a ‘correlation’?”. It is of very great importance in historical sound-studies to know whether or not a phonemic contrast is isolated or is a correlation, since the loss of an isolated phonemic distinction, let us say, between /l/ and /r/ in English or Thai, is not nearly as significant to the phonemic system as a whole as the loss of an entire correlation. In the latter case, not just two phonemes, but two **series** of phonemes, lose their contrast and become one, and such a major change is likely to have its effects elsewhere in the phonemic system. For example in Ancient Chinese, the loss of

the correlation of voicing, when the pairs /p:/b/, /t:/d/, /k:/g/ merged, triggered off a phonemic split in the tonal system which doubled the number of tone phonemes, as we have already seen.

0.13 Typology. In the Praguian approach, **type** of language is more interesting than family, and may cut across a family of languages. For instance, English, Dutch and German are relatives in the Germanic family of languages, and French stands outside this family. But Dutch and French belong to one type because they contrast voiced stops [b, d] with voiceless unaspirated stops [p, t], while English and German belong to another type because they phonemically contrast weak, sometimes voiced, stops with strong, sometimes aspirated, stops. Thus we have a Dutch-French type and an English-German type. On the other hand Dutch, French and German form a common type against English because they phonemically contrast front unrounded vowels [i, e, ε] with front rounded vowels [y, φ, œ]. A study of languages which classes them into types rather than families is called **typological**, and is characteristic of Prague Circle linguistics.

0.14 Linguistic area, linguistic alliance. If languages which belong to the same type are geographically near to one another, we call the geographic area of uniform type a "linguistic area", and say that the languages form a "linguistic alliance". In the Praguian approach the linguistic area is as important as the linguistic family, both in geography and history. In the present article it is stated that Thai and Vietnamese belong to one linguistic type because their tones originated in the same way. Thai and Vietnamese in addition share many features of **grammatical type**, but they cannot be shown to belong to the same language family: languages in the same family show similarities of a regular kind in basic vocabulary; Thai and Vietnamese do not. In the Orient we have the Sino-Tibetan family, the Tai family, the Miao-Yao family and so on, which have been recognised for many decades. But the present article attempts to establish historical and geographical **types**, and a single type may include different families, or cut across a language family, including a part of it and excluding a part of it.

0.15 Evolutionary phonemics / (the Praguian approach to sound change): phonemicization, dephonemicization, transphonemicization. The particular kind of linguistic evolution in which we are interested in this article is the emergence of phonemic contrasts of tone, and the increase in the number of these contrasts once they are established. We attempt to determine **not** the cause but the **prerequisites** of the evolution: it may be, for instance, the presence in a language of aspirated as well as ordinary sonorants. By comparison with ordinary sonorants, aspirated sonorants are unusual, and we call the special feature which distinguishes them from ordinary sonorants, viz. aspiration, their "mark". If there is an evolution in which the aspirated sonorants lose their aspiration and become ordinary sonorants, then of course the contrast "aspirated sonorant: ordinary sonorant" is no longer phonemic. We say that it has been "de-phonemicized". **Homophones** may result, because, for instance [hma:] 'dog' and [ma:] 'come', will normally both become [ma:]: (1) 'dog', (2) 'come'. But if the phonemic distinction, though lost in the consonants, is transferred elsewhere in some way, so that a new phonemic distinction appears elsewhere

and homophones are avoided, we have a “transphonemicization” or “rephonemicization”. Many cases of transphonemicization will now be produced, in which a tonal difference in the vowels following the consonants has become phonemic, or, to use the specifically Praguian term, has been “phonemicized”.

1. The type of evolution of sounds by binary fission described above by Jakobson (1931) is very widespread and we will give a series of examples before proceeding to more complicated types of evolution. One imagines that Jakobson, having seen only examples of this two-way evolution, generalized this binary type to cover the phonological structures of all comparable languages; we shall see that there exist cases of genuine **three-way** splitting, of tone systems, which are to be distinguished from cases of apparent three-way splitting, where, in fact, we have two series of tones resulting from a split, coexisting with a series of **architonemes**, i.e., a series of “un-split” tones not phonemically distinct from the first two series because they are in mutually exclusive environment with them.

In the following examples, in order to simplify the discussion, we will not speak about words with final stops [-p, -t, -k], but will deal only with words with a voiced final, either a vowel or a nasal consonant [-m, -n, -ŋ]. Where the two-way split has taken place in a non-tonal language, the result has been the emergence of two tones. If the language had two tones already—tones of a type sometimes known in Far-Eastern comparative linguistics as “Tone A” and “Tone B”—the two-way split has produced a system with four tones. If the language involved possessed three tones—of the type sometimes known in Far-Eastern comparative linguistics as Tones “A”, “B” and “C”—what emerged from the split was a system of six tones.

In the following tables the tones will be noted by means of five horizontal bars signifying five phonetic pitch levels. Occasionally numbers will be used to indicate the pitch levels: from 1, the lowest, to 5, the highest.

1.1 Two-way splitting in a non-tonal language: the emergence of phonemic contrast of tone.

The appearance of phonemic tones in non-tonal languages has been recorded in two Austroasiatic [i.e., of the group comprising Mon-Khmer, Viet(name)se—Muong and Senoi-Semang] languages of the most northern group (the Palaung-Wa group): Rieng (Shan States of Burma) by Gordon H. Luce, and Lamet (Upper Laos) by Karl Gustav Izkowitz.³ The same phenomenon has been recorded in an Austronesian [i.e., Malayo-Polynesian] language, Cham (South Vietnam).⁴

3) The vocabulary by Luce is as yet unpublished, as is that of Izkowitz, but the former has been utilized by Robert Shafer (1953).

4) Cham has “low pitch which contrasts phonemically with nonlow pitch in syllables initiated by voiceless oral stops /p, t, c, k/”—David L. Blood, (Summer Institute of Linguistics; Blood 1964, at 516 fn. 5). It is evident that the contrast of low vs. non-low pitch in the vowels replaces the original Indonesian distinction of voiced vs. voiceless initial stops.