RECONSIDERATION FOR TENSE VS. LAX FEATURE

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Introduction

In my another paper on 'Jakobsonian Distinctive Features', [1] I have brought out the possibility of revising Jakobsonian distinctive feature of 'tense vs. lax' in the light of the phonological system of the Korean language. The purpose of the present paper is to falsify Jakobson and Halle's statements about the functional properties of the acclaimed universal feature of 'tense vs. lax':

> '...the autonomous opposition voiced vs. voiceless is ordinarily confined to the stops: the aspiration is used to implement the opposition of tense and lax stops,...' [2]

In the above quotation, the problem which I am positing is only implicitly shown that the aspirated vs. unaspirated feature functions only as a redundant feature, implementing the opposition of voiced vs. voiceless and/or tense vs. lax. Halle, on the other hand, makes the point definitely much clearer in the following passage:

> '...the traditional features of tense-lax, aspirated-unaspirated and fortis-lenis are included in the single distinctive feature tense-lax.' [3]

The principle which underlies the merging of more than two traditional features into a single feature in the Jakobsonian framework is reasonably understandable to anyone if one were concerned with descriptive economy. This is the case also with flat vs. plain, which includes the traditional features of pharyngalization, velarization, retroflection,

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[1] *Journal of the English Literary Society of Korea*, No. 21 (January-March 1967), pp. 136-157.

[2] R. Jakobson, et al, *Preliminaries to Speech Analysis*, p. 38.

[3] M. Halle, "In Defense of The Number Two," *Studies Presented to Joshua Whatmough on His Sixtieth Birthday*, Ernst Pulgram (ed.), p. 68.

labialization, and rounding. In the case of tense vs. lax, the same principle of merging has been followed, namely, the three features included never independently function distinctively in a single language.

The terminological tautology of tense vs. lax and fortis vs. lenis, as with labialization and rounding, necessarily leads to the merging of the two features into tense vs. lax. However, the Korean data suggests that aspirated vs. unaspirated be formalized as an independent distinctive feature. Specifically, the three-way correlations in the obstruent consonant series [4] are inexplicable unless we have two independent features—tense vs. lax and aspirated vs. unaspirated.

I. Korean Obstruent Consonants

There are nineteen '+consonantal' and '—vocalic' phonemic units in Korean. Among these, twelve are the so-called 'obstruents' with the distinguishing feature of '+interrupted' as against the seven '+continuant' units. The twelve obstruents are further classified by compact vs. noncompact and grave vs. acute as follows:

Table 1

	p	p'	pʰ	t	t'	tʰ	č	č'	čʰ	k	k'	kʰ
compact vs. noncompact	—	—	—	—	—	—	+	+	+	+	+	+
grave vs. acute	+	+	+	—	—	—	—	—	—	+	+	+

In articulatory terms, labials, alveolars, palatals, and velars are distinguished from one another by the two distinctive features. Thus, each of the four groups forms a 'triple correlation', and here at this point comes in the problem, the subject matter of this paper. There is a general agreement as regards the distinction between tense (*or* fortis) and lax (*or* lenis) which sets apart /p/,/t/,/č/, and /k/ in each of the four groups respectively. [5]

As for the 'h-colored' obstruents, we can find two types of solution: the first, Martin's analysis, which takes both obstruents proper and the h's (aspiration) as independent phonemic units occurring successively [6] ; the second, which I would like to name as Huh's

[4] By 'obstruent', I mean only 'plosive stops' and 'affricates'.

[5] Huh Woong, *Korean Phonemics* (revised edition), pp. 191-193; C. F. Hockett, *A Manual of Phonology*, p. 106; S. Martin, "Korean Phonemics," reprinted in *Readings in Linguistics*, Joos (ed.), p. 369 (Here, Martin's phoneme /q/ stands for glottal tension.)

[6] S. Martin, "Korean Phonemics."

analysis, [7] takes the aspirated obstruents as unit phonemes. Pros and cons for either type of solution are not the concern of this paper. However, it is worthy of note that by Martin's analysis, which I strongly feel counter-intuitive, the problem in connection with the functional status of aspirated vs. unaspirated simply does not arise.[8] Following Huh's analysis, the provision for an intuitively correct solution eventually requires the independent function of the aspiration feature. Lack of either feature, tense vs. lax or aspirated vs. unaspirated, leaves the phonemic 'three-way' distinction in each of the triple correlations impossible. Only by granting the independent function to aspirated vs. unaspirated becomes possible the three-way distinction. The following matrices of feature specification is an expansion of **Table 1**, including both tense vs. lax and aspirated vs. unaspirated as independent distinctive features:

Table 2

	p	p'	pʰ	t	t'	tʰ	č	č'	čʰ	k	k'	kʰ
compact vs. noncompact	−	−	−	−	−	−	+	+	+	+	+	+
grave vs. acute	+	+	+	−	−	−	−	−	−	+	+	+
tense vs. lax	−	+	+	−	+	+	−	+	+	−	+	+
aspirated vs. unaspirated	−	−	+	−	−	+	−	−	+	−	−	+

I agree with Hockett when he states 'Korean has an apparently somewhat complicated situation'. [9] Hockett's typological study of 'stop' [10] consonants shows a great diversity, beginning from the simplest Hawaiian pattern which includes only /p/ and /k/, [11] and running through the 'three-by-seven' distinction, for instance, in Nootka and Snoqualmie. [12] In contrast to this seemingly complicated structure, obstruent pattern in Korean looks much simpler in appearance. However, in reality, the Korean pattern presents rather unique problems in that Hockett's typological diversity is within the grasp of the present Jakobsonian framework, whereas Korean necessitates a revision. Flat vs. plain explains Hockett's

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[7] Huh Woong, *Korean Phonemics*, pp. 191-193.

[8] We find the following 'componential analysis' in Martin's "Korean Phonemics," p. 369 :

	p	t	c	s	k	m	n	ŋ	h	q	l	y	w	i	e	ö	ɛ	ə	ɔ	a	u	o
nasal(vs. oral)						+	+	+														
front(vs. back)		+	+	+			+				+	+		+	+	+	+			±		
high(vs. low)														+	±	±		+	±		+	±
labial(vs. non-labial)	+					+							+			+					+	+
tense(vs. lax)						±	±	±		+	±											
contactual(vs. fluid)	+	+	±		+	±	±	±			±											

[9] C. F. Hockett, *A Manual of Phonology*, p. 106.

[10] Hockett's 'stop' stands for both 'plosives' and 'affricates'.

[11] C. F. Hockett, *A Manual of Phonology*, p. 98.

[12] *Ibid.*, p. 114.

Color-Modified Stops (lip-rounding)[13] ; and as for 'Coarticulation' [14] he notes that systems with a coarticulated /kp/ "position" do not have, in any known case, a contrasting /kʷ/, and that all known coarticulated stops involve bilabial and dorso-velar closure, never any other combination. [15] This phenomenon demonstrates sufficiently that flat vs. plain also covers 'Coarticulation'.

Ⅱ. Feature Specifications for Korean Segmental Phonemes

I will present the feature specifications for the Korean segmental phonemes in this section. I hope this will serve as a general outline guide to the further study on the Korean phonological systems as well as the morpheme rules.

I will confine the specifications to the ten simple vowels and the nineteen consonants. The question of validity of setting up of /ɸ/ and /y/ as phonemes is outside the point of this paper. [16] The use of the two features, diffuse vs. nondiffuse and flat vs. plain, is limited to '+vocalic' and '−consonantal' units, and the last four features in the matrix are confined to '−vocalic' and '+consonantal' units.

Presented first is the feature matrices, and the 'feature tree diagram' follows it.

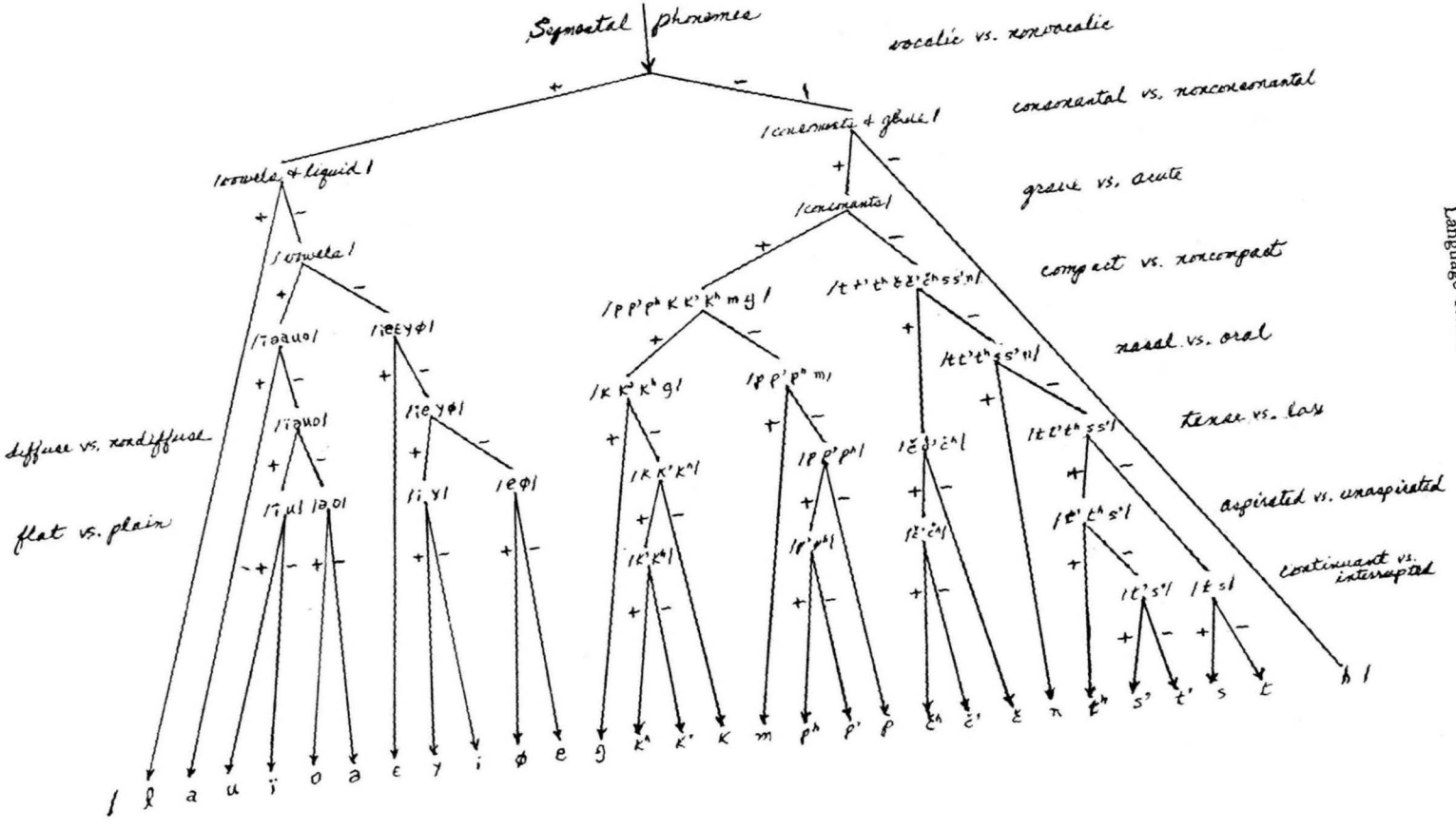
	i	e	ɛ	y	ɸ	ï	ə	a	u	o	p	p'	pʰ	t	t'	tʰ	č	č'	čʰ	k	k'	kʰ	s	s'	m	n	ŋ	l	h
vocalic vs. non-vocalic	+	+	+	+	+	+	+	+	+	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	−
consonantal vs. nonconsonantal	−	−	−	−	−	−	−	−	−	−	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	−
grave vs. acute	−	−	−	−	−	+	+	+	+	+	+	+	+	−	−	−	−	−	−	+	+	+	−	−	+	−	+		
compact vs. noncompact	−	−	+	−	−	−	−	+	−	−	−	−	−	−	−	−	+	+	+	+	+	+	−	−	−	−	+		
diffuse vs. nondiffuse	+	−		+	−	+	−		+	−																			
flat vs. plain	−	−		+	+	−	−		+	+																			
nasal vs. oral											−	−	−	−	−	−				−	−	−			+	+	+		
tense vs. lax											−	+	+	−	+	+	−	+	+	−	+	+	−	+					
aspirated vs. unaspirated											−	−	+	−	−	+	−	−	+	−	−	+							
continuant vs. interrupted														−	−	−							+	+					

[13] *Ibid.*, pp. 101-103.

[14] *Ibid.*, pp. 103-105.

[15] *Ibid.*, p. 104.

[16] The phonemic status of both /ɸ/ and /y/ is not definitive. Professor Huh himself mentions that he has based his phonemic identifications of them on the Korean speakers' tendency that these sounds tend more and more to be pronounced as single vowels. (Huh Woong, *Korean Phonemics*, p. 153). For others, /we/ and /ɥi/ or /wi/ take the place of /ɸ/ and /y/, respectively.


Segmental phonemes
vocalic vs. nonvocalic
consonantal vs. nonconsonantal
grave vs. acute
compact vs. noncompact
nasal vs. oral
tense vs. lax
aspirated vs. unaspirated
continuant vs. interrupted
diffuse vs. nondiffuse
flat vs. plain
/consonant & glide/
/vowels & liquid/
/consonantal/
/vowels/
/p p' p^h k k' k^h m g/
/t t' t^h ṭ ṭ' ṭ^h s s' n/
/k k' k^h g/
/p p' p^h m/
/ṭ ṭ' ṭ^h/
/t t' t^h s s' n/
/k k' k^h/
/p p' p^h/
/ṭ' ṭ^h/
/t' t^h s'/
/t' s'/
/t s/
/h/
/l l a u ï o ə e y i ø e g k^h k' k m p^h p' p ṭ^h ṭ' ṭ n t^h s' t' s t

Ⅲ. Conclusion

It is only unfortunate that Korean obstruents were overlooked in the data of 'one hundred languages' [17] for the original formulation of Jakobsonian distinctive features.

The original twelve inherent features became thirteen due to the splitting of compact vs. diffuse into compact vs. noncompact and diffuse vs. nondiffuse—the replacement of the ternary feature by two binary features. I believe that the number thirteen should again change to fourteen so as to further validate Jakobsonian framework as a universal phonetics.

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[17] 'If this can be done with about a hundred languages from all parts of the globe, there appears good reason to believe that a not greatly enlarged catalogue of attributes will be capable of handling the remaining languages as well.' (M. Halle, "On the Bases of Phonology," *The Structure of Language*, Fodor and Katz, p. 329)