



TRANSLATIONS

OLD CHINESE PHONOLOGY

S. E. YAKHONTOV

Translated by Jerry Norman
(University of Washington, Seattle)

(Translator's note: The following excerpt is taken from S. E. Yakhontov's short book *Drevnekitajskij Jazyk* (Moscow, 1965). This work of Yakhontov is a concise and quite general description of his reconstruction of Old Chinese, which he broadly defines as the language from the first inscriptions down to that of the fourth century A.D. He subdivides this rather long period in the following way:

Pre-Classical period	XIII-VI c. B.C.
Classical period	V c. B.C. - II c. A.D.
Late Old Chinese	III-IV c. A.D.

Yakhontov's Old Chinese reconstruction mainly refers to the language of the first millennium B.C. His other articles on the subject of OC phonology are the following: "Fonetika kitajskogo jazyka I tysjačeljetija do n.e.," *Problemy Vostokovedenija* 2 (1959):137-147; 6(1960):102-115; and "Sočetañija soglasnyx v drevnekitajskom jazyke," *Trudy Meždunarodnogo Kongressa Vostokovedov*, vol. V (1963), pp. 89-95. Translations of the first two articles appeared in *Unicorn*, vols. 1 and 6 respectively.

Several of Yakhontov's ideas, especially his explanation of the origin of the Middle Chinese second division rimes, have been widely accepted by non-Soviet scholars. His theories concerning the vocalism of Old Chinese are quite original, and in my opinion deserve more serious attention than they have yet received. Regardless of whether Yakhontov's ideas are accepted or not, he deserves great credit for releasing the study of Old Chinese from the Karlgrenian straight-jacket in which it languished for far too long.)

Finals and Tones

Old Chinese had seven final consonants:

m	n	ng
p	t	k
	r	

Six of them in a majority of cases have been preserved without change in modern southern Chinese dialects. Only -r had already either changed to -i before the beginning of the Christian era, or disappeared without trace. This sound existed for example, in such words as 雷 lur 'thunder', 衣 ?iər 'clothing', and 坐 dzor^x 'sit'.

There were also seven vowels, forming the following system:

	front	back
close	e, ü	ə, u
open	ä	â, o

Examples: 雞 ke 'chicken', 歌 kä 'sing', 土 tha^x 'earth', 來 lə 'come', 口 kho^x 'mouth', 老 lu^x 'old', 高 kü 'high'.

It is possible to doubt whether the vowel ü has been reconstructed correctly, but it was undeniably close to u. Rather early, not later than the second century A.D., it changed into the diphthong ou or au. (Beginning at this time syllables with original ü begin to rime occasionally with syllables having the vowels o or â.)

The full range of seven vowel distinctions was found only in open syllables. Before final consonants a lesser number of vowel distinctions was possible, from a maximum of six before -k to two before -m and -p. The system of finals of OC as a

whole took the following form:

â	âk	âng					
ä			är(?)	ät	än	äp	äm
	ək	əng	ər	ət	ən		
e	ek	eng		et	en		
o	ok	ong	or	ot	on		
u	uk	ung	ur	ut	un	up	um
ü	ük						

As can be seen from this list, front ä and back â contrasted only in open syllables. In closed syllables only one of these vowels was possible, either ä or â, depending on the final consonant. Front ü and back u contrasted only in open syllables and before k.

The final är is found in an extremely small number of words (the most important one being 火 s-mär^h 'fire'). It is possible that their pronunciation has been reconstructed incorrectly and that this final did not exist at all. Which vowel occurred in the finals with -p and -m is not entirely clear. Perhaps they would be reconstructed more accurately as -âp, -âm and -əp, -əm.

In the OC of the first millennium B.C. only two tones were in contrast, corresponding to the level and rising tones of a later time. For example, we find 吾 ngâ^I 'I', but 五 ngâ^{II} 'five'; 甘 kâm^I 'sweet', but 敢 kâm^{II} 'dare'. Syllables ending in -p, -t, -k lacked tonal distinctions altogether. (Traditional Chinese philology assigns these syllables to a special tone, the "entering tone", but in fact, they are distinguished from other syllables not by a special tonal contour, but by the nature of the final consonant.)

In the ancient period of the history of the Chinese language there existed a suffix -s, which could be added to words of any phonetic make-up. This means that consonant clusters such as -ms, -ks, -rs were possible. (Note that a morphological boundary might come between the two consonants.) Final p, t, and r were not distinguished before the suffix at this time. Later, approximately in the third century B.C., -k also disappeared before the suffix. At this time and later, syllables with the former finals -ps, -ts, or -rs sometimes rimed with syllables ending in -t, and syllables in which the suffix was originally joined to -k or to a vowel rimed with syllables ending in -k. From this one can conclude that in syllables of the first group there was an alveolar final consonant s at this time, and in syllables of the second group a sound close to k, for example h or x.

At this same time every syllable having this suffix s carried a distinctive tone, termed "departing"^{II} in the traditional terminology. Prior to this, syllables with suffix s could have had either of the two then existing tones and could rime with words of the corresponding non-suffixed tone. But beginning in the third century B.C. they almost always rime with one another. Soon after this the suffix itself finally disappeared, and words which previously were differentiated from one another by the presence of final s, now began to be distinguished solely by tone. Only in syllables with

ancient -ps, -ts, or -rs was the sound -s preserved almost right up to the fifth century A.D. when they could sometimes, as before, rime with words ending in -t. Later -s, as -r had earlier, became -i or disappeared without trace.

All these various processes can be traced in a few examples.

	内 'inside'	带 'belt'	背 'back'	顧 'look back'	古 'old'
pre-1000 B.C.	nup-s	tät-s	pək-s	kâ-s	kâ
mid-1st mill.	nu-s	tä-s	pə-h	kâ-h	kâ
post-3rd-c B.C.	nu-s	tä-s	pə-h	kâ-h	kâ
post-5th-c A.D.	nu i	tâi	puəi	ko	ko

A. Haudricourt finds traces of the suffix -s in ancient Chinese loan words in Vietnamese.¹ Its existence is also confirmed by Chinese transcriptions of foreign words; for example, the name of the Talas river in the beginning of our era was transcribed by the characters 都賴 tâ lä-s.

Before the end of the third century B.C. the system of Chinese finals changed little. If one discounts the appearance of the new "departing" tone, the rimes of the Shih ching and the poetry of Ch'u Yüan are almost identical although these two works are separated by several centuries. The only essential innovation consisted in the "splitting" of rounded vowels before dentals. Before -n, -t, -r, and -s (from original -ps, -ts, or -rs) u became uə, and o changed into uä; for example, un > uan, ot > üat, etc. In this way the new medial u appeared. Moreover, in about the 2nd century B.C. the finals an, at, and ar after dental initials, in syllables without medial u, became -en, -et, and -er (or rather -ei) respectively. In some small groups of words the vowel was changed under the influence of the medial, but the overall number of vowels apparently remained the same.

Subsequently, the old system more and more broke down. This is especially noticeable in the fourth through the sixth centuries A.D., on the borderline of the Middle Chinese period. At about this time, all or almost all Old Chinese finals divided into two, and many into three (depending on whether or not they were preceded by a medial, and if so, which one it was) and were regrouped in an entirely new way. For example, words which earlier ended in o and ju, or ong and ing begin to rime; words which formerly ended in ian, now rime in part with words in an and in part with words in en, etc. The number of diphthongs also increases. At first diphthongs arose from finals in -r: -ər, -əi, or -ei; subsequently the final ü, and still later -u (the latter only in syllables without medials) became -äu; -ə and -e (without medials) became -əi and -ei. Finally, the diphthong -âi

arises from the former combination -äs. When the close vowels all diphthongized in this way, the open vowels (in syllables without medials and final consonants) moved into neighboring spaces: -o>-u, -â>-o, -ä>-â.

In general it is no exaggeration to say that in the course of the first five centuries A.D. not a single Old Chinese final remained intact. A totally new system of rimes, finals and vowels was formed.

Initials

The system of initials of Old Chinese had the following form:

p	t	ts	k	k ^w	?	? ^w
ph	th	tsh	kh	kh ^w		
bh	dh	dzh	gh	gh ^w		
	d		g	g ^w		
m	n		ng	ng ^w		
		s	x	x ^w		
					l	

A characteristic feature of OC phonetics was the existence of labiovelar consonants like k^w, x^w, ng^w. The glottal stop could also be either plain (?) or labialized (?^w). Already by the Classical period labiovelar consonants had become combinations of ordinary velars and the glottal stop with a following u; i.e., k^w->ku-, x^w->xu-, ?^w->?u-, etc.

The consonants which are written d, g, g^w above are usually considered to be voiced unaspirated stops. However, it is entirely possible that in fact they were voiced fricatives (d̤, g̤, g̤^w) or even sonorants (r, j, w). The consonants of this group were always followed by the medials i or i. In Middle Chinese, the sounds d, g, g^w either disappeared (before i) or became z (before i). They can be reconstituted in OC due to the fact that words beginning with these consonants entered into the same hsieh-sheng series with words containing other non-nasal stop initials; d is joined with words having dental initials, g with words having velar initials, and g^w with labiovelars. For example:

余 d̤â 'I' 徐 d̤â 'slow': 途 dhâ 'road'
 楊 d̤iāng 'popular': 湯 thāng 'hot water'
 羊 giāng 'sheep' 祥 giāng 'suspicious':
 羌 khîāng 'name of a tribe'
 王 g^wiāng 'king': 狂 gh^wiāng 'crazy'
 穗 g^wiā-s 'ear of grain': 惠 gh^wiā-s 'kind'

Together with the disappearance of the voiced non-aspirates in the Chinese consonantal system toward the end of the OC period, several other changes took place. In part, dental plosives before the medial i became palatal sibilants (t̤i > t̤si-, etc.); the sound gh-, on the other hand, was retained only before i, and in other cases became a fricative ɣ-.

In OC clusters of two consonants could also serve as initials. Any consonant could be followed by l. Initials consisting of two consonants were, for example, found in the following word: 家 klâ

'family', 瓜 k^wlâ 'melon', 白 bh^wlâk 'white', 馬 mlâ^w 'horse', 山 slān 'mountain'. During the Han dynasty the l was lost after consonants, but it caused several changes in the following vowels. Sometimes l also affected the preceding consonant: a combination of a sibilant plus l became a retroflex sibilant (for example sl>s).

A prefix s- was also found before sonorant initials as well as before d and g^w; for example:

黑 s-mæk 'black', 退 s-nu-s 'withdraw', 許 s-ngiâ 'permit', 便 s-liâ^w 'send', 世 s-djâ-s 'generation', 護 s-g^wiān 'deceive'. In the classical period the pronunciation of the prefix changed under the influence of the following consonant, while the consonant itself dropped out. OC clusters with s- correspond to MC initials in the following way:

*sm_____x ^w , x	*sl_____s
*sn_____th	*sng_____x
*sn(i), *sd(i)——s	*sng ^w , *sg ^w (i)——x ^w

Moreover, to almost every one of the OC clusters with s-, there corresponded a MC s-. Apparently, as in the case with MC z from the voiced non-aspirates, the various MC correspondences of one and the same OC cluster can be explained by the character of the medial.

Syllables with prefixes and corresponding syllables without prefixes ordinarily entered into the same hsieh-sheng series. Therefore, if in the same hsieh-sheng series there are words beginning with sonorants or voiced obstruents together with those having voiceless fricatives in MC, then these latter sounds go back to an OC cluster consisting of a sonorant or voiced obstruent with the prefix s-. Thus, if in the same hsieh-sheng series both n- and th- are found in MC, then the th- goes back to an OC cluster sn-.

It is logical to think that originally the prefix s- could occur not only before sonorants and voiced stops, but before any initial consonant. We should allow for the possibility that one of the plosive consonant series goes back to an original combination of the prefix s- with obstruent initials; e.g., the consonants bh, dh, etc., may originate from clusters of the type sp, st or sph, sth.

The prefix was not only joined to single consonants, but to initials consisting of two consonants. Therefore, a word in OC sometimes, although quite rarely, could begin with three consonants, e.g., 花 s-ng^wlâ 'flower'.

Medials

Between the initial consonant and the nuclear vowel in OC up to four non-syllabic sounds of the i-type could be found. They were of great significance in the history of Chinese phonetics. In some cases they caused changes in the main vowel, in other cases changes in the initial consonant, and sometimes in both. Let us compare the MC reading of several words which in OC had the same initial and final, but different medials: 猪 MC fiwo 'pig', 諸 MC fsiwo 'all', 者 MC fsiā 'the one

who...'. In OC all three of these words began with t- and had â as their main vowel. We see that in two cases the medial caused the change of t- to palatalized affricates, and in one case this change is accompanied by a different vocalic development. It is commonly accepted that the consonantal and vocalic differences between these words already existed in OC. But neither their hsieh-sheng series nor their use as rimes gives us any basis for such a view. In OC they could only be differentiated by medials which affected their use neither as rimes nor in hsieh-sheng series.

How can the number and diversity of medials in OC be explained? It is possible that one type of medial represents the traces of a word-formative prefix which once existed. We often encounter pairs of related words differing from one another by the presence or absence of a medial; for example:

入 niup 'enter' and 納 nup 'to insert', 亡 miâng 'to perish' and 荒 s-mâng 'barren'. It is possible that in the words niup 'enter' and miâng 'perish' there was originally some sort of voiced prefix, e.g., d-, thus: 入 d-nup, 亡 d-mâng. We already know that a medial always accompanied the voiced unaspirated consonants; a voiced prefix may have caused the appearance of a medial in the root to which it was joined. In this way 入 d-nup would become d-niup and then niup. The same would hold for the word 亡 d-mâng > d-miâng > miâng.

In the foregoing the medials have been everywhere transcribed in a simplified way. As a rule they have all been written as i; only if the medial caused a change to the vowel e in MC, or led to some unusual change in the initial consonant, has it been transcribed i. In the Classical period a new medial appeared in Chinese, viz. u. It appeared in words in which there were either labiovelar

consonants or the vowels u and o which became uə and uä.

Accent

We know almost nothing about phonetic phenomena in OC affecting units larger than the syllable. One can only assert that in OC there were function words and pronouns pronounced without accent in connected speech. This is evident in the first place from the fact that if one of these function or pronoun words appeared at the end of a line in a rimed text, it was the preceding word that entered into the rime scheme, the function word or pronoun having no effect. For example, in the Shih

ching (Hsiao-ya VIII, 4) the combination 藏之 dzhâng tjà 'I preserve him' and 忘之 miâng-s tjà 'I will forget him' rime together. The last word,

the pronoun 之 tjà, is the same in both phrases, but it is the words which precede the pronoun that constitute the rime. Moreover, it often happens that two function words or pronouns one following the other, fuse into one syllable. In a majority of cases this happens with words unconnected with each other grammatically, but only coming together at random. For example:

之 tjà 'him' + 乎 ghâ (question particle) = 諸 tjà
 不 pjə 'not' + 之 tjà 'him' = 弗 pjət
 何 ghä 'why' + 不 pjə 'not' = 盍 ghäp

It is likely that such fusion took place in those cases when one of the two words occurring together, or perhaps both of them, were weakened phonetically, that is, were accentless. When two unaccented function words clashed, one of them might simply be omitted. In the late period of OC many unaccented words begin to be omitted with increasing frequency, and finally they disappear totally from the language.

