

Looking for Synchronic, Phonemic Patterns in Modern Mandarin Character
Phonetic Series: An Analysis of Selected Series from Karlgren's
Easy Lessons in Chinese Writing

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In Chapter 13 of his Easy Lessons in Chinese Writing, Bernhard Karlgren (1958) lists a number of series of phonetic compound characters in which, he feels, the modern Mandarin pronunciation of the compound characters are so divergent from the modern pronunciation of the phonetic itself that one needs to know the Archaic Chinese pronunciation of all characters in a series in order to make phonological sense out of the series. As he states (Karlgren 1958, p. 133):

At the end of Chap. III there was preliminary warning that the rôle (sic) of a Phonetic is not always as easily understood as in the many examples adduced in Chaps. III, V, VII, X, and XII. In those instances there was a sufficient similarity in sound between the character used as Phonetic and the compound in which it enters as such . . . even in their modern phonetic garb to make the construction reasonable and easy to remember. But in other instances the Phonetics make sense only if we know the Archaic pronunciation . . .

A statement such as this makes perfect sense in light of the many researches which Karlgren undertook to establish the phonological relationships which phonetic compound characters exhibit in both Ancient and Archaic Chinese (Karlgren 1923, 1940, 1954). More recent research, however, including research undertaken by this author (Kraemer 1980, 1989), reveals that a number of phonetic series of characters exhibit regular phonological patterns in Modern Standard Mandarin, although at first glance they may indeed appear to be phonologically "irregular".

It is the purpose of this paper to reexamine a number of phonetic series of characters presented by Karlgren in Chapter 13 of Easy Lessons in Chinese Writing (1958), and to show that if such characters are reexamined in light of a synchronic, phonemic analysis of modern Mandarin, that regular phonological patterns inherent in the modern Mandarin writing system will come to light.

Although it is beyond the scope of this paper to examine all of the phonetic series of characters presented by Karlgren in Chapter 13 of Easy Lessons in Chinese Writing, a number of such series can be analyzed in terms of their component phonemes in modern Mandarin Chinese. The source to be consulted for a synchronic, phonemic analysis of modern Mandarin Chinese is C.C. Cheng's A Synchronic Phonology of Mandarin Chinese (1973). His analysis and notation for initials and underlying final phonemes in modern Mandarin Chinese will be used in this paper. In addition, the traditional breakdown of the Mandarin syllable into initial, medial, nucleus, and ending (Final = medial + nucleus + ending; Rime = nucleus + ending) will be used (Cheng 1973, p. 11).

For the purposes of this paper, two basic types of phonetic series of Chinese characters will be presented, selected from those listed in Chapter 13 of Karlgren's Easy Lessons in Chinese Writing (1958). The following are examples of what I term Type 1 phonetic series from Karlgren. The characters are given, along with the series number, according to Karlgren's system. The modern Mandarin pronunciation is also given according to Karlgren, using his own romanization system. Next to the Mandarin pronunciation, is given Karlgren's notation for the Archaic pronunciation of the characters (in parenthesis). To the right of the Karlgren data is given the modern phonemic transcription, according to Cheng (1973), of the Mandarin pronunciation of the characters. Since Karlgren does not indicate tones in his notation, tone phonemes will not be considered in this study, but only the segmental phonemes in each Mandarin syllable.

	<u>Karlgren notation</u>	<u>Cheng notation</u> ¹
57a. 青菁	yi(*di̯ar), t'i(*d'i̯ar)	ɸi, t'i
82. 毛絨	mao(*mog), hao(*xmog)	mau xau
118. 竹筴	chu(*ti̯ok), tu(*tōk)	çu tu
123. 羊言	yang(*zi̯ang), siang(dzi̯ang)	ɸiɑŋ ɸiɑŋ
124. 羽詠	yü(*gi̯wo), hü(*xi̯wo)	ɸü ɸü
144a. 衍愆	yen(*ngi̯an), k'ien(*k'i̯an)	ɸian tɸ'ian
178. 韋諱	wei(*gi̯wər), huei(*xi̯wər)	ɸuɿi xuɿi
212. 龍寵	lung(*li̯ung), ch'ung(*tli̯ung)	luɿŋ ç'uɿŋ
216. 公翁	kung(*kung), weng(*'ung)	kuɿŋ ɸuɿŋ
220. 品臣	p'in(*p'li̯əm), lin(*bli̯əm)	p'iɿn liɿn
230. 斤石开 ^(sic)	kien(*kian), yen(*ngian)	tɸian ɸian
266. 胃喟	wei(*gi̯wəd), k'uei(*k'i̯wəd)	ɸuɿi k'uɿi
309. 奎睦	lu(*li̯ok), mu(*mli̯ok)	lu mu
364. 奘煥	juan(*ñi̯wan), nuan(*nwân)	ruan nuan
372. 月涓	yüan(*'i̯wan), küan(*ki̯wan)	ɸüan tɸüan

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In looking at the examples of Type 1 phonetic series as taken from Karlgren (1958), one finds that in each case both the phonetic alone as well as the character listed as sharing that phonetic element in a compound, have one more phonemes of pronunciation in common in modern Mandarin. In all cases, this phoneme or combination of phonemes represents the final part of the Mandarin syllable. Thus in series 57a, both characters share the final i; in series 82, both characters share the final au; in series 118, both characters share the final u; in series 123, both characters share the final ia^h; in series 124, both characters share the final ü; in series 144a, both characters share the final ian; in series 178, both characters share the final u^hi; in series 212, both characters share the final u^hη; in series 216, both characters share the final u^hη; in series 220, both characters share the final i^hn; in series 230, both characters share the final ian; in series 266, both characters share the final u^hi; in series 309, both characters share the final u; in series 364, both characters share the final uan; and in series 372, both characters share the final üan. (All notation for these finals is given according to Cheng (1973))

Such Type 1 phonetic series of characters, in which all characters in a series share the same final phoneme or phonemes can be termed Final Perfect phonetic series, and have been discussed previously by this author (Kraemer 1980, 1989). Such Final Perfect phonetic series form an important group of phonetic series in modern Mandarin. In my doctoral dissertation, carried out at Rutgers University (1980), I found some 153 phonetic series to be Final Perfect, out of more than 860 total series found in L. Wieger's book Chinese Characters (1927).

In looking at the list of Type 1 phonetic series given on page 3 above, one can, in addition to looking at the final part of the Mandarin syllable, examine the pattern of initials exhibited by both the compound character and phonetic itself in a series. Even from the short list of series given on page 3 above, one can see a good deal of variation among initials of characters in a phonetic series in Mandarin. At the same time, however, even such a short list of series as given on page 3 illustrates how some combinations of initials occur in more than one phonetic series. For example, both series number 230 and 372 show the same combination of initials in the series, namely ϕ and $t\phi$. If one extends this pattern to include a choice of all possible palatal initials plus ϕ initial, then one can include series # 123, 124, 144a, 230, and 372 in a larger, more general pattern, which I write as $\{ \text{Palatal}, \phi \} + \text{Final}$. This type of choice pattern does not necessarily mean that two different phonetic series exhibiting this pattern will have exactly the same palatal initials occurring in each series; on the contrary the exact combination of palatals may be different in the two series; but what the two series have in common is that they exhibit initials from the same closed set of all possible palatals plus ϕ initial. Thus we have series 123 with the pattern $\phi, \phi + ia\eta$; series 124 with the pattern $\phi, \phi + \ddot{u}$; the series 144a with the pattern $t\phi, \phi + ian$; and series 230 and 372 with the patterns $t\phi, \phi + ian$ and $t\phi, \phi + \ddot{u}an$ respectively. Looking again at the list of Type 1 phonetic series given on page 3 above, one also finds several phonetic series which can be grouped together in a general pattern of the set of possible velar initials plus ϕ initial. These are phonetic series # 178, 216, and 266. Again, the phonetic series under discussion may not necessarily exhibit all of the same velar initials in each

series, but rather exhibit initials from the same set of velar initials plus \emptyset initial. I write this pattern as $\{\text{Velar}, \emptyset\} + \text{Final}$. Thus we have series 178 with the pattern $x, \emptyset + u\dot{x}i$; series 216 with the pattern $k, \emptyset + u\dot{x}h$; and series 266 with the pattern $k', \emptyset + u\dot{x}i$.

Turning to the second type of phonetic series to be discussed in this paper, the following is a list of what I term Type 2 phonetic series, taken from the series presented in Chapter 13 of Karlgren's Easy Lessons in Chinese Writing (1958). Again these are a selected list from Karlgren. The same notation and conventions will be followed as were described above for Type 1 phonetic series (see page 2).

Type 2 Phonetic Series

<u>Karlgren notation</u>		<u>Cheng notation</u> ¹
40b. 安晏	an (* $\hat{a}n$), yen (* $\hat{a}n$)	$\emptyset\hat{a}n$ $\hat{a}n$
46. 山仙	shan (* $\hat{s}an$), sien (* $\hat{s}ian$)	$\hat{s}\hat{a}n$ $\hat{s}ian$
67. 文吝	wen (* $m\hat{i}w\hat{a}n$), lin (* $m\hat{l}i\hat{a}n$)	$\hat{w}\hat{u}\hat{e}n$ $\hat{l}i\hat{e}n$
76. 仄坎	k'ien (* $k'\hat{i}\hat{a}m$), k'an (* $k'\hat{a}m$)	$t\hat{s}'ian$ $k'\hat{a}n$
86a. 炎談	yen (* $\hat{d}iam$), t'an (* $\hat{d}'\hat{a}m$)	$\hat{d}ian$ $t'\hat{a}n$
86d. 焚彬	fen (* $b'\hat{i}w\hat{a}n$), pin (* $p'\hat{i}\hat{a}n$)	$f\hat{p}'\hat{e}n$ $p'\hat{i}\hat{e}n$
99. 甘紺	kan (* $k\hat{a}m$), k'ien (* $g'\hat{i}\hat{a}m$)	$k\hat{p}'\hat{a}n$ $t\hat{s}'ian$
100. 生姓	sheng (* $\hat{s}\hat{e}ng$), sing (* $\hat{s}j\hat{e}ng$)	$\hat{s}\hat{p}'\hat{e}h$ $\hat{s}i\hat{x}h$

Type 2 Phonetic Series (Continued)Karlgren notationCheng notation

115e. 秋愁	ts'iu (*ts'iôg), ch'ou (*dz'iôg)	ʈɕ'iu	ʈɕ'iu
130. 然 燃	jan (*ńian), nien (*?)	rɕan	nian
132b. 臭 嗅	ch'ou (*t'iôg), hui (*xiôg)	ʈɕ'iu	ɕiu
134a. 蹈 蹈	yao (*diog), tao (*d'ôg)	ɕiau	tɕau
142. 中 中	chung (*tiông), yung (*diông)	ɕɕuŋ	ɕuŋ
159a. 斬 斬	chan (tsǎm), tsien (*tsiam)	ɕɕan	ɕian
160. 辛 莘	sin (*siën), shen (*siën)	ɕiɛn	ɕɕɛn

In looking at the examples of Type 2 phonetic series taken from Karlgren, one finds that in each case, one or more phonemes ... are shared by both the compound character and the phonetic itself in each series. In all cases, this shared part of the modern Mandarin syllable is the rime part of the syllable. Looking at the Cheng notation for each series, one can see that both characters in series 40 b share the an rime; both characters in series 46 share the an rime; both characters in series 67 share the ɣn rime; both characters in series 76 share the an rime; both characters in series 86a share the an rime; both characters in series 86d share the ɣn rime; both characters in series 99 share the an rime; both characters in series 100 share the ɕŋ rime; both characters in series 115e share the ɕu rime; both characters in series 130 share the an rime; both characters in series 132b share the ɕu rime; both characters in series 134a

share the au rime; both characters in series 142 share the δh rime; both characters in series 159a share the ah rime; and both characters in series 160 share the δn rime.

In addition to looking at the common rimes in the Type 2 phonetic series, which I will term Rime Perfect phonetic series, one can also examine the pattern of occurrence of initials in each series in modern Mandarin. Certain patterns of initials stand out quite clearly when one looks at the 15 examples of Type 2 phonetic series given above. We can see first that series 46, 100, and 160 all illustrate the set of \mathfrak{s} and \mathfrak{c} initials. Moreover, if one also looks at how the medials in each case are varying along with the initials, one can write the following pattern for these three series: $\mathfrak{s}\emptyset\text{Rime} // \mathfrak{c}i\text{Rime}$, where the \mathfrak{s} initial is followed by the \emptyset medial, while the \mathfrak{c} initial is followed by the i medial in each series. The Rime portion of the syllable, as mentioned above, is the same for the two characters in each series. If one also includes series 115e, 132b, and 159a along with series 46, 100, and 160 just mentioned, one finds that in all six cases, a retroflex initial is paired with a palatal initial in each case. Thus series 115e has \mathfrak{c}' paired with $t\mathfrak{c}'$; series 132b has \mathfrak{c}' paired with \mathfrak{c} ; and series 159a has \mathfrak{c} paired with $t\mathfrak{c}$; while series 46, 100, and 160 have \mathfrak{s} paired with \mathfrak{c} as already discussed. In addition, in all 6 cases, the retroflex initial is followed by a \emptyset medial, while the palatal initial is followed by an i medial. One can summarize these 6 series in the following general pattern: $\left\{ \text{Retroflex} \right\} \emptyset \text{Rime} // \left\{ \text{Palatal} \right\} i \text{Rime}$, which reads "a choice from the set of retroflex initials followed by \emptyset medial followed by a certain rime, coupled with a choice from the set of palatal initials followed by

i medial followed by the same rime."

In similar fashion, series 76 and 99 from the Type 2 phonetic series list, show a pattern of "a choice of velar initials followed by \emptyset medial followed by a certain rime, coupled with a choice of palatal initials followed by i medial followed by the same rime." This general type of pattern can be written as follows : $\{ \text{Velar} \} \emptyset \text{ Rime} // \{ \text{Palatal} \} i \text{ Rime} .$

It should be evident from the above analysis, that both Final Perfect (Type 1) and Rime Perfect (Type 2) phonetic series are a feature of the written language in modern Mandarin. Not only do the finals and rimes form regular phonological patterns in these kinds of series in Mandarin (they are the same in each series of Type 1 and Type 2 respectively), but the initials in both types of phonetic series also form regular phonological patterns in modern Mandarin. In addition, in the Rime Perfect phonetic series, although more than one medial is found, the medials also often form a regular pattern of occurrence (such as the \emptyset , i medial combinations discussed above).

Whether a particular phonetic series exhibits regular phonological patterns in Ancient or Archaic Chinese is certainly important to know from the perspective of historical Chinese linguistics, but whether the same phonetic series exhibits a regular phonological pattern in modern Mandarin is a separate question. The analysis done in this paper has hopefully illustrated this point, and has shown that phonetic series in Chinese need to be analyzed from a modern, synchronic point of view as well as ^{from} a historical one.

NOTES

¹ In addition to the initial and underlying final phonemes given by C.C. Cheng (1973) for the modern Mandarin syllable, this author will indicate the \emptyset initial and \emptyset medial where appropriate.

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