The Evidence for Chinese *-r

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Abstract

In 1989 Starostin proposed that Old Chinese had a final *-r that later changed to -n (and sometimes -j). Baxter & Sagart subsequently incorporated Starostin's proposal in their 2014 Old Chinese reconstructions. This essay attempts to assemble the evidence for Old Chinese final *-r and to elaborate an explicit notation for the relative strength of this evidence for reconstructing an *-r in particular words.1

Keywords

Old Chinese – historical phonology – rhotics – reconstruction

1 Introduction

Because the Chinese script does not unambiguously encode phonetic information, like all other aspects of Old Chinese phonology, the final consonants of Old Chinese are necessarily somewhat uncertain.2 The general tack of Chinese historical phonologists is to begin by projecting the finals of Middle Chinese backward onto Old Chinese and then to make adjustments of various kinds as deemed necessary.3 Schuessler (2009) is a convenient exemplar of the opinio communis; he distinguishes final *-p, *-m, *-k, *-ŋ, *-t, *-n, *-w, *-wk, and *-j.4 Starostin further proposes *-r to explain connections between final *-n

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2 In this essay Chinese characters are provided with a reference number from Schuessler (2009), Middle Chinese readings employ Baxter’s (1992) system, and Old Chinese readings follow Schuessler’s (2009) system. However, this author mechanically adapted the conventions of Schuessler’s reconstructions to match the typographical conventions presented in Baxter & and Sagart (2014a) to ease comparison with the latter.


4 The finals *-h, *-s, and *-ʔ are omitted from this final list. These are needed to explain the origin of tone in Middle Chinese, but are not relevant to the current discussion of *-r.
and final *-[j] (Starostin 1989:399–407), a suggestion Baxter & Sagart (2014a and 2014b) implement in their reconstruction, but without systematically presenting the data on which they rely.

In the system of Baxter & Sagart "the notation '*[X]' means 'either *X, or something else that has the same Middle Chinese reflex as *X' (Baxter & Sagart 2014a:8). According to this explanation *-[r], *-[n], and *-[j] would have the same meaning, i.e. 'could either be *-r or could be *-n or *-j as the case may be'. Despite the description of their notation, it seems likely that they intend the item in the brackets as somehow the favored option, if not, why do they ever write *-[r], which carries the disadvantage of not predicting the Middle Chinese value? Thus, one is compelled to assume that they in fact intend a four-valued hierarchy of certainty with *-r, *-[r], *-[n]/*-[j] and *-n/*-j as the possible setting on a scale from which 'there is certainly an *-r' to 'there is certainly not an *-r'. This notation has several disadvantages. It obscures the evidence base upon which Baxter & Sagart reached their decisions. Also, these four tiers of confidence obscure the fine-grained and complex evidence available for the readings of various characters. The current study is an attempt to rectify these disadvantages in the Baxter & Sagart system by assessing the data which Baxter & Sagart provide as systematically as possible, with particular attention to establishing the relative confidence in which final *-r may be presumed in readings of particular characters. It also proposes a notation that transparently expresses the fine-grained confidence levels inherent in the data. The notation proposed here is an improvement upon the notation of Baxter & Sagart, and it is commended for all ends that their reconstructions serve.

Evidence for *-r divides into two types, (1) direct evidence for *-r readings of specific characters, and (2) indirect evidence, which links the characters having direct evidence to further characters for which there is no direct evidence.

2  Direct Evidence of *-r

Three types of evidence pertain to the reconstruction of final *-r in the reading of a particular character: (1) explicit discussion in traditional literature of alternative -n and -j pronunciations of a word, (2) the mixture of Middle Chinese -n and -j readings of a single character, and (3) rhyme contact in early poetry between a word with Middle Chinese -n and a word with Middle Chinese -j readings.5

Each of these three types of evidence is weaker than the preceding type. (1) The explicit discussion in traditional literature of dialect variation in the pronunciation of specific words isolates the specific time and place of the variation; this type of evidence is the strongest.6 (2) The mixture of Middle Chinese -n and -j readings of single characters in the Qièyùn 切韻 (601 CE) pertains to a much later date than discussions of dialect variation. In addition, because the Qièyùn does not specify variant readings as originating from particular locales, no geographic information is available about Middle Chinese -n and -j variation.

5 A fourth type of evidence, namely the use of a character to transcribe foreign syllables that end in -r, is also relevant. However, because foreign transcriptions are not directly relevant to -n and -j alternations, and their treatments give rise to a number of complications, the present analysis does not address the use of foreign transcriptions as evidence for *-r.

6 One might object that because discussion of the readings of the characters in the passages constituting the first type of evidence will inevitably make reference to the Qièyùn, one should regard the evidence of the Qièyùn itself (i.e. the second type of evidence) as more secure than evidence of the first type. However, in evidence of the first type, it is the texts themselves and not the Qièyùn, which posit distinct readings; epistemological reference to the Qièyùn is therefore unnecessary. In contrast, as is discussed presently, rhyme contact between -n and -j in early poetry must make reference to the Qièyùn, and is consequently a less secure source of evidence.
The rhyme contact in early poetry between a word with a Middle Chinese -n reading and a word with a Middle Chinese -j reading is more convoluted than may be obvious on first sight. Since this evidence relies on Qièyùn readings, it does not directly reveal anything about the pronunciation of the words in a poem at the time of its composition. Presumably in the speech of a poem's author there was no difference between the finals that would later become Middle Chinese -n and those that would become -j. The challenge of explaining such cases is not to explain the pronunciation of the original poem per se, but to explain how Middle Chinese came to have an -n reading in the one case and a -j reading in the other. By virtue of the Ausnahmslosigkeit der Lautgesetze, such rhymes provide evidence that both -n and -j readings of both characters involved in a relevant rhyme could have appeared in the Qièyùn; that not all such readings were transmitted is an accident of fate. If one follows the explanation of Baxter & Sagart that *-r > -n is the mainstream development, whereas *-r > -j is characteristic of an eastern dialect (Baxter & Sagart 2014a:254–268), then in all cases in which Middle Chinese -n rhymes with Middle Chinese -j, the dialect(s) reflected in the Qièyùn could have replaced the inherited -n reading with an eastern -j borrowing and could have failed to borrow the -j reading, instead retaining inherited -n. Because this third type of evidence implies the possibility of the second type of evidence, that of the third type is necessarily weaker than evidence of the second type.

As a notational convention it is convenient to distinguish these three forms of evidence as a, b, c, and to note these letters as a superscript (a, b, c) to indicate what evidence supports the reconstruction of final *-r in a given word. For example, the character 桓 (25-12f) hwan < *wˤan is glossed by a third century scholar as pronounced as 和 (19-07e) hwa < *wˤaj (Baxter & Sagart 2014a:266); the Old Chinese reconstruction can make explicit this source of evidence for *-r by writing 桓 hwan < *wˤar. Similarly, since the character 洒 (26-31g) has Middle Chinese readings sejX and senX, it may be represented in Old Chinese as洒 *sˤirʔb. In Ode 215 難 (24-35d) nan < *nˤan ‘difficult’ rhymes with 那 (18-12a) na < *nˤaj ‘much’, so the Old Chinese reconstructions of 難 and 那 can make explicit this source of evidence for *-r by writing 難 *nˤar and 那 *nˤar.

### Indirect Evidence of *-r

In addition to the three types of direct evidence pertaining to the reconstruction of final *-r for a particular word (i.e. the reading of a particular character), there exist two types of indirect evidence also suggestive of final *-r in words for which direct evidence is lacking. First, a character may have 謚聲 xiéshēng contacts with a character with readings for which there is direct evidence for final *-r. Second, a word written with a character that has a Middle Chinese readings in -n may rhyme with another word (also written with a character that has a Middle Chinese reading in -n), for which there is direct evidence of final *-r.

The relationship of xiéshēng series membership is transitive (i.e. if 蟄 is in the same series as 播, and 播 is in the same series as 譲, then 蟄 is in the same series as 譲). Thus, if 桓 hwan is reconstructed *wˤar on the basis of it being glossed as 和 (19-07e) hwa < *wˤaj, then, according to the ‘xiéshēng hypothesis’, any character built on the phonetic 桓 probably had the rhyme *-ar in Old Chinese. Such cases of...
xiéshēng links to characters with *-r* readings may be represented as A, using the capital letter to reflect the more abstract nature of the evidence. In the same way C may mean that the reading in question has a xiéshēng connection to a word that rhymes in a way that implies *-r*, either a Middle Chinese -n word that rhymes with a -j word or vice versa.

The notation B by analogy would mean a reading that has a xiéshēng connection to a character with both -n and -r readings, e.g. 酒 (26-31g) has Middle Chinese readings syinX (26-31i) could be written *ŋwan*. However, using B exclusively for such cases would not offer a way to express the cases in which a xiéshēng series contains both -n and -j readings, but no single character has both. Examples in this category would include e.g. 鵝 nan (24-35g) that has an -n reading and 棄 na < *naj (24-35k) that has a -j reading, but no single character in series 24-35 has both -n and -j readings. Consequently, it is proposed to use B to mark all readings of all characters in a series that contains -n and -j readings whether or not the type seen in series 26-31 (酒 etc.) or in series 24-35 (鵝 etc.).

Unlike xiéshēng contact, rhyme contact is not transitive. If A rhymes with B and B with C, it is quite possible that A does not rhyme with C. If great philological care is not taken, the use of rhyme evidence would quickly lead to the presumption that all cases of Middle Chinese -n and -j descend from *-r* (List this volume). The use of superscript numerals conveniently captures the non transitive nature of the rhyme evidence. For example, if 泉 (25-40a) dzjwen < *dzwan ‘spring, source’ is thought likely to have a final *-r because in Ode 197 it rhymes with 垣 (25-12m) hjwon < *wan ‘wall’, and the latter is in a xiéshēng series that also contains the character 欄 hwan glossed with 斋 (19-07e) hwa < *waj, this evidence can be noted 泉 *dzwar. Turning to another example of representing indirect rhyme evidence, in Ode 250 the words written 原 (25-20a) njywɔn < *ŋwan ‘spring, source or origin’ rhymes with both 寶 (25-12t) sjwen < *swar ‘spread (v.)’ (A again because of 欄 [25-12f] hjwan < *waj and 敝 [24-35c] than < *ŋwar ‘to sigh’ (B because of contacts such as 鵝 [24-35g] nan and 棄 [24-35k] na < *naj). Consequently, 原 (25-20a) njywn may itself be reconstructed *ŋwar.

The notational conventions are now in place for keeping track of the strength of evidence for *-r* in the reading of particular characters. One may now turn to a presentation of the evidence belonging to each type, the three direct and two indirect, and the calculation of the strength of evidence for *-r* in particular characters.

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8 It cannot be presumed that all words written with characters in a xiéshēng series demonstrate contact between -n and -j had a final *-r*. For example, series 06-38 (⺠) contains only one character that has a reading with final -n, namely 千 (26-38i) bjinX, and this character also has the reading bjinX. Since *-r > -j* is a minority development, characteristic of eastern dialects (Baxter & Sagart 2014:264–271). The chances of an entire xiéshēng series reflecting this change is very small. Instead, it is safer to presume that only the word written with the character 千 is to be reconstructed with a final *-r*. One may suppose, for example, that a speaker of an Eastern dialect first used this character to write this word in the pronunciation ancestral to bjinX, but that as this orthography became established speakers of Western dialects, communicating something ancestral to bjinX, they also took up the practice. Nonetheless, such late readings do nothing to challenge the transitivity of xiéshēng series membership per se. All characters built on 千 are members of the same series and the reading 千 bjinX is prima facie evidence for *-r* in the reading of any of the other characters in the series.
4 Direct Evidence in Detail

4.1 (a) Explicit Discussions of Alternate Pronunciations of a Word
Baxter & Sagart (2014a:264–267) cite evidence from discussions by early Chinese writers suggesting the need to reconstruct the readings of three characters with final *r. By way of example, in his commentary on *Lùshì Chūnqiū*呂氏春秋 the late Hàn commentator Gāo Yòu 高誘 (fl. 205–212) wrote:

今兗州人謂殷氏皆曰衣
“Nowadays the people of Yǎnzhōu 兖州 all pronounce the family name 殷 Yin [*ʔər] as 衣 Yī [*ʔ(r)əj]” (Baxter & Sagart 2014:265)

Baxter & Sagart (2014a:264–267) provide three cases of explicit discussions of dialect pronunciations:

殷 (33-09a) jìn < *ʔən pronounced as 衣 (27-05a) jǐj < *ʔəj
桓 (25-12f) hwan < *wˤan pronounced as 和 (19-07e) hwa < *wˤaj
癬 (23-21d) sjenX < *senʔ9 ‘ringworm’ pronounced as 徙 (07-28a) sjeX < *seʔ10 ‘move (to)’

This evidence permits the reconstructions 殷 jìn < *ʔən, 桓 hwan < *wˤan, and 癬 sjenX < *serʔ and all readings in the series 33-09 (殷), 25-12 (桓), and 23-21 (癬) can be reconstructed with *-rA.

4.2 (b) Characters with both -n and -j Readings in Middle Chinese
The following characters have both -n and -j (or ∅ < *-j) readings, which permits their reconstruction with final *-rB and all readings of characters in their series with *-rB.

19-02l 輿 hwaX, hwanX, hwojX
24-17e 献 sa, xjonH
24-21l 献 tanX, taH
24-54b 畏 pa, phjon
25-32a 螟 hwaX, lwanX
26-31g 酒 sejX, senX
26-38i 牠 bijjX, bjınX
33-02l 冥 ngjɨn, gjɨj
33-25i 冥 sejX, senX
33-25j 冥 sejX, senX
33-29a 贅 pwon, pjeH
34-18g 钰 dwojH, dzywin
h 鐵 dwojH, dzywin
p 钝 twoj, twon
r 鐘 thwoj, thwon
34-23f 掠 tswojH, tswonH

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9 Baxter & Sagart (2014b) reconstruct with the main vowel *-a-.
10 Baxter & Sagart (2014b) reconstruct with the rhyme *-aj.
Baxter & Sagart (2014a:283) also argue for a final *-r in the word 短 (10-16a) twanX ‘short’ because Proto-Mǐn *toi B ‘short’ (on the basis of forms such as Fúzhōu /tøi 3/ and Amoy /te 3/) suggests final *-j. As in the case of rhyme contact between -n and -j one might see this Mǐn evidence as arguing that there could have been a reading 短 *twaX < *twajX in the Qièyùn had fate not intervened. Outside of a systematic comparison of Middle Chinese with Proto-Mǐn, this use of Mǐn data to argue for *-r remains merely suggestive and will not receive further consideration here.

4.3 (c) Rhyme Contact among Words with Final -n and -j
Baxter & Sagart (2014a:257, 262) mention a number of cases in which words that end with -n rhyme directly with words that end with -j.11

Ode 43.1:
泚 (07-25h) *tsʰeʔ > tshjeX
瀰 (07-200) *meʔ > mjieX
鮮 (23-21a) *sen > sjen

Ode 137.2:12
差 (18-13f) *tsʰˤraj > tsrhea
原 (25-20a) *ŋʷan > ngjwon
麻 (18-18a) *mˤraj > mae
娑 (18-15e) *sˤaj > sa

Ode 215.3:
翰 (24-02f) *gˤans > hanH
憲 (24-18a) *ŋ̊ans > xjonH
難 (24-35d) *nˤan > nan
那 (18-12a) *nˤaj > na

Ode 222.2 (cf. 299.1):
芹 (33-02f) *gən > gjin
旃 (33-02p) *gəj > gjij

Ode 259.7:
番 (24-54b) *pˤaj > pa
嘽 (24-21m) *tʰan > than
翰 (24-02f) *gˤans > hanH
憲 (24-18a) *ŋ̊ans > xjonH

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11 A search through other early rhyming texts would surely yield further examples. This author is currently engaged in such a search and hopes to report relevant findings in the future.

12 Baxter & Sagart (2014a:266) understood Ode 137 as evidence only that 原 ngjwon ended with *-r. They point out that this poem is from the 陳風 Chén fēng section of the Shījīng, traditionally held to contain poems hailing from 陳 Chén, a region they regard as within the area that underwent the *ar > *-aj isogloss (Baxter & Sagart 2014a:266). To avoid prejudicing the investigation, Ode 137 is evaluated similar to all others.
Ode 299.1 (cf. 222.2):
芹 (33-02f) *gən > gjɨn
旂 (33-02p) *gəj > gjɨj

Zhōuyì 周易 (Baxter & Sagart 2014a:259–260)
printw (24-54r) *bˤaj > ba
孵 (24-02f) *gˤans > hanH

Zuǒzhuàn 左傳 (Fourth century BCE), Duke 嬋 Xi, year 5 (Baxter & Sagart 2014a:255):13
辰 (33-13a) *dən > dzyin
振 (33-13p) *tən > tsyin
旂 (33-02p) *gəj > gjɨj
賁 (33-29a) *pˤwən > pwon
焞 (34-18r) *tʰˤwən > thwon
軍 (34-13a) *kwən > kjun
奔 (33-28a) *pˤwən > pwon

This evidence permits the reconstruction of the characters瀰 (07-20o) mjieX,泚 (07-25h) tshjeX,那 (18-12a) na,娑 (18-15e) sa,麻 (18-18a) mae,差 (18-13f) tsrhea,鮮 (23-21a) sjen,翰 (24-02f) hanH,憲 (24-18a) xjonH,鳩 (24-21m) than,鶴 (24-35d) nan,番 (24-54b) pa,鳩 (24-54r) ba,原 (25-20a) ngjwon,芹 (33-02f) gjɨn,旂 (33-02p) gjɨj,辰 (33-13a) dzyin,振 (33-13p) tsyin,奔 (33-28a) pwon,那 (33-29a) pwon,軍 (34-13a) kjun, and焞 (34-18r) thwon with final *-rᶜ and the reconstruction of the series 07-20 (爾), 07-25 (此), 18-12 (那), 18-15 (沙), 18-18 (麻), 18-13 (左), 23-21 (鮮), 24-02 (軹), 24-18 (憲), 24-21a (軍), 24-35 (鳩), 24-54 (采), 25-20 (原), 33-02 (斤), 33-13 (辰), 33-28 (奔), 33-29 (貢), 34-13 (軍), and 34-18 (虤) with the final *-rᶜ.

5 Indirect Evidence

5.1 Xiéshēng Connections
The xiéshēng series 07-20 (爾), 24-35 (鳩), 25-16a (丸) hwan and 25-24a (耑) appear not to contain individual characters with both -j and -n readings, but instead contain both characters with -n readings and characters with -j (or ∅ < *-j) readings. Readings of characters appearing in these series may be reconstructed with *-rᶜ.

07-20a 爾 nyeX
07-20k 鸗 sjenX
24-35g 鳩 nan
24-35k 燱 na

13 In this study Baxter & Sagart’s proposal that the text is “late enough that original *-ur has already diphthongized to *-wər” is followed (2014a:255), and the presentation is simplified accordingly. The effected words are 貉 *pˤur > *pˤwər > pwon,焞 *tʰˤur > *tʰˤwər > thwon,軍 *kʷər > *kwər > kjun, and奔 *pˤur > *pˤwər > pwon. Behr (2008:492) also points to this passage and he adds at the beginning; therefore he regards the rhyming pattern as extending somewhat longer than Baxter & and Sagart do.
5.2 Rhyme Contacts

Baxter & Sagart (2014a:258, 295) mention the following examples of a word written with a character that has a Middle Chinese readings in -n rhyming with another word (also written with a character that has a Middle Chinese reading in -n), in which the latter character has direct evidence of final *-r.

Ode 5.1:

詵 (33-25n) *srərB > srin
振 (33-13p) *tərᶜ > tsiyn

Ode 49.2:

奔 (33-28a) *pˤərᶜ > pwon
君 (34-12a) *kʷən > kjun

Ode 69.1:

乾 (24-02c) *kˤarC > kan
歎 (24-35c) *n̥ˤarB > than
難 (24-35d) *nˤarᶜ > nan

Ode 73.2:

嘍 (34-18t) *tʰurCB > thwon
囲 (24-57f) *mˤan > mwon
奔 (33-28a) *pˤərᶜ > pwon

Ode 197.8:

山 (24-45a) *srˤan > srean
泉 (25-40a) *dzwan > dzjwen
垣 (25-12m) *warA > hjwon

Ode 250.2:

原 (25-20a) *ŋʷarᶜ > ngjwon
繁 (24-52b) *ban > bjon
宣 (25-12t) *swarA > sjwen
歎 (24-35c) *ŋarC > than
嶧 (24-17h) *ŋarB > ngjenX
原 (25-20a) *ŋʷarᶜ > ngjwon

14 It is also possible to see 鶉之奔 *dur *tə *pˤur > dzjwin tsyi pwon in 49.1 and 49.2 as intentional line internal rhyming.
Ode 254.7:
蕃 (24-54m) *parBC > pjon
垣 (25-12m) *warA > hjwon
翰 (24-02f) *gˤar‘s > hanH

Ode 259.1:
翰 (24-02f) *gˤar‘s > hanH
蕃 (24-54m) *parBC > pjon
宣 (25-12t) *swarA > sjwen

Ode 244.4:
垣 (25-12m) *warA > hjwon
翰 (24-02f) *gˤar‘s > hanH

Ode 254.7:
蕃 (24-54s) *parBC > pjon
垣 (25-12m) *warA > hjwon
翰 (24-02f) *gˤar‘s > hanH

Ode 259.1:
翰 (24-02f) *gˤar‘s > hanH
蕃 (24-54m) *parBC > bjon
宣 (25-12t) *swarA > sjwen

Ode 262.4:
宣 (25-12t) *swarA > sjwen
翰 (24-02f) *gˤar‘s > hanH

Ode 263.5:
嘽 (24-21m) *tʰˤarᶜ > than
翰 (24-02f) *gˤar‘s > hanH
漢 (24-10c) *ŋˤans > xanH

Chǔcí 楚辭, Jiǔ biàn 九變 (Third century BCE) (Baxter & Sagart 2014a:260):
乾 (24-02c) *kˤarC > kan
歎 (24-35c) *ŋˤarB > than

Ode 254.1
癈 (24-21l) *tˤarʔ > tanX
板 (24-49j) *prˤanʔ > paenX
諫 (23-07b) *krˤans > kaenH
亶 (24-23a) *tˤanʔ > tanX
然 (24-36a) *nan > nyen
管 (25-01h) *kʷanʔ > kwanX
遠 (25-15f) *wanʔ > hjwonX
The *Jīngdiǎn shìwén 經典釋文 and the received version of the *Lìjì 禮記 both offer 瘴 (24-23-) in place of 瘴 (24-21l) in citing Ode 254. A bamboo version of the *Lìjì excavated at Guōdiàn 郭店 writes this word with 担 (24-22-). The characters 瘴 (24-23-) and 担 (24-22-) belong to the series built on 旦 (24-22/24-23),\(^{15}\) similar to 聲 tanX (24-23a), which is also a rhyme word in this poem (Baxter & Sagart 2014a:259). This author accepts the explanation of 瘴 (24-21l) as a textual corruption in this poem and it is not taken as evidence of *-r in the words with which it rhymes.

The calculation of the superscripts is unglamorous. Rhyme-derived superscript notation for those characters that have other evidence of final *-r previously discussed, is deferred until the conclusion. Those characters for which rhymes provides the first, indirect, evidence of final *-r are: 漢 xanH < *ʔar²ᶜʰ (24-10c), 山 srean < *srˤarA (24-45a), 漢 bjon < *bar²c²A²b² (24-52b), 漢 mwon < *mˤərᶜ (24-37f).

6 Conclusions

Following is a list of reconstructions of specific characters ordered according to strength of the evidence for *-r. The reconstructions of Baxter & Sagart (2014b) are provided in braces for reference. As previously noted, despite their explanation to the contrary, the reconstruction of Baxter & Sagart offers four levels of confidence in the reconstruction of *-r which they notate respectively *-r, *-[r], *-[n]/*-j, and *-n/*-j. The confidence levels calculated here are not parallel with the confidence levels they arrive at. They reconstruct a confident *-r even for words such as 山 (24-45a) srean < *srˤarA {*-ŋrar} and 漢 (25-40a) dzjwen < *dzwarA² {*-S-N-gʷar}, where the evidence for *-r is quite indirect. There are also cases where they are skeptical of a final -r, even though the confidence calculation made here is quite high, e.g. 汈 (07-25h) tshjeX < *tsʰerᶜʔ {*[tsʰ]e(j)ʔ} and 梓 (18-15e) sa < *sˤarᶜ {*[s]ˤa[j]}. Such instances of disagreement with the confidences presented here underline the need for further careful scrutiny of the evidence base upon which *-r is proposed. Given the current state of knowledge, the direct use of Baxter & Sagart’s reconstructions of *-r in comparative studies (e.g. as in Hill 2014) is premature.

桓 (25-12f) hwan < *wˤar² (>*[g]ˤar²)

癬 (23-21d) sjenX < *ser² (?*[s]ar²)

殷 (33-09a) jin < *ʔar² {*[ʔ]ar²}

番 (24-54b) pa < *pˤar²b² {*[p]ar²}, phjon < *pˤar²b² {*[p]ˤar²}

貢 (33-29a) pwn < *pˤar²b² {*[p]ˤur²}, pjeH < *par²b² {*[p]ar²}

焞 (34-18r) thwoj, thwon < *tʰˤur²b² {*[tʰ]ˤur²}

輯 (19-02l) hwaeX < *gʷor²b² {*[g]ʷ<or²?}, hwanX < *gor²b² {*[g]or²?}, hwojX < *gʷor²b² {*[g]ʷor²?}

獻 (24-17e) sa < *snˤar² {*[s]nˤar²}, xjonH < *ʔar²b² {*[ʔ]ar²}

卵 (25-32a) hwaX, hwanX < *rˤor² {*[k]ʳor²}

洒 (26-31g) sejX, senX < *sˤir²b² {*[s]ˤir²}

\(^{15}\) Baxter & Sagart (2014a:259) combine series 24-22 and 24-23.

\(^{16}\) Schuessler (2009) does not include the reading 献 (24-17e) sa, but does reconstruct *snˤ in series with similar patterns (e.g. series 21-11 on p. 232).
<table>
<thead>
<tr>
<th>Han</th>
<th>G</th>
<th></th>
<th>Han</th>
<th>G</th>
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<td>牝</td>
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<td>*birb?</td>
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<td>坜</td>
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<tr>
<td>洗</td>
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<td>奠</td>
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<td>*tsˤur</td>
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<td>那</td>
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<td>na</td>
<td>*nˤar</td>
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<tr>
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<tr>
<td>差</td>
<td>(18-13f)</td>
<td>tswea</td>
<td>*tsʰar</td>
<td>*tsʰar</td>
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<td>鲀</td>
<td>(23-21a)</td>
<td>sjen</td>
<td>*sər</td>
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<td>xjonH</td>
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<td>(24-54t)</td>
<td>jgin</td>
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<td>*gˤar</td>
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<tr>
<td>侒</td>
<td>(33-02p)</td>
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<td>辰</td>
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<td>軍</td>
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<td>*par⁴</td>
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<tr>
<td>詳</td>
<td>(33-25n)</td>
<td>sriν</td>
<td>*srˤar²⁵</td>
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<td>*kˤar²⁵</td>
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<td>葺</td>
<td>(24-52b)</td>
<td>bjjon</td>
<td>*bar²⁵</td>
<td>*bar²⁵</td>
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<tr>
<td>瑤</td>
<td>(24-57f)</td>
<td>mwn</td>
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<tr>
<td>漢</td>
<td>(24-10c)</td>
<td>xanjH</td>
<td>*ŋar²⁵</td>
<td>*ŋar²⁵</td>
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<tr>
<td>君</td>
<td>(34-12a)</td>
<td>kjun</td>
<td>*kˤar²⁵</td>
<td>*kˤar²⁵</td>
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<tr>
<td>山</td>
<td>(24-45a)</td>
<td>srean</td>
<td>*srˤar²⁵</td>
<td>*srˤar²⁵</td>
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<tr>
<td>泉</td>
<td>(25-40a)</td>
<td>dzjwen</td>
<td>*dzwar⁴</td>
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</tbody>
</table>
A list of the reconstructions of specific characters ordered according to the numbering of Schuessler (2009) is perhaps a convenience to the reader.

瀰 (07-200) mjieX < *merc?
泚 (07-25h) tshjeX < *tsʰerċ?
那 (18-12a) na < *nˤarċ
娑 (18-15e) sa < *sˤarċ
那 (18-18a) mae < *mˤarċ
差 (19-02l) tsrhea < *tsʰˤarċ?
轤 (19-02l) hwaeX < *gˤorbʔ, hwanX < *gorbʔ, hwojX < *gˤurbʔ?
鮮 (23-21a) sjen < *serc
朶 (23-21d) sjenX < *serbʔ?
乾 (24-02c) kan < *kˤarᶜB2
翰 (24-02f) hanH < *gˤarċC5A4B4Cς
漢 (24-10c) xanH < *ŋˤarBcς
獻 (24-17e) sa < *ŋˤarBb, xjonH < *ŋarbs
嘸 (24-17h) njgenXN < *ŋarBcAβB2
寧 (24-18a) xjonH < *ŋarbs
癱 (24-21l) tanX < *tˤarBʔ, taH < *tˤarςb
鳴 (24-21m) than < *tˤarςcε
歛 (24-35c) than < *ŋˤarB2cAβB2C2
難 (24-33d) nan < *nˤarBc2C2
山 (24-45a) srean < *srˤarAκ
繁 (24-52b) bjon < *barB2cAβB2
番 (24-54b) pa < *pˤarBς, phjon < *pʰarb
蕃 (24-54m) bjon < *parB3c2Aς
蕃 (24-54r) ba < *bˤarς
蕃 (24-54s) pjon < *parB3cςA2
 CultureInfo (24-57f) mwon < *mˤərcB2C2
桓 (25-12f) hwan < *wˤarκ
垣 (25-12m) hijon < *warB3c2B2C2
宣 (25-12t) sjwen < *warB4c4B2C2
原 (25-20a) njgjon < *ŋˤarB2cAβB2
卵 (25-32a) bwaX, hwanX < *tˤorbʔ?
泉 (25-40a) dzjwen < *dzwarA2
酒 (26-31g) sejX, senX < *sˤirbʔ?
牝 (26-38i) bjijX, bjinX < *birbʔ?
圻 (33-02l) ngjin < *ŋarB, giij < *gərb
芹 (33-02f) gjin < *gərc
頃 (33-02m) khonX < *kʰˤarBʔ, giij < *gərb
旅 (33-02p) giij < *gərc
殷 (33-09a) jin < *ʔarκ?
辰 (33-13a) dzyn < *darςc
振 (33-13p) tsyn < *tərB2
The proceeding lists do not include the many hundreds of characters for which xiéshēng contacts are the only evidence of *-r. Instead, this information is more conveniently presented at the level of the whole xiéshēng series. To do this, the system of Hill (2015) is useful. As employed here, –NR means that –n readings predominate in the xiéshēng series and –IR means that –j readings predominate.

07-20 (爾) NEIRBC
07-25 (此) TSIRC
18-12 (那) NAI RC
18-13 (左) TSAIRC
18-15 (沙) SAIRC
18-18 (麻) MAIRC
19-02 (果) KOIRB
23-21 (鮮) SENRAC
24-02 (术) KANRC
24-17 (鳬) NANKR
24-18 (憲) NANKRC
24-21 (單) TANRBC
24-35 (嘔) NANKRC
24-54 (采) PANRBC
25-12 (亘) WANRA 17
25-16 (九) WANRB 18
25-20 (原) KUANRC
25-24 (ї) TONRB
25-32 (卯) OVO 19
26-31 (西) SIR 20

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17 QUANRC according to Baxter & Sagart (2014b).
18 QUANRB according to Baxter & Sagart (2014b).
19 Pronounced as *rˤorʔ.
20 SYIRB according to Baxter & Sagart (2014b).
26-38 (匕) PIR
33-02 (斤) KYNRBC
33-09 (殷) YNRA
33-13 (辰) TYNRC
33-25 (先) SYNRB
33-28 (奔) PYNRC
33-29 (严) PYNRBC
34-13 (軍) KUYNRC
34-18 (𦎧) TSUNRB
34-23 (允) TSUNRB

References


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QYNRBC according to Baxter and Sagart (2014b).
古漢語 *-r 尾音的證據

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提要
斯塔羅斯金（1989）提出古漢語存在 -r 尾音的看法，認為這個尾音後來演變為 -n（在有的情況下是 -j）。白一平、沙加爾（2014a）在他們新近的古音構擬中接受了這一看法。本文擬搜集古漢語 -r 尾音的證據，詳細闡述這些證據在特殊詞語中構擬 -r 尾音的重要作用。

關鍵詞
古漢語、歷史音韻學、r音、古音構擬