Notes on the Reconstruction of Old Chinese*

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When Western studies of Chinese language, literature or texts have occasion to mention Middle or Old Chinese it has become customary to rely on the work of Bernhard Karlgren above all others, and to cite his reconstructions. There are two main reasons for this. The first is that Karlgren was the first Western scholar to make a systematic and linguistically sound investigation into the reconstruction of Middle and Old Chinese (which he called Ancient and Archaic Chinese, respectively), and the second is that Karlgren presented his methods and couched his results in easily usable and comprehensive published forms.

Karlgren's Analytic Dictionary of Chinese and Sino-Japanese, published in 1923,¹ includes not only Middle Chinese reconstructions for several thousand characters, but also a sketch of Middle Chinese phonology as Karlgren saw it and an explanation of how he arrived at his results. Seventeen years later he followed the same pattern in the Grammata Serica, his work on Old Chinese, again giving a sketch of how he arrived at his reconstructions, and then presenting those reconstructions in a dictionary format of again several thousand characters.² Finally, for students who wanted to get to the heart of the reasoning and methods that underlay Karlgren's reconstructions, he published a work he called a Compendium of Phonetics in Ancient and Archiac Chinese.³

Many scholars have followed Karlgren in studying the phonological history of Chinese, and in working out systems of reconstructions for Middle and Old Chinese. As a result there have been in the past three or four decades a great many advances in our understanding of the linguistic history of Chinese; so much so in fact that Karlgren's work, though still highly regarded for the major achievement it represents in the first half of this century, is now considered almost universally as having been only a first approximation, now superseded by new proposals in many respects. Heretofore none of this “post-Karlgrenian”

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1 Paris: Librairie Orientaliste Paul Geuthner.


work has been comprehensively codified in any way comparable to Karlgren's
*Analytic Dictionary* or *Grammata Serica* in laying out the phonological history
of the language and in providing a dictionary of Old Chinese reconstructions.
E.G. Pulleyblank has perhaps come closest to achieving this for Middle Chi-
nese, both Early and Late, through his two books, *Middle Chinese, A Study in*
*Historical Phonology* and *Lexicon of Reconstructed Pronunciation in Early*
*Middle Chinese, Late Middle Chinese, and Early Mandarin.* But for Old Chi-
nese there has been no usable successor to Karlgren until now. The present work
under review, *A Handbook of Old Chinese Phonology* by William H. Baxter,
now provides at least in part that heretofore wanting successor to the *Grammata*
*Serica* and *Grammata Serica Recensa*.

Baxter's *Handbook* has ten chapters and three appendices. Chapter one is
concerned with necessary preliminary matters of definitions, goals, sources,
notations, and so forth. The following three chapters set the stage for his dis-
cussion of the reconstruction of Old Chinese by focussing on three important
initial considerations: the sound system of Middle Chinese (chapter 2), the
nature of rhymes as evidence in historical phonology (chapter 3), and the tra-
ditional, mostly Ch'ing, research into the *Shih ching* rhyming system (chapter 4).

The core part of Baxter's thesis comes in chapters five through ten. These are
the sections in which he sets out his reconstruction of the sound system of Old
Chinese together with his reasons and arguments. It is this part of the work that
corresponds to the 89 introductory pages of the *Grammata Serica* in which
Karlgren summarizes the phonetic evolution of Chinese from the archaic to the
ancient, and from the ancient to the modern periods, as well as sketches the
phonetic aspects of Sino-Japanese. Baxter's presentation is admirably straight-
forward, and clearly presented. Chapter five gives an overview of the Old Chi-
nese syllable, chapters six, seven and eight treat initials, medials and main
vowels, and codas and post-codas (by which Baxter means final consonants,
off-glides/semi-vowels, and post-final consonants) respectively. In chapter nine
Baxter explains how he thinks the Chinese script should be used as a source of
information about the pronunciation of Old Chinese, in particular how the re-
ceived text of the *Shih ching* differs from extant manuscript fragments and may
distort or camouflage some of the rhyme group evidence. Finally, chapter ten
gives a reconstruction, with full discussion and many examples in each case, of
all of the *Shih ching* rhyme groups as Baxter recognizes them.

The first appendix sketches the main phonological changes from Old to
Middle Chinese, with examples. The second gives all of the rhyme words of the
*Shih ching* in their *Shih ching* order, with Baxter's Old Chinese and Middle Chi-
nese reconstructions. The third appendix gives a seriatim list of the same *Shih*

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4 Both Vancouver [British Columbia]: University of British Columbia Press, 1984 and 1991
respectively.
ching rhyming words, now in alphabetical order by modern Chinese ("pinyin") romanization, again with their Middle and Old Chinese reconstructions. While these two lists are not as comprehensive as even a small dictionary of the Classical Chinese lexicon might be, they do contain well over 2000 words, and therefore are to some extent comparable to the dictionary part of the Grammata Serica.

Writing recently in the Journal of the American Oriental Society E.G. Pulleyblank set out four kinds of desiderata that he thinks must be taken into account in any reconstruction of Old Chinese: (1) adherence to the best relevant linguistic theory, (2) the need to have the best possible Middle Chinese reconstruction as a starting point, (3) proper appreciation for the role of, and limitations of, linguistic typology, and (4) the need to use all of the available evidence without giving privileged status to any one kind.5 I shall comment on Baxter's reconstruction of Old Chinese in connection with each of these four considerations individually.

(1) Theoretical assumptions

Baxter does not spend much time on points of linguistic theory, save to set out a few of his assumptions in chapter one. His expressed theoretical slant is neither intricately abstract nor particularly controversial. What he means by a ‘reconstruction’ of Old Chinese is a ‘reconstructed phonological system’ for Old Chinese, and a phonological system has, for Baxter, two components, “(1) a set of phonological representations which embody what is phonologically distinctive about each basic expression of the language [i.e., each word (W.G.B.)], and (2) a set of phonological rules which apply generally” (p. 17). Baxter recognizes that both parts of the system can, and always do, change over time, and he includes as a requirement for his reconstruction that it must specify a set of changes to account for the later stages of the language (p. 19). Baxter allows the units of phonological representation to be called phonemes, though he distinguishes himself from the school of American structuralist phonemics by not insisting that phonemes be ‘biunique’. When he has recourse to distinctive features it is to the well-known feature system of Chomsky and Halle.6

On the central issue of what exactly is the reality that lies behind the phonological system and rules that one reconstructs, Baxter makes an interesting point. He avers that his notion of Old Chinese can in a loose sense refer to any

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variety of Chinese of the early and mid-Chou period; in a strict sense he defines Old Chinese by what its reconstruction should account for: “A reconstruction of Old Chinese should account for the rhymes of the *Shijing*, the *xiéshēng* characters of [the] Zhōu-dynasty script, the phonological system of Middle Chinese, and the modern Chinese dialects” (p. 24). This statement just quoted is Baxter’s fourth explicitly enumerated methodological assumption, which he claims “does not require that our Old Chinese reconstruction be identical with, say, the language of the *Shijing* – only that the language of the *Shijing* is derivable from it” (ibid.).

When we take the implications of the loose sense in which Baxter uses the label ‘Old Chinese’ and those of the strict sense together, we come up with a slightly more sophisticated view of what Baxter thinks Old Chinese is than he himself has described expressly; he seems to think of a reconstruction of Old Chinese as a reconstructed phonological system (including the kinds of rules that we identified above as a required part of the reconstruction) that describes a set of languages. This set of languages has a diachronic subset consisting of the historically attested stages of the language in question, each of which is a distinct language itself, and a synchronic subset of related languages, i.e., dialects. In the case of Old Chinese, each of these dialects reflects one or more of the things that Baxter requires his Old Chinese reconstruction to account for, e.g., the language that reflects the *Shih ching* rhymes (“the *Shih ching* dialect”), the language that reflects the *hsieh-sheng* 詳聲 structure of the characters of the Chou script (“the *hsieh-sheng* dialect”), the language that is directly ancestral to Middle Chinese (“the Middle Chinese parent dialect”), etc. By definition in his linguistic theory every language can be described by a phonological system; therefore a set of languages is describable by a set of phonological systems. What Baxter is really reconstructing, then, is a set of phonological systems, expressed not discretely one apart from the other, but unitarily as a kind of integrated single phonological metasystem.

This notion of Old Chinese now begins to sound very different from the one Pulleyblank gives in the aforementioned article where he says:

... the reconstruction of Old Chinese is a historical problem in which one is not merely trying to set up abstract formulas that will accommodate comparisons between phonemic systems but to get as close as possible to the actual pronunciation of the language at specific periods of time in the past. (p. 380)

The suggestion that the goal of any linguistic reconstruction should be “to get as close as possible to the actual pronunciation of the language” in question must, I think, be taken *cum grano salis* lest we end up striving for an unreachable result and in the process lose sight of the value of reconstructing phonological systems that can account for the data at hand without purporting to in-
corporate a high degree of phonetic reality. Baxter alludes briefly to this when he says:

A phonological reconstruction is sometimes thought of simply as a collection of spellings ... intended to represent the pronunciations of an earlier age. This characterization, correct as far as it goes, obscures the conceptual structure of a reconstruction. The spellings ... reflect a set of hypotheses about the phonology of a language and about its development. (p. 18)

Sometimes, we might add, those spellings reflect only such a set of hypotheses, and to think of them as in any real sense reflecting actual pronunciations of an earlier stage is not “correct as far as it goes”, but entirely off the mark. This is particularly the case, we shall see below, in connection with the reconstruction of, and orthographic representation of, initial consonant clusters in Old Chinese.

(2) The Middle Chinese foundation

Baxter acknowledges that Middle Chinese (MC) is one of the most important pieces of evidence for the reconstruction of Old Chinese (OC), but he also says that it is not necessary to solve all of the phonological problems that pertain to a reconstruction of Middle Chinese if instead we use a “transcription which adequately represents all the phonological distinctions of Middle Chinese while leaving controversial questions open” (p. 27). The most often discussed, if not the most notorious, of such “controversial questions” is surely the problem of the so-called ch'ung niu 重紐 doublets, which occur in certain of the Ch'ieh yün rhymes. Baxter suggests a notational, but not a phonological, solution for this problem, writing either -j- or -i- for those that are placed in division III of the rhyme tables, and -ji- for those in division IV (pp. 75–81). This, of course, does not explain anything real about the difference between them, and Baxter acknowledges that, but it does preserve the distinction formally, in case that turns out to be relevant to the reconstruction of Old Chinese.

Baxter sketches the kinds of evidence on which an understanding of Middle Chinese phonology is based, and sets out his “transcription” (not reconstruction) for Middle Chinese, comparing it with Karlgren's Ancient Chinese and Pulleyblank's Early Middle Chinese (EMC) as he proceeds. More than twenty years ago Pulleyblank drew a sharp distinction between the language of the Ch'ieh yün 切韻 rhyming dictionary (ca. A.D. 600) and that of the Yün ching 韻鏡 rhyme tables of about three centuries later, calling the former Early Middle Chinese and the latter Late Middle Chinese (LMC). Baxter does not distin-


OE 36.2 (1993)
guish EMC and LMC from each other in his transcription of MC, but on the whole his MC transcription matches Pulleyblank's EMC more closely than it does his LMC, and the references to Pulleyblank's MC reconstructions that come up in his discussions suggest that this is his intention. With regard to initials, Baxter's MC in fact differs very little, except for a few orthographic conventions, from Pulleyblank's EMC. The only thing that might be mentioned as a kind of caution is to point out that Baxter uses the letter h for a voiced laryngeal fricative; he uses x for the voiceless counterpart. (In his OC reconstruction he uses the more conventional and more expected h for the same sound.)

The finals of MC are a little more complicated. Baxter, following tradition, deals with the finals in terms of their rhyme table divisions, namely, divisions I, II, III, and IV. For the division I finals, Baxter agrees *grosso modo* with both Karlsgren and Pulleyblank in reconstructing back, mostly unrounded head vowels, but for the hai 吳, hen 刮, teng 登, and i'an 病 rhymes he writes this vowel with the letter o, where Pulleyblank and Karlsgren have -ə-. Baxter describes his o as "probably best thought of as representing a mid-back unrounded vowel [ʌ]" (p. 61, emphasis added), indicating that he has pretty much the same view of the phonetic value of these rhymes as Karlsgren and Pulleyblank have. As with Baxter's use of h to represent a voiced laryngeal spirant [ɦ] or [ɣ] that we mentioned above, we can only wonder at the advisability of using letters as phonetic transcriptions in a way that differs significantly from their conventional associations.

In division II Baxter and Karlsgren have more or less the same idea, namely that the head vowels were the front counterparts to -a- and -ə- (Baxter's o = [ʌ]). Pulleyblank considers all of the division II vowels in his EMC reconstruction as being characterized by "retroflexion", i.e., as having an -r- "coloring", which he transcribes as ə or e and ultimately relates to the supposition that they are likely to have devolved from OC initial clusters in -r-.

Apart from the four divisions of Ch'ieh yün finals, the finals of MC can be divided into two large classes, those before which dental and velar initial consonants palatalize and those before which they do not. If we allow ourselves to phrase it in causitive terms, we could say the two classes are those finals that cause palatalization and those that do not. The second class has what Y.R. Chao called "palatal spellers" as the first character of their fan-ch'ieh formulas, whereas the first class has a different set of characters typically with non-palatal initials. A syllable such as kan, for example, belongs to the non-palatalizing first class, and gives modern Chinese kan; its counterpart kjan belongs to the palatalizing second class, and gives modern Chinese chien.

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While many scholars have recognized this distinction, most have followed the convention established by Karlgren of considering the palatalizing class of syllables to have had a high front unrounded medial or on-set to the final, what is sometimes called a y o d, written variously as -j- or -i-, and have projected that yodizing feature back largely unchanged into OC. For several reasons, including the fact that syllables of the palatal class are regularly used to transcribe foreign, especially Sanskrit, words without any corresponding yod, considerable doubt has arisen about the wisdom of reconstructing these syllables in early stages of MC and in OC with this yod. Pulleyblank calls the non-palatalizing class type A and the palatalizing class type B syllables and explains the distinction as having to do not with the presence or absence of a y o d semi-vowel, but with which mora of the syllable received the stress accent. He thus eliminates the -j- feature from the palatalizing class of syllables, in both EMC and OC, and substitutes in its stead a presumed difference in stress patterns on the morae of the syllable.9 Other scholars have tried to eliminate the yod in other ways, offering various other explanations for the distinction.

Most recently Jerry Norman has pointed out that syllables of the palatalizing class are more numerous than those of the non-palatalizing class, in particular in view of the fact that those of the non-palatalizing class constitute two clearly identifiable sub-classes (corresponding to divisions I and II of the rhyme tables), and therefore ought to be the unmarked class. He has proposed that the palatalizing class be regarded as the u n m a r k e d class in OC, and that all syllables developed a palatal medial (yod) “unless this process was somehow impeded”, i.e., unless it was blocked by some phonological feature of the syllable that was incompatible with “automatic” palatalization. He speculates that for division II syllables that OC feature was a medial -r- and for division I syllables it was pharyngealization.10 He thus gets rid of the yods, and at the same time accounts for the distinction between these two classes in a way consistent with the concept of phonological markedness. Baxter keeps the yods in both MC and OC, and in this respect is nearly as conservative as Karlgren.

Baxter recognizes that division IV finals of the rhyme tables occur with the same set of initials that are found in division I syllables, and he treats these two as forming a single distributional class. As many other scholars do, he reconstructs all division IV finals as having a -e- head vowel, with no palatalizing medial.

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9 Middle Chinese, pp. 167–68 et passim.

OE 36.2 (1993)
(3) The role of linguistic typology

In a way the role of typology in linguistic reconstruction is simply the role of what we may call “intuitive common sense”. We would not think it reasonable to reconstruct a parent language that was typologically very different from the descendent languages, unless we had very good reasons for doing so, and could explain the typological anomaly. Baxter deals with this under the heading “Naturalness in reconstruction” in chapter 1 as a part of his introductory methodological remarks (pp. 20–22). His point there is just that reconstructed languages should conform to the constraints of “naturalness” and that later stages of these languages should devolve by “natural” diachronic processes. The question is, of course, how do we understand “natural”, and the answer to that is on the one hand determined by the linguistic environment in which we are working and on the other governed by what we intuitively feel to be universal constraints on human language.

On the whole Baxter tries to keep both his reconstructions and the proposed phonological changes that he identifies “natural”. He appears to contradict himself slightly when he says “I place special importance on the phonological pattern of Middle Chinese and the clues it provides about earlier stages [of the language]” (p. 4) and then later says “Old Chinese may have been typologically rather different from Middle and Modern Chinese” (p. 21). The phonological patterns of Middle Chinese are typological features, and Baxter suggests in the first passage that they should have a “special importance” for a reconstruction of Old Chinese. Then in the second passage he allows that Old Chinese might be typologically “rather different” from Middle Chinese. While neither of these approaches is necessarily wrong, even when taken together, there is nothing in the discussion to suggest how one can know when a typological feature should be given special importance in a reconstruction and when it should be ignored. He then goes on to say that “typological characteristics are not a reliable guide to genetic relationships among languages”, by which he means that two languages sharing the same or similar typological features are not by virtue of that fact alone necessarily cognate. This is, of course, true; all the same, we need to ask if there is ever a time when typological characteristics do in fact constitute significant evidence for a genetic relation between two languages, or indeed if the notion of genetic relation needs to be refined in some way to allow a role for shared typological features, especially in geographically contiguous areas, in other words, to allow for the effect of areal influences beyond the level of secondary and superficial accident.

That Baxter does not pursue these questions about the role of typology further than he does is not so much a short-coming of Baxter's work itself as it is a reflection of the fact that historical linguistics in general has so far not been de-
veloped in any way that accommodates either linguistic typology or the related matter of areal features as pertinent aspects of the genetic relations among languages. To phrase the same thing from the opposite perspective, we might say that the notion of a genetic relation has not yet been refined enough to incorporate the implications of shared typological characteristics within a linguistic area. This is not, of course, something that Baxter takes as within the scope of his study, and it is no criticism of his work to mention it here as missing. It is something, though, that I think will eventually have to be taken into account if we wish to obtain as true a diachronic picture of the genetic and areal relations among the languages of China as we can.

(4) The use of all available evidence

In the aforementioned article on how we reconstruct Old Chinese Pulleyblank does not try to camouflage the fact that his purpose in listing this as one of his four desiderata is to draw attention to the importance, as he sees it, of early Chinese transcriptions of foreign words as evidence for the reconstruction of Old Chinese. While most other scholars, including Karlgren, recognized that transcriptions of foreign words could be a useful kind of evidence in their efforts to reconstruct Old Chinese, no one has given as much weight to this kind of evidence as Pulleyblank has. Pulleyblank laments what he sees as the privileged position that Shih ching rhyme groups and hsieh-sheng character structures have as evidence for the reconstruction of Old Chinese.11

Baxter for his part follows established custom and gives just such a “privileged position” to Shih ching and hsieh-sheng evidence, and it is not clear to me that this is objectionable. Indeed, one might say that the seriousness and thoroughness with which Baxter approaches these two categories of evidence underscores their right to a privileged position. Baxter says nothing about early Chinese transcriptions of foreign words as evidence, presumably because their relevance seems to be to a comparatively late stage of Old Chinese, viz., the language of the Han period, whereas his concern is the language of four or more centuries earlier.

Baxter's only comments about other kinds of evidence for the reconstruction of Old Chinese have to do with the role of Tibeto-Burman data in the enterprise. In this connection he says, briefly, that when it seems reasonable to do so, there is nothing wrong with letting our knowledge of Tibeto-Burman languages, or Tibeto-Burman forms, guide our hypotheses about Old Chinese, as long as the ultimate test of those hypotheses is against the data from Chinese itself. This seems an eminently sensible position, calling for no real defense. In practice

11 “How Do We Reconstruct Old Chinese”, p. 375.

OE 36.2 (1993)
there is very little in Baxter’s work here that appears to derive from Tibeto-Burman evidence, with the one exception of his treatment of initial consonant clusters (on which see below).

Turning now to the central matter of Baxter’s study, the reconstruction of Old Chinese, I would like to arrange the remaining part of my review around three points: (a) Baxter’s use of *Shih ching* rhyme evidence, (b) his use of *hsieh-sheng* evidence, and (c) his treatment of initial consonant clusters. Other aspects of his OC reconstruction will be discussed en passant.

(a) *Shih ching* rhyme evidence

One cannot fail to be impressed by the extent to which Baxter has acquainted himself with the basics of modern statistical methods in order to be able to judge what constitutes a rhyme and what does not in a way that is not wholly based on the intuition or arbitrary decision of the investigator. The entirety of chapter three, a total of 51 pages, is devoted to a discussion of what rhyme is in a literary context and to a presentation of a statistical method for analyzing rhyme data. Rather than trying to reproduce the substance of Baxter's statistical methods, which in any case I am not qualified to do, let me instead say simply that the imposing appearance of this chapter is a bit misleading; the explanation is clear and the statistical procedures and concepts are straightforward and not as arcane as they might at first seem. In the end Baxter has devised a testing procedure that lends considerable weight to his suggestion that certain of the traditional *Shih ching* rhyme groups ought to be sub-divided.

Starting from the MC *Ch'ieh yün* rhymes, and the MC notation that he established in chapter two, Baxter reconstructs values for the OC finals (in the traditional Chinese sense, i.e., medial, head vowel, final consonant, if any, and "post"-final consonant, if any, all taken together as a unit, in sum, that part of the syllable apart from the initial) based on the following assumptions:

1. OC rhyming was phonologically well-motivated, i.e., was based on identity of head vowel, and was not artificial,
2. there was no medial *-w* in OC,
3. there was no contrast between “strong vocalic” *-i* and medial *-j* in OC,
4. division II finals of MC are to be reconstructed with *-r* in OC,
5. division III finals of MC are to be reconstructed with *-j* or *-rj*, the distinction accounting for contrasts among MC division III finals within a single OC rhyme group, such as the *ch'ung niu* distinction.
Given these assumptions, and the requirement that his OC reconstructions account for all of the notational distinctions in his MC scheme, Baxter proceeds to reconstruct the phonological values of the OC finals. In some cases he ends up attributing more than one final, that is, more than one head vowel, to the same *Shih ching rhyme group. For example, he reconstructs three different OC head vowels before -n in words of MC divisions I and IV, viz., *-an, *-en, and *-on, all of which correspond to the traditional *Shih ching yün 元 rhyme group. But such a situation is inconsistent with assumption (1) above, that requires rhyming in the *Shih ching to be based on identity of head vowel. Rhyming among words in -an, -en, and -on clearly violates this assumption. There are three possible explanations for such cases: (i) the reconstructed phonological values are wrong, (ii) the assumption is wrong, and (iii) the traditional yün 元 rhyme group actually consists of three distinct rhyme groups corresponding to the three finals Baxter has reconstructed. Baxter's thesis is that the third of these explanations is the correct one, and he demonstrates this very persuasively by applying the statistical techniques adumbrated in chapter three to the data of the yün 元 rhymes in the *Shih ching to show that in fact there are three non-overlapping rhyming classes in the traditional yün group (pp. 370–381). To do this, Baxter has had to re-examine all of the *Shih ching odes anew, and to determine for himself what the rhyme patterns are in every case. These data are listed in Appendix B (pp. 583–743) which gives in the traditional order of the 306 odes all of the rhyme sequences by ode and stanza with modern, Middle, and Old Chinese pronunciations for each rhyme word indicated. The effect of this is to underscore the validity of Baxter's reconstructions, and to illustrate that there is nothing sacrosanct about the traditional *Shih ching rhyme groups that makes it obligatory to adhere to them.

Baxter reconstructs parallel forms for the non-nasal counterpart acute finals, *-at(s), *-et(s), and *-ot(s), and establishes the same kind of three-way sub-division within the traditional yüeh 月 and chi 祭 rhyme groups (pp. 389–403), and parallel forms in *-j for the ko 歌 rhyme group: *-aj, *-oj, and, with some uncertainty, *-ej, again implying a sub-division into three distinct *Shih ching rhyme groups, except that the data for these finals are not very numerous, and thus are not as amenable to statistical testing as they were for the rhymes in -n (pp. 413–422).

The division of several of the traditional *Shih ching rhyme groups into subgroups, representing distinctive and non-overlapping rhymes in OC is one of the most important consequences of Baxter's reconstruction. The chart below sets out the traditional rhyme groups with Baxter's reconstructions, showing for which of the groups his reconstructions require a sub-grouping. Compared with a total of 31 traditional groups, Baxter identifies 51 groups that are actually distinguished by non-overlapping rhyming in the *Shih ching.
Traditional *Shih ching* rhyme groups:

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<td>盂</td>
<td>-ep, -ap, -op</td>
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This chart gives a complete inventory of the OC finals that Baxter reconstructs, except for the so-called “post-codas”, i.e., the segmental features that follow the finals that he, following a number of other scholars, considers the source of the MC tones; these consist of an *-s that is thought to have given rise to the MC ch'ü 去 tone, and a-? that is supposed to have given rise to the *shang* 上 tone.
(b) *Hsieh-sheng* 詣聲 evidence

Baxter subscribes to the same general understanding of the so-called “*hsieh-sheng* principle” as most other scholars who work on the reconstruction of OC:

In order to be written with the same phonetic element, words must normally have identical main vowels and codas, and their initial consonants must have the same position of articulation. (Additionaly, nasal and obstruent initials are generally kept separate.) Otherwise, pre-initial, medial, and post-coda elements, and the manner of articulation of the initial, may differ. (p. 348)

Because Baxter understands MC tones to have developed out of segmental features of the OC syllable, specifically the “post-codas”, by not taking post-coda elements into consideration in formulating his view of the *hsieh-sheng* principle, he allows for legitimate *hsieh-sheng* contacts between words that from a MC perspective are in different tone classes. Phrased another way, we can say that in Baxter’s understanding tone is irrelevant to the *hsieh-sheng* principle. This is a conclusion that seems to be supported by the data of the writing system, and is generally agreed upon. By the same token, because initial consonant clusters are expressed in his scheme by “pre-initials”, which he also exempts from the phonetic constraints on a *hsieh-sheng* series, Baxter implicitly allows for all manner of initial consonant clusters in the same *hsieh-sheng* series, providing the second consonants of the clusters are homorganic with one another. This is a rather liberal view of the homorganicity constraint; we shall have more to say about it below in section (c).

Baxter’s use of *hsieh-sheng* evidence for his OC reconstructions shows by and large the same analytical care that his use of *Shih ching* rhyme group evidence does. In particular he is careful to distinguish between early and late *hsieh-sheng* characters, and not to attribute sound values to an early stage of a word based on a late *hsieh-sheng* representation. For example, the two characters 賄 hui ‘valuables’ and 有 yu ‘have’ appear to be an unproblematic *hsieh-sheng* pair, and can be reconstructed with the same finals, differing only in medial and the voicing of the initial, no matter whose reconstruction system is used; Li Fang-kui would have *hwągx* and *gwʃągx* respectively, Baxter would have *hwiʔ* and *wjiʔ*, in both cases a perfect match. But Baxter does not reconstruct *hwiʔ* for 賄 because of a note by Cheng Hsüan 鄭玄 (127–200) in the *Yi li* 儀禮 that says the “old text” (*ku wen* 古文) graph for hui ‘valuables’ was regularly 悔, a character conventionally used to write the word hui ‘regret’. The obvious *hsieh-sheng* basis of 悔 hui is 母 mei (ultimately, of course, 母 mu) with initial m-, implying an initial *hm- (voiceless m-)* in 悔 hui. The full reconstruction Baxter gives for 悔 hui is *hmıʔ*, which he argues must apply to both the Old Chinese words ‘regret’ (mod. hui, written 悔) and ‘valuables’ (mod. hui written in early texts 悔, in later texts 賄). The *hsieh-sheng* character 賄, with 有
yu < *wji? as a phonetic, could only have arisen after the word *hmi? had lost its voiceless m- initial, and become hw- (Baxter gives xwojiX as the MC form for both 賭 and 悔), and thus is not an accurate guide to the true OC pronunciation of the word hui ‘valuables’ (p. 352).

The reasoning in this example is sound as far as it goes. Cheng Hsüan's comment on the graphic form of the word hui ‘valuables’ is certainly worth noting, and may indeed mean what Baxter takes it to mean, with exactly the consequences for the OC pronunciation that he describes. But it may also reflect merely an anomalous orthographic tradition, or an orthographic convention associated with a non-standard dialect, something that in either case Cheng Hsüan, all of his erudition notwithstanding, failed to recognize. Unfortunately, there is no clear way to know. One recourse, admittedly conjectural, is to scrutinize the two alternatives from an “etymological” perspective.

It is well-known that sometimes some of the words written with characters in the same hsieh-sheng series share a semantic common denominator, so to speak. Consider, for example, the yang 易 series: 易 yang ‘rising sun, sunlight’, 揚 yang ‘raise’, 颱 yang ‘wind-tossed’, 鍛 yang ‘raised ornamental knob, boss, on a shield’, 捲 yang ‘ulcer, raised sore’, 場 ch'ang ‘area’ < ‘raised mound or platform’, 燊 t'ang ‘boiling liquid’, etc. It can readily be seen, I think, that not only do all of these characters share a common phonetic element, but the words for which they stand have a common semantic denominator, viz., a meaning of RAISE(D) UP in some sense. Such semantic affinity is not, of course, a requirement for membership in a hsieh-sheng series, but it is not infrequently an accidental feature of them.

This kind of shared semantic common denominator might constitute a kind of test as to which of two competing hsieh-sheng series a given character might belong to, when the phonological facts are equally amenable to both. It may be, of course, that the word in question will have no obvious semantic affinity with either hsieh-sheng series, in which case there is no test. It may also be that an apparent semantic affinity is artificial, a kind of folk-etymology that is unconsciously suggested by an a priori association of the character with a particular hsieh-sheng series. The test would then be circular, and no test at all. But it may be that occasionally the test will work, if not definitively, at least suggestively.

We could phrase the case of Baxter's word hui ‘valuables’ (conventionally written 賭), which he suggests should be reconstructed not as *hwi?, with 有 *wu < *wji? as a phonetic, but as *hmi? because of Cheng Hsüan’s observation that its kw wen scription was 悔, which has 每 < mei < *mi? as a phonetic, as just such a problem: into which of the two hsieh-sheng series, 有 or 每, does the word hui ‘valuables’ fit better from a semantic point of view? Notice that it is the semantic fit of the word that we need to examine, not that of the character or the pronunciation, since both of these latter two features have already
been found to fit one way or the other, depending on how much weight we give to Cheng Hsüan's observation.

Before jumping to embrace the implication of Cheng Hsüan's note I would wonder about the possible semantic connection between the verb *yu* ‘to have, hold, possess’ and a phonologically relatable noun ‘valuables’ < ‘holdings, possessions’, in particular, I would wonder if the latter were morphologically derivable from the former through a now obscured affixation process. Baxter treats *hui* ‘valuables’ exclusively as a MC rising tone word, originating in his view from an OC glottal stop post-coda. And admittedly, the *Ch'ieh yün* registers the word (and character) *hui* 贿 only in the rising tone. But the modern Chinese reading is in the fourth tone, which, since this word has by all accounts a voiceless initial, could have come regularly only from a MC departing tone source. The *Chi yün* 集韻 registers a departing tone reading for 贿, giving 呼内切 (ch. 4, sec. 18). The OC source for MC departing tone words is postulated by Baxter (and many others) to have been a post-coda -s. Thus, there is some evidence that the OC for *hui* ‘valuables’ might have had a form with *-s in addition to one with *-ʔ. We might now speculate that this *-s may have served as a morphologically productive suffix, making nouns out of verbs, just as in English we turn verbs like ‘hold’ and ‘possess’ into nouns like ‘holdings’ and ‘possessions’ through established morphological processes. This would, clearly, make the relation between *hui* 贿 and *yu* 有 much closer than that portrayed in Baxter's analysis, and may serve as a counterweight to the implication of Cheng Hsüan's note about the *ku wen* form of the character.

The *Chi yün* in fact registers an allograph of 贿 written 贿 under both the rising tone and the departing tone entries for this word. There is obviously some connection between this allographic form with *mei* 每 as a phonetic in the *Chi yün* and the 悔 that Cheng Hsüan invokes in his *Yi li* note, on which Baxter based his OC reconstruction. The ultimate solution may require that we recognize a more complicated relation between OC *m-, *hm-, and labio-velars like *hw-, or *w- (which can be treated as if it were a voiced labio-velar *gw-*) than the one Baxter has postulated.

(c) Initial consonant clusters

Baxter opens his discussion of OC initials by acknowledging that “initial consonants are more difficult to reconstruct than ... finals, because we have less evidence about them” (p. 187). The *Shih ching* rhymes, which figure so prominently in the reconstruction of finals, reveal nothing about initials. Baxter's approach to the OC initials overall is to “project the Middle Chinese initials backwards in time in a way which is consistent with the graphic evidence” (ibid.). When it comes to the reconstruction of initial consonant clusters, the problem
becomes even more difficult because the projection of the Middle Chinese initials backwards is no longer particularly relevant or revealing.

Baxter reconstructs four types of initial clusters for OC, based either on graphic or on morphological evidence, that is, either when he can identify a *hsieh-sheng contact or when he can explain the cluster morphologically: (i) clusters formed with the pre-initial *h-, (ii) clusters with the pre-initial *N-, (iii) clusters with pre-initial *s-, and (iv) clusters with *l-. Except for type (iv) Baxter speaks of Old Chinese initial consonant clusters as consisting of an initial, which somehow seems to have pride of place in the cluster, preceded by a pre-initial, which by implication is somehow secondary. We will comment on each type individually, focussing attention primarily on Baxter's reconstructions, and reserving a discussion of some further, and more general, considerations about initial consonant clusters for the last part of this review.

(i) Clusters with *h-

The *h- is a “voicing element” that Baxter, following Pulleyblank, uses as a prefix to a voiceless consonant to produce the voiced counterpart. In this way he can account by a “prefixation rule” for apparent alternations between initials that differ only in respect to voicing in pairs of words that are otherwise phonetically identical. For example, the pair of words 見 chien < *kens ‘see’ and 見 (modern 看) hsien < *gens ‘appear’ are obviously related to each other both in meaning and in pronunciation; the difference is only in the voicing or absence of voicing of the initial consonant. If that difference is analyzed such that the voiceless initial *k- is the unmarked form, and the voiced *g- consists of the unmarked k plus a “voicing prefix” h, it then becomes possible to describe the difference as a process (as opposed to an arrangement) by saying (or implying) that the form in *g- is derived from the form in *k- by prefixing an element h. This then allows for the implication, if not outright claim, that this is a morphological process and that it is therefore to be associated with some predictable and definite change in meaning. In this case the change is one of “intransitivization”; the normally “transitive” verb ‘see’ has become “intransitive”, meaning ‘appear, be visible’, a sense sometimes interpreted as passive, ‘be seen’. Baxter gives two other examples of this process: pai < *prats ‘defeat’ / pai (< brats) *hprats ‘be defeated’ (both words written 败), and huai < *krujs ‘destroy’ / huai (< grujs) *hkruijs ‘be destroyed’ (both written 壞).

Baxter identifies other pairs that seem intuitively to be semantically related, but that do not follow the ‘transitive/intransitive’ pattern. Some of them are ‘noun/verb’ pairs, e.g., pei < *piks ‘the back’ / pei < *hpiks ‘turn the back’ (both 背), some are ‘general meaning/specific nuance’ cases, e.g., ch'ing < *tshjeng ‘clear’ / ch'ing < *htshjeng ‘clear sky’ (清 and 晴), and some are simply synonyms, i.e., pairs with no apparent difference in meaning at all, in which
case this is just free variation between a voiced and voiceless initial in the same word, e.g., *th⁴jjet ‘remove, take away’ / (che) < *th⁴jjet id. (both 撤).

(ii) Clusters with *N-

Baxter reconstructs a pre-initial *N- before words with stop initials when they have MC nasals and at the same time have hsieh-sheng contacts, or morphologi- 

cal relations, or both, with words that have stop initials. For example, 瓜 mi < *Np⁴jiṭ ‘to wipe a vessel clean’, with 必 pi < *p⁴jiṭ phonetic, and 武 wu < MC mjuX < *Np⁴jiṭ ‘martial’, phonetic in 賦 fu < *p⁴jiṭ ‘tax’.

Here Baxter does not try to assign any morphological significance to this pre-initial, and hence does not insist that it be viewed as a process of prefixa-

tion. He mentions instead only the suggestion that the *N- might be parallel in 

some way to the Tibetan pre-initial ‘a-chung, which is sometimes regarded as 

marking prenasalization.

(iii) Clusters with *s-

Baxter divides s- clusters into two types: those with resonants and those with 

stops. The first of these types is more readily identified and better understood 

than the second; even Karlsgren, who was unrelentingly conservative in his will-

ingness to reconstruct initial consonant clusters, recognized this type. With few 

exceptions, the principal evidence that Baxter recognizes for both types of *s-

clusters is hsieh-sheng contact. Except before *n- and *r- all *s + resonant clus-

ters devolve to s-; i.e., the resonant is always lost. Examples:

*s⁴m- > s-, e.g., 喪 *sm⁴ŋ > sang ‘lose’, cf. 死 *mi⁴ŋ ‘perish’, both a likely 

cognate to, and phonetic in, 喪 sang. Baxter recognizes 死 wang as a phonetic in 

sang only in an end-note to this discussion, and seems to consider the possi-

bility of their cognate relation as the principle basis for reconstructing a cluster 

(p. 187). This is an exception, then, to Baxter's avowed practice of basing his 

reconstructions of clusters only on hsieh-sheng or morphological evidence.

*s⁴ŋ- > s-, e.g., 魚 *sn⁴ŋa > su, cf. 魚 *ng⁴(r)ja phonetic. Baxter (p. 225) gives 

the meaning of 魚 su as ‘to gather into sheaves’, citing Karlsgren, Grammata 

Serica Recensia, no. 67a. But Karlsgren says that this meaning is from the Shuo 

wen, and is not attested in any text known to him. The word does occur in the 

Shih chi with the meaning ‘to gather brush’ (ch. 92), a meaning probably related to 

the Shuo wen sense, an explanation which in any event was likely phrased so 

as to account for the 禾 of the graph. But usually 魚 stands for a word su mean-

ing ‘come back to life’, ‘revive’, often written 蘇 (hence its use in the tran-

scription 耶蘇). In this sense the word *sn⁴ŋa is probably cognate with 朔 shuo <
*sngak ‘new moon’ < ‘revival’ (of the lunar cycle), for which the initial cluster *sng- is independently attested by the yi ni < *ngjak phonetic.

Beyond this, it seems likely that the 魚 yü < *ng(r)ja is also phonetic in 路 lu, which, according to Baxter’s scheme, we might reconstruct *g-ra?. He does not have this particular word in his book, but he discusses MC l- as coming from OC combinations of stop consonant plus -r-, one possibility specifically illustrated being *g-r- > l- (p. 199). The g-, because it is homorganic with the ng- of 魚 *ng(r)ja, seems the likeliest choice for the consonant here, and is consistent with the general homorganicity constraint on hsieh-sheng series.

Baxter distinguishes *g-r- from *gr- (and mutatis mutandis other such pairs) notationally because the former gives MC l-, implying simply the loss of the preceding stop consonant, while the -r- in the latter is the OC marker of what become MC division II finals and shows its effect on the MC vowel rather than surviving as any kind of initial consonant. In effect he is treating the former as a kind of cluster and the latter as a simple initial.

Baxter acknowledges that the phonetic nature of what is represented by his *g-r- eludes him, and that this is strictly a notational device to keep these initials distinct from those with medial -r- of the MC division II kind. He nevertheless speculates on several possible ways that *g-r- might differ from *gr-. One is that the distinction may have actually been *gl- vs. *gr-, another is that the order of the elements may have been reversed, i.e., *rg- vs. *gr-.

If the distinction was really *rg- vs. *gr-, this allows for something like *rga? for 路 lu, and by implication might allow for a form like *rngja for 魚 yü. Coupled with the possibility that the -r- in these forms was actually -l-, we might then be justified in reconstructing 魚 and 路 as *lngja and *lga? respectively. The character 魚 is well known from Warring States period texts to vary graphically with both 五 and 吾, which means the OC pronunciation of the words for which all of these characters typically stood must have been relatively similar. For purposes of graphic variation (i.e., ‘loan characters’, what are traditionally called chia-chieh tzu 假借字) we may assume that “relative similarity” has the same meaning, and imposes the same phonetic constraints, that it does for a hsieh-sheng series. Both 五 and 吾 are first division words, differing only in tone, and would be reconstructed in their simplest form as OC *nga? and *nga respectively. Given that they are both attested graphic variants of 魚 *lngja, and assuming that the initial clusters were still intact at the time of the variation (an assumption that can be defended from a considerable amount of evidence), we are justified in reconstructing both 五 and 吾, with initial *lng-. In the case of 五 wu ‘five’ an OC form *lnga? matches very nicely Classical Tibetan lnga ‘five’, and this seems to me to lend some weight to the speculation that *lg- and *lng- are the correct choices for Baxter’s *g-r- in 路 and *ng(r)- in 魚. In the latter case, the picture is clouded slightly by the fact that Baxter intends *ng(r)- to be a simple initial, not a cluster. This may suggest that ultimately, in a way not yet clear, the OC -r- of MC division II words is to be re-
lated to, or even equated with, the “cluster -r- (or -l-)” of complex initials like *g-r-.

*sl- > s-, e.g., 錫 *sleks > MC sjeh > tz‘u (p. 226) and 賜 *sljeks > MC sjeh > tz‘u (p. 228), cf. 易 *ljek > yi ‘exchange’ as phonetic.

Baxter proposes three s- plus stop consonant clusters, *sp-, *sk-, and *st-, but none of them is in my opinion as well founded as the *sng-, *sm-, *sl-, and *sn- clusters just discussed. Clearly hsieh-sheng contacts such as  الساعة < MC sret / 录 se < MC srit suggest a cluster of some sort, and it is natural to consider *sp- as one possibility. But one ought also to consider the possibility of *ps-, and, for hsieh-sheng contacts between velars and s-, the possibility of *ks-. Baxter gives very few examples of *sp- and *sk- clusters, and points out that there are even fewer good examples of *st-, a form that ought by symmetry to exist along side of *sp- and *sk-. But if the bilabial and velar hsieh-sheng contacts could be accomodated by *ps- and *ks- clusters, then the expected dental counterpart would be simply the affricate *ts-, already reconstructed and established within the inventory of simple initials, and there would be no “gap” in phonological symmetry. Those examples for which Baxter reconstructs *st-, or variants of this with “metathesizing s-”, which he writes S, thus *St, *Sth-, *Sd- (all possible with -r- medials), are all rather speculative, and Baxter presents them with a much deserved tentativeness.

(iv) Clusters with *-l-

The last section of Baxter's discussion of initial consonant clusters deals with those that have -l- as the second element. He begins by listing the clusters that his teacher, Professor Nicholas Bodman, reconstructs for Proto-Chinese, a designation that Bodman uses for the period of the language between the Sino-Tibetan stage (the existence and validity of which Baxter and Bodman both take as a given) and Old Chinese, thus a kind of “Old” Old Chinese. Bodman reconstructs:

*kl- > t-
*kh-l- > th-
*gl- > d-

and

*p-l- > t-
*ph-l- > th-
*b-l- > d-

OE 36.2 (1993)
Here again the clusters with a hyphen between the elements are meant to be distinguished from clusters with the medial -l- or -r- that gives MC division II (or ch’ung niu division III) words.

Baxter “provisionally” accepts the velar set, and says that “possibly we also have” the bilabials (p. 232). He then proceeds to give a few examples of each. In my view these clusters, and the data on which they are postulated, even though they are not treated much at length, are more persuasive than the *St- set discussed above. Most of the examples are from Bodman, and Baxter simply endorses their possibility, adding little to what Bodman already proposed in 1980.12

There are many aspects of initial consonant clusters that Baxter does not deal with in this work. These include hsieh-sheng contacts between words with initials that do not fall into any of the patterns or groups that Baxter explains. What is to be made of the following data, for example:

今 chin  < MC k- 告 kao  < MC k- 公 kung  < MC k- 庚 keng  < MC k- 非 fei  < MC p- 出 ch’u  < MC tsyh- 貪 t’an  < MC t-h- 造 tsao  < MC dz- 松 sung  < MC s- 唐 t’ang  < MC d- 罪 tsui  < MC dz- 腐 fei  < MC p- 屈 ch’ü  < MC k-h-

The two, or in the last case, three, members of each set belong to the same Shih ching rhyme group, and it is therefore counter-intuitive to suggest that these are not hsieh-sheng sets. Yet it is not clear how the manipulation of “pre-initials” can account for the variety of non-homorganic initials in evidence in sets like these.

If we allow for the possibility that words within the same hsieh-sheng series may have non-homorganic initials, such as those listed just above, reflecting original clusters of some sort, then by the same token we should allow for the possibility that initial clusters might also account for a cognate relation between words that have the same degree of dissimilar initials, but that belong to the same Shih ching rhyme group and have relatable or identical meanings, irrespective of how they are written. Baxter implicitly adheres to this premise when he allows for an initial cluster *sm- in sang 戍 on the basis of its probable cognate relation with wang < *m- 亡, both sang and wang being in the same Shih

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ching rhyme group (p. 175). Even though he recognizes in end-note 136 that there is likely a hsieh-sheng relation between them, still he treats the relation between sang 壽 and wang 亡 as semantic, not graphic, i.e., not a hsieh-sheng relation, and yet he imposes the same phonetic constraints that would apply to a hsieh-sheng relation on the relation between these two words. In other words, the same phonetic data can be interpreted as evidence of original clusters when there is either a graphic basis or a semantic basis for considering the words in question related. This is a premise that Baxter does not openly state, but that seems to me to be implied in his treatment of the sang 壽/ wang 亡 pair.

Baxter's ostensible basis, as we have said, for reconstructing clusters is either graphic or morphological evidence. While these are both valid criteria, they do not exhaust the possibilities, as the example of sang 壽 / wang 亡 is meant to show. Clusters may also be reconstructed where two or more words are seen to have a similar or identical meaning and to belong to the same Shih ching rhyme group. The supposition in such cases is that the words are cognate, but not that the words are necessarily related one to the other morphologically. Clusters may have existed in Old Chinese that were combinations of two consonants neither of which was a morphological formative, and therefore neither of which is "primary" relative to the other.

When words that are phonetically and semantically relatable all with one another are collected together, this is usually called a word family. Word families are a feature of the language, and do not depend on any aspect of the writing system. Words in a given word family may be written with characters in the same hsieh-sheng series, or they may not be so written; this does not bear on their word-family relation. Conversely, hsieh-sheng relations are by definition determined by the writing system, and are based on the pronunciation of the words in question without regard to semantic considerations. Sometimes word family relations and hsieh-sheng relations will overlap, but this is strictly fortuitous, and not a requirement for either the hsieh-sheng series or the word family.

Word family studies fall outside the purview that Baxter sets for himself in this book, but they do not fall outside the scope of the study of Old Chinese in general, particularly as this pertains to initial consonant clusters. Baxter's reluctance to take up the issue of word families, and the evidence for Old Chinese initial clusters that they might provide, seems to stem from the fact that he treats clusters, wittingly or unwittingly, with what seems to be a Tibeto-Burman bias. The terminology "pre-initial" and "initial", for example, reflects the structure of initials in Tibetan, where many of the clusters are the result of regular morphological processes that prefix a "pre-initial" consonant to a stable single initial consonant. But it has not been demonstrated that we must regard Old Chinese in the same way. The s- of the *sm- initial cluster that Baxter reconstructs for 壽 is no less an intrinsic part of the phonetically complex initial segment of the syl-
lable *smang, i.e., of the cluster, than is the *sun, just as in English the s- is no
less a part of the initial cluster sm- in the word smile than is the -m-

Consider the pair of words *sun < *sun 孫 and *k'un < *kun 昆 both meaning
'descendants' (Baxter's Old Chinese; the aspiration in modern Chinese k'un is
irregular relative to the unaspirated k- registered as its MC initial in the Ch'ieh
yün, but this has nothing to do with the issue here). Both words belong to the
Shih ching rhyme group wen 文, and both mean 'descendants', yet they have
non-homorganic initials and have no apparent graphic relation to each other.
Given that hsieh-sheng contacts between initial k- and initial s- are well attested
(cf. kung 公 / sung 松, ku 谷 / su 俗), we already have good reason to reconstruct
some Old Chinese form that will accommodate these two non-homorganic initials
in some way. It seems to me, therefore, counter-intuitive and gratuitously ob-
stinate to resist treating *k'un 昆 and *sun 孫 as cognates, and not to reconstruct
them with whatever Old Chinese initial clusters were posited to accmodate
words with k- and s- initials in the same hsieh-sheng series. In the absence of
other data that might complicate the picture, the easiest solution might be to re-
construct *ks- for *k'un 昆 and *gs- for *sun 孫, allowing the implied sound
change *ks- > k(ʰ)- and *gs- > s-

Two points need to be noticed about the *ksun/*gsun reconstructions for k'un
昆 and *sun 孫:

(i) There is no question of a morphological relation between the two forms.
The *ks-/*gs- pair consists simply of alternate reflexes of what I assume was a
common "root" for the word 'descendants' in Old Chinese that had an initial
cluster of a velar stop followed by an s. We might write **GS- as a notational
device to represent both the voiced and voiceless velar consonants that appear
as variants of this cluster.

(ii) I consider the alternation ks-/gs- preferable to either ks-/s- or k-/gs-, be-
cause it adheres better to the expected constraints on homorganicity than the
two alternatives do. (This reasoning applies to clusters reconstructed on the
basis of hsieh-sheng contacts with equal force.)

When this kind of evidence is taken into account the picture of the Old Chi-
inese initial system, including clusters, expands considerably. Still other kinds of
evidence can be added, e.g., the evidence of dimidiated binomes which Boos-
berg adumbrated more than half a century ago,¹³ in spite of a premature and
unwarranted skepticism in some quarters, often coincides in its implications
regarding clusters with the evidence of word family associations. If our under-
standing of Old Chinese initial consonant clusters is going to be advanced
measurably from where it is now these kinds of considerations will have to be
taken into account.


OE 36.2 (1993)
The work that Baxter has done, adhering to the more-or-less conventional procedures of historical linguistics, has brought us about as far as we can go within this framework. Baxter's great accomplishment is to have done this work with as much rigor and as much attention to detail as anyone so far, and to have as a result produced the most refined overall picture of the phonology of Old Chinese yet. Progress beyond this, now, especially with respect to the still largely intractable problem of initial consonant clusters, their nature and their devolution, not to mention the question of the ultimate genetic affinity of Chinese, which in spite of the apparent confidence of adherents to a Sino-Tibetan hypothesis, remains unsettled, will depend on a willingness to apply somewhat less tested and more experimental methods and to consider less conventional kinds of data.

In sum, given the scope of Baxter's presentation, the thoroughness of his explanations, and the extent of his treatment of all of the details of Old Chinese, I think it is fair to say that Baxter's study of Old Chinese is the most significant work of this kind to appear since the works of Karlgren. In some ways Baxter's reconstruction is still more conservative than might be necessary, but this is a safer and more desirable alternative than being overly speculative in ways that the evidence cannot yet support.