NOTES ON THE BEGINNINGS OF SYSTEMATIC
DIALECT DESCRIPTION AND COMPARISON IN CHINESE

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1. Introduction

Western Sinology as we know it today began in the middle of the 19th century, after the Opium War (1839–1842) forced China to let in missionaries and Western consular officials. Although Jesuits and other Catholic denominations had been in China since the 16th century, and although their scholarly attainments were immense, they were nevertheless a relatively small number of men, and they suffered repeated persecution in China. Indeed, Christianity was officially illegal during much of the Manchu era, until the Treaty of Nanking of 1842 and the edicts of toleration of 1844 and 1846. The Treaty specified that the five port cities of Canton, Amoy, Foochow, Ningpo, and Shanghai were to be fully open to Western residents and their dependents. It was only after this that large numbers of Westerners really began to enter China and establish communities there. The Protestant missionaries and consular officials who began pouring in changed completely the direction of Western study of China.

The history of modern linguistic Sinology unquestionably begins with large-scale Western residence in these five linguistically diverse port cities. Out of the Treaty ports came the first fully descriptive Chinese dialectology attested in print, and great advances in the long struggle to apply the Roman alphabet to Chinese. But as emphatically Western in flavor as early Protestant descriptive work was, and especially the first comparative studies that grew out of it — still, it drew heavily on Chinese linguistic ideas.

2. Early descriptive dialect study by Protestants

The Protestant tradition of linguistic Sinology was largely separate from the Catholic tradition, although the earliest linguistic workers — Joshua Marshman (1768–1837) and Robert Morrison (1782–1834) — made heavy use of Catholic sources. The Protestants were active in linguistic work from their first days in China, and in addition to descriptions of Mandarin they produced
grammars and dictionaries of major southern dialects as well as vernacular Bible translations. As a matter of missionary strategy originating with Matteo Ricci (1552–1610), the rich Catholic tradition had in linguistic matters concentrated on Mandarin, the language of officialdom and of northern and western China. But the Treaty ports were all in southern and southeastern China, where the conservative ‘dialects’ are so varied that to Western understanding they are clearly separate languages. Someone had to compile dictionaries of representative southern varieties, and this work took a third of a century: it was not until the mid-1870s that there appeared in print adequate Western-language dictionaries of the major varieties of Chinese spoken in the Treaty ports. (Quite a few regional dialect dictionaries of both Catholic and Protestant origin were circulated only in manuscript and many remain unpublished.)

The majority of the early Protestant missionaries were British and American, and the surge in printing of Western-language dictionaries was in the main limited to the English language until near the end of the century. The best-regarded of these books were:

for Canton (dialect): Bridgman (1841), S. Williams (1856), Lobscheid (1866/69, 1871);
for Amoy: Douglas (1873) and MacGowan (1877);
for Foochow: Maclay & Baldwin (1870) and Baldwin (1871);
for Ningpo: W. Morrison (1876);
for Shanghai: Edkins (1853, 1869).

It was only in the case of Mandarin dictionaries that English lagged behind other European languages: after many failures, Samuel Wells Williams (1812–1884) finally attained a satisfactory standard with his 1874 dictionary. We should realize, incidentally, how difficult it was to obtain the earlier books, even in China. In the Introduction to his dictionary, Williams (1874: v) wrote:

The works of Medhurst, Bridgman, Callery, and Gonçalves, are now almost unknown; and the only lexicons available for the use of Chinese students have been the reprint of [R.] Morrison’s Syllabic Dictionary [1865], Maclay’s Fuhchau [i.e., Foochow], Douglas’ Amoy, and Lobscheid’s Canton, Vernacular Dictionaries.

By the end of the 1870s, however, Western familiarity with China had advanced so far that people were publishing notes on subvarieties that differed from the better-known ones.¹

¹ For examples of some ‘odd varieties’, see for instance Piton (1879/80), Lockhart (1881/82), and Don (1882/83). Douglas (1873) contains abundant information about dialect variation in
19th-century Western dialect sources are mixed in quality, however, and the linguistic descriptions they contain are by no means the result of purely Western methods. The Protestant descriptive tradition owed much to native Chinese sources — just how much can perhaps be gauged by the embarrassing trouble the English-speakers had describing aspiration in Mandarin. For, from the outset, the Protestants had great difficulty assigning aspiration to the proper syllables in their Mandarin dictionaries. The three earliest Mandarin sources by Protestants — Marshman (1809, 1814), R. Morrison (1815–1823), and Medhurst (1842a) — frequently omitted aspiration from the initials of words, and occasionally added it where it did not belong.

Why this confusion should have come about at all is not obvious. It must be significant that Protestant dictionaries of Cantonese and Hokkien had no such trouble; this was evidently a phenomenon limited to Mandarin. The likeliest explanation is that the early workers learned romanization in the main from written sources, and had already memorized incorrect spellings and pronunciations before they ever heard Chinese spoken. Marshman and Morrison studied from Catholic sources at great length in England and India before they were able to find reliable native speakers to teach them. In Catholic missionary materials, written in the main by speakers of Romance languages, any difficulty in hearing aspiration was evidently resolved quite early, in the time of Ricci. But the notation of aspiration, though accurate, was easy to overlook in their printed materials. In the work of Francisco Varo (1627–1687), for instance, the spiritus asper symbol seems to have appeared randomly at any convenient place in the syllable, including especially the end (Prof. W. S. Coblin, p.c.). Joseph Callery (1810–1862) wrote aspiration as a sort of tiny haček some distance above the whole syllable, to the right of the tone mark:

Systema apud Missionarios exclusive in usu, duobus et amplius ab hinc saeculis, in eo consistit ut ipsis signis ad tonos designandos adhibites, virgula seu punctum adjungatur ad aspirationem designandum … (Callery 1841:71)

Chrétien de Guignes (1759–1845) is supposed to have put aspiration, tone, and even vowel indications above the syllable (S. Williams 1874: xxvi)! These haphazard practices must have been characteristic of the whole Catholic tradition, and may easily have misled Morrison and the others.

What surely made this all the more confusing to the English-speakers was that both aspirated and unaspirated initials were generally written in Catholic sources with the letters that in standard English are aspirated. Mandarin distinguishes aspirated from unaspirated voiceless stops, and it would have been southern Fukien, in addition to his records of Amoy speech. His Changchew and Chinchew materials, in particular, could easily be collated to form small dictionaries in their own right.
natural and simple for an English speaker to write the unaspirated series with English voiced stops and the aspirated series with voiceless stops — say, Mandarin [t] with d and [tʰ] with t. But it had already become usual to write both initials with t and then add an aspiration mark to one of them.

The result was that not aspiration itself so much as the contrast between aspirated and unaspirated initials was shown in a way unfamiliar to English speakers. Protestant writers frequently illustrated the pronunciation of unaspirated Chinese initials using aspirated English words. Textbooks and dictionaries gravely explained that the unaspirated obstruents were pronounced “as in English” — k as in key or king — and then explained the aspirated obstruents as more highly aspirated. Unaspirated obstruents were to be carefully distinguished from their voiced counterparts, however. The anonymous author of Chinese Repository (1836a), for example, offers this guide:

b, as in bunn, bard, is a sound unknown in most parts of China [...] 
p, as in pippin, is [...] a sound of frequent occurrence in Chinese. [...] It sometimes receives an aspiration after it, when it is pronounced as pʰ in the compound word, hap-hazard. (Chinese Repository 1836a.27-28)

In other words, b [b] is rare, but p [p] is common and quite different from b. There is also an aspirate pʰ or pʰ [pʰ]. As we hear most forms of Chinese today, this is a correct statement phonetically, but most modern readers would take “p, as in pippin” for the aspirated [pʰ] in standard forms of English. Here are more examples:

g, hard, as in give, get, never occurs except in some of the dialects.
k, as in kite, or as c in card, is a very frequent sound in Chinese. [...] It sometimes receives an aspiration after it, being then pronounced as kʰ in the compound word, pack-house.
j, as in jest, or as g in gentle, is a sound which does not occur, unless perhaps in some of the dialects.

ch is an initial, pronounced precisely as in the word church, or as tch in French. This sound sometimes receives an aspiration after it, and is then pronounced as chʰ in the combined words church-hill [...].
t, as in title, occurs often as an initial. [...] It sometimes receives an aspiration after it, when it is pronounced as the tʰ in ant-hill [...]. (Chinese Repository 1836a.27-28)

Here are a few more hints from Sir Thomas Wade (1818–1895):

ch: before any of the [...] finals except ih, simply as in chair, chip; before ih, it is softened to dj; chih being in many cases pronounced djih.

chʰ: a strong breathing intervening between the initial ch and the vowel sound, but without reduplicating the latter. It does not soften like the unaspirated c before ih.
k: as c in car, k in king; but when following other sounds often softened to g in go, gate.

k': the aspirate as in ch'. Drop the italicised letters in kick hard.

p: as in English.

p': the aspirate as in ch', k'. Observe the manner in which an Irishman pronounces party, parliament; or drop the italicised letters in slap hard.

t: as in English.

t': as in k', p' &c. Observe an Irishman’s pronunciation of t in error, torment; or drop the italics in hit hard.

ts: as in jetsam, catsup; after another word, often softened to ds in gladsome.

ts': the aspirate intervening as in ch', and other initials. Let the reader drop the italicised letters in bets hard, and he will retain ts'a. (1859: 83-84)

The Chinese aspirate is consistently described in these sources as having exaggerated aspiration, while the unaspirated forms are compared to letters that (in standard forms of modern English) are aspirated in the normal way. This must have been a misconception. It is unlikely that the Chinese of that day was really very different from modern Chinese, since the contrast between aspirated and unaspirated initials is virtually universal in attested modern dialects and the phonetic articulation of these two classes today is reasonably consistent across a large area. Were the English accents of all the early Protestants — among them Scots, Americans, and Englishmen — so different from the standard varieties of today? Marshman’s statement (1814: 91) that “the letter k […] has the same sound in English as it has in French or Italian” is not generally true today; was it true of his own English? Perhaps. More likely he spoke French with a heavy English accent. But on considering all the evidence I do not think English dialect differences were the main reason for the way aspiration was treated.

Rather, I think it is suggestive how sensitive the whole idea of aspiration became for some of these men; it is not too much to say that it verged on the mystical. Consider the case of the American Samuel Wells Williams. Over the course of publishing his three dictionaries, his approach to it became more and more defensive, and one has the impression that he found the whole idea confusing. He ignored it in the body of his 1844 dictionary, while marking it in the indexes and syllabaries at the end. By 1856 he was urging readers to place special emphasis on learning aspirated initials, as though he himself found them difficult to distinguish from the unaspirated; he added that learning aspiration was as difficult as learning tones (S. Williams 1856: xxx-xxxii)! No one would seriously suggest this today. In 1874 he devoted a whole section of his Introduction to aspirated initials and said,
In some respects they [i.e., aspirates] are harder to learn than the tones, as the distinction is very delicate to our ears, and is more a matter of memory than of imitation. (S. Williams 1874:xxv; my italics: DPB.)

This is quite an exaggerated position. But compare Marshman, who as much as admitted that he could not get aspiration right without the help of Chinese sources:

It is necessary to observe, that much of this volume was printed off before I became acquainted with the System of Pronunciation laid down in the Imperial Dictionary. Hence I was of course compelled to spell by the ear; and those acquainted with Chinese can easily excuse the mistake should they observe an aspirate omitted, or unduly inserted, such mistakes being scarcely avoidable in every instance, while a person has no other guide than the ear. (1809: lxxiv)

Here is Wade again: “The full recognition of the aspirate’s value is of the last [i.e., highest] importance: the tones themselves are not of more” (1859:84). Wilhelm Lobscheid (fl.1848–1869) warned,

The aspirates are of as much importance in conveying our ideas intelligibly as the tones, and we cannot sufficiently impress the students of the Chinese language with the necessity of paying strict attention to them. (1866–69 Part I, Introduction, p.26)

And hear the caution in the voice of John MacIntyre (active 1879–1915), writing of Sino-Korean and eager not to tread on any toes:

Without touching the question whether the Chinese consonants are or are not, strictly speaking, aspirated, I spell with surd and sonant instead of aspirate and non-aspirate; but no one will be at a loss to see that my j is unaspirated c; my ch aspirated c, &c. (1879/80:36)

Here is the brash Edward Harper Parker (1849–1926), who affirms:

The fact that, even amongst Chinese scholars [i.e., Western scholars of Chinese] of reputation, men can be found who declare [...] the aspirates to be useless [...] is sufficient of itself to prove that the general knowledge of colloquial Chinese is as yet very superficial. (1878:20)

Chinese aspiration was obviously a touchy matter to the Protestant linguists. At one time there must have been serious disagreement about its true nature and its significance.

As I have said, it would have been natural to write English voiced stops for the Mandarin voiceless unaspirated series and leave the Mandarin voiceless aspirated series to the English aspirated series. I have found a few columns actually advocating this (Gulick 1870; Borealis 1874, 1875), but there must have been many other people who had the same idea. Wade, for instance, even notes (correctly, as we hear the Peking accent today) that unaspirated
initials often seem to become voiced in mid-phrase; he must have been tempted
to write voiced consonants for the unaspirated series. But it had been known
from Marshman’s day that medieval Chinese had had voiced obstruents, and
that these sounds did not exist in Mandarin. Varieties of true voiced obstruents
had been identified in Hokkien and Swatow (see Chinese Repository 1838:
484), and later in Shanghai (see Summers 1853 and Edkins 1853), and people
did not want to confuse these with the Mandarin unaspirated series. Marshman,
Williams, and Joseph Edkins (1823–1905) had all read Sir Williams Jones’
(1746–1794) famous article (1788) on orthography and were careful to show
that they knew the difference between voiced and voiceless obstruents as
well as their importance in Sanskrit.
The mystery of aspiration eventually subsided. John Gibson (1849–1919),
describing Swatow dialect at the end of the 19th century, threw cold water on
Williams and Wade, thus:
The ‘aspirates’ are often spoken of as if they were specially mysterious, and presented
a formidable difficulty in learning Chinese. There is really no very great difficulty
about them. The sounds exist in English, and only a little care is required in recognizing
them at the outset. They can then be acquired and remembered as readily as any of
the other initials. The real difficulty for many English speakers is not in the aspirates,
but […] in pronouncing the unaspirated k, p, and t. (1886: Introduction, p.13)
James Ingle (1867–1903), writing about the Hankow dialect, expressed a
similar view, when he gave this description of aspirated and unaspirated
initials:

<table>
<thead>
<tr>
<th>Initials</th>
<th>Pronunciation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch</td>
<td>as g</td>
<td>in gem</td>
</tr>
<tr>
<td>Ch'</td>
<td>as ch</td>
<td>in chat […]</td>
</tr>
<tr>
<td>K</td>
<td>as g</td>
<td>in go</td>
</tr>
<tr>
<td>K'</td>
<td>as k</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>as b</td>
<td></td>
</tr>
<tr>
<td>P'</td>
<td>as p […]</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>as d</td>
<td></td>
</tr>
<tr>
<td>T'</td>
<td>as t</td>
<td></td>
</tr>
<tr>
<td>Ts and Tsz</td>
<td>as dze</td>
<td>in adze</td>
</tr>
<tr>
<td>Ts' or Ts'z</td>
<td>as ts</td>
<td>in hats</td>
</tr>
</tbody>
</table>

[…] I am aware that in the pronunciations given above for Ch, K, P, T, Ts and Tsz, I
run counter to the opinions of many. In my own experience, however, I have been
unable to detect the border sounds (e.g. between g and k, b and p, d and t), though I
have sought them earnestly. And I am convinced that, if there be such a difference,
(and I am not prepared to deny positively that there is), it is yet safer for most of us
to err in the direction of a simple g, b or d, where there is no danger of confusion
with other sounds, than in trying to produce a subtle border-sound to fall unawares
into the corresponding aspirate. (Ingle 1899:iii)
As for the incidence of aspiration in Mandarin, it was Chinese sources that eventually helped the Protestants to assign it to the words where it belonged. Marshman and R. Morrison seem to have allowed the archaic *Kangshi Dictionary* to determine some of their readings for them (and indeed, some of the purely learned native character-readings in Mandarin may themselves be artefacts of the *Kangshi Dictionary*, see Chao 1976[1961]:75-76). Not until Williams eventually published his influential *Syllabic Dictionary* (S. Williams 1874), built on the native Mandarin rimebook *Wuufang Yuanin* 五方元音,² did a Protestant dictionary for Mandarin treat aspiration accurately (though various French, Latin, Portuguese, and Russian dictionaries, as noted above, continued the more accurate Catholic tradition). The *Wuufang Yuanin* distinguished aspirated from unaspirated initials correctly, and Williams followed the *Yuanin* closely. When Walter Henry Medhurst (1822–1885) wrote his Hokkien dictionary (1832–37), based directly on the Changchew *Shyrwuuin* 十五音, he had no trouble putting aspiration on the right syllables, whereas his Mandarin dictionary (1842a, based on Robert Morrison 1815–23) made an utter hash of its distribution. Williams’ *Tonic Dictionary* of Cantonese (S. Williams 1856), which used the framework of the *Fenyunn* 分韻, also aspirated correctly. Williams wrote:

> No dictionary or vocabulary has ever been published by native scholars in either the dialect spoken at Ningpo nor in the Tiéchú, (so far as can be ascertained), and the labor of ascertaining the pronunciation of those places is much greater to the foreigner than when he is assisted by such works as the Fan Wan [Fenyunn] and Sip-ngóu Im [Shyrwuuin]. (S. Williams 1856:xxxii)

Clearly, Chinese written sources were indispensible to the Protestants in their descriptive work.

3. *The beginnings of comparativism in Chinese*

By the mid-1870s, enough dialect dictionaries had been compiled that serious study of Chinese phonology on Western terms was possible. But what kind of study? The start of reconstruction of Chinese historical phonology is an intricate and engaging story in itself (see Pulleyblank 1995, Norman & Coblin 1995). Yet it is not generally appreciated that real comparative principles have almost never been applied to this work. Bernhard Karlgren (1889–1978) certainly did not apply them, and neither have most of his successors. That is, people like Karlgren have used comparative data in the phonetic reconstruction of *received* Chinese phonological categories, but at least for medieval Chinese

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² I have used Gwoyeu Romatzyh tonal spelling to romanize Mandarin, except in the cases of well-known proper nouns.
they have never established those categories independently. The phonological categories of medieval Chinese or of the common Chinese metasystem (as we would call it now) have never — even today — been established on purely comparative principles; they have always been taken from the native tradition.

A given syllable in any variety of Chinese is usually a whole morpheme and in premodern times would have been written with a single character. In the traditional phonology of the middle period (7th–12th centuries), this syllable-morpheme is analyzed into two component parts: a beginning and an end, an initial and a final. (In English it has become common to call a final a “rime”, which we spell in this archaic way following Karlgren.) The rime is almost always subclassified as to tone, so that tone category regularly constitutes a third component part of the syllable. These three elements are not ordinarily broken down into finer sub-elements, and although they can be subclassified in various ways, all subclassifications are secondary features, not the basic units of analysis. Initial, rime, and tone are whole categories, not limited to what we would call individual segmental elements; they can comprise two or more segmental elements, or even several alternating phonetic forms. But each of them is considered to be all of a piece and indivisible, not unlike what we now call phonemes — within the larger system they are contrastive by definition. Traditional phonology was in fact a formal system, and no later than the end of the middle period it had been put into neat tabular form. So-called ‘rime-tables’ became an important vehicle for phonological description, and circulated widely in many redactions.

Nineteenth century Western scholars did not have access to early rime tables — the ones they knew best were the two placed at the front of the great Imperial Dictionary promulgated by the Kangshi Emperor in 1716. These tables are of late date and we now know that they are useless for studying Chinese of the middle period, but they did allow Westerners to practice a surprisingly sophisticated form of dialect comparison. They never had to struggle to establish a comparative framework using empirical data — they simply borrowed the Chinese framework intact and filled in the data. There are of course advantages and disadvantages in this approach. In the case of the 19th century scholars, they gained from the native tradition a certain foretaste of the ideas of contrastiveness, phonematicity, and the diasystem, allowing them to do genuine systematic comparison while sparing them many frustrations. There is really nothing strange about this: it comes down to the fact that the Chinese writing system happens to be better suited to the use of exemplary categories than to fine phonetic analysis. Certainly the Chinese no
more anticipated the phoneme than Plato did. But they conferred a great advantage on Western linguists studying their system.

Today we think of comparative method as one of the jewels in the crown of Western learning, ranking with the Calculus and the statistical method of Gauss among the mighty quantitative methodologies of our civilization. But in the early days it was not a strict technique by any means. Furthermore, for most of the 19th-century in China, few if any Protestant linguists other than Joseph Edkins seem to have been knowledgeable about European linguistics — though Marshman (1814:90f.) and the authors of The Chinese Repository (1836c, 1843) made efforts to show that they were conversant with the orthographic ideas of Sir William Jones and phoneticians such as Sir John Herschel (1792–1871) and Charles Orpen (1791–1856). Until the work of Edward Harper Parker and Alfred Forke (1867–1944), comparativism in Chinese was practiced very haphazardly. Bernhard Karlgren may have been the first person who went to China prepared expressly with a kind of comparative program, and he did not arrive until the early 20th century.

It does appear certain that Western missionaries were the first to do systematic Chinese dialect comparison. This work began as late in history as it did in part, of course, because the Chinese lacked the techniques of phonetic description and comparative method. In addition, the Chinese linguistic tradition had always been almost entirely philological — it was concerned with how to read received classical texts (especially rhyming texts), how to read rare characters, how to manage the great wealth of canonical alternate readings for individual characters, and how to explain the graphic structures of characters. In the 18th and 19th centuries, native Chinese scholars made great progress in describing the phonological system underlying the native writing system (which is of pre-historic origin) and certain rhyming texts dating from high antiquity, but it was done almost entirely in the abstract, in terms of categories of sounds, not in terms of absolute sounds. Even native dialect dictionaries such as the Shyrwuuin or the Fenyunn described dialect readings not phonetically but in terms of relative categories of sound, and even represented them usually by more or less standard characters. And so, whereas in Europe it was a stunning breakthrough for Rasmus Rask (1787–1832) and Jacob Grimm

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3 Even Chyan Dahshin (錢大昕), who Benjamin Elman asserts (1984.220) was researching the “nature of sound production”, was actually no different from the other Manchu-era scholars in that he studied categories: in this case, categories of initials (shengley 声類, for some reason translated as “typologies of sounds” by Elman). His principal writings on this subject consist merely of long lists of examples showing that certain types of initials were not distinguished in high antiquity. This is a matter of contrastive categories, not phonetics.
(1785–1863) to be able to show a systematic relationship between words of different languages, in China the use of dumb characters of itself suggests relatedness — relatedness of words as well as relatedness of languages. You can write two words of the same meaning in different dialects with the same character, and even when there is no ‘genetic’ relationship between them, they look like one and the same morpheme. The native writing system masks virtually all local color. There was never any doubt about the basic affinity of the different varieties of Chinese — this was not even a question for Chinese scholars.

Primitive comparative tables that included Chinese had been showing up in European travelogues, as for example Sir John Barrow’s (1764–1848) parallel list of Chinese and Vietnamese words arranged by English meaning (1806:323-326). John Leyden (1775–1811) had observed a likeness between various Chinese words with Burmese, Thai, and Vietnamese forms of the same meanings, many of which are indeed similar to visual inspection, and assembled them into a table like Barrow’s (1808: 244, 273-276). These tables did not purport to demonstrate any sort of regular relationship between the languages: Barrow’s intention was that “an idea may be collected how far the two spoken languages resemble or differ from each other” (1806:322), and Leyden’s was to “convey some idea of their mutual relations and differences” (1808:272). (Note that Barrow’s ‘Chinese’ appears to be Mandarin, while Leyden seems to have used a form of Cantonese, which he called ‘Kong-Chinese’.) Barrow also printed a comparative table of the Peking and Cantonese names for the numerals:

<table>
<thead>
<tr>
<th>Pekin</th>
<th>Canton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ye</td>
<td>yat</td>
</tr>
<tr>
<td>2. ul</td>
<td>ye</td>
</tr>
<tr>
<td>3. san</td>
<td>saam</td>
</tr>
<tr>
<td>4. soo</td>
<td>see</td>
</tr>
<tr>
<td>5. ou</td>
<td>um</td>
</tr>
<tr>
<td>6. leu</td>
<td>lok</td>
</tr>
<tr>
<td>7. tchee</td>
<td>tsat</td>
</tr>
<tr>
<td>8. pas [!]</td>
<td>pat</td>
</tr>
<tr>
<td>9. tcheu</td>
<td>kow</td>
</tr>
<tr>
<td>10. shee</td>
<td>shap</td>
</tr>
</tbody>
</table>

Table 1: Barrow's comparison of numerals in Peking and Cantonese (1806[1804]:245)

He scoffed at the idea of applying to them the linguistic methods popular in the Europe of his day, “etymological tricks” which he named as “addition,
deduction, mutation, and transposition of letters, or even syllables”:

If then, in this highly civilized empire, the oral language of the northern part differs so widely from the southern, that, in numerous instances, by none of the etymological tricks can they be brought to bear any kind of analogy; if the very word which in Pekin implies the number one, be used in Canton to express two, how very absurd and ludicrous must those learned and laboured dissertations appear, that would assign an oriental origin to all our modern languages? (1806[1804]:245)

Simpler and subtler was John Marshman, who had noted the distinct similarity of most of the Chinese names of the numerals to the Thai and Tibetan forms (1809:xlii, lxv). I have reproduced Marshman’s comparison of Chinese-Thai in Table 2, together with the same comparison as cited by Leyden, in the different Cantonese romanizations used by the two men. Marshman’s are the earliest comparative tables I have found in print in English that clearly stress the idea of cognatehood between Chinese and another language (though some of the examples may be in fact be early Chinese loanwords).

<table>
<thead>
<tr>
<th></th>
<th>’T’hay’</th>
<th>’Kong-Chinese’</th>
<th>Siamese</th>
<th>Chinese</th>
</tr>
</thead>
<tbody>
<tr>
<td>“one”</td>
<td>nung</td>
<td>yutt</td>
<td>nung</td>
<td>yut</td>
</tr>
<tr>
<td>“two”</td>
<td>sông</td>
<td>ni</td>
<td>song</td>
<td>gnee</td>
</tr>
<tr>
<td>“three”</td>
<td>sâm</td>
<td>sam</td>
<td>sam</td>
<td>sam</td>
</tr>
<tr>
<td>“four”</td>
<td>si</td>
<td>si</td>
<td>see</td>
<td>see</td>
</tr>
<tr>
<td>“five”</td>
<td>ha</td>
<td>ūng</td>
<td>hâ</td>
<td>ong</td>
</tr>
<tr>
<td>“six”</td>
<td>hôk</td>
<td>lok</td>
<td>hok</td>
<td>lok</td>
</tr>
<tr>
<td>“seven”</td>
<td>chêt</td>
<td>chhat</td>
<td>chêt</td>
<td>chat</td>
</tr>
<tr>
<td>“eight”</td>
<td>pêt</td>
<td>pat</td>
<td>pat</td>
<td></td>
</tr>
<tr>
<td>“nine”</td>
<td>kâw</td>
<td>kow</td>
<td>kou</td>
<td>kou</td>
</tr>
<tr>
<td>“ten”</td>
<td>sip</td>
<td>sap</td>
<td>sip</td>
<td>sup</td>
</tr>
</tbody>
</table>

Table 2: Thai-Chinese comparisons (Leyden 1808:275; Marshman 1809 xlii)

More significantly, relying on the categories in the later of the two sets of Kangshi rime tables, Marshman also described some of the regular differences between Mandarin and Cantonese:

Relative to Provincial Variations, they will of course be many, and will in some instances differ widely from each other; as do indeed the dialects of the different counties in England. [...] The following are the principal things wherein it [the dialect of Canton] and the Mandarin pronunciation differ. Relative to the Initials, the first three characters of the two series of sibilants [listed in the later of the Kangshi rime tables] are pronounced in the province of Canton as though they were of the ch series; hence several words in the following work are spelled with ch which some others spell with ts; as chee instead of tsee, &c. It is curious however that they in this province affix sibilant sounds to the two remaining characters of
each sibilant series without hesitation. In the Finals the points of difference are more numerous. The chief are these following:

<table>
<thead>
<tr>
<th>Kya</th>
<th>they pronounce</th>
<th>ka</th>
<th>kan</th>
<th>kon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kang</td>
<td>kong</td>
<td>keu</td>
<td>kou</td>
<td></td>
</tr>
<tr>
<td>Kaou</td>
<td>kou</td>
<td>kwang</td>
<td>kwong</td>
<td></td>
</tr>
<tr>
<td>Kay</td>
<td>koi</td>
<td>kwan</td>
<td>koon</td>
<td></td>
</tr>
<tr>
<td>Kin</td>
<td>kun</td>
<td>kwee</td>
<td>qui</td>
<td></td>
</tr>
</tbody>
</table>

These are the principal points of difference in the Canton dialect ... (1809:lxxiii-lxxiv [n.b.: Marshman’s pagination starts again from lxv after lxxiv — here the first occurrence of pages lxxiii-lxxiv is meant])

Marshman, working in his mission compound in Serampore (he never reached China), seems only to have known about the Cantonese of Canton and Macao, and about Mandarin, and his guess that regional varieties of Chinese were as different as "the dialects of the different counties in England" has turned out to be rather short of the mark. Nevertheless this brief statement was a significant step ahead of the 'travelogue' form of comparison used by Barrow and Leyden, which merely juxtaposed vaguely similar forms or unrelated forms of the same meaning. For all that Marshman described Cantonese naively in terms of Mandarin, he did so nevertheless in terms of its regular correspondences with an extrinsic phonological system, in this case the system of the second set of Kangshi rime tables (which indeed turns out to have been based on Mandarin in the first place). The forms kya, kang, kaou, etc. that he cites in the left-hand columns are not individual words, but the Mandarin names of entire categories of rimes from the rime tables. His kya comprises a whole group of morpheme-syllables with the final /ia/ in Mandarin and final /a/ in Cantonese. His table is no less than a statement about systematic correspondences between phonological categories.

Marshman’s work is not a challenge to the priority of Rask and Grimm in identifying correspondences between related languages, for the reasons that it had no historical component, nor any concept of laws of sound change or of internal phonological causation. Marshman simply took the received rime categories, in their Mandarin clothing, as givens and wrote down their Cantonese correspondents. This is a natural thing for anyone to do after coming in contact with both Mandarin and Cantonese. Sir John Barrow, for example, made his list of the numerals after getting a hold of Mandarin and Cantonese glossaries, and Robert Morrison drew up a much fuller but still primitive comparative table showing common Mandarin equivalents for a long list of Cantonese syllables, innocently offering "to assist to find words in this dictionary by the Canton dialect" (1815–23 Part II, Vol I [1819]:xv-xvii; see also
Klaproth [1823: 367-379] and the short table in S. Williams 1856:x). As I have said above, for Chinese (as well as for Westerners who had never heard of Rask and Grimm) there was never any question about the basic systematic affinity of the different varieties of Chinese. Marshman happened to have rime tables, which Barrow lacked, as well as tools for phonetic description, which the Chinese never had. He made the first attested statement about systematic phonetic correspondences between Chinese dialects, but did so, paradoxically, not as the result of any intellectual step forward.

Marshman's later book elaborated somewhat on these correspondences. He now listed finals whose Mandarin and Cantonese values were the same, and then gave a fuller table of those that differed (see Table 3).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>wun is pronounced</td>
<td>mun</td>
<td>kou is pronounced</td>
<td>kyeu</td>
</tr>
<tr>
<td>ngai</td>
<td>oi</td>
<td>kai</td>
<td>koi</td>
</tr>
<tr>
<td>kya</td>
<td>ka</td>
<td>kyai</td>
<td>kai</td>
</tr>
<tr>
<td>kyeh</td>
<td>kit</td>
<td>kin</td>
<td>kum</td>
</tr>
<tr>
<td>kang</td>
<td>kong</td>
<td>kyoon</td>
<td>kwun</td>
</tr>
<tr>
<td>kyang</td>
<td>kong</td>
<td>kan</td>
<td>kon</td>
</tr>
<tr>
<td>kwang</td>
<td>kwong</td>
<td>kyen</td>
<td>kin</td>
</tr>
<tr>
<td>king</td>
<td>keng</td>
<td>kuen</td>
<td>koon</td>
</tr>
<tr>
<td>kao</td>
<td>kyao</td>
<td>kyeu</td>
<td>kou</td>
</tr>
</tbody>
</table>

Table 3: Mandarin and Cantonese rime categories (Marshman 1814:179)

He continued:

These instances comprize [sic] nearly all the points of difference; but though easily enumerated, they apply to so many of the monosyllables, that the dialect itself differs widely from the general system [i.e., the Mandarin rime tables].

From these, however, an idea can be easily formed of the nature of Provincialisms in China: in some instances certain of the initial sounds are used as finals, as k, t, p and m; in others one vowel or diphthong is exchanged for another, as a for o, and ao for ou; but scarcely any new sound is added to the system already detailed. Yet although certain final sounds are added in the provincial dialects, the system is not on the whole a gainer. In that of Canton the change of a for o, and the almost general omission of the interjected y, nearly annihilate several finals, and contract the system much more than the added finals enlarge it; to which the loss of the initial w contributes not a little. In variety therefore, this dialect is still exceeded by the original system. (Marshman 1814:179-181)

We no longer agree that "the system [...] is not a gainer" when Cantonese distinctions are added, because today we have a far more sophisticated notion of what a linguistic system is. But Marshman is the first Westerner to recognize
that Mandarin and Cantonese do indeed belong to a single system — which as he conceived it was, at its grandest, the received formal Chinese phonological system, borrowed to serve as a metasystem embracing the many varieties of Chinese. From Marshman’s time until the present day, this system has been used widely, almost universally, as the basis of dialect comparison and historical reconstruction.

4. **Comparativism and the romanization movement**

The comparativism practiced on Chinese by Westerners even after Marshman and Morrison was hardly rigorous by our standards. We can see today that early efforts involved really the comparison of orthography rather than the comparison of sounds, and this is not an obvious distinction to someone who does not know about modern phonetics. Rask’s seminal work in comparative philology, for instance, is clearly based on orthography (1993:181). Marshman’s statement just quoted, about the system 'not being a gainer' when Cantonese distinctions are compared with Mandarin, apparently meant that no letters are needed to transcribe Cantonese that are not already needed for Mandarin.

In a general way, however, the comparative principle was well known to the Westerners in China. Certainly the idea of comparing words in different languages had been in the intellectual air of the West since the late 18th century, and it was natural that the Protestant missionaries in China should have begun practicing comparativism from the first. Chinese is superbly suited to the comparative method, incidentally, even without the use of rime table phonology, because the morpheme is usually a single syllable of simple and predictable structure. And since so much descriptive work was done based on the writing system, the conceptual distance from one dialect to another by way of the Chinese script was short. As Samuel Wells Williams wrote:

> The variations between the court and Canton dialects, in the pronunciation of the great body of characters, are so regular as to enable one to guess with a tolerable degree of certainty, what their sounds are in the other ... (1856:x)

It is significant that most early Protestants lived in linguistically cantonized southern China, so that they were constantly aware of the differences between local speech and the court language used (with immense variation) by officials everywhere. And a number of the early workers — Robert Morrison, Medhurst, Edkins, Samuel Wells Williams, and even Herbert Giles (1845–1935) — each produced studies of two different varieties of Chinese, one of Mandarin and one of dialect (Williams worked on a third, as he was the original compiler of what became Duffus’ 1883 Swatow dictionary). Moreover, merely writing
Chinese in Roman letters must have made Westerners sensitive to dialect differences from the beginning.

But it was more than sensitivity and the intellectual air of the day that prompted comparative work after Marshman — it was the missionary call itself. In 1835 Nathan Brown (1807–1888) began calling for the gathering of comparative material for “all the languages between India and China” (Brown 1837:1023), “until we succeed in obtaining the means of making an accurate comparison of all the different languages and dialects which are spoken in the Indo-Chinese peninsula” (1836[1835]:72).

Although this was clearly a linguistic program, Brown also had a strategic missionary aim, with China as its eventual target (ibid.):

We may expect ere long to see a missionary station fixed in the Shán country, which will at once form a central point of communication between all the Indo-Chinese missions, and furnish a new and important opening for the evangelization of the great Chinese empire.

His call included a suggested phonetic alphabet and advice about diacritics and tone marks. It brought responses from “several literary gentlemen”, including the spy and some-time China missionary Karl Gützlaff (1803–1851), leading to Brown’s 1837 article, which however did not contain Chinese material.

Brown’s call seems to have set fire to the China missionaries Elijah Coleman Bridgman (1801–1861) and Samuel Wells Williams. Their Chinese Repository immediately began printing a series of unsigned articles arguing for the adoption of Roman letters to write Chinese, and attempting to set a standard for the principles of Chinese romanization (1835, 1836a-c, 1838, 1842). Later, Williams expressed some doubts about the possibility of eliminating the native script (for this absorbing story see de Francis 1948, also 1950:14-28 and f.). But in the mean time he and Bridgman had launched a movement for universal Chinese orthography with ineluctable comparativist components.

Although the Repository’s spelling system went through several versions and was eventually discarded, it has been influential in the history of descriptive studies of Chinese. It promoted several orthographic practices that remained in widespread use for a century or more as a result. Among these is use of the Greek hard breathing mark (') to show aspiration, in order to prevent the accidental formation of English digraphs such as ph or th, if h were used (1838:481; cf. Callery 1841:72). The Repository also advocated the use of final h to mark the undifferentiated ruosheng tone category (1838:482; pho-
netically this is usually a glottal stop). These conventions were already a common feature of early Protestant romanizations including Marshman (1809, 1814), R. Morrison (1815–23), and Medhurst (1832–37), and the Greek hard breathing mark certainly originated in Catholic material, but advocacy by the Chinese Repository undoubtedly had a great effect on making both them nearly standard in Protestant usage.

One of the lasting orthographic achievements of Bridgman and Williams was the development of a single set of tone marks that could be used in the transcription of any Chinese dialect. These “corner tone marks” are a fine example of a distinctively Western transformation of a Chinese concept; they were based on the handwritten circles, arcs, and other marks used by Chinese teachers to indicate tonally variant readings of a single character (pohintzyh 破音字). Chinese characters are normally formed as though inside an invisible square, and in this system each corner is made to correspond to one of the canonical Chinese tone categories: The lower left corner is the pyng 平 tone, the upper left the shaang 上, the upper right the chiuh 去, and the lower right the ruh 八. The act of writing these symbols, and by extension these symbols themselves, were called huahpoh 劃破 “distinguishing variants” or chiuanpoh 圖破 “marking variants with a circle”. They were part of the arsenal of the private tutor in traditional times, who had to force young boys to memorize ancient texts full of strange words. For instance, the character 語 might be read yeu ([y] in the shaang tone) “language; to speak”, or yuh ([y] in the chiuh tone) “to inform, tell”; these readings could be distinguished by the teacher’s pen by means of huahpoh:

```
°語 yeu ([y] in the shaang tone)
語° yuh ([y] in the chiuh tone)
```

This was a Chinese tradition dating from who knows when (cf. the diagram in the Imperial Dictionary, “Deengyunn 等韻”:4b, though the principle must be older than 1716). These huahpoh symbols were always written by hand, and not traditionally printed in Chinese books, though they had already appeared in print in Western books — see, for instance, the 1833 dictionary of Joaquim Gonçalves (1780/81–1841) — and their use in romanization had been suggested in the Chinese Repository in 1838 (485-486).

In 1841 Bridgman’s Chrestomathy introduced the new tonal system, which was formally promoted as part of the new orthography the next year (Chinese Repository 1842:44). This system had a clear comparative element: Tones were not to be recorded in phonetic form, but as whole diastylem categories. It was recognized that while individual varieties of Chinese might have as
few as four or five tones (and we now know of varieties with only two!), the *common* tonal system of Chinese had eight categories, embracing upper and lower ‘series’ or registers of the four canonical tone categories. These eight comparative categories were assigned eight individual corner marks. As illustrated in Table 4, upper register tones were to be marked with a semicircle, whose open side faced the Roman letters, to which an underline was to be added for lower register tones.

<table>
<thead>
<tr>
<th>1st series, upper register</th>
<th>2nd series, lower register</th>
</tr>
</thead>
<tbody>
<tr>
<td>pyng</td>
<td>shaang</td>
</tr>
<tr>
<td>p&lt;sup&gt;+&lt;/sup&gt;</td>
<td>ʃ&lt;sup&gt;+&lt;/sup&gt;</td>
</tr>
<tr>
<td>e&lt;sup&gt;r&lt;/sup&gt;sin</td>
<td>e&lt;sup&gt;r&lt;/sup&gt;sin</td>
</tr>
<tr>
<td>1st series, upper register</td>
<td>2nd series, lower register</td>
</tr>
<tr>
<td>pyng</td>
<td>shaang</td>
</tr>
<tr>
<td>p&lt;sub&gt;a&lt;/sub&gt;</td>
<td>pa&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>p&lt;sub&gt;a&lt;/sub&gt;</td>
<td>pa&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Table 4: The Chinese Repository's corner tone marks (1842:44)

The corner tone marks have been one of the most successful if unacknowledged legacies of Bridgman and Williams. They have been taken in by the Chinese linguistic establishment as an integral part of the semi-official Chinese version of the International Phonetic Alphabet, and appear in many Chinese dialect publications. It seems likely that virtually all modern linguists of Chinese who use them do so believing them to be traditional Chinese symbols, without realizing their missionary origin. Incidentally, they must have been the model for the tone marks used in the phonetic alphabet of Richard Lepsius (1810–1884); compare Tables 4 and 5.  

<table>
<thead>
<tr>
<th>1st series, upper register</th>
<th>2nd series, lower register</th>
</tr>
</thead>
<tbody>
<tr>
<td>pyng</td>
<td>shaang</td>
</tr>
<tr>
<td>p&lt;sub&gt;a&lt;/sub&gt;</td>
<td>pa&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>p&lt;sub&gt;a&lt;/sub&gt;</td>
<td>pa&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Table 5: Lepsius's corner tone marks (1863:235 Hok-lo; cf. 232-243).

Williams's own comparative tables were governed by his interest in universal Chinese orthography, a subject that must be left for another essay. He  

---

4 Lepsius's alphabet, by the way, was the favorite of Rudolf Lechler (1824–1908) of the Basel Missionary Society. So deeply did English spelling conventions eventually take hold in missionary Chinese that Lechler came in for withering scorn from James Summers (1828–1891) for using the Lepsius symbols at all (Summers 1863:117-118). (Summers himself used an orthographic system very different from that of the old *Chinese Repository*.) The only published linguistic work of Lechler's that I have seen is the Hakka syllabary in the Lepsius alphabet (Lechler 1866) that he contributed to Lobscheid's great dictionary. The Basel mission in eastern Kwangtung province was the first Protestant mission in Hakka territory, but Hakka, perhaps because it was not the native language of any of the early Treaty ports, remained poorly described in print until Schaank's 1897 book. Lechler's Hakka dictionary, when it was eventually published (as MacIver 1905), was recast in English-like orthography, not in Lepsius'.
Chinese had their own biases, often graphic or textual. But as I have mentioned above, native dialect rime tables were also the key that eventually resolved the problem of aspiration in dictionaries of Mandarin. Protestant dictionaries of Cantonese and Hokkien had no such problem — they were based on Chinese works from the first and put aspiration where it belonged.

Western scholars evidently had much less exposure to the ideas of Chinese linguists than to dictionaries. There were a few exceptions. Edkins was unquestionably the best read of the early Protestant workers; he cites numerous Chinese sources and even Chyan Dahshin 錢大昕 (1728–1804; see Edkins 1864[1857]:33f., esp. 92). Chalmers (1875–81:297) knew of the work of Ju Jiunnsheng 朱俊聲 (1788–1858).5 Volpicelli (1856–1932) and Schaank (1861–1935) quote an interesting passage from Jiang Yeong 江永 (1681–1762) in support of their respective theories, though it is not evident that they knew the body of his work (Volpicelli 1896:36; Schaank 1897:31-32).

And certainly all Westerners who made progress in Chinese did so through the help of native teachers and amanuenses, who were often acknowledged in prefaces and introductions, sometimes even by name. By far the most interesting case of contact was that between Joseph Edkins and a man from Hunan whose name I have not been able to discover. Edkins writes:

The sounds given as Old sounds at the head of each syllable in [Williams’ Syllabic Dictionary] were ascertained [i.e., verified] by a skilled native, who compared each character under that syllable, one by one with the Kwang Yun [i.e., Goangyunn]. . . (1874:30)

I suppose the same colleague is referred to here:

I have recently brought my own views before a native scholar well skilled in this branch of study and also acquainted with English. He fully accepts the view that m final has changed to n, and that the finals k, t, p, have all been dropped. He also admits the opinion that g, d, b, j, z, dj, as initials existed in the T’ang dynasty and were afterwards changed to the corresponding surds, k, t, p, etc. He allows that this is the true key to the problem of the ancient pronunciation. For this belief he is well prepared because in his own dialect near Ch’ang-sha in Hu-nan these old initials are very well preserved. [...]

My friend in learning English was delighted to find in our letter Th a letter which he thinks can be used to explain the first ch group in the 36 initials. This he prefers to the view held by other native scholars holding that this ch has come from t. I represented to him that the English th is entirely without example in the cognate languages, or in the modern dialects of China. But in vain. He prefers to retain this

5 Not only Chalmers but Callery and Soothill were fascinated with the phonetic elements (shyesheng infvù 諸生音符) and tried to use them as a tool for learning Chinese systematically. Serious interest in this teaching method seems to have died out in the 20th century.
as a special doctrine of his own in regard to the ancient Chinese pronunciation.\(^{6}\)

He would not have become so readily a believer in my theory of the old pronunciation, but for the following circumstances, — 1. That he was well acquainted with the literature of the subject and has been familiar with it for many years; 2. That he has been in a region where the sonant initials are still used; 3. That he consulted the late Mr. [William Frederick] Mayers [(1831-1878)] who gave him the same advice that I had done in regard to the application of English letters to represent Chinese sounds, viz. that \( t \) for instance should be made the standard and \( t' \) and \( d \) its modifications. (1878/79:74)

Edkins himself, I should note, was clearly the author of his own work, and his unnamed friend was a colleague, rather than a collaborator.

6. Conclusion

Aside from rare cases like these, 19th-century Westerners seem to have kept their ideas about received Chinese phonology to themselves. Sinological books by these men often had Chinese titles, and sometimes alternate title pages done entirely in Chinese even when printed in Paris or Leipzig or Edinburgh, but for most Western linguists this seems to have been the whole extent of their attempts to take part in scholarly exchange with native intellectuals. Although they lived in China and studied Chinese with Chinese teachers, they read and quoted the writings principally of other Westerners and presented their ideas in the main to other Westerners. The struggle to understand the phonetics underlying received Chinese historical phonology was almost exclusively a Western game.\(^{7}\)

But at the same time, these men always relied on the Chinese system, which has continued to be the scaffold on which have hung Western efforts in Chinese phonology almost without exception down to the present day. The Protestants based their dialect dictionaries on it and many of them were unable to hear aspiration correctly without consulting it. It served as a matter

6 Edkins' claim that Chinese lacks the \([\theta] \) sound is not strictly true. Certain dialects, for instance those spoken in the county seat of Luoyuan 聯源 County in eastern Fukien Province and parts of Youshi 尤溪 County in central Fukien, do contain an initial \([\theta] \) sound, corresponding to \([s] \) in many neighboring dialects, including that of Foochow. The same initial category is articulated as \([\lambda] \) in dialects spoken further south, in Pwutyan 蒲田 County. The initial categories Edkins is talking about are classified by the rime tables as dental stops but are articulated in most dialects as sibilant affricates. Miin dialects tend to articulate them as dental stops. They are now usually reconstructed as retroflex and palatalized dental stops.

7 Though not entirely so. Ōgawa Naoyoshi 小川尚義, a colonial administrator in Japanese Formosa, used the 12th century Yunnjing as the framework for reconstruction and dialect comparison, and did so before Karlsgren's time. An appreciation of his work, and of his place in the history of linguistics, has been published by Áng Uii-jîn (1994).
wrote, "The object aimed at, and it is one of great importance, is to have but one system of orthography for all the dialects" (Chinese Repository 1842: 28n; emphasis in the original). He presented his spelling system by listing character readings for several dialects in parallel: beginning with Mandarin (evidently based on the speech of Nanking), Cantonese, and Hokkien in Chinese Repository 1842, adding Ningpo and Tiechew two years later (S. Williams 1844: viii-xxv), and finally adding Peking, Hankow, Shanghai, and Foochow (1874: xxxvi-xli; cf. pp.1155-1239). These tables did not follow the rime table categories, however, as their purpose was to illustrate the uses of the phonetic alphabet promoted in the Chinese Repository. Williams clearly felt that this work would lead to a meaningful comparative result, for he wrote:

It is thought that the brief lists of isolated sounds in these two dialects [Ningpo and Tiechew, for which no native sources were known] will assist in further reducing them to a system, which may be done by first collecting all the finals in series according to the tones, as is done in Medhurst's Hokkien Dictionary, page lvi., and then adding the several initials. Every dialect in the empire, and every local variation from each, can probably, by this method be reduced to its proper place, and thus a perfect knowledge of all the dialects in the empire, with their variations and peculiar sounds be gradually acquired. (S. Williams 1856: xxxii)

Williams' work was continued by Edward Harper Parker, who appended comparative tables of universal Chinese dialect orthography to his series of dialect syllabaries (1874/75, 1879/80a and b, 1880/81a and b, 1882/83; the final version of this table appears in his 1892: xxxviii, xliv-xlvi). As much as Williams was interested in serious comparative issues, orthography still dominated his work.

<table>
<thead>
<tr>
<th>Tones</th>
<th>Soochow</th>
<th>Shanghai</th>
<th>Ningpo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First, 上平</td>
<td>u, q, f,</td>
<td>u, q, f,</td>
<td>u, q, f,</td>
</tr>
<tr>
<td>Second, 上上</td>
<td>u, e,</td>
<td>u, e,</td>
<td>u, s, r,</td>
</tr>
<tr>
<td>Third, 上去</td>
<td>u, s, r,</td>
<td>u, q, r,</td>
<td>u, e,</td>
</tr>
<tr>
<td>Fourth, 上入</td>
<td>u, sh,</td>
<td>u, sh,</td>
<td>u, sh,</td>
</tr>
<tr>
<td>Lower Series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First, 下平</td>
<td>l, q, r,</td>
<td>l, e,</td>
<td>l, s, c, q, f,</td>
</tr>
<tr>
<td>Second, 下上</td>
<td>l, q, f,</td>
<td>l, s, r,</td>
<td>l, s, r,</td>
</tr>
<tr>
<td>Third, 下去</td>
<td>l, s, r,</td>
<td>l, q, r,</td>
<td>l, s, r, or e,</td>
</tr>
<tr>
<td>Fourth, 下入</td>
<td>l, sh,</td>
<td>l, sh,</td>
<td>l, sh,</td>
</tr>
</tbody>
</table>

Key: u, upper. l, lower. r, rising. f, falling. q, quick. s, slow. e, even. c, circumflex. sh, short.

Table 6: "Tones in Several Dialects" (Edkins 1868[1853]:11)
Real comparative tables of tonal values appeared in Edkins' Shanghai grammar (1868[1853]:11-12), and Parker's dialect syllabaries usually also appended similar tables following Edkins' format. Edkins and Parker, working in the days before Chao's system for representing tonal phonetics quantitatively (Chao 1930), had to use far more impressionistic means to describe and compare tone contours; see Table 6 for an example. But it is notable that they never felt tempted to do without the received Chinese tonal categories in their work. The received Chinese initial categories were first made the basis of true comparative study by Georg von der Gabelentz (1840–1893), who presented tables of segmental values for ten dialects, arranged in part in terms of medieval categories (1881:36-40; this material was apparently culled largely from Williams' last set of tables, S. Williams 1874:xxxvi-xli). Similar work was published by Parker in 1883 based on his own dialect surveys. Finally, at the end of the century, Alfred Forke published the most solid comparative study up to that time (1894/95), and in the 20th century there began the far more sophisticated work of Maspero and Karlgren.

5. Western knowledge of the Chinese phonological system

In both descriptive and comparative work, Protestant scholars of the early nineteenth century clearly benefited from contact with the Chinese native tradition. How much did they actually know about native Chinese linguistics? Certainly they knew about rime tables and dialect rime books. They knew that tones were best marked as categories, and people like Edkins and John Chalmers (1825–1899) even put the Chinese system into rough phonetic garb. But on the whole, although they were interested in Chinese written sources, they seem not to have taken part in much scholarly exchange with Chinese linguists — at least, I can find only the meagrest references to such exchange in their published writings and letters. The source by far best known to them was the Imperial Dictionary. Of the Goangyunn 廣韻, Edkins, at least, notes that it is "recently reprinted, and is readily to be obtained" (1874: xxx). The Peywen Yunnfuu 佩文韻府, Tzyhhuey 字彙, and other literary rime books were familiar to any number of scholars (e.g., Edkins 1864[1857]:33 f., Chalmers 1873/74, Parker 1877/78:391-392, etc.).

Westerners writing dialect-to-English dictionaries often copied the phonological system and much vocabulary from native dialect rime books. The 'tonic' arrangements common in 19th century dictionaries were done in imitation of Chinese dialect rimebooks ('tonic' meaning that each combination of initial-plus-final was listed once and its sub-entries were classified by tone). Following Chinese sources sometimes led to gross inaccuracies, for the
of course and without question as framework for dialect comparison. The design of systematic Roman-letter orthography borrowed ideas from it. Heaviest of all is the debt of the field of historical reconstruction, but the telling of that story must wait for another paper. All in all, the truth is that although 19th century Western scholars made little effort to share their insights with native scholars, they never relied entirely on Western ideas in their work in Chinese phonology. China’s native phonological tradition, learned from India in medieval times through the intermediary of Buddhism, has always been made a part of Western scholarship on Chinese phonology, like an unvarying line of modal Asiatic plainsong over which Western harmonies have been built.

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**SUMMARY**

When 19th-century Westerners first began applying modern methods to Chinese linguistics, they were heavily influenced by Chinese phonological traditions. This influence is apparent in a number of their methodological decisions. For instance, they do not seem to have resolved their difficulties distinguishing plain from aspirated obstruents until they copied Chinese sources. Their work in comparative dialectology was almost always dominated by the Chinese rime-table tradition. Even the systems of universal orthography they developed for Chinese incorporated traditional Chinese tonal symbols. Yet these Western sinologists seem to have made little attempt to communicate their own work to Chinese scholars in a formal way; though they were influenced by Chinese ideas, they published their work in the main for other Westerners, with the result that their new synthesis did not directly influence native Chinese linguistics.

**RÉSUMÉ**

Quand les Occidentaux du XIXe siècle commencèrent à appliquer des méthodes modernes à la linguistique chinoise, ils furent fortement influencés par les traditions phonologiques chinoises. Cette influence apparaît dans plusieurs de leurs décisions méthodologiques. Par exemple, ils ne semblaient pas être arrivés à distinguer les obstruents simples des aspirées avant d’avoir copié les symbols tonaux chinoises. Leur travail en dialectologie comparée a presque toujours été dominé par la tradition chinoise de la table de rime.
Même les systèmes d’orthographe universelle qu’ils développèrent pour le chinois incorporaient des idées chinoises traditionnelles. Pourtant ces sinologues occidentaux semblent s’être peu souciés de communiquer leurs travaux aux savants chinois d’une manière explicite; bien qu’ils eussent été influencés par les idées chinoises, ils rédigèrent leurs travaux surtout pour d’autres Occidentaux. Le résultat fut que leur nouvelle synthèse n’a jamais influencé directement la linguistique chinoise indigène.

ZUSAMMENFASSUNG


摘要

十九世紀的西方人始把當代的西方語言學方法用於中國語言研究，中國土生的聲韻傳統給他們重大的啓發。此啓發出現於其所選用的幾種技術，例如：聲母的送氣不送氣有人辨不清楚，抄華人所編的方言字書以後才得準確；中國方言的比較工作是西方人的創作，但始終以中國等韻學為綱；西方傳教士所發明的“諸地方言共同拼音”系統亦借用華人私塾的傳統“標圈”符號。不過此時代的西方漢學家並未將其新發現傳給華人的聲韻學家。雖然受聲韻學的影響，但西方人所編的字書與在中國語言學方面所撰的論文，大致上是為自己人寫的。結果其綜論對當時的華人的聲韻學家沒有直接的影響。
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