A Handbook of 'PHAGS-PA CHINESE

W. South Coblin

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In Memory of

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Preface

During the compilation of this work I have received help and encouragement from many friends and colleagues. Particularly notable among these are David P. Branner, Victor Mair, Jerry L. Norman, and Axel Schuessler. I am also grateful to an anonymous reviewer for a number of suggestions and corrections. I am of course responsible for all remaining errors and weaknesses.

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Abbreviations

BJX	Báijiāxìng 百家姓
GH	Guānhuà 官話
Inscr	Inscriptions
JY	Jūnast and Yang (1987)
LC	Luó and Cài (1959)
LR	Left Readings of Sin Sukchu
MGZY	*Měnggǔ zìyùn* 蒙古字韻
PR	Popular Readings of Sin Sukchu
QYS	*Qièyùn* 切韻 System
RR	Right Readings of Ch'we Sejin
SR	Standard Readings of Sin Sukchu
Su	Sutras

Introduction

China is blessed with one of the oldest continuously used writing systems in the world. But this unique script has been the bane of historical phonologists, because it is logographic rather than alphabetic. Due to this peculiarity, the script effectively conceals from phonologists the pronunciations that underlie it. This is not to say that there is no field of Chinese historical phonology. Quite to the contrary, there has been such a field for well over a century. But it is a curious and often vexatious discipline. To pursue it certain complex and idiosyncratic textual materials, such as fǎnqiè 反切 collectanea, rime tables, versified texts, and sets of structurally related logographs, are juxtaposed, shuffled, and manipulated to construct abstract systems, whose phonetic reality is then postulated using formalized sets of assumptions and procedures. The products of these procedures are conventionally called "reconstructions," and they often differ considerably from one investigator to another. The result is that for any given period in the history of Chinese one may find a perplexingly broad choice of these "systems," all arising out of the same corpora of data. The fact that these systems are called "reconstructions" is in a sense potentially misleading. For the procedures underlying them are for the most part rather different from those applied by historical linguists who use the classical comparative method and the method of internal reconstruction to study the sound systems of earlier languages. In fact, the sinological approach probably has more in common with the techniques of textual analysis and phonetic interpretation familiar to students of ancient written languages like Latin, Greek, Old English, etc. The difference is of course that these languages are written alphabetically and the interpretation of their writing systems is simpler by many orders of magnitude than what is done in Chinese. This may in good part account for the existence of the multiple systems in the Chinese field. To wit, it may be that the available data simply cannot bear the weight sinologists place upon them. Put another way, while it may indeed be feasible to learn significant things about earlier Chinese phonology from the written sources in question, it may not be possible to reconstitute entire sound systems on that basis. In any case, it seems clear that the field of Chinese historical phonology as it is practiced today is so peculiar and exacting that it lies essentially beyond the reach both of sinologists who have not received specialized training in it and of the broad range of historical linguists who might wish to familiarize themselves with it. One may, if one wishes, consult handbooks and learn anything

from a bit to a great deal about English, French, German, or Spanish historical phonology. But pre-modern Chinese phonology remains for most non-specialist readers a closed book.

Interestingly, however, besides the abovementioned logographic sources, there exists for certain varieties of standard Chinese a corpus of systematic alphabetic records, commencing in the thirteenth century and continuing to the present day. (We exclude here the sizable corpus of Tibetan, Uyghur, and other transcriptional materials of Táng times, since these do not employ systematic orthographic systems.) This alphabetic material begins in 1269 with Chinese recorded in the 'Phags-pa alphabet. Then, from the mid-1400s, we have Korean transcriptions written in a specially modified version of the Han'gûl alphabet. These materials record both a reading pronunciation and a spoken pronunciation for the southern sound system (i.e., the so-called Nányīn) 南音 of the Míng 明/Qīng 清 koine, known in traditional times as Guānhuà 官話. Alphabetic materials for this same southern-based Guānhuà pronunciation resume in the late sixteenth century in the orthographies developed by Western missionaries and continue until the demise of the Nányīn in the nineteenth century. Starting in the sixteenth century we also have Korean records for the northern pronunciation (i.e., Běiyīn 北音) of the Guānhuà koine. And in the seventeenth and eighteenth centuries there are records of this type of speech in Manchu orthography. And again in the eighteenth century there are Western (mainly French) records of this type of speech. Then, in the nineteenth century we find a wide range of Western sources on the Běiyīn, which ultimately feed directly into twentieth-century recordings of Guóyǔ 國語/Pǔtōnghuà 普通話. It seems clear that this rich corpus of orthographic material, covering a span of over seven centuries, can and should form the basis of an alphabetically based history of standard Chinese pronunciation. For the period in question, at least, Chinese historical phonology can be described with the same rigor, clarity, and precision found in handbooks treating alphabetically recorded languages in other parts of the world.

A history of the sort envisaged here should begin with the type of Chinese recorded in 'Phags-pa script. But with this there are a number of problems. For the 'Phags-pa sources have hitherto been difficult both of access and interpretation. They can be obtained, to be sure; but finding them requires considerable effort and an active familiarity with the field of 'Phags-pa studies. And once they have been acquired, there remains the question of how to locate things in them and how then to read and construe what one has found. The result is that 'Phags-pa data have seldom

been taken into consideration by Chinese historical phonologists who were not themselves 'Phags-pa specialists. And, when such data have been cited by those specialists, they have been viewed warily by other linguists, for the quite understandable reason that these readers have had no way to assess for themselves the cited material. To overcome these obstacles, what is needed today is a source book which introduces the 'Phags-pa data in an easily understandable and accessible form. Such a work would allow all concerned readers to find what interests them and analyze it for themselves. The present handbook is intended as a reference source of this kind.

The work consists of two main parts, an introductory section comprising four chapters, and a glossary of 'Phags-pa Chinese forms and their corresponding Chinese characters, together with pīnyīn and stroke order indexes to those characters. The first introductory chapter outlines the invention of the 'Phags-pa Chinese writing system, summarizes the major types of material preserved in it, and describes the historical and linguistic contexts in which its invention occurred. The second chapter is a brief history of 'Phags-pa studies. The third chapter deals specifically with the alphabet and its interpretation. The fourth and final chapter describes certain salient features of the underlying sound system represented by the script and compares it with those of various later forms of Chinese which have been recorded in alphabetic sources. The field of 'Phags-pa studies has justifiably been considered a complex and even arcane one. It is our hope that the present work will enable all readers to gain control of the 'Phags-pa material and use it to the fullest in their own research on the history of the Chinese language.

I

The 'Phags-pa Chinese Script

Its Invention, Textual Attestation, and Historical Background

1.1 The Invention of the Script

The 'Phags-pa script is named for its creator, the 'Phags-pa (lit., "excellent, glorious") Lama, a Tibetan who was active in the court of the Mongol emperor Qubilai (i.e., Kublai Khan, Yuán Shìzǔ 元世祖, 1215-1294). The full name of the 'Phags-pa Lama (which epithet is actually a title rather than a name) was 'Gro-mgon 'Phags-pa Blo-gros rgyal-mtshan. There exists a surprisingly large corpus of biographical information on him in Chinese, Tibetan, and Mongolian sources. A discussion of these, with a digest of their contents and a comprehensive list of translations and related studies, is given by Nakano (1971: 24-41). For a very detailed recent study of the Tibetan bibliographical sources, see Wáng Qǐlóng (2001). The lama was born in Tibet in either 1235 or 1239, a scion of the noble Sa-skya clan. As a young man he accompanied his uncle, Sa-skya paṇḍita, on a trip to Mongolia, where he remained after his uncle's death. In 1253 he was summoned by Prince Qubilai, who received him in audience and was much impressed by him.[1] From that point on he became a member of Qubilai's retinue. In 1260 Qubilai ascended the throne and appointed the 'Phags-pa Lama National Preceptor (Guóshī 國師), charging him with the task of developing an alphabet. This alphabet was completed in 1269, whereupon it was promulgated in an imperial edict. The text of this edict is preserved in the *Yuánshǐ* 元史 and is reproduced by Luó and Cài (1959: 9-10) and Jūnast and Yáng (1987: 1). It has been translated into Western languages a number of times. An English translation that includes part of the wider *Yuánshǐ* passage in which it occurs was made by Leon Hurvitz and included in Poppe (1957: 5). Another English translation is that of Cheng (1985: 148, n. 15). Parallel passages from other sources are translated by Nakano (1971: 35-36, n. 42).

We now reproduce part of the edict text, together with a translation adapted from those of Hurvitz and Cheng. Having discussed the general benefits of writing and the Mongols' previous lack of a practicable system, the edict continues as follows:[2]

> 考諸遼、金以及遐方諸國，例各有字。今文治浸興，而字書有闕，於一代制度實為未備，故特命國師八思巴創為蒙古新字，譯寫一切文字，期於順言達事而已。自今以往凡有璽書頒降者，並用蒙古新字，仍各以其國字副之。
>
> If we examine this matter with regard to the Liáo and Jīn, and to the countries of remote areas, as a rule each has its own script. Nowadays civilized polity has gradually come to flourish, and yet we lack a writing system. The institutions of our dynasty are in fact not yet complete. Wherefore, we specifically command the National Preceptor, 'Phags-pa, to create a new Mongolian script, in order to transcribe all writing systems, our expectation being simply to facilitate smooth communication. From this time forward, whatever documents are issued under the Imperial Seal are to use the new Mongolian script, with the national writing of each [other] country alongside.

From this passage several significant points emerge. At the outset it becomes clear that the new writing was to be first and foremost a "Mongolian script," i.e., a national writing system for Mongolian, such as the Khitans and Jurchens, also non-Sinitic peoples who had conquered China, had possessed for their own languages. It therefore seems probable that the writing of Mongolian was the first problem the 'Phags-pa Lama had to address in his orthography project. However, the new script was also to be used to "transcribe" (yìxiě 譯寫) other scripts. This did not simply mean that these materials were to be translated into 'Phags-pa Mongolian. Rather, it was specifically stipulated that the new forms should appear beside native written forms of languages other than Mongolian and should thus phonetically transcribe those languages in the new system. This might seem to imply that the script was intended to have a single, unified phonetic value, like today's International Phonetic Alphabet, so that readers of the Mongolian system could then pronounce forms written in other languages. But in actual practice this does not seem to have been the case. For we know, for instance, that Chinese 'Phags-pa had letters which Mongolian 'Phags-pa did not. And it appears, in fact, that each language had its own transcriptional conventions. For example, in the

Chinese 'Phags-pa system, the letter **h** in syllable internal position (concerning which see Chapter III, section 3.3.9 below) is generally thought to have been a diacritic governing a following vowel.[3] But in the Sanskrit 'Phags-pa system internal **h** was used to help transcribe Sanskrit voiced aspirated letters. For example, Sanskrit 'Phags-pa **ba** = Skt. *ba*, Sanskrit 'Phags-pa **b** + **ha** = Skt. *bha*, etc. Thus, it is not possible to take values known from a particular system and read them into one of the others without further ado. Each system must be dealt with on its own terms. Comparison between systems can at most give us hints regarding interpretation.

1.2 The Propagation and Use of the Script

Virtually nothing is known about the progress of the 'Phags-pa Lama's work on the new script. As suggested above, we may suppose that the Mongolian system had primacy and was definitely ready in 1269, as the histories report. According to Luó and Cài (1959: 32), the first section (out of four) of the Chinese 'Phags-pa inscription on the Jīnglù Chóngyáng Wànshòugōng shèngzhǐ bēi 京路重陽萬壽宮聖旨碑 stele is reliably datable to 1269. Poppe (1957: 6) notes that in that same year 'Phags-pa script schools were established in all provinces and that in the following year positions for teachers in these schools were established. In the immediately following years further steps of various kinds were taken to promote the use of the script. In 1272, three years after it had been introduced, a report was submitted to the throne to the effect that "in spite of the establishment of a state school of Mongolian script, children and the younger brothers of Chinese officials were not being taught this script . . . . The upshot of this report was a decree according to which all edicts were to be written thenceforth with Mongolian (i.e., ḥP'ags-pa) script, and that the children and younger brothers of Chinese officials were to be sent to school" (Poppe, loc. cit.). We may be reasonably confident that what was required of the Chinese here was not the learning of the Mongolian language per se but rather mastery of the 'Phags-pa orthography for their own language. This suggests that that orthography was already complete in all its essentials by at least 1272, and in fact almost certainly by the time the schools were established in 1269. The final touch in the effort to establish and propagate the new writing was the establishment in 1275 of a special department of the Hànlínyuàn 翰林院 to deal with the script.

The 'Phags-pa Chinese orthography was used throughout the Yuán period on

a number of written media. Surviving examples of it will be discussed in section 1.4 below. The script in all its forms was virtually abandoned at the fall of Yuán. The highly stylized seal version of it survived in the carving of seals in Tibet. Interest in it remained alive for some time in Korea, where is was still known by at least some individuals in the fifteenth century (Ledyard 1997).

1.3 The Form and Ordering of the Alphabet

The earliest known description of the 'Phags-pa writing system is found in the same *Yuánshǐ* section containing the edict mentioned above. We reproduce the pertinent passage here, substituting our own translation for that of Hurvitz.

> 其字僅千餘，其母凡四十有一。其相關紐而成字者，則有韻關之法。其以二合、三合、四合而成字者，則有語韻之法，而大要則以諧聲為宗也。
>
> Its syllables number only somewhat over a thousand, while its letters are forty-one. As to the way it forms syllables by linking components[4] with each other, there is a method in which rimes are linked. And as for the way it forms syllables by combining two, three, or four elements,[5] there is a method for making the rimes congruent.[6] But as to its essential concern, it takes making the initials congruent as its guiding principle.

This account, while formulaic and couched in the language of the traditional Chinese philological discipline known as shēngyùnxué 聲韻學, does convey certain essentials about the 'Phags-pa system. It had forty-one letters, from which over a thousand separate syllables could be formed. The letters for the initials acted as the real foundation of the written syllable, to which further elements bearing on the finals might then be added. And, finally, there were letters which could be used to stand for the codas of syllables, exclusive of the rimes as a whole.[7] Like Indic-derived scripts in general, it assumes an inherent vowel **a** in all syllables unmarked for other vowels, and those other vowels must then be indicated by special graphic devices. Thus, for example, if the letter **b** is written alone as a distinct syllable, it is read as **ba**, etc.[8]

Not surprisingly, given its origin, the 'Phags-pa script is generally recognized as Tibetan-based. However, there are elements in it which are clearly not of Tibetan

origin; and the provenance of these constitutes a special area of inquiry within the field of 'Phags-pa studies. Full lists of the 'Phags-pa alphabet are given in three early sources. Two of these, the *Fǎshūkǎo* 法書考 of Shèng Xīmíng 盛熙明 (fl. Yuán Dynasty, 1206-1368) and the *Shūshǐ huìyào* 書史會要 (published 1376) of Táo Zōngyí 陶宗儀 , contain essentially the same list. Facsimiles of the original texts containing the lists, together with translations by Hurvitz, are given in Poppe (1957: 10-15), and a useful numbered version of the list is provided by Nakano (1971: 39). A facsimile of another text version of the *Shūshǐ huìyào* passage is reproduced by Clauson (1959: 321), with a translation (ibid., pp. 302-303). We give the list below, with Nakano's numbering inserted:

1. 葛; 2. 渴; 3. 哂; 4. 誐; 5. 者; 6. 車; 7. 遮; 8. 倪; 9. 怛; 10. 撻; 11. 達; 12. 那; 13. 鉢; 14. 發; 15. 末; 16. 麻; 17. 拶; 18. 捺 (> 擦); 19. 惹; 20. 縛; 21. 若; 22. 薩; 23. 阿; 24. 耶; 25. 囉; 26. 羅; 27. 設; 28. 沙; 29. 訶; 30. 啞; 31. 伊; 32. 鄔; 33. 翳; 34. 污; 35. 遐 (輕呼);[9] 36. 霞; 37. 法; 38. 惡; 39. 也; 40. 禍; 41. 耶 (輕呼)

Both texts state that the list contains forty-three letters, but in fact neither has that number. The *Shūshǐ huìyào* version has forty-one, while the *Fǎshūkǎo* has forty-two. The list above is that of the *Shūshǐ huìyào*. Between numbers 37 and 38 of the list, the *Fǎshūkǎo* has another letter which appears to be essentially the same as 38 and lacks a Chinese character equivalent. It is generally believed to be a copyist's error. Thus, the list represented in the two texts actually has forty-one members, in complete agreement with the number given in the *Yuánshǐ* account. Both texts also state that, when the alphabet is used to write Chinese, three letters are discarded, i.e., 25 , 35 , and 38 ; and four new ones must be added, i.e., 42 , 43 , 44 , and 45 . It will be noted that in the basic list each 'Phags-pa letter is assigned a Chinese character equivalent.[10] One has only to glance at these to recognize that they are connected in some way with the transcriptional alphabets used by Six Dynasties and Táng/Sòng Chinese Buddhist translators of Indic texts.[11] And Nakano (1971: 39-40) finds that those occurring in our list are essentially identical with the particular transcriptional character set given in the *Jǐngyòu Tiānzhú zìyuán* 景祐天竺字源 of 1035 by Wéijìng 惟淨. It is important

to take special note of this point, because the Chinese equivalent characters in the list have sometimes been cited as evidence for or against certain phonetic interpretations of the 'Phags-pa letters. This approach is erroneous, for these character equivalents of course date from much earlier than the time of the framing of the 'Phags-pa script. They should not be used as ancillary evidence for the sound values of the 'Phags-pa letters. The basic order of this list is immediately recognizable as the traditional one of the Tibetan alphabet. We shall therefore refer to it here as the "Tibetan Ordering."

The third early alphabetic list is found in the front matter of the famous syllabary *Měnggǔ zìyùn* 蒙古字韻 (published 1308; hereafter MGZY), about which we shall have more to say in section 1.4.3.2 below. Its list is as follows:

1.  見; 2.  溪; 3.  群; 4.  疑; 5.  端; 6.  透; 7.  定; 8.  泥; 9.  知; 10.  徹; 11.  澄; 12.  娘; 13.  幫; 14.  滂; 15.  並; 16.  明; 17.  非; 18.  敷; 19.  奉; 20.  微; 21.  精; 22.  清; 23. 從; 24.  心; 25. 邪; 26. 照; 27. 穿; 28. 床; 29. 審; 30.  禪; 31. 曉; 32. 匣; 32a.  同上; 33. 影; 33a.  同上; 34. 喻; 34a.  同上; 35.  來; 36.  日; 37. ; 38. ; 39. ; 40. ; 41-42. ; 43. （此七字歸喻母）

This list too has Chinese equivalents, and these are identical with the famous "Thirty-Six Initials" (sānshíliù zìmǔ 三十六字母), which are integral to the structure of the Sòng rime tables and which first occur in materials found in the Dunhuang Cave Library. This arrangement is uniquely Chinese and will be called here the "Chinese Ordering." It is worth noting that numbers 32, 33, and 34 each have two 'Phags-pa letters for one and the same traditional Chinese initial. For numbers 37-43 we have the added note "These seven graphs are assigned to the yù 喻 initial." Numbers 41 and 42 are joined together in the list but are counted separately in the added comment. The fact that this list has forty-three members is interesting, for we note that this is in fact the erroneous number given in both the *Fǎshūkǎo* and the *Shūshǐ huìyào* for their lists. It seems possible that their accounting has been tampered with in some way to bring their numbers into line with that of the MGZY.

Pulleyblank (1970: 359) has remarked regarding the Tibetan ordering that is

"no doubt the original arrangement," but he does not elaborate on this. While we do not not disagree with his assessment, it seems worthwhile to give it some further consideration. The Tibetan Ordering is of course the expected arrangement for a Tibetan-based alphabet. If the 'Phags-pa Lama created the system in this sequence, that would hardly be surprising. The "Thirty-Six Initial" set, on the other hand, is a uniquely Chinese configuration, developed from Indic parallels but intended for use in Chinese philological materials. As we shall see below, it forms an integral part of the MGZY's organizational matrix, the purpose of which was surely to assist Chinese readers in accessing the data in that text. The Chinese Ordering of the 'Phags-pa alphabet is, therefore, an artifact of the compilation of the MGZY. Now, as we have noted above, the primary charge received by the 'Phags-pa Lama was the creation of a new Mongolian script, which was then to be made applicable to "all writing systems." This being the case, it seems unlikely that the ordering of the specifically Chinese "Thirty-Six Initials" would have provided the initial template for the Tibetan lama's work. The Tibetan Ordering would seem to be a much more likely starting point for that. Thus, Pulleyblank's view can be accepted. It seems probable that the Tibetan Ordering is the original one, and the Chinese one is secondary to it and specifically to be associated with the compilation of the MGZY.

1.4 The 'Phags-pa Chinese Textual Corpus

Sources in Chinese 'Phags-pa orthography can be roughly divided into three types:

1. Paleographical Materials
2. Forms recorded in Buddhist Sutras
3. Normative Spelling Materials and Transcriptional Aids

1.4.1 Paleographical Materials. The 'Phags-pa Chinese paleographical materials which were generally known and available for study as of the 1950s are summarized and discussed by Luó and Cài (1959: 16-40) with plates and full references to sources, related studies, etc. The types of materials included in this category are:

1. Monumental inscriptions, mainly on steles
2. Official or governmental seals
3. Private or signature-type seals

4. Badges of rank or identification (páifú 牌符 or páizi 牌子)
5. Paper currency
6. Coins
7. Steelyard weights

An updated list of such sources, with more recent finds included, will be found in Jūnast and Yáng (1987: 4-6).

The monumental inscriptions, together with most of the other materials in the above list, are "dual script" texts, in that the 'Phags-pa and Chinese character versions are both given, in either parallel or interlinear fashion. This is in keeping with the wording of the edict quoted in section 1.1 above, where it was stipulated that one was "to use the new Mongolian script, with the national writing of each [other] country alongside." Thus, the majority of these inscriptions, when they are studied today, are not really "read" in the way the Mongolian 'Phags-pa texts treated in Poppe (1957) are. Instead, what one really does is read the Chinese character versions and compare the 'Phags-pa ones.

1.4.2 Forms from Buddhist Sutras. Material of this type is rather scant. It has been collected and tabulated together with data of other types in Hashimoto (1974: 100-112). This has been reprinted in Hashimoto (1978: 134-146).

1.4.3 Normative Spelling Materials and Transcriptional Aids. Two texts of this class survive today. As argued by Cài Měibiǎo in Luó and Cài (1959: 88-89) and Cheng (1985: 45-46), they were almost certainly compiled as aids to Chinese officials and other persons who were required to write Chinese in the new script. See also Níng (1997: 159) regarding this point.

1.4.3.1 The Bǎijiāxìng 百家姓 ("Surnames of the Myriad Households"). This is a 'Phags-pa version of the famous traditional list of Chinese surnames. The text is preserved in the *Shìlín guǎngjì* 事林廣記, a rare work of Yuán times. Four versions are currently known. They are listed and briefly discussed by Jūnast and Yáng (1987: 5). One of them, a Míng printing of 1418 (Jūnast and Yáng: 百D), was published by Ligeti (1956). Two more, a Yuán printing of 1340 (Jūnast and Yáng: 百B) and a Japanese version of 1699 (Jūnast and Yáng: 百C), were published in Luó and Cài (1959: 59-67 and 71-82). The fourth, a Yuán edition of 1330-1333 (Jūnast and Yáng: 百A), was published by Jūnast in 1980 (1980a). The

texts are in dual script format. A new critical edition of them by Jūnast has recently appeared (2003).

1.4.3.2 The *Měnggǔ zìyùn* 蒙古字韻 ("Rimes in Mongol Script"; abbreviation: MGZY). This is unquestionably the most important textual source for the study of 'Phags-pa Chinese and has been the subject of intense scrutiny ever since it became known to the scholarly world.

The MGZY survives in a single manuscript version, held by the British Library in London. The final two pages of the manuscript are missing. According to a cataloguing note attached to the item, it was purchased from one Mrs. Rushell on April 6, 1909 (Luó and Cài 1959: 84). Ozaki (1980: 168-169) and Ledyard (1997: 76, n. 24) suggest on the basis of internal evidence that the manuscript dates from the Qiánlóng 乾隆 period (1736-1796). There are two prefaces, both of which are dated 1308. The first is the invited or courtesy preface by a man named Liú Gēng 劉更. The second is the main or author's preface by Zhū Zōngwén 朱宗文. Liú Gēng states that Zhū Bóyán 朱伯顏 (i.e., Zhū Zōngwén),[12] who was Liú's own student, was an expert in Mongol studies ("tōng yú Měnggǔ zhī xué" 通於蒙古之學). Zhū is said to have "supplemented the *Měnggǔ zìyùn* and corrected the errors in the Mongol rimes" ("zēng Měnggǔ zìyùn, zhèng Měnggǔ yùn wù" 增蒙古字韻，正蒙古韻誤). In this he is said to have performed a loyal service to the text, comparable to that rendered by an earlier editor of the works of the poet Dù Fǔ 杜甫. Zhū himself has the following to say about his editorial labors:

> 蒙古字韻字與聲合，真語音之樞機，韻學之綱領也。嘗以諸家漢韻證其是否，而率皆承訛襲舛，莫知取舍。惟古今韻會於每字之首必以四聲釋之。由是始知見經堅為。三十六字母備於韻會，可謂明切也已。故用是詳校各本誤字，列於篇首，以俟大方筆削云。
>
> In the *Měnggǔ zìyùn* graph and sound fit together. It is truly the pivotal instrument for pronunciation and the essential guide for the study of rimes. I earlier had occasion to use the Chinese rimes of the many authorities to verify its correctness, but they had all inherited errors and inconsistencies, and there was no way to know what to accept and what to discard. It was only the *Gǔjīn yùnhuì* ["The Ancient and Modern Rime Assemblage"] which at the head of each character perforce uses the four tones to gloss it. Only from this did one know that (the initial of) the characters jiàn, jīng, and jiān was [the

'Phags-pa letter] 古. The Thirty-Six Initials being complete in the *Yùnhuì*, it can assuredly be called definitive. Therefore, I have used this work in collating the erroneous characters in the various editions, and have arranged these at the head of the work, to await correction by my learned readership.

Liú Gēng's remarks indicate with absolute certainty that Zhū Zōngwén was not the author of the MGZY. Instead, his role was that of an editor, who supplemented and corrected an already existing text. Zhū himself tells us that his collation work encompassed various editions of the text; and he in fact mentions two of these, a Húběiběn 湖北本 and a Zhèdōngběn 浙東本, in the list of emendations he places at the beginning of his collated edition. In addition to his collation work, Zhū tells us that he has tried to verify the MGZY text using a number of traditional-style Chinese rime books, but that these proved difficult to use because they contained errors and inconsistencies of various kinds. However, he did find one work which was helpful to him. Its title, he tells us, was *Gǔjīn yùnhuì*.

The *Gǔjīn yùnhuì* was a large lexicographical compendium compiled by Huáng Gōngshào 黃公紹 (ob. 1297).[13] It was never formally published and is believed never to have actually been completed (Cheng 1965: 21-24; 1985: 43). A preserved preface for it by Liú Chénwēng 劉辰翁 is dated 1292. What survives today is an abridgement of the text, entitled *Gǔjīn yùnhuì jǔyào* 古今韻會舉要, published in 1297 by Xióng Zhōng 熊忠. Although it is remotely possible that Zhū Zōngwén saw and used the *Gǔjīn yùnhuì* in his work on the MGZY, the likelihood of this is slight. Instead, what he almost certainly saw was the *Gǔjīn yùnhuì jǔyào*. His use of the title *Gǔjīn yùnhuì* in his preface is probably a shorthand reference to the 1297 abridgement, a practice also seen among later writers and bibliographers (Cheng 1965: 24-25).

Hattori (1946, chapter 3) did a full comparison of the phonological systems inherent in the *Gǔjīn yùnhuì jǔyào* and the MGZY and concluded that the two were nearly identical, though differing in certain particulars. The differences and similarities led him to conclude that, while neither text could simply have been copied from the other, both must derive from a common source, which he supposed was the *Gǔjīn yùnhuì*. This theory has subsequently been called into serious question by Cheng (1965: 26-37; 1985: 43), but Hattori's comparative observations remain valid and of interest.[14]

Ligeti (1956: 37, n. 25) averred that the MGZY is in fact based directly on the *Gǔjīn yùnhuì*. He said, "Dans sa Préface, 朱宗文 Tchou Tsong-wen, l'auteur du

Mong kou tseu yun, nous dit clairement qu'il s'est appuyé, en composant son oeuvre, sur le bien connu 古今韻會 *Kou kin yun houei*." But as we have seen in the preface passages cited above, this is a misreading of Zhū's remarks. For Zhū did not write the MGZY. He merely edited the received text of it. Whether Ligeti knew of the difference between the *Gǔjīn yùnhuì* and the *Gǔjīn yùnhuì jǔyào* is unclear. In any case, the wording of the MGZY preface cannot be used to establish its derivation from either of these texts.

There is in fact an emerging consensus among specialists in the history of the *Gǔjīn yùnhuì jǔyào* that this work ultimately takes as its source the *Lǐbù yùnlüè* 禮部韻略. We find this same view expressed in Cheng (1965: 76, n. 7, paragraph 2), Níng (1997: 41), and Wáng Shuòquán (2002: 4-5). The *Lǐbù yùnlüè* ("Summary of the Rimes of the Ministry of Rites") was a rime book completed in 1037. It embodied the rime classes prescribed for the official examinations, which in the Sòng period were administered under the aegis of the Ministry of Rites. But the *Gǔjīn yùnhuì jǔyào* (as an abridgement of the *Gǔjīn yùnhuì*) was not simply a rote copy of the *Lǐbù yùnlüè*. It was on the contrary a complete recasting of the material in the earlier work. And apparently integral to this reworking was a book called the *Měnggǔ yùnlüè* 蒙古韻略 ("Summary of the Mongol Rimes"). This title is mentioned in full several times in the *Gǔjīn yùnhuì jǔyào*. More common there, however, is another term: Měnggǔ yùn 蒙古韻, which literally means "Mongol rimes" and which very probably refers here to *Měnggǔ yùnlüè* material.[15] No book having the title *Měnggǔ yùnlüè* is extant today. Níng (1997: 195-207) believes it was identical with the MGZY. Cheng (1965, 1985) and Wáng Shuòquán (2002: 44-46, 158) think the two were separate works. In a sense, these two views are not totally contradictory. Wáng (loc. cit.), for instance, suggests that the *Měnggǔ yùnlüè* was in fact one of the primary source texts used by Zhū Zōngwén in the compilation of his version of the MGZY. In any case, it seems clear that 'Phags-pa lexica played a role in the formation of the *Gǔjīn yùnhuì jǔyào*. If anything, it was the latter which derived in some way from the former, rather than vice versa.

Of considerable interest in this connection is yet another work, entitled *Měnggǔ yùnlèi* 蒙古韻類 ("Mongol Rime Categories"), by a person named Lǐ Hóngdào 李宏道. This book is no longer extant, but a preface for it has been preserved in the *Jiàcūn lèigǎo* 稼村類稿 of Wáng Yìshān 王義山(1214-1287).[16] In this preface, Wáng includes some descriptive notes. The book, he tells us, abandons the traditional 206 rime classes and substitutes a simpler system of fifteen categories. In the text, syllables in all four tones are arranged together (presumably

when they have the same syllabic shape); and yet it is still possible to discern which ones fall under which traditional tones. Similarly shaped characters are grouped together. And a system of thirty-two zìmǔ 字母 is somehow woven into the structure of the text. Now, as we shall presently see, this description is strikingly reminiscent of the MGZY itself. As Ledyard remarks, "It is clear that the *Menggu yunlei* is the same book, or the same kind of book, as the *Menggu ziyun*" (1997: 77, n. 26). And, significantly, this work existed at least ten years before the publication of the *Gǔjīn yùnhuì jǔyào.*

Let us now summarize what we have learned. The MGZY is directly derived from somewhat earlier 'Phags-pa handbooks, and is the fruit of the editorial efforts of Zhū Zōngwén. At least two of his sources were simply different versions, i.e., the so-called Húběi and Zhèdōng editions, of the MGZY itself. But there may have been others as well. Perhaps works like the *Měnggǔ yùnlüè* and the *Měnggǔ yùnlèi* were also among the materials he consulted. These earlier works, though they cannot have been copied from the *Gǔjīn yùnhuì jǔyào,* which clearly postdated them, shared with the *Jǔyào* a very similar, though not entirely identical, set of phonological categories. The *Jǔyào* in its turn was intimately and intricately interrelated with a constellation of Sòng-time rime books, all of which were in some way associated with the standard rime system used in the official examinations of the time and embodied in the *Lǐbù yùnlüè.* The exact filiation of these texts, which has exercised specialists in their histories for decades, is not of paramount importance to us here. What is of direct concern is the nature of the connection between the MGZY and the underlying set of distinctions found, in one variation or another, in these rime books. Why does this connection exist?

As noted earlier, works such as the 'Phags-pa Bǎijiāxìng and the MGZY were apparently glossaries intended for the use of Chinese speakers who wished to learn how to spell Chinese syllables in the new writing system. They may have arisen in connection with the 'Phags-pa schools initially founded in 1269. Or, as suggested by Ledyard (loc. cit.), they may have been compiled by the Hànlín Academy's "'Phags-pa department," which had been established in 1275. In any case, they were at base compendia of data listing Chinese characters together with their corresponding 'Phags-pa orthographic forms. To use them, persons literate in Chinese would have first have needed ways to find particular Chinese characters in them. In the case of the Bǎijiāxìng this would have posed no difficulty. All Chinese schoolchildren were taught to recite this text from memory. No literate person would have required an index to it. But a glossary like the MGZY was quite another matter.

Without an accessing apparatus of some sort, finding things in such a work would have been prohibitively time-consuming. The solution to this was to take advantage of all educated readers' familiarity with the standard rime sets mandated in the official examinations. Mastery of these involved memorization of groups of characters which could rime in the poetry sections of the examinations. Licit rimes were determined not by ear but by co-occurrence in these inter-riming sets. Thus, every well-educated person had to memorize standardized lists of inter-riming characters. In principle, no particular ordering of these lists vis-à-vis each other was necessary to the fashioning of correct rimes. It was rather the membership of each list that was the crucial matter. However, in practice the lists were learned from rime books, and their ordering in these texts was determined by convention. In the formal or *Qièyùn* 切韻 System (QYS) there were 206 rimes, divided first among the four classical tones and then listed in a long-established order. By Southern Sòng times the number of these rimes had been reduced to 106 or 107, an inventory which has since become known as the Píngshuǐyùn 平水韻. The term Píngshuǐyùn has also been used to refer to particular rime books.[17] One of these is the *Xīnkān yùnlüè* 新刊韻略 of Wáng Wényù 王文郁, published in 1227.[18] Various features of this text, including the very order in which characters are listed in certain sections of it, have led Níng (1997: 161-165) to conclude that it, or something very like it, was actively used in the compilation of the MGZY urtext.[19] In any case, it seems clear that the MGZY was compiled with an eye to preserving enough of the traditional rime book structure that Chinese readers could capitalize on their familiarity with it in accessing the material in the MGZY.

To begin, since the 'Phags-pa script does not indicate tone, segmentally identical syllables under different tones are spelled the same way. To accommodate this lapsus, the MGZY abandons the primary division by tone which forms the framework of all traditional rime books. Syllables spelled the same way are always placed in the same entry line of the MGZY, but with the contents of the entry divided according to the four classical tones, i.e., píng 平, shǎng 上, qù 去, and rù 入.[20] The tonal division is therefore at the lowest level in the MGZY, rather than at the highest, as in the earlier rime texts. Next, in the MGZY the received 106- or 107-rime list is drastically reduced to fifteen units. These fifteen units are still called rimes (yùn 韻) in the text; but they in fact correspond more closely to the shè 攝 (combinatory rime groups), which are inherent in the structure of the early rime tables and explicitly demarcated in the later ones. The names of the fifteen combinatory sets are chosen from those of the píng-tone rimes in the original longer list.[21] All traditional rù-tone

rimes are abolished, and their constituent syllables are redistributed among the fifteen MGZY rimes, though of course always still identified by tone in each individual MGZY entry.[22] Within each MGZY "rime," entry lines are organized in groups according to the 'Phags-pa spellings of their finals. A commonly seen but by no means universal ordering of final types is the following, as illustrated in the Yáng 陽 Rime:

1. plain vowel: **-ang**
2. **y** or **ÿ** plus vowel: **-yang**
3. **w** plus vowel: **-wang**
4. other spelling types: **-^{h}ang**, **-ong**, **-wÿang**

Where a particular traditional rime type falls under a MGZY rime that conflicts with the 'Phags-pa spelling in some way, the traditional ordering is nonetheless maintained, apparently because readers would be expected to follow the traditional order when looking up characters. For example, the graph xióng 雄 is spelled **Hÿung** but placed under the Gēng 庚 Rime (where finals in **-ing**, **-^{h}ing**, etc., would be expected). The principle here was clearly not phonetic or orthographic compatibility but convenient accessibility in terms of the received system.

Within each orthographically determined common sub-set, a further refinement is introduced: the individual entry lines are organized according to the Thirty-Six Initials of the rime table tradition. This arrangement would have been familiar to some literate readers, but by no means to all of them, for knowledge of it was not required of candidates who sat for the official examinations. For this reason, a list of the initials is, as we have seen in section 1.3, provided at the beginning of the book. This, combined with a familiarity with the traditional arrangement of rime books as incorporated into the text, would have enabled readers to find entries in the book with relative ease. We can summarize the organizational hierarchy of the MGZY as follows, beginning with the highest level (1) and moving downward to the lowest one (4):

(1) Rime group (yùn 韻). Explicitly identified in the text by a subtitle consisting of number and name. Example:

III. 陽  **yang**.

(2) 'Phags-pa orthographic final group. Not explicitly demarcated in the text, but

identifiable by the orthographically identical spelling of finals. Example: seven adjacent entry lines ending in the orthographic final **-ang** within the Yángyùn 陽韻. (See entries 98-104 of the Glossary.)

(3) Individual entry lines of the text. These are pseudo-homophone groups, in that they comprise syllables under different tones which share the same syllabic spelling forms. They are explicitly identified in the text by the 'Phags-pa orthographic forms at the head of each line. Example:

 khang [k'aŋ] píng 康，糠，糠，shǎng 慷，慷，qù 抗，閌，炕，伉，亢.

(4) True homophone groups. Explicitly identified by tone designation. Example: píng 康，糠，糠.

As mentioned earlier, the MGZY is by far the most important source for the study of 'Phags-pa Chinese. For this reason, we have adopted an abridged version of it as the nucleus of our Glossary of 'Phags-pa forms in the present work.

1.5 The Linguistic and Demographic Background of 'Phags-pa Chinese[23]

1.5.1 The Northern Sòng and Liáo Periods. The founding of the Sòng 宋 Dynasty in 960 ended a long period of disunion in China. The national capital, Dōngjīng 東京, was established at Kāifēngfǔ 開封府 in the Central Plains. This area remained the political and cultural center of the dynasty for 166 years. The conventional view today is that the standard language of this period was a Central Plains-based lingua franca or koine, probably centered in the Kāifēng-Luòyáng 洛陽 area. Zhōu Zǔmó 周祖謨 has characterized it as "Zhōngzhōu zhī héngyán" 中州之恆言 "the prevalent speech of (north) central China" (Zhōu 1966: 582). This prevailing view of course deserves further study and verification, but at present there is at least no strong evidence against it.

There is however, one further point which requires notice here. North of the Sòng lay the Khitan empire (907-1119), whose dynastic name in the Chinese histories was Liáo 遼. For information on it we rely here primarily on Wittfogel (1949) and Twitchett and Tietze (1994). In 937, before the founding of Sòng, the short-lived Jìn 晉 Dynasty had ceded to the Khitans an area known as the Sixteen

Prefectures (Yānyún shíliùzhōu 燕雲十六州), which corresponded roughly to the northern part of modern Héběi 河北 Province (Twitchett and Tietze 1994: 70-71). Despite a number of efforts, the Sòng were never able to retake this area, and it remained under Khitan control for approximately 200 years. The inhabitants of this territory were almost all Chinese, and the Liáo placed them under a special form of governmental administration, differing from that by which they ruled the rest of their empire. At the town of Yōuzhōu 幽州 they built a new administrative center, called Nánjīng 南京, the southernmost of the five capitals of their state, to govern their new Chinese subjects. From this place, after many changes and vicissitudes, the modern city of Peking would ultimately evolve. Now it is of some interest here that the large Chinese population of this region, which the Liáo called the Southern Capital Circuit (Nánjīngdào 南京道), was cut off from the Central Plains dialect area to the south for two centuries. Although we have no proof for it, we may speculate that in this linguistic rupture lie at least some of the beginnings of the distinctive type of north Chinese dialect which would later come to be associated with the Peking area and points to the northeast.

1.5.2 Jīn and Southern Sòng. We now shift farther east to the Jurchen, a Tungusic people who founded the Jīn 金 Dynasty (1115-1234). Our information on them comes from Tao (1976) and Franke (1994). Their ancestral homeland was in eastern Manchuria, rather near the Pacific coast. They were originally subjects of the Liáo, who were their western neighbors. In 1115, after consolidating their power, they established their own dynasty and began a war which resulted in the destruction of the Liáo in 1122. It was in fact at the end of that year that they actually occupied the Liáo city of Nánjīng and first became overlords of a large population of Chinese-speaking subjects. They then very quickly pressed their attack against Sòng. Kāifēng fell in 1127, and the Chinese dynasty collapsed. In the course of this rather short five-year war the Jīn made extensive use of Chinese subjects of the former Liáo and also of a large number of turncoat Sòng civil and military officials. Later, they governed their Chinese holdings, which extended southward to the Huái 淮 River, through a Chinese officialdom who had previously been Northern Sòng functionaries. At the site of the former Nánjīng of the Liáo, the Jīn established their own Zhōngdū 中都, whereupon they took the former Sòng capital, Kāifēng, as their Nánjīng. It is interesting to note that, as of the year 1211 Kāifēng was still a bigger and more populous city than the central capital at Zhōngdū. It was in fact the largest metropolitan area in the Jīn empire (Franke 1994: 279).

After the fall of Northern Sòng a new Chinese state, called Southern Sòng (1127-1278), was founded in the south, with its capital at Lín'ān 臨安 (modern Hángzhōu 杭州). It is probable that the standard language of the southern court was in fact merely a transplanted variety of the northern Sòng lingua franca, brought south by refugees from the fallen dynasty (Simmons 1992, chapter 7; cf. also Chao 1928: xiv). And, in the north, it seems likely that the large body of Chinese officials who remained behind and served the Jīn continued to speak what they had spoken before, i.e., the same general Sòng standard. Here we should also note that diplomatic, trade, and other contacts between the Jīn and the Southern Sòng remained frequent, even during times of active hostility, with representations on the Jīn side conducted by Chinese-speaking officials. It seems probable that the two sides communicated with each other in, at most, variant forms of what had earlier been their common standard language. At present we have no way of assessing the linguistic input of the former Liáo subjects from the Nánjīngdào who came south with their new masters in 1127; but it seems unlikely that their influence on the general standard speech community of the Central Plains can have been inordinately great, in view of the relative population numbers involved. Finally, we may note that by the end of the Jīn, which lasted for slightly longer than a century, even the Jurchen officials and nobility had come to prefer Chinese to their own language. One may guess that what they spoke was what their Chinese colleagues and social counterparts spoke. In summary, then, though we are sadly lacking in hard evidence on the matter, there do not seem to be any strong a priori grounds for assuming marked differences between the standard languages of north and south China during the Jīn-Southern Sòng period.

1.5.3. The Mongol Period. The Mongol period brings us at last to the crucial historical stage for the development of 'Phags-pa Chinese. Our principal sources for it are Rachewiltz (1966), Allsen (1994), and Rossabi (1994). For the history of the city of Dàdū, we rely primarily on Lǐ (1981) and Běijīng dàxué lìshǐxì (1985). The Mongol conquest of China began with a war against the Jīn. In 1214 the Jīn court abandoned Zhōngdū and fled to Kāifēng. Zhōngdū was subsequently sacked and partially burned. Information on the situation there at that time is supplied by Allsen (1994: 362-363):

> An envoy of the Khwârazmshāh Muhammad who reached Chung-tu shortly after its surrender in 1215 encountered there a most grisly scene: The area around the former Chin capital for the distance of several days' march was

> strewn, he reports, with the bones of uncounted dead, and disease, spread owing to the great number of unburied corpses, continued to claim new victims, including members of his own party.

In their campaigns against the Jīn and later against the Southern Sòng, the Mongols made large-scale use of defectors. In fact, after an initial period of wholesale slaughter and destruction, there was a change in approach to conquered areas and populations, and defection was actively encouraged. Military personnel, often comprising entire units who had surrendered peaceably, were treated leniently and accepted into the ranks of the conquerors. Civil officials who did not resist and remained at their posts were in many cases simply put back to work in the new administration. Throughout the Jīn and later the Southern Sòng territories, the indigenous Chinese-speaking officialdom served as an important medium through which the Mongols prosecuted the war and administered the peace among the Chinese.

Of special interest here is the person of Qubilai, grandson of Chinggis Khan and actual founder of the Yuán dynasty, who, as we have seen in section 1.1 above, commissioned the creation of the 'Phags-pa script. As a young man Qubilai held an appanage at Xíngzhōu 邢州, in the southwest corner of modern Héběi. Here he gathered around him a large coterie of Chinese scholars from various areas of the country, both north and south, who served him as advisors (Rossabi 1994: 415-416). As his career advanced, he moved from place to place, either on campaign or performing administrative duties, and throughout this period he continued to maintain his Chinese retinue, which was also expanded to include advisors from other nationalities. One of these was the 'Phags-pa Lama.

It was in 1260, the first year of his reign as emperor and the year when the 'Phags-pa Lama was appointed National Preceptor, that Qubilai took up residence in the area of the former Jīn capital of Zhōngdū. Because the city site itself was not suitable for occupancy, he chose as his residence a detached palace, the Dà'nínggōng 大寧宮, which had survived relatively undamaged (Lǐ 1981: 194). It lay somewhat northeast of the ruined Jīn city site. In 1267 work was begun on the construction of a new city, with the site of the detached palace as its center. The first formal court audience was held there in 1274. This city, named Dàdū 大都, was officially completed in 1276.

With these points in mind, let us now return to the topic with which we began this chapter, the creation of the 'Phags-pa script, and more specifically, to its

application to the writing of Chinese. We may suppose that the 'Phags-pa Lama's first and most important exposures to spoken Chinese occurred with his entry into Qubilai's retinue, where he rubbed shoulders with the Confucian advisors mentioned above. What form of Chinese would these men have spoken? They were highly educated literati from various parts of China.[24] It seems likely that they spoke to each other in whatever Chinese lingua franca was current at the time. And the probability is that this was some variety of the same general koine that had been in use in late Jīn/late Southern Sòng times. For a period of at least seven years, and *before* the Mongol court settled at the site of the future Dàdū, this would presumably have been the form of Chinese which the 'Phags-pa Lama regularly heard and with which he was most familiar. Then, in 1260, he received his charge to develop the new alphabet, one of the purposes of which was to write Chinese. He finished this task in 1269, seven years before the new city of Dàdū was completed. What form of Chinese would he have taken as the object of his labors? Would he have drawn upon the general standard used by his educated colleagues in Qubilai's court, or would he have gone out and sought among the ruins and construction sites around the Dà'nínggōng for informants who spoke the local dialect of that region? In our view, it must have been the educated standard which served as his primary model. It would have in a sense been a composite, in that it would have reflected a linguistic consensus reached by those who wished to communicate in it. It is unlikely to have been the dialect of one particular place, if by "dialect" we mean a particular regional vernacular. Certainly it is very unlikely to have been the local vernacular of the Dàdū area. And most significantly, as we have attempted to show in detail elsewhere (1999), it differed in fundamental ways from the system underlying the later Yuán-time rime book, *Zhōngyuán yīnyùn* 中原音韻. The linguistic basis for this text is currently disputed.[25] But, whatever sort of sound system it represented, 'Phags-pa Chinese pronunciation must have differed from that reflected in the *Zhōngyuán yīnyùn.*

Notes

[1]This point is particularly noteworthy when we consider that 'Phags-pa was merely in his teens at this time.

[2]For the original text, see the *Po-na* edition, 202.1b-2a, or the Zhonghua shuju edition, 202.4518.

[3]In the present study 'Phags-pa letters will be paleographically transliterated in boldface type according to a system explained in detail in Chapter 3. The phonetic interpretation of the graphic elements is also discussed there.

[4]In the later technical terminology of traditional Chinese philology, the term niŭ 紐 refers specifically to syllable initials. However, in pre-Qīng times it was less narrow and could denote both initials and finals.

[5]The terms èrhé 二合, sānhé 三合, etc., refer to the traditional glossing practice used, for example, by Chinese Buddhist transcribers of Indic texts, wherein two or more characters are read together as a single syllable to transcribe Indic syllables containing consonant clusters or other foreign sound concatenations.

[6]Yŭyùn 語韻 is apparently a copyist's error for xiéyùn 諧韻 "to harmonize rimes," a traditional philological term which parallels another such term, xiéshēng 諧聲 "to harmonize initials," in the following phrase.

[7]This was a genuine innovation in the analysis of the Chinese syllable, as has been noted by Ledyard (1997: 50-51).

[8]For a detailed discussion, see Chapter 3.

[9]*Fǎshūkǎo* has 重呼.

[10]No such equivalents are given for the supplementary list, i.e., nos. 42-45.

[11]For a convenient list of these, see Luó (1963, tables between 64 and 65).

[12]Bóyán is a transcription of Bayan, a Mongol name.

[13]Regarding this date, see Cheng (1965: 23).

[14]For a later study of the sound system of the *Gŭjīn yùnhuì jŭyào*, using the Karlgrenian "reconstructive" approach, see Zhú (1986).

[15]The following is a passage in which the two terms are actually used together: 蒙古韻略宜字屬疑母。舊音屬魚母。今依蒙古韻更定 (Peking: Zhonghua, 2001, 2.4a [p. 40]). In our view, the correct translation of this line should be, "In the *Měnggŭ yùnlüè* the character yí 宜 belongs under the yí 疑 initial. In the old phonological scheme (i.e., of certain earlier rime lexica) it belonged under the yú 魚 initial. Now we emend it on the basis of the Mongol rimes." The term

"Mongol rimes" is probably a general reference to Chinese forms written in 'Phags-pa script, as represented in handbooks, glossaries, etc. Here it of course refers specifically to forms quoted from the *Měnggǔ yùnlüè*. But in our opinion it is not an abbreviation of that title. Likewise, when it (or its reduced form Měngyùn 蒙韻) appears in other works of this or later periods, it should be interpreted as meaning "'Phags-pa Chinese orthographic material" rather than a specific book.

[16]Our dates for this man come from the *Zhōngguó lìdài rénmíng dàcídiǎn* 中國歷代人名大辭典 (Shanghai:Guji, 1: 164). The *Měnggǔ yùnlèi* is discussed by Cheng (1965: 20-21), who mistakenly assigns to it the title *Měnggǔ yùnbiān* 蒙古韻編 and states that it dates from a time much later than the MGZY. In his preface, Wáng Yìshān at one point characterizes the *Měnggǔ yùnlèi* as a Měnggǔ yùnbiān 蒙古韻編 "compilation of Mongol rimes," but this clearly is not its formal title. Furthermore, it cannot date from as late as Cheng supposes, since Wáng Yìshān had seen it before his death in 1287. The *Yīnyùnxué cídiǎn* 音韻學辭典 (Changsha: Hunan chubanshe, 1991, 121) correctly identifies Lǐ Hóngdào 李宏道 as the author of the *Měnggǔ yùnlèi*, but then states that he was a person of the late sixteenth century. This error is due to confusion with Lǐ Hóngdào 李弘道, a classicist and historian of the Míng period and an entirely different individual from the Lǐ Hóngdào 李宏道 of Yuán times. Ledyard (1997: 76-77, n. 26) identifies the *Měnggǔ yùnlèi* by its correct title and time frame in his discussion of the text.

[17]The name Píngshuǐyùn itself is said to be connected with the *Rénzǐ xīnkān Lǐbù yùnlüè* 壬子新刊禮部韻略 of Liú Yuān 劉淵, published in 1252. It is variously said to derive from Píngshuǐ 平水 in Shānxī, where the printing blocks for the text were engraved, or, according to a different theory, to another Píngshuǐ which was Liú Yuān's native place.

[18]This date is sometimes incorrectly given as 1223. See Níng (1997: 141). The last character of Wáng's name is written 鬱 in one source. Alternate names for his book in later sources are *Wáng Wényù Píngshuǐyùn* 王文郁平水韻, *Xīnkān Píngshuǐ yùnlüè* 新刊平水韻, and *Píngshuǐ yùnlüè* 平水韻略.

[19]Ning used three different editions of the *Xīnkān yùnlüè* in his work. The version seen by us is that of the Shanghai Municipal Library, as reproduced in the *Xùxiū sìkù quánshū* 續修四庫全書 (Shanghai: Guji, 1995, 250, 209-387).

[20]To view the format of the MGZY, see the Glossary section below, which adopts the structure of this text as its organizational framework.

[21]Exactly how this was effected is laid out in detail by Níng (1997:165).

[22]Regarding how this was done, see Ning (loc. cit.).

[23]Substantial portions of this section are taken from Coblin (1999: 87-91).

[24]The names and identities of many of these individuals are known. See Rachewiltz (1966).

[25]Some major published theories are that it represents: (1) the pronunciation of the Yuán-time city of Dàdū, (2) the pronunciation of the Kāifēng/Luòyáng area, or (3) a general north Chinese koine pronunciation rather than the sound system of a particular place or region. For a summary of the various theories, see Jīn (1999: 13, n. 1).

II
A Brief Review of 'Phags-pa Chinese Studies

The single most informative source on the history of 'Phags-pa studies in general and of the Chinese 'Phags-pa field in particular is the introduction to Nakano (1971), especially pages 8-23. Also of considerable interest are the bibliographical notes and annotations in Ligeti (1956; 1961), Hashimoto (1978; 1978-79: 70-120), and Cheng (1985). For Japanese studies in particular, see Hashimoto (1978: 2, notes 4 and 8). For work done in China since the 1970s, see the notes and references in the various articles and books by Jūnast 照那斯圖, listed in the first section of the bibliography to the present work. The standard reference for Mongolian 'Phags-pa is Poppe (1957). To this may now be added Jūnast (1990-91), and a review of this work by Hugjilt (1992).[1]

The field of Chinese 'Phags-pa studies may be conveniently divided into four periods: (1) the early period of interest, beginning in the first decades of the nineteenth century and lasting until the 1920s; (2) the period of increasing focus on Chinese 'Phags-pa, from the 1920s through the 1940s, when Mongolian and Chinese 'Phags-pa became separate fields and 'Phags-pa Chinese was recognized as a branch of Chinese historical phonology; (3) the period of textual discovery and dissemination, beginning in the 1950s and lasting until the mid-1980s, during which the introduction of the Bǎijiāxìng and, more important, the MGZY into the discussion revolutionized the field; and (4) the current period, representing developments since the late 1980s.

2.1 The Early Period of 'Phags-pa Studies

Work in this period involved the study of epigraphical materials and was of an exploratory and pioneering nature. Incidental references to the 'Phags-pa script

began to appear in early nineteenth century sources (see Nakano 1971: 8, n. 4, and 19, n. 11, for examples). The first systematic contribution in the field was by von der Gabelentz (1839). A more general study was Pauthier (1862). The mid and later part of the century saw an increasing concern with the Jūyōngguān 居庸關 wall inscriptions. An important early example is Wylie (1870), which also gives a summary of 'Phags-pa studies up until that time. This was followed by many more detailed works, as the inscriptions were analyzed, facsimiles were published, etc.[2] The latter part of this period is characterized by Nakano as one of discovery of materials, in which mongolists and sinologists collaborated in what was viewed as a common undertaking. Much of the grammatological work of this early period is now mainly of historiographical or antiquarian interest, having been in great part superseded by later developments. However, a number of the published facsimiles of inscriptions remain standard sources for epigraphical research.

2.2 The Period of Focus on 'Phags-pa Chinese

Beginning in the 1920s, Paul Pelliot published a number of articles, short notes, comments, etc., dealing with or touching upon 'Phags-pa problems. These are in the main concerned with Mongolian 'Phags-pa, but they often raise points relevant to the Chinese side as well. For a convenient listing, see Poppe (1957: 139). Bernhard Karlgren included discussions of 'Phags-pa questions in his earlier studies on Chinese historical phonology (Karlgren 1915-26).[3] Following this, in 1930 Aleksandr Dragunov made extensive use of Karlgren's "Ancient Chinese" system to discuss the phonology of 'Phags-pa Chinese. In the same year, there appeared in Japan an article by Oshibuchi Hajime (1930) which is characterized by Nakano (1971: 17, n. 17) as parallel to Dragunov's. Oshibuchi used not Karlgren's system but the structure of the *Zhōngyuán yīnyùn* to study the 'Phags-pa material. His work is noteworthy for the fact that he also consulted a copy of the British MGZY manuscript. Somewhat later, Karlgren's system was again brought to bear on 'Phags-pa questions in a book by Lewicki (1949, chap. 3). Lewicki also used a copy of the MGZY manuscript (1949: 26, n. 2).[4]

Dragunov's paper is of particular interest because it takes issue with his predecessors' assumptions regarding the linguistic basis and dialectal identity of 'Phags-pa Chinese. Karlgren and Pelliot had assumed the existence of a unitary standard variety of Yuán-period Chinese to which not only the 'Phags-pa data but

also other textually attested material of that time must belong. For them, all these things must somehow be reconcilable with each other from the standpoint of the putative Yuán standard system. A logical outgrowth of this approach was that, where the 'Phags-pa system has features which appear to be "archaic," "conservative," or in some other way not consonant with the systems reflected in the so-called "Old Mandarin" rime books, 'Phags-pa was assumed to have been intentionally archaized by its framers on the basis of older traditional-style rime books, rime tables, etc. It is with this view in particular that Dragunov took issue. He concluded (1930: 646):

> We have not sufficient reasons to consider the phonetic structure of the Ancient Mandarin language to have been homogeneous. On the contrary, our sources enable us to state that there existed two large dialects (or groups of dialects) widely divergent from the point of view of their consonantic system: one of them, let us call it type A, embodied in the *h*Phags-pa inscriptions, [*Hung wu*] *Chêng yün*, *Ch'ieh yün chih nan*, the other, let us call it type B—in various transcriptions of foreign names and in the Persian transcription. Moreover, it is very likely that the phonetic forms of the A dialect (i.e., of the *h*Phags-pa inscriptions) also served for political reasons as a certain official standard for some regions, where the spoken language belonged to the B type. These regions consequently had two parallel pronunciations of the characters—one of them official, registered by the *h*Phags-pa script, and the other a more modernized vernacular, registered, e.g., by the Persian transcription. In such cases the Ancient Mandarin pronunciation embodied in the *h*Phags-pa script may be actually archaic.

Pelliot, while interested in Dragunov's idea, explicitly rejected it in a review (Pelliot 1932), and the Karlgren/Pelliot position probably remains the one more widely accepted today. But the discussion has remained an active one in 'Phags-pa studies. For example, a rather similar position to that of Dragunov was espoused by Hashimoto (1978-79). After considerable discussion he stated (1: 74),

> From these . . . points we assume that the Chinese characters were actually pronounced in more or less the same way as they are spelled by *h*Phags-pa script. These pronunciations were used in official proclamations to the literate intellectuals; then the phonological system inferred from these transcriptions should reflect some formal speech which the great majority of the intellectuals of the period spoke or at least understood.

And further, on page 76,

> We may conclude that the language reflected in the *h*Phags-pa transcriptions is very likely a natural variant of Chinese at that time, though it may not be a stage in the linear development from Ancient Chinese to Mandarin.

Reduced to its essentials, the earlier view admits the existence of only one linguistic entity underlying both the 'Phags-pa texts and other contemporary sources such as the *Zhōngyuán yīnyùn* and certain transcriptional materials. Where the 'Phags-pa system varies in the direction of increased complexity, these variations are held to be archaizing and artificial. The second view finds at least two varieties of Chinese in the relevant sources. The 'Phags-pa texts would represent a more formal, "official" dialect, while the other sources reflect a vernacular idiom of some sort.[5] Dragunov's work is also noteworthy for the fact that he was aware of the Bǎijiāxìng text and attempted to take account of the material there, though, as he himself conceded (1930: 629), he lacked access to a satisfactory version of the text.

Finally, we may mention here Earl R. Hope, who published a monograph on Chinese 'Phags-pa in 1953. Hope was a colorful character, a polyglot, professional translator, and a close personal friend of the great mongolist, Nicholas Poppe.[6] In his study, which he printed privately, Hope issued strident challenges to the leading sinologists of his day, including Karlgren. His ideas are sometimes interesting but tend to be both unsystematically argued and lacking in supporting evidence.[7]

2.3 The Period of Textual Discovery and Dissemination

This period was marked by the publication of the Bǎijiāxìng and MGZY texts. The general availability of these materials, particularly of the MGZY, has revolutionized the study of 'Phags-pa Chinese.

An event of the utmost importance for the study of the Bǎijiāxìng was the publication in 1956 of Louis Ligeti's article, "Le *Po Kia sing* en écriture 'phags-pa." This paper included a full facsimile of the text from which Ligeti worked, plus a transcription and editorial notes comparing material from the earlier works of Oshibuchi (1930), Dragunov (1930), and Lewicki (1949). Ligeti's article was soon followed by Luó and Cài's book-length study of 'Phags-pa Chinese, where two more full versions of the Bǎijiāxìng were reproduced (1959: 57-82). It was now possible for all interested scholars to work with the Bǎijiāxìng corpus, and Ligeti himself soon produced a new paper dealing with the material (Ligeti 1961).

Work on the MGZY manuscript text actually began in the 1920s and 1930s, but publication of this research was delayed by the outbreak of the Second World War. A photostatic copy of the manuscript was acquired by Ishihama Juntarō in 1924-1925 during a trip to Europe,[8] and was consequently made available to Japanese scholars for study. As we have seen, Oshibuchi had access to it. By the outbreak of the war, a book by Hattori Shirō, containing a chapter dealing with the MGZY materials, was ready in manuscript; but much of this was destroyed before the end of hostilities (Nakano 1971: 18). It was finally published in 1946 but did not become generally known outside Japan and Taiwan until decades later. A facsimile of the the Ishihama text was published by Kansai University in 1956; but, again, this copy does not seem to have been readily available outside Japan.

In the meantime, a photographic facsimile of the London text had reached China. This copy was made by Yú Dàoquán 于道泉 and then passed through several hands until it reached Luó Chángpéi 羅常培. Luó reported his impressions of it in 1939. Afterwards, he continued to study it together with his student, Cài Měibiǎo 蔡美彪. Their joint work on it was published in 1959, a year after Luó's death (1959: 83-127). Included in their treatment was a tracing of the photographic facsimile of the MGZY text, minus two missing pages.[9] With this, the text became generally available to interested readers.

As noted earlier, copies of the MGZY were in the hands of some Western scholars, such as Lewicki in Poland, by the 1940s. British scholars of course had continuous access to it, and Clauson (1959) included material from it in his discussion of the 'Phags-pa script. By the 1960s it had become the primary basis for the study of 'Phags-pa Chinese.

Denlinger (1963) investigated the material in the MGZY from the standpoint of Chinese historical phonology. Pulleyblank (1970) interpreted the data in terms of his own views on the structure of the pre-modern Chinese syllable, particularly as represented in the rime tables. Cheng Tsai Fa wrote two monographs on 'Phags-pa studies, Cheng (1965) and (1985). Cheng (1965) dealt mainly with textual questions, in particular those concerning the relationship between the MGZY and the Sòng-time rime books. Of special interest in this work is a reconstructed supplement for the putative contents of the two missing final pages of the British MGZY manuscript (Cheng 1965: 102-103). This reconstruction is effected in the following way. The probable number and identity of the missing entry lines is determined by comparison with the corpus of parallel material in the *Gǔjīn yùnhuì jǔyào*, and the characters which belong to each lost group are identified. Then, the

'Phags-pa inscriptions and the Bǎijiāxìng are combed for any examples of the said missing characters. Using this method, at least one example can be found for each of the missing lines, though by no means necessarily for every homophonous tone set belonging to each line. Cheng's 1985 monograph is of a very different type. It offers a phonetic interpretation of the 'Phags-pa Chinese system from the standpoint of Chinese historical phonology. In addition to the two monographs, Cheng also wrote a long article in which he critically examined a large number of variant spellings from 'Phags-pa Chinese sources and arranged his results in the order of the MGZY (Cheng 1967).

An important contribution of this period is Nakano (1971). This monograph provides a comprehensive summary of 'Phags-pa studies and a detailed phonetic interpretation of the 'Phags-pa Chinese orthography. Of particular significance is a synopsis of the contents of the MGZY (105-134). In this section, all entry lines of the MGZY text are numbered consecutively. Both a paleographic transcription of the original spelling forms and a phonetic interpretation are given for each entry. This is followed by the head character of each true homophone group in the line, marked by tone. The numbered entry lines are keyed to the page numbers of the Kansai University and Luó and Cài facsimiles. Thus, one can juxtapose this list with whichever facsimile one has in hand and match any particular line in both. At the end of the list (1971: 133-134), Cheng Tsai Fa's supplementary material is added. Nakano's consecutive numbering system is exceedingly useful and greatly facilitates access to the MGZY data. It is this system which has been adopted in the Glossary section of the present handbook.

Mantaro J. Hashimoto dealt extensively with 'Phags-pa Chinese in his doctoral dissertation on Ancient Chinese, which was completed in 1965 but not published until much later (Hashimoto 1978-79). Throughout the late 1960s and on into the 1970s he wrote often on 'Phags-pa matters. Hashimoto (1967), (1968 [1978]), and (1971) dealt with specific problems in the phonetic interpretation of the script. Hashimoto (1974) is actually a work of monographic length and consists of two parts. The first is a table in which all syllable types in the MGZY are arranged according to the QYS, as represented in the *Fāngyán diàochá zìbiǎo* 方言調查字表 promulgated by the Chinese Academy of Sciences. The second part tabulates, according to the syllabic order of occurrence in the MGZY, all forms from the Bǎijiāxìng, the 'Phags-pa inscriptions, and the Buddhist sutras. In preparing this compendium a critical edition of the Bǎijiāxìng was compiled, based on all four known versions. But this collation has apparently not been separately published as

such. Hashimoto (1975) tabulates the occurrence of QYS rimes in the MGZY. This table is thus in a sense the reverse of that found in the first part of Hashimoto (1974). All the articles mentioned here, from (1967) through (1975), have been reprinted together as a single monograph, Hashimoto (1978).

2.4 The Current Period

Mainland Chinese scholars have played an increasingly prominent role in the field of 'Phags-pa Chinese studies since the advent of the 1980s. Three early contributions are Jūnast (1980b), Yáng and Jūnast (1981), both of which are of a general or introductory nature, and Zhāng (1983), which deals with a specific problem in the interpretation of the orthography.

Of particular importance has been the publication of a complete photostatic copy of the MGZY manuscript by Jūnast and Yáng (1987). This must now be viewed as the optimum source for consulting the original text. The book contains a brief but informative introduction. Then, after the facsimile of the manuscript, it gives a reconstruction of the final, lost section. This utilizes several more recently discovered inscriptional sources not available to Cheng (1965). But it also differs from Cheng's work in another way. Cheng's approach may be called "narrow reconstruction," in that he only includes characters actually found in 'Phags-pa written sources. Jūnast and Yáng go beyond this by including in their restored homophone groups more characters from the parallel passages in the *Gǔjīn yùnhuì jǔyào*. This can be thought of as a "broad reconstruction." Each approach is useful in its own way, and the two can be said to complement each other. An even "broader" reconstruction is offered by Níng (1997: 185-188). Jūnast and Yáng also provide a syllabic index (150-157) for the MGZY text that is somewhat comparable to the synopsis given by Nakano. Their table is arranged by page number of the original manuscript and gives below this the 'Phags-pa orthographic head forms for each entry line, in romanized transcription. These forms are not numbered, but in subsequent references to them they are nonetheless denoted by number. Thus, the first entry line in the entire text would be identified as "上/\a1", the second as "上/\a2", etc., but in the index itself one must count the romanized forms in order to locate a particular line. The numbering system is therefore somewhat less convenient than the consecutive one used by Nakano. The MGZY manuscript in its received version contains many scribal errors and infelicities.

Jūnast and Yáng (159-178) provide an extensive list of suggested corrections and emendations. Another such list has been compiled by Níng (1997: 168-184). The two lists are by no means identical. The primary reason for this is that, while Jūnast and Yáng base their critical decisions on the text of the *Gǔjīn yùnhuì jǔyào*, Níng uses the *Xīnkān yùnlüè* as his guide.

A new critical edition of he Bǎijiāxìng has recently been published by Jūnast (2003). This will now supplant his older critical versions (Jūnast 1980a and 1990-91). Jūnast has been an indefatigable laborer in the field of 'Phags-pa studies throughout the past two decades. In addition to his work on Chinese 'Phags-pa, his contributions to many different aspects of Mongolian 'Phags-pa studies are legion. For the most part these lie beyond our purview here. Several, however, can be mentioned for their bearing on problems that involve both systems, i.e., Jūnast (1987, 1988, 1989, 1999).

There has recently been a renewal of interest in 'Phags-pa Chinese in North America. In particular we may note two newly published articles by Zhongwei Shen (2000, 2001). The first of these discusses a long-standing problem in the structure of the QYS from the standpoint of 'Phags-pa Chinese. The second attacks a particular orthographic problem in the 'Phags-pa system. To these may also be added two as yet unpublished contributions, i.e., Shen (in press) and Shen (Ms).[10] Finally, two recent papers by the present writer deal with the placement of 'Phags-pa Chinese vis-à-vis the development of competing standard forms of Chinese pronunciation as attested in alphabetic records of the past six centuries (Coblin 1999, 2001). These papers challenge the conventional stance that the sound system of 'Phags-pa Chinese should be viewed as an orthographically aberrant form of the system found in the *Zhōngyuán yīnyùn*, and they point out that many of the supposedly archaic features of the 'Phags-pa system were in fact still present in certain varieties of standard pronunciation of Míng times. It is suggested that there may have been competing varieties of standard pronunciation in the thirteenth century, as there were in later times, and that the 'Phags-pa system may have incorporated elements from such competing varieties. This view would be consonant with the probable historical and demographic background of the script, as outlined in section 1.5.3 of Chapter 1 above.

Notes

[1]We know of Jūnast (1990-91) only through Hugjilt's review.

[2]For a detailed listing of such works, see Nakano (1971: 10, esp. note 12).

[3]See, for example, Karlgren (1915-26: 360).

[4]Lewicki cites the text under the romanized title *Mong-kou tseu-yin*.

[5] As indicated in the closing lines of Chapter I, our own findings in this matter (Coblin 1999) tend to support in principle the position of Dragunov and Hashimoto as against the older and more common view.

[6]See Poppe (1983: 232-233).

[7]For a list of Hope's sometimes lively exchanges with his critics and antagonists, see Nakano (1971: 158). On Hope's scholarly approach, see Hashimoto (1978: 11, n. 23). For some more recent comments on his work, especially as regards his use of Korean evidence, see Ledyard (1997: 56).

[8]We are grateful to an anonymous reviewer for this information.

[9]These missing portions are in addition to the two lost pages of the original manuscript.

[10]We are grateful to Professor Shen for providing information on these unpublished works.

III
Analysis and Interpretation of the 'Phags-pa Alphabet

The analysis and interpretation of the 'Phags-pa alphabet involves four different but interrelated issues. Of these, the one about which there is the most agreement is the mechanical functioning of the script. The second area comprises the basic assumptions of the investigator about the historical and sociolinguistic nature of the underlying language. The third, concerning which there was in traditional times much discussion but about which there is now considerable agreement, is the paleographic origins of the individual graphemes. Fourth is the actual phonetic interpretation of the graphemes. This is the area of maximum disagreement among specialists, but even here there is consensus on many issues.[1] In the present chapter, we will begin by discussing the first and second of these four topics. The third and fourth ones will then be dealt with seriatim as we discuss the individual letters of the alphabet.

3.1 The Mechanical Functioning of the Alphabet

The 'Phags-pa script is written vertically. The constituent elements of individual syllables are composed vertically, and the resulting syllables then proceed down the page from top to bottom. Lines most often progress from left to right.

Graphically, there are two syllable types in the 'Phags-pa writing system. The first of these, which accounts for less than 1% of possible syllables, has no initial consonant at all. There are only three such syllable types, of which the following are examples:[2]

284.  **u** shǎng 五

763.  **o** qù 臥

437. **on** qù 玩

The second syllable type, which comprises over 99% of the syllables in the system, consists at the minimum of an initial consonant or semivowel, which serves as the "anchor" of the syllable. In the manner of Indic alphabets, if no other vocalic information is added, the initial consonant or semivowel embodies an inherent vowel **a**. For example, the letter  **th-**, when written alone, will yield:

S2.  **tha** rù 榻

The inherent **a** is overridden by the addition of a vowel sign, which is written below the anchoring consonant. An example is the following, where the vowel sign **o** has been added:

734.  **tho** píng 他

A medial semivowel can be added between the consonant and any vowel letters or in the presence of inherent **a**. In the following, the semivowel **w** has been added between **th-** and **-o**:

748.  **thwo** píng 託

Two diacritics or diacritic-like elements may also be added to certain of the vowels to further modify them. These will be discussed in section 3.3.9 below.

Final consonants and semivowels can be added at the end of a syllable. In the following example, the consonant  **m** has been added to the syllable **tha**:

653. **tham** píng 貪

The system lacks any form of tonal marking. As mentioned in Chapter 1, in the MGZY text characters are arranged in tonally identified homophone groups. But when the script is actually used, as for example in the inscriptions, it is completely toneless.

3.2 Assumptions Regarding the History and Nature of 'Phags-pa Chinese

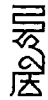
We must begin this section on a negative note. First, as outlined in section 1.5 of Chapter 1, there appears to be no historical basis for the common claim that 'Phags-pa Chinese was the language or dialect of the city of Dàdū. No actual historical evidence has ever been offered for this claim; and, on close examination, there appears to be none. On the contrary, all available indications suggest that this language was already in existence before the formation of the imperial metropolis as it existed in Yuán times. Furthermore, no concrete linguistic or demographic evidence has ever been adduced that ties 'Phags-pa Chinese directly to the local vernaculars spoken in the area of the pre-Dàdū Jīn-time city of Zhōngdū. If there is such evidence, no cogent or detailed presentation of it has ever appeared in print. Second, it is universally recognized that the sound system embodied in the Chinese 'Phags-pa orthography differs both in broad outline and in detail from the structural framework underlying the *Zhōngyuán yīnyùn*, whatever that text is assumed to represent.[3] Though opinions differ about the reasons for this divergence, its existence as such is incontrovertible and has in fact never been questioned. And, third, to our knowledge no historical, demographic, or linguistic evidence has ever been presented that 'Phags-pa Chinese is directly ancestral to any known later Chinese dialect or koine, either a textually attested pre-modern one or a currently spoken one. Any claim for such a tie would need to be rigorously demonstrated before it could be seriously entertained.

Now, let us shift to a more positive tack. Though we have no direct historical statements regarding the linguistic basis of 'Phags-pa Chinese, there is a theoretical possibility, outlined in section 1.5 of Chapter 1 above, that it may have been a lingua franca of late Jīn/late Southern Sòng times, and in particular one which was used in the personal entourage of Prince Qubilai (later Emperor Shìzǔ of Yuán). Historical accounts indicate that the Chinese members of this retinue were educated persons from different parts of China (Rachewiltz 1966). And it flies in the face of all we know about polite discourse in late traditional and early modern China to assume, as is sometimes still done, that such persons would have attempted to talk to each other in the regional vernaculars of their several native areas. Instead, all evidence and precedent suggest that they would have conversed in some form of more generally intelligible koine or tōngyǔ 通語. This observation leads us to review what is currently known about the phonological aspects of Chinese koines of the traditional period.

The first point we may consider is that the pronunciation of traditional koines often comprised different sub-varieties. A good example is the Guānhuà koine of

Míng and Qīng times. We know from native sources that there were at least two major regional ways of pronouncing this language. One, called Nányīn 南音, or "Southern Pronunciation," was originally rooted in the Jiāng-Huái 江淮-type Mandarin pronunciation of the Yangtze watershed, though it was later used by officials from many parts of China and was in fact the preferred system until the nineteenth century. The other type was called Běiyīn 北音, or "Northern Pronunciation," and reflected the speech patterns of north China. It gained increasing prominence in the eighteenth and nineteenth centuries and is directly ancestral to the pronunciation of the modern koine, Guóyǔ 國語/Pǔtōnghuà 普通話. It seems likely that such koine sub-varieties existed in late Jīn/late Southern Sòng times, especially given the fact that the country had at that time been politically divided for a considerable period. And if this is true, then the variant pronunciation systems in question would almost certainly have been represented among the different speakers present in Qubilai's retinue. Indeed, we can reasonably assume that the type of sound system they used was a leveled or consensually adjusted amalgam of the variant pronunciation types current among them, the ultimate goal always being an optimal level of mutual intelligibility.

A system of the type envisaged here is by definition a composite, in that it encompasses elements derived from different koine subtypes. But it is not "artificial" or "unnatural," as these terms are normally understood. For all of its constituent elements and configurations would have been native to someone among the body of speakers who used it. The survival of any one of these traits for any length of time would have been contingent on an evolving consensus among those speakers. A feature which failed to gain or maintain for itself such a consensus would fall out of general use. That disparate elements and patterns existed in competition with each other in 'Phags-pa Chinese can be seen from cases such as that of the following word:

631.  **ng^{h}iw** shǎng 偶

In the *Gǔjīn yùnhuì jǔyào* the syllable ǒu 偶 is said to have been read with the initial yǐng 影 in the Měnggǔ yùn, which term, as we have seen in section 1.4.3.2 of Chapter 1 above, almost certainly refers here to the *Měnggǔ yùnlüè*. Now, from the Chinese Ordering of the alphabet presented in section 1.3 of Chapter 1, we see that the name yǐng refers specifically to 'Phags-pa letter no. 33.  of the Chinese list. From

this we conclude that the *Měnggǔ yùnlüè* must have had the following spelling for 偶:



What this tells us is that in the language we have chosen to call "'Phags-pa Chinese" there was internal variation. The two different 'Phags-pa lexica, i.e., the MGZY and the *Měnggǔ yùnlüè*, have selected different variants for the reading of this syllable. Interestingly, if we look at the early Míng Nányīn pronunciation of Guānhuà, we see that the same type of competition existed there. In the Standard Readings (i.e., Zhèngyīn 正音) of the Korean sinologist Sin Sukchu 申叔舟 (1417-1475), the word 偶 is recorded as ŋəw (上), while in Sin's Popular Readings (i.e., Súyīn 俗音) the spelling is əw (上).[4] Thus, in dealing with 'Phags-pa Chinese, we should not be surprised to encounter indications of a composite sound system of the type evinced by the later Guānhuà koine, where disparate elements appear and are sometimes in competition with each other.

Though the formation of the 'Phags-pa Chinese sound system may originally have been a matter of informal consensus, its reduction to writing was in effect a type of standardization. The compilation of works such as the MGZY and the *Měnggǔ yùnlüè* can be considered formal acts of codification in which standards were being established by the 'Phags-pa schools and/or the Hànlín Academy. The existence of such standards always raises the problem of idealized systems versus linguistic reality. For example, modern standard Chinese, as codified in the zhùyīn fúhào 注音符號 syllabary and in the pīnyīn romanization, makes a strict distinction between dental and retroflex sibilants, and there are definitely speakers of the koine who can and do consistently make this distinction. But, by the same token, there are millions of speakers who do not. In fact, in some venues, such as Taiwan, there are almost no speakers who make it in ordinary conversation. It is probably true, however, that nearly 100% of speakers would consider the distinction in some sense a "valid" feature of the ideal and established standard system. Even those who never make it would not assert that it is artificial, archaizing, or in some other way illicit. Similarly, the early Míng Nányīn pronunciation of Guānhuà, as codified in the *Hóngwǔ zhèngyùn* 洪武正韻, carefully distinguished a zhuó 濁 or murmured series of initials from voiceless plain and voiceless aspirated series. Sin Sukchu was able to find speakers from the Yangtze watershed who made this distinction. In fact, he left a

description of its phonetic characteristics. However, it seems virtually certain that at that time many speakers from various areas of north China did not make the distinction when speaking the koine. Again, the fit between an established standard pronunciation system and the spoken realization of that system can be imperfect for many, and in some cases perhaps even the majority, of speakers. But the speakers themselves do not recognize this as an inconsistency, and they do not view such imperfect fits as flaws in need of correction. This principle must be kept in mind when we interpret the 'Phags-pa script. To wit, we must at the outset try to determine what phonetic features the framers meant to convey in their particular orthographic forms. The question of who could or could not meet these standards is a separate problem and must be addressed only after the standards themselves are fully understood.

3.3 Transliteration and Interpretation of the Alphabet

Since the 'Phags-pa alphabet is derived in great part from the Tibetan script, it is convenient to use a Tibetan-based romanization to transliterate it. The fundamental principle of an accurate transliteration is that any reader, having learned the system, will be able to reconstitute the original script forms from the transliterated ones without recourse to any other information. We are guided by this principle here, and our transliteration is wherever possible based on the Wylie system for transliterating Written Tibetan. Transliterations are given in bold type. Where appropriate, MGZY tone categories are identified along with the transliteration, using Chinese names romanized in the pīnyīn system. Phonetic interpretations of the 'Phags-pa letters appear in IPA and are enclosed in square brackets.

3.3.1 The Velars

	**g**	[k]
	**kh**	[k']
	k	[g]
	ng	[ŋ]

The Tibetan letters *k* ཀ, *kh* ཁ, *g* ག, and *ng* ང are the origin of the 'Phags-pa forms in this set. Their phonetic interpretation in Chinese 'Phags-pa is not controversial. The two forms for 'Phags-pa **k** are graphic variants.

A famous enigma in the script is the fact that Tibetan voiced stops and affricates are used to write Chinese voiceless plain initials, called qīng 清 "clear" in the Chinese philological tradition. Conversely, Tibetan voiceless plain letters correspond to the initial class traditionally called zhuó 濁 "turbid." The reasons for this oddity have been widely discussed and remain controversial. In our view the most convincing solution is that suggested by Nakano (1971: 61-63) and Norman (1988: 51).[5] Norman comments, "This situation, so startling at first sight, can be readily understood if only we remember that the 'Phags-pa script was devised for writing Mongolian and only secondarily applied to Chinese. Middle Mongolian had only a two-way contrast of stops, one of which was lenis and unaspirated, the other fortis and aspirated; the first of these series was written with the Tibetan letters representing *b*, *d*, *g*, while the second was transcribed with the Tibetan aspirates *ph*, *th*, *kh*." Thus, when it became necessary to render the Chinese zhuó initials, only the Tibetan plain consonant letters *p*, *t*, and *k* remained available to the 'Phags-pa transcribers. It is generally agreed today that the two traditional sound classes, i.e., qīng (voiceless plain) and zhuó (voiced or murmured), were clearly distinguished in the 'Phags-pa orthography. However, there has been doubt about whether this distinction actually existed in the real underlying form of Chinese represented by the script. In other words, it is sometimes assumed that the distinction is completely artificial and derives from earlier dictionaries, rime tables, etc. Two major arguments have been advanced in favor of this idea. One is that the distinction does not occur in the *Zhōngyuán yīnyùn*. If one believes that this text and the 'Phags-pa orthography represent one and the same underlying language, then one cannot accept the 'Phags-pa distinction at face value. But, as we have argued earlier, there is no valid reason to conflate these two systems. On the contrary, available evidence suggests that they were not based on the same underlying language. Here we may also mention again the early Míng Nányīn form of Guānhuà pronunciation, as observed and recorded by Sin Sukchu. In this system, we see that the zhuó series was still preserved in at least one variety of standard Chinese pronunciation at a time later than the creation of the 'Phags-pa script. There is therefore nothing implausible about finding it in another form of standard pronunciation from two centuries earlier.

A different type of objection to the phonetic reality of a 'Phags-pa zhuó class has

been raised by Cheng (1985: 50). He cites an interesting set of examples from the 'Phags-pa inscriptions where, when faced with the practical task of producing Chinese texts in the 'Phags-pa script, the writers failed to maintain the zhuó distinction consistently. This, he feels, indicates that the distinction was not a real one when the script was developed. In our opinion, what Cheng's examples show is that during the Yuán period there were indeed individuals who did not have the zhuó distinction in their speech. In effect, they could not spell correctly by ear.[6] However, it does not prove that the framers of the script had created a nonexistent distinction. To use a modern parallel, many speakers from central China and Taiwan are unable to maintain the retroflex/dental sibilant distinction in alphabetically transcribing modern standard Chinese, but this does not prove that the distinction is a artificial. On the contrary, choosing a different set of speakers as our transcribers, we would find the distinction clearly in place. In the end, we have no real reason to doubt the work of the script framers here. Like Sin Sukchu, they may very well have found speakers among their informants who could make the qīng/zhuó distinction. Since this was also the authorized configuration found in native Chinese sources of the period, it must be included in the orthography. On the other hand, this does not constitute a blanket claim that the distinction existed in all spoken vernaculars, or even in the prevalent lingua francas of particular areas in Yuán times. There was almost certainly considerable variation in both speech types. In studying pre-modern Chinese language, we should on the one hand avoid conflating the issues of koine and regional vernacular pronunciation, and on the other set aside the older sinological view that koine pronunciation was homogeneous and free of layering and internal variation.

3.3.2 The Labials

𐡁	**b**	[p]
𐡂	**ph**	[p']
𐡃	**p**	[b]
𐡄	**m**	[m]

These letters are direct borrowings of Tibetan *p* པ, *ph* ཕ, *b* བ, and *m* མ. There is general agreement regarding their interpretation.

3.3.3 The Labiodentals

𠘨 (非)	**Hw**	[f]
𠘨 (敷)	**hw**	[f]
𠘨 (奉)	**Hw**	[v] ?
𠘨	**w**	[ʊ-, -w]

The Tibetan alphabet having possessed no labiodental fricatives, the first three members of this set are specially created digraphs. They have been formed by combining the letters **H** and **h** with the medial letter **w** (concerning all of which see section 3.3.7 below). In various texts and in the MGZY they are often simply written as juxtapositions of the two constituent elements, rather than as real digraphs. As we have seen in Chapter 1, section 1.3 above, the Tibetan Ordering of the alphabet has only one fricative letter here, corresponding to the one we transcribe as **Hw**. The Chinese Ordering in the MGZY lists three letters here, which are identified with the traditional zìmǔ names fēi 非, fū 敷, and fèng 奉. The first and third of the three are written in the same way in that list. In actual usage, including that of the MGZY itself, there is often no clear distinction between the three. However, certain authorities, such as Hashimoto (1978-79: 93), believe that the outlines of a distinction can be discerned. One of the consonants in question corresponds to the first two elements above and would be voiceless. The other would be voiced and correspond to the third. A distinction of this type did still exist in the Nányīn Guānhuà pronunciation of early Míng times, as represented in Korean transcription. Perhaps it was also present among certain Yangtze watershed speakers of 'Phags-pa Chinese two centuries earlier. We indicate it as a possibility in our interpretation.

The fourth letter, which is an adaptation of the Tibetan letter *w* ཝ, occurs both initially and finally in 'Phags-pa Chinese syllables. In initial position we interpret it as

a voiced labiodental approximant. In final position, we take it as a voiced rounded labiovelar approximant.

3.3.4 The Dentals

	**d**	[t]
	**th**	[t']
	**t**	[d]
	n	[n]

These letters are direct borrowings of Tibetan *t* , *th* , *d* , and *n* . Their interpretation is uncontroversial.

3.3.5 The Retroflexes and the Palatal Nasal

	**j**	[ʈʂ]
	**ch**	[ʈʂ']
	**c**	[dʐ]
	**sh**	[ʂ]
	zh	[ʐ]
	ñ	[ɳ]

These forms are based on the Tibetan palatals *c* , *ch* , *j* , *sh* , and *ny* . 'Phags-pa **zh** is a modified form of 'Phags-pa **sh** rather than a direct borrowing of a Tibetan letter. The nasal member of this set is universally interpreted as palatal. The

oral members are interpreted as palatals by nearly all authorities. Nakano (1971) takes them as retroflexes. Cheng (1985: 83) classes them as retroflexes but then refers to them in his subsequent discussion as "alveolar-palatals" (loc. cit.). It is therefore not clear how he really views them. In the absence of contemporary evidence, it is very difficult to make an objective choice between these alternatives. The palatal choice, which is usually not discussed at all by those who make it, seems to be based on the phonetic values of the Tibetan letters and the presumed values of the Mongolian 'Phags-pa counterparts. But neither of these points proves anything about the 'Phags-pa Chinese values. The comparable initials in the Nányīn pronunciation of early Míng times are described by Sin Sukchu as retroflexes (i.e., juǎnshé diǎn'è 卷舌點齶 "one curls up the tongue and touches the palate"); but, again, this proves nothing about their 'Phags-pa Chinese values. In the end, we have little of a substantive nature to guide us here. This being the case, our own choice is to follow Nakano and view the sounds in question as retroflexes.

3.3.6 The Sibilants

ཛ	**dz**	[ts]
ཚ	**tsh**	[ts']
ཙ	**ts**	[dz]
ས	**s**	[s]
ཟ	**z**	[z]

The fourth and fifth members of this set are the Tibetan letters *s* ས and *z* ཟ, respectively. The first, second, and third are not Tibetan in origin. Hashimoto (1967: 162) has proposed that they ultimately derive from the Devanagari letters *c* च, *j* ज, and *ñ* ञ, respectively. For a slightly different sorting of the Devanagari equivalents, cf. Nakano (1971: 54-55). There is general agreement among 'Phags-pa specialists regarding the phonetic interpretation of this group of letters.

3.3.7 The Laryngeals and Semivowels

(31)  曉	**h**	[x]
(32) 匣	**X**	[ɣ]
(32a) 同上	**H**	[ɣʲ] → [ɣ]
(33) 影	**'-**	[ʔ]
(33a) 同上	**Y**	[ʔj]
(34) 喻	**x**	[ɦ]
(34a) 同上	**y**	[j]

Within the alphabet as a whole this set of letters has constituted the area of maximum disagreement among specialists in 'Phags-pa Chinese. Our list follows the Chinese Ordering of the MGZY. The individual letters are numbered for convenience of reference. In addition, we have added the MGZY's Thirty-Six Initial designations. To begin, we note that two of the letters are uncontroversial. Letter (31) is a borrowing of the Tibetan letter *h*  and is universally held to be a voiceless guttural fricative in 'Phags-pa Chinese. We interpret it as [x]. The 'Phags-pa letter 34a is an adaptation of the Tibetan letter *y*  and is generally recognized as a high front unrounded glide or semivowel [j]. It occurs both initially and finally.

Letter (32) is non-Tibetan in origin and thus has no counterpart in the Wylie system. We transliterate it as capital **X**. Hope (1953: iii) and Poppe (1957: 22) suggest that it is a combination of the Mongolian 'Phags-pa letter **q**  (not used in Chinese)[7] and the medial semivowel letter **w**  (see section 3.3.10 below). Hashimoto (1967: 169-171) rejects Poppe's paleographical theory (without mentioning Hope) and instead suggests that the 'Phags-pa letter derives from Devanagari *gh* .[8] Among those who regard **X** as a validly distinct entity in the script, it is almost universally interpreted as a voiced velar fricative [ɣ], i.e., the voiced or zhuó counterpart of **h** [x]. Cheng is an exception here in that he sees it as a voiced

laryngeal fricative [ɦ]. The value of the comparable initial in the early Nányīn pronunciation of Guānhuà, a system which also preserved a separate zhuó class of initials, was [ɣ].

There has, however, been a different school of interpretation, represented early on by Hope (1953). This school rejects the existence of any voiced or zhuó initials in 'Phags-pa Chinese. A prominent later exponent of this view was Clauson (1959: 317), who felt there could be no real difference between Chinese 'Phags-pa **h** [x] and **X** [ɣ] because "there is ample evidence to show that by the thirteenth century the sounds of the two tzŭ mu in question had converged, for example in the indiscriminate use of words with both initials in the transcription system of the 'Secret History' and the Hua-i i-yü." Another strong proponent of this view is Pulleyblank (1970: 368-372) who remarks (368): "The first point that must be made is that from the other evidence we have it is clear that these Chinese voiced, or 'muddy', initials had lost their voicing by the Mongol period. This is shown by the CYYY [i.e., *Zhōngyuán yīnyùn*], where the distribution is like that of Modern Mandarin, as well as by the Chinese transcriptions of foreign words at that period." Inherent in these arguments is the older sinological view, strongly espoused by Karlgren, that (1) in each particular period of Chinese history there was a single standard form of pronunciation which all written records must be seen to represent, and (2) that the standard pronunciation of one period must be viewed as the direct progenitor of that found in the next period, forming a unified chain of development from the distant past down to present day modern standard Chinese. But the fact is that research in recent decades on the history of traditional Chinese koines suggests that the picture has been far more complex than this. As regards the present problem, we have seen in Chapter 1, section 1.5.3 above, that 'Phags-pa Chinese was surely not identical with the forms of north Chinese which Clauson and Pulleyblank cite as guidelines for their judgments here. In particular, we may suppose that there were in Qubilai's entourage persons who could and did distinguish the sounds written by 'Phags-pa **h** and **X**. We know that this distinction was made by Yangtze watershed speakers of Míng-time Guānhuà, and we also know that two hundred years earlier there were natives of the Yangtze watershed present in the coterie of Chinese scholars in Qubilai's court. It is consequently reasonable to suppose that these persons could and did make the distinction in question here when they spoke their subtype(s) of standard Chinese, and that the 'Phags-pa orthography has recorded that distinction here. To assert this is by no means to claim that north Chinese speakers of the Yuán period made such a distinction when they spoke either their native dialects or their own varieties of the lingua franca. In all probability they

did not. But the system *as a system* almost certainly reflects the pronunciation of someone who could and did make the distinction. Finally, there is no reason to assume that 'Phags-pa Chinese is ancestral to the sound system of modern standard Chinese. No evidence has ever been offered for such a view, and the assumption is unwarranted in the absence of such evidence.

Letter (32a) is a modified form of letter (31) **h** and/or Tibetan *h*. We transliterate it as capital **H**. In the MGZY alphabet list it is followed by the designation tóngshàng 同上, which here simply means "ditto," i.e., that the traditional zìmǔ designation for it is the same as that for the preceding letter. To wit, both letters (32) and (32a) fall under the traditional zìmǔ known as xiá 匣. In the 'Phags-pa orthography it is usually followed either by the medial elements **y** or **ÿ**, or, rarely, by the combination **-wÿ-**, while the letter **h** does not occur in these environments. This has led to the general assumption that **H** is a fronted or palatalized allograph of **h**, or as Clauson (1959: 315) puts it, a "yodicized" variant of **h**. We have represented it as [ɣʲ] in the chart above, but the raised *j* is redundant in transcribing full syllables and can be suppressed.

Letter (33) has been adapted from the Tibetan letter '- (or *'a*) ཀ, often called *'a-chung* in Western tibetological works. Disagreement over its phonetic interpretation in 'Phags-pa Chinese led to the famous exchanges between Hope and others working in the field. In Karlgren's "Ancient Chinese" system, syllables written with this 'Phags-pa letter were supposed to have a glottal stop initial. Modern Wu dialects still have such an initial in these cases today. North Chinese dialects, on the other hand, often have zero initials in these places, and a zero initial is also posited for such syllables in the *Zhōngyuán yīnyùn* system. The argument in 'Phags-pa studies concerns whether or not the glottal stop initial could have existed in standard pronunciation in 'Phags-pa times. In a way, the question is similar to that of the zhuó initials mentioned above. The fact is that in the Zhèngyīn-type Nányīn pronunciation of Míng-time Guānhuà, Sin Sukchu recorded a glottal stop at exactly the points where the 'Phags-pa letter **'-** occurs. If we assume that Yangtze watershed speakers of the 'Phags-pa koine also had this feature in their speech, it should not surprise us that it is preserved in the orthography. To reiterate what has been said above, this is in no way a claim that northern speakers of this koine would have had such a feature in their speech. In fact, it seems likely that they did not. But the 'Phags-pa system, as system, appears to have been like the Míng-time Nányīn here, in that there were persons who did have this feature in their speech. Accordingly, we interpret it as [ʔ].

Letter (33a) is a modified form of (34a), which, as we have seen, is derived from

the Tibetan letter *y*. For this reason we transliterate 33a as capital **Y**. It is said to belong to the same zìmǔ as letter (33) **'-**, i.e., to the yǐng 影 initial. It could therefore be characterized as a "y-like" or palatal allograph of **'-**. We represent it phonetically as [ʔj]. There are places in the orthography where **'-** [ʔ] and **Y** [ʔj] contrast, and in such environments the element [j] must be included in the phonetic interpretations. The following pair illustrates this:

306.  **'ay** píng [ʔaj] 哀

307.  **Yay** píng [ʔjaj] 注

Letter (34) is a borrowing of the Tibetan letter , often called *a-chen* in the tibetological literature and left untranscribed in the Wylie system. Since it is paleographically useful to have a symbol for it, we transliterate it here as **x**. It has an interesting distribution in that it appears almost exclusively before finals having high rounded onsets. The following are examples, where, in anticipation of the discussion in sections 3.3.9 and 3.3.10 below, our phonetic interpretations of the finals are added:

228.  **xue** [ʔ-uĕ] píng 危

280.  **xÿu** [ʔ-y] píng 魚

793.  **xwa** [ʔ-wa] shǎng 瓦

Here we see that **x** occurs before [u], [y], and [w]. An exception to this is the following example:

S37. **xa** píng 阿

But this syllable does not occur in the surviving text of the MGZY. It is, on the contrary, restored on the basis of three examples found in sutras. Whether or not it

ever really appeared in the MGZY text is questionable. The canonical MGZY reading for the word in question is found in the following entry:

743.  **'o** píng 阿

Thus, the position of 阿 as an exception to the general occurrence pattern for **x** is problematic. To account for this more general pattern, Nakano (1971: 79-80) interprets **x** as a high front rounded semivowel [ɥ], which she customarily writes as *y*. However, this solution has the disadvantage that in syllables like that in example 793 above it posits two adjacent rounded semivowels, i.e., a [y] and a [w] (the latter written ŭ by Nakano), at the head of a single syllable. It has in fact never been accepted by other scholars.

Many authorities interpret the underlying entity represented by **x** as initial zero. Hope designates it as "muddy pitch null" (1953: i),[9] while Denlinger (1963: 424) characterizes it as the "zero initial in a lower register." Hashimoto (1978-79: 100) states that it "can be interpreted simply as a character showing the absence of initial consonant." The problem with this solution is that it fails to account for examples of the following type, which we have in fact already seen in section 3.1:

437.  **on** qù 玩

763.  **o** qù 臥

284.  **u** shăng 五

Neither Hope nor Denlinger seems to have been aware of these examples. Hashimoto (1978: 75-160) includes them as syllable types in his tables but transcribes them with initial Ø-, which is the same form he uses to render the letter **x**. Thus, a reader who did not have the original forms before him would have no way of detecting the presence or absence of **x** and would simply assume from Hashimoto's data that the written forms were ***xu**, ***xo**, and ***xon**, respectively. In the end, these examples vitiate the argument that **x** is simply a symbol for initial null in syllables which lack any other initial. From a graphic standpoint it is interesting that many syllables having initial **x** could not in fact be written without it. For example, 阿 **xa**, if

we remove the letter **x-**, disappears completely from the page, while **xÿu** 魚 and **xwa** 瓦 could not be written without **x-**, because **-ÿ-** and **-w-** in these cases are medial elements and cannot stand on paper without an initial letter above them to serve as anchor. On the other hand, examples 284, 437, and 763 again indicate that, mechanically at least, a syllable beginning with a vowel can be written without an anchoring initial. Thus, for example, the word 危 **xue** could theoretically be written alone as ***ue**, if for some reason one chose to construct it that way. This is not a graphic impossibility. One cannot, then, remove **x** from consideration as a mere artifact of the graphic system.

Cheng (1985: 80) has approached the problem from an entirely different angle. The *Gǔjīn yùnhuì jǔyào*, which contains no 'Phags-pa writing as such, uses a system of formulas, made up of Chinese characters, to denote the letters of the 'Phags-pa alphabet. The formula for letter **x** is as follows:

角次濁次音

Now, as Cheng points out, the element jiǎo 角 here denotes the yáyīn 牙音 or velar class of consonants. And cìzhuó cìyīn 次濁次音 means "voiced fricative".[10] Thus, the letter is classed as a voiced velar fricative, and Cheng accordingly interprets it as [ɣ].

What can be done with the information we have gathered here? The formula Cheng has cited from the *Gǔjīn yùnhuì jǔyào* is intriguing and does seem to indicate the existence of some sort of underlying fricative-like guttural, at the phonetic level at least. We can represent this as [ɦ]. Since our task in the present study has been to arrive at a phonetic interpretation rather than a strictly phonemic one, we can consider the job done at this point and interpret **x** as [ɦ]. But it is worthwhile to go a step further and consider briefly the phonemic problem raised by the work of others who have addressed the problem of **x**. Can we combine initial [ɦ] and [Ø] as a single phoneme here? We can begin by assuming, as the data themselves suggest, that [ɦ] occurs exclusively before high rounded elements. This will account for its absence from the syllables represented by the written forms **o** and **on** in examples 437 and 763, respectively, which really do begin with phonetic [Ø]. Example 284 is a problem, for here we have an absence of [ɦ] before the vowel [u], which stands alone after [Ø]. Since there is no contrasting ***xu** [ɦu] in the system, we could simply list the syllable type [u] as "special" for some unknown reason, and leave it at that. It is a solution, though not a particularly satisfying one. Some scholars would take a further step and

combine this "lower register zero" with "upper register" initial '- [ʔ] to form a sort of "grand phoneme /Ø/." In order to do this, one should have a clear picture of the tonal system underlying the 'Phags-pa Chinese sound system as a whole. The script sheds no direct light on this, for tones are not indicated there. The MGZY arranges its data according to the four classical tones. The fact that the language distinguishes a zhuó series of initials suggests that there may have been phonetically distinct upper and lower register types for at least some of the tones. On this basis one might speculate that [ʔ] (in upper register) and [ɦ] plus [Ø] (in lower register) formed a common phoneme /Ø/ in the language. All depends on how much guessing one is willing to do about the tone system.

3.3.8 The Liquids

	**l**	[l]
	**Zh**	[r]

The first letter of this pair is adapted from Tibetan *l* . Its interpretation as Chinese [l] is uncontroversial.

The second letter is a borrowing of Tibetan *zh* . We transliterate it as **Zh** and interpret it as a voiced retroflex continuant, to be represented phonetically as [r]. Note that this sound contrasts with the voiced retroflex fricative **zh** [ʐ] in the system.

3.3.9 The Vowels

	**i**	[i]
	**ʰi**	[ə,ɿ,ʅ]
	**ʰa**	"A"

	**u**	[u]
	e	[ɛ]
	o	[ɔ]

In absolute initial position, the vowel signs begin with a horizontal stroke or bar. Elsewhere in the syllable this bar is omitted.

As we have seen in section 3.1 above, the vowel **a** [a] is not separately indicated by the script. Instead, it is inherent in syllables which are not marked in some way for other vowels. Because it is embedded in the system rather than specified by the script, some 'Phags-pa specialists enclose it in parentheses when transliterating it. This convention has not been adopted here.

The letter **i** is a borrowing of Tibetan *i* . It is generally interpreted as having the cardinal value of IPA [i].

The element **ʰi** is a digraphic combination, in which the letter **h** serves as a superscribed diacritic on the following vowel **i**. Our transliteration is intended to reflect this superscription. After sibilants and retroflexes **ʰi** is generally believed to have represented an apical vowel. Our assumption here is that, as in the case of modern northern dialects, there were probably plain and retroflex realizations of this vowel, i.e., [ɿ] and [ʅ], respectively, after the two different initial types. In other environments it can be interpreted as [ə], as has often been suggested in the literature.[11]

The letter  **h** can also serve as a diacritic on the vowel **a**. In this case, **h** appears after the initial consonant of the syllable, with no following vowel symbol. We transliterate this configuration as **ʰa**, as in the following example:

151.  **jʰang** píng 莊

Syllables of this type contrast in the system with others, such as the following:

105.  **jang** [tṣaŋ] píng 張

The phonetic value of **ʰa** has been the subject of some discussion. At the outset

we may observe that the orthography itself suggests for **ʰa** a single underlying vowel, which was "a-like" but in some way different from [a]. Zhang (1983) in fact believes that in syllables such as zhuāng 莊, **ʰa** represented "[a] par excellence," and that the diacritic element had the effect of suppressing all medials. Thus, one would have underlying forms of the following type here:

莊 [tʂaŋ] 張 [tʃjaŋ]

These forms are quite similar to those actually attested in Sin Sukchu's Zhèngyīn forms for early Guānhuà, i.e.,

莊 [tʂaŋ] 張 [tʂjaŋ]

The problem is, however, that the 'Phags-pa orthography clearly does not reflect a system of this type. On this point, 'Phags-pa Chinese and Sin's Guānhuà were different.

Ligeti (1956: 29) takes a very different tack. He suggests that **ʰa** is really an abbreviation of **ʰi + a**. Thus, a syllable like zhuāng 莊 should be read as (**jʰang** =) **jʰiang**, where **ʰi** is to be interpreted as the apical vowel, written by him as [ï]. This theory is tacitly adopted by Hashimoto (1978-79: 109-110), clearly on the grounds that Hashimoto felt a 'Phags-pa -ǐaŋ (in his transcription) would better yield a -ŭaŋ in certain later forms of Chinese, such as that recorded by Nicolas Trigault in the *Xīrú ěrmùzī* 西儒耳目資 (1626), as well as modern standard Chinese. Hashimoto is followed here by Cheng (1985: 74). This interpretation is problematic on two grounds. First of all, there seems to be no basis for Ligeti's speculation. It is merely a conjecture for which there are no parallels elsewhere in the script. Second, as outlined in section 3.2, we have no grounds for assuming that 'Phags-pa Chinese was directly ancestral to modern standard Chinese or related varieties of north Chinese. On the contrary, if anything, it is structurally more similar to the type of Guānhuà pronunciation reflected in Sin Sukchu's Zhèngyīn system at this particular point. We would do better to envisage a single vowel opposite **ʰa** here.

This has in fact been the approach of Nakano (1971) and Shen (2001). If we assume that 'Phags-pa **a** had the cardinal value of this vowel, then it stands to reason that **ʰa** represented something else. Nakano and Shen both posit varieties of [a] here. Nakano (1971: 74), comparing modern standard Chinese and certain Wu dialects, chooses [ɒ], an open back rounded vowel. Shen posits [ɑ], an open back unrounded

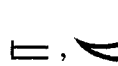
vowel, on the basis of structural and acoustic arguments for a unified acoustic behavior of **h** as a diacritic. It is worth noting that these two investigators agree in proposing back vowels here. Neither has suggested a front variety of *a*. As to the question of rounding, we may say that nothing in the script itself suggests this feature, which would seem to tilt the scale in favor of Shen's interpretation. But we are dealing here with very fine phonetic detail, and such matters are inevitably conjectural in cases of this sort. Other possibilities exist, for example [ɐ], a not quite fully open central unrounded vowel. Given the uncertainties here, our choice is to demur and represent the vowel in question abstractly, as "A," which is to be understood as some *a*-like vowel other than the cardinal vowel [a].

The letter **u** is derived from Tibetan *u* . Its interpretation as [u] is uncontroversial.

The letter **e** is believed to be derived from Tibetan *e* . Shen (2000: 96) suggests that it is an inversion of the Tibetan letter. It is generally interpreted as a mid front vowel of some sort most often transcribed *e*, *ė*, or *ɛ* in the literature. We shall interpret it as [ɛ]. The graphic form of the letter tends to vary in the texts, with one variant being . This form is unfortunately quite similar to one of the usual writings of medial **w** (see section 3.3.10). The two are consequently often confused, particularly in the MGZY, which makes no real distinction. In many cases distribution can be used to distinguish them. In others, comparison with text examples in inscriptional and other sources allows us to disentangle them. As a result, the forms in the MGZY can be normalized to indicate the distinction. In our Glossary and examples we use the variant  for this vowel. By contrast, medial **w** will be conventionally written  to provide maximal differentiation between the two.

The letter  **o** is derived by inversion of Tibetan *o* . is the form used in absolute final position. Elsewhere a vertical bar is added in the center to link the vowel with a following element, thus: . The letter is thought to represent a mid back rounded vowel. We interpret it as [ɔ].

3.3.10 The Medial Semivowels

	**w**	[-w-]
	**y**	[-j-]

 ÿ [-j- + vowel fronting]

The first letter of this group is derived from the Tibetan medial letter *w* ཝ. It is written in several slightly different ways. In our glossary we conventionally represent it as  in order to differentiate it from the letter **e** , concerning which see section 3.3.9 above. We interpret it as the rounded labiovelar approximant [w]. In keeping with the convention of the Wylie system, we transliterate medial **w** with the same Latin letter used for initial and final **w** , concerning which see section 3.3.3 above. No confusion is possible between the two, since does not occur medially.

The medial **y**, written  or , is a borrowing of the Tibetan medial *y* . The second form is an attempted replication of the Tibetan letter. The first is a restyled adapation which employs the typical angular or quadratic ductus of the 'Phags-pa script. We have adopted the first form in the present work. In keeping with the usage of the Wylie system, we romanize it with the same Latin letter used for the initial and final semivowel **y** , concerning which see section 3.3.7 above. There is no confusion between the two, since the medial occurs only syllable internally, while does not appear in this position. In the MGZY, medial **y** is never clearly written as . Instead, it is consistently miswritten as . These anomalies can be normalized by comparing the correct writings of the affected syllables in other 'Phags-pa sources. Medial **y** is also sometimes written as  in the MGZY. This form is in turn sometimes corrupted into **w** or **e**, in their realizations as  ~ and , respectively. These errors too can be corrected by comparison with other materials. Medial **y** has a rather peculiar distribution in the system. In the received version of the MGZY it occurs exclusively before the vowel **a**. In examples from other 'Phags-pa sources it also appears before **i** in syllables from one homophone type (see entry 97 of the Glossary) and before **u** in five homophone sets (see entries 231-235 of the Glossary). In any case, it appears to have a close association of some kind with the vowel **a**.

The letter is one of the most problematic elements in the 'Phags-pa alphabet and has been the subject of considerable disagreement. The discussion has in general involved three different but intimately related questions, i.e., (1) the paleographic origins of the letter, (2) its position in the traditional Tibetan and Chinese lists of the alphabet, and (3) the manner in which it functions in the orthography.

There have been two theories regarding the graphic origin of . The older of these seems to have originated with Pelliot. In oral remarks at a 1927 meeting of the

Société Asiatique, he said,

> Le 'phags-pa a été tiré de l'écriture tibétaine adaptée à la phonétique particulière du mongol. Cette adaptation elle-même n'a rien d'original; elle s'est inspirée d'une notation ancienne du ouigour, consistant à rendre les voyelles palatalisées au moyen de l'adjonction d'un *i*: par exemple, *ü* est écrit *ui*, etc. En 'phags-pa, cet élément *i*, sous la forme *y*, est préfixé à la voyelle: ainsi *ö*, *ü* s'écrivent *yo*, *yu*; *ä* après consonne, *ya* (*ä* initial *e*). Le même procédé est employé dans les textes ouigour en brāhmī d'Asie centrale: ainsi *kyork* = *körk*; *kenendya* = *kinindä*; *ä* initial est rendu par *e*, comme en 'phags-pa. (Pelliot 1927: 372)

The prefixed *y* mentioned here by Pelliot is in fact the 'Phags-pa letter . It is therefore clear that he thought of this letter as some form of Tibetan *y* and/or 'Phags-pa **y**  ~ . Hope (1953: 38) explicitly states that 'Phags-pa is derived from Tibetan medial *y*. Denlinger (1963: 411) and Pulleyblank (1970: 359) are of the same opinion. Nakano (1971: 57) notes the striking similarity between and 'Phags-pa **y** without commenting on the question of paleographic derivation.

Hashimoto (1978: 69; 1978-79: 116) has a very different view. He believes that is derived from the vowel sign , which is the Devanagari writing for the diphthong *ai* and is also used in Tibetan to transcribe Sanskrit *ai*. To the best of our knowledge this idea has never been endorsed by anyone else. On purely structural grounds, at least, a link between and seems much more promising than an association of with . In addition to this, we must note that 'Phags-pa is not used to represent *ai* when Sanskrit is written in the 'Phags-pa script. Instead, this Sanskrit diphthong is rendered by the 'Phags-pa combination **'e**. For example, Sanskrit 'Phags-pa **d'e** = Sanskrit *dai*, etc.[12] In the end, then, the paleographic theory of Pelliot and others is the more convincing one.

The question of 's position in the alphabet lists arises from the expectation that the ordering there will throw light on its function as a semivowel or a full vowel. In his discussion of , Pulleyblank remarks regarding the letter (1970: 359),

> In form it is clearly based on the subscript *-y-* and this association is confirmed by its position in both extant lists of the alphabet. In what is no doubt the original arrangement, following the usual Tibetan order, it occurs at the very end, after the normal subscript *-y-* and *-w-*. In the prefatory material to the MKTY [i.e., MGZY], where the alphabet is arranged to fit the standard Chinese list of 36 initials, it also occurs at the end, after the vowel signs and along with the other subscript semivowels.

More recently, Shen (2000: 96-97) has discussed the alphabetical ordering

question. However, whereas Pulleyblank mentioned both the Tibetan and Chinese Orderings, Shen limits his remarks to the Tibetan one. He says,

> The seven hP'ags-pa letters are listed below according to their original order as seen in the Fa Shu Kao 法書考 by Sheng Xi-ming 盛熙明 of the Yuan dynasty and the Shu Hui Ju Yao 書會舉要[13] by Tao Zong-yi 陶宗儀 dated 1376. The corresponding Tibetan letters and their phonetic values are listed below also.
>
> [Here follows the promised table. We reduce it to its 'Phags-pa component, which suffices to establish the ordering to which Shen refers. In the third line, we add for reference our own paleographic transliterations in square brackets.]

hP'ags-pa letters	( )							
Phonetic values	a	i	u	(e1)	o	(e2)	j	w
	[**a**	**i**	**u**	**e**	**o**	?	**y**	**w**]

> [Here follows a lengthy discussion of letters and their values. Shen then continues:]
>
> . . . The puzzle is the letter listed between the vowel letters and the medial letters [the letter identified as *e2* by Shen]. This letter does not have its corresponding prototype in the Tibetan alphabet and is listed after [sic] two medial letters. From its order it is difficult to tell whether it represents a vowel, a medial, or something else.

Pulleyblank and Shen agree in considering the Tibetan Ordering primary and of decisive value in assessing the nature of . But their characterizations of this ordering are strikingly different. Pulleyblank says that  occurs at the end of the list, after the medials. Shen's chart places  after the vowels and before the medials. His initial comments on his chart seem to accord with this tabulation. There then follows a remark that  is listed *after* the medials. Perhaps the word "after" here is a mistake for "before." In any case, Pulleyblank's remarks and Shen's chart convey entirely different pictures of the Tibetan Ordering. If that ordering is as important as they think it is, then we have no choice but to reexamine the original Tibetan list here and clarify matters. The list has already been given in section 1.3 of Chapter 1 above. Let us now look at it again:

1.  葛; 2.  渴; 3. 哘; 4. 誐; 5.  者; 6.  車; 7.  遮; 8.  倪; 9.  怛; 10.  撻; 11.  達; 12.  那; 13.  鉢; 14.  發; 15.  末; 16.  麻; 17.  拶; 18.  捺 (> 擦); 19.  惹; 20.  縛; 21.  若; 22.  薩; 23.  阿; 24.  耶; 25. 

囉; 26. 羅; 27. 設; 28. 沙; 29. 訶; 30. 啞; 31. 伊; 32. 鄔; 33. 翳; 34. 污; 35. 遐 (輕呼);[14] 36. 霞; 37. 法; 38. 惡; 39. 也; 40. 禹; 41. 耶（輕呼）

In this ordering the vowels are found to be as follows: 31 **i**, 32 **u**, 33 **e**, and 34 **o**. Numbers 35 through 38 are consonants, two of which (i.e., 35 and 38) are not used in Chinese 'Phags-pa. Numbers 39 through 41 are medials. The internal ordering of these medials requires a digression here. Clauson (1959: 321-322) and Nakano (1971: 39) read the list as it is given above. To wit,

39. 也; 40. 禹; 41. 耶
? **-w-** **-y-**

Their reading is in agreement with the canonical Tibetan alphabetic order, where *w* should precede *y* and, by association, medial **-w-** should precede medial **-y-**. Pulleyblank, on the contrary, reverses this order, as follows:

39. 也; 40. 禹; 41. 耶
-y- **-w-** ?

In fact, the actual written forms for and in the published facsimiles of the *Fǎshūkǎo* and the *Shūshǐ huìyào* are aberrant and somewhat difficult to assess.[15] We are frankly not entirely certain which reading is correct here. But what is clear is that is definitely classed with the medials in the Tibetan Ordering. It is nowhere near the vowels in that list and is separated from them by four consonants. Shen's table and discussion are clearly wrong here, and his table also errs in placing **w** at the absolute end of the list rather than between the other two medial letters.

In this connection, we should also reexamine the Chinese Ordering of the MGZY:

1. 見; 2. 溪; 3. 群; 4. 疑; 5. 端; 6. 透; 7. 定; 8. 泥; 9. 知; 10. 徹; 11. 澄; 12. 娘; 13. 幫; 14. 滂; 15. 並; 16. 明; 17. 非; 18. 敷; 19. 奉; 20. 微; 21. 精; 22. 清; 23. 從; 24. 心; 25. 邪; 26. 照; 27. 穿; 28. 床; 29. 審; 30. 禪; 31. 曉;

32.  匣; 32a. 同上; 33. 影; 33a.  同上; 34. 喻; 34a. 同上; 35.  來; 36. 日

37. ; 38. ; 39. ; 40. ; 41-42. ; 43.  （此七字歸 喻母）

In this list the vowels and medials form a separate subset at the end. The vowels (i.e., 37-40) come first, followed by , , and , with and joined together by an apparent scribal infelicity. This ordering is identical to that in Shen's chart, except for the misplacement of there. What has apparently happened is that he has mistaken the Chinese Ordering for the Tibetan one in his discussion.

What may we conclude from all this? Both Pulleyblank and Shen accord primacy to the Tibetan Ordering in the discussion, and the placement of in that ordering vis-à-vis the vowels and medials is unambiguous. goes with the medials, not the vowels. In the Chinese Ordering, on the other hand, the placement is indeed ambiguous in that falls between the vowels and medials. All else being equal, and if we had only the Chinese Ordering to go on, the formal status of in the alphabet would be moot. But all else is definitely not equal. The Tibetan Ordering confirms beyond doubt that even in the Chinese Ordering should be read with the medials that follow it, not with the vowels that precede it. Pulleyblank is unquestionably right here.

In this connection it is interesting to take some note of the Chinese transcriptional characters which have been juxtaposed to initials 39 and 41 of the Tibetan Ordering. As mentioned in section 1.3 of Chapter 1, all of the equivalents in this list are taken from the medieval transcriptional character sets found in Buddhist sutras of earlier times. Nakano (1971: 39-40) believes that the set used here is that of Wéijìng 惟淨, as given in the *Jǐngyòu Tiānzhú zìyuán* 景祐天竺字源(1035). In Wéijìng's set, Sanskrit *y* is transcribed by the character yé 耶, a usage which Wéijìng had carried over from earlier sets. But there were also other characters used for this purpose in various early transcriptional texts. For example, 邪, 野, 也, and 夜 are also utilized in one set or another to transcribe Indic *y*.[16] Now, what is of interest to us is that the compiler of our Tibetan Ordering has selected yě 也 , another of these traditional *y* equivalents, to stand opposite initial 39 . Regardless of how he pronounced this character himself in Chinese, his choice of it here suggests that he viewed number 39 as in some sense belonging with the Indic *y* class, in the same way that 41 耶 did. He has also added here the note qīnghū 輕呼 "pronounce lightly" after 耶. This sort of gloss is common in the early Buddhist transcriptional

lists, and we have no way of knowing for certain whether our compiler framed it himself or took it from elsewhere. In any case, it is clear that he viewed *both* 39 and 41 as y-like entities. ꡂ was not a vowel from his standpoint.

With these points established, we can now transliterate ꡂ. Paleographically it appears to be derived from **y** by a slight graphic modification, and systematically it is classed with **y** and **w** in the traditional alphabetical order as a medial semivowel. Consequently, we shall represent it as **ÿ**, where the purpose of the umlaut is to suggest a graphic modification of **y**.

Finally, there remains for us the task of determining how **ÿ** operates in the orthography. We have already seen Pelliot's remarks on the function of this letter in Mongolian 'Phags-pa. The matter has also been discussed by Poppe (1957: 25-26), among others. Briefly, when the letter **ÿ** is placed before another vowel in Mongolian 'Phags-pa, the result is fronting of the said vowel and concurrent disappearance of **ÿ** itself. Thus, we have **ÿu** > *ü*, and **ÿo** > *ö*. By the same token, **ÿa** will yield *ä* (or *e*). Thus, in Mongolian 'Phags-pa it is, as Shen (2000) points out, something like an umlaut. Now, since what we transliterate as **ÿa** will actually appear in the script as ꡂ followed by nothing at all, there has been a tendency to think of **ÿ** as if it *were* in fact simply an *ä* or *e*. This fact has led to a convention in Mongolian 'Phags-pa studies whereby the letter **ÿ** ꡂ itself is simply transliterated as *ä* or *e*. But if one chooses to write *e* for ꡂ, then one must of course pick some other symbol for the 'Phags-pa vowel **e** ꡄ. Poppe, for example, transliterates ꡂ as *e* and ꡄ as *ė*. Thus, for **ÿu**, **ÿo**, and **ÿa** he writes, *eu*, *eo*, and *e*, respectively. Others reverse this, writing *ė* for ꡂ and *e* for ꡄ, etc., e.g., Jūnast and Yáng (1987). Another group of scholars uses entirely different letters to render the two 'Phags-pa graphemes. For example, some use *ɛ* for ꡄ and *e* for ꡂ, etc. What is of interest to us here is that the practice of rendering **ÿ** with a vowel symbol has been transferred from mongolistics into the field of Chinese 'Phags-pa studies and has in fact become quite common there. We have not adopted this convention in the present study, for the reasons outlined above. But one must expect to find *e*, *ė*, or *ɛ* in place of our **ÿ** when utilizing other sources on 'Phags-pa Chinese. For a useful comparative table of the varying usage, involved here as of ca. 1970, see Nakano (1971: 45-46).

Among earlier students of Chinese 'Phags-pa, many of whom were in fact mongolists, it was assumed that the Chinese system should be interpreted in the same way as the Mongol one. An alternative opinion is that the conventions of the two systems were not necessarily the same. This is the view adopted in the present work, as outlined in Chapter 1, section 1.1 above. For a more discursive statement of it, see

Denlinger (1963: 410-413). An instructive case is the following pair of examples:

43.  **ging** [kiŋ] píng 京

92.  **gÿing** [kʔiŋ] píng 經

These cases tell us several things:

(1) Since **ÿ** cannot occur before **i** in Mongolian 'Phags-pa, we can state categorically that the orthographic conventions of Mongolian 'Phags-pa and Chinese 'Phags-pa regarding **ÿ** are not the same in all cases.

(2) Since **i** is a front vowel, it cannot be further fronted. Consequently, **ÿ** cannot be categorically described as having a fronting or "umlauting" effect on vowels in Chinese 'Phags-pa. A better graphological characterization might be that Chinese 'Phags-pa **ÿ** is the y-type medial which can stand before **any** vowel, as opposed to **y** proper, which occurs only or mainly before **a**. In any case, **ÿ**'s function here is unquestionably different from anything seen in Mongolian 'Phags-pa.

(3) Since **ÿ** is the distinguishing factor between the two syllable types in the above example, it cannot be viewed as having disappeared from the syllable jīng 經. Instead it must have been retained there in some way. This too differs from **ÿ**' s umlaut-like behavior in Mongolian 'Phags-pa.

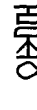
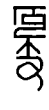
As regards the way in which **ÿ** is realized phonetically in **i**-vowel syllables like jīng 經, there is a fairly broad consensus today that it represented a high front medial semivowel there. For example, Hashimoto (1978: 47), Pulleyblank (1970: 362), Cheng (1985: 169), and Shen (in press) all interpret this **gÿing** as [kjiŋ],[17] a view with which we concur (Coblin 1999). Thus, we can interpret the combination **ÿi** as phonetic [ji] in 'Phags-pa Chinese.

Let us now move to the combination **ÿa**. Pulleyblank (1970) and Cheng (1985) both believe that **ÿ** represented a high front medial element here as well. Hashimoto (1978-79: 102-105), though he transliterates our **ÿa** as *e*, nonetheless interprets it as [ǐe], thus agreeing with Pulleyblank and Cheng.[18] Shen (2000: 110) writes our **ÿa** as *ɛ* but expresses uncertainty about whether or not a medial was present. This is, he says, "still a question to be answered." In fact, the question here is whether or not **ÿa**

should be interpreted as medial [j] plus vowel, or as the vowel alone. The latter is the older interpretation of the mongolist students of Chinese 'Phags-pa. The former is a more recent view espoused mainly by sinologists. Ideally, we should find a way to disprove one view or the other, but the paucity of evidence makes this difficult. As matters stand, we have already seen in the preceding discussion that **ÿ** can stand for [j] when it occurs in combination with the vowel **i**. There is then no general principle in Chinese 'Phags-pa for dropping it. As mentioned earlier, the idea that Chinese 'Phags-pa must necessarily be read according to the rules of Mongolian 'Phags-pa is patently untenable. In the light of these points, we should require compelling evidence before deciding to drop medial [j] in the present case. Absent such evidence, it is more consistent to interpret **ÿa** in parallel with **ÿi** and read it as [jɛ]. This is our solution here.

The combination **ÿe** is a positional variant of **ÿa** which occurs exclusively after the letters **X**, **h**, and **H** in entry lines 519, 702, and 703 of the MGZY. It can be interpreted as [jɛ].

Let us now consider the combination **ÿo**. This configuration is of very limited occurrence in Chinese 'Phags-pa, appearing exclusively in the final **-ÿon**, which is itself quite rare in the system.[19] Shen (in press) interprets it as [øn], which is its Mongolian reading. Hashimoto (1978-79: 104) takes it as [ɪon], and Cheng (1985: 175) similarly reads [jon]. Another possibility along these lines would presumably be [jøn]. Pulleyblank (1970: 365) reads **ÿo** as medial [y] followed by an unrounded vowel, i.e., either [ɛ] or [ə], but he does not explain how he arrives at this reading. Taking the same line we did earlier, it seems most consistent to assume the presence of an underlying medial here. However, on the basis of the 'Phags-pa data alone it is difficult to decide between unrounded (i.e., [j]) and rounded (i.e., [y]) as the actual realization. Since we have assumed in the two preceding cases that [j] was the sound in question, it would perhaps be more consistent to retain [j] here. But the fact is that in those earlier cases the main vowels of the finals were themselves unrounded, while here the vowel is, as written at least, a rounded one. Thus, though Pulleyblank has not elaborated on his reasons for proposing medial [y] in this case, we cannot simply discard this interpretation without further ado. It remains a possibility. The matter being moot, it seems worth noting that in the Guānhuà koine varieties of the Míng and Qīng periods syllables of the sort written with 'Phags-pa **-ÿon** are usually found to have final [yen] or [yɛn]. Compare, for example, the following cases, where standard Guānhuà forms are cited from Sin Sukchu and the Spanish missionary, Francisco Varo (1627-1687):

			Sin Sukchu	Varo
516.		**gÿon** shǎng 捲	kyen (上)	kiuèn [kyɛn]
517.		**khÿon** qù 勸	k'yen (去)	k'iuén [k'yɛn]

However, in another type of "missionary Guānhuà," recorded in the Portuguese-Chinese Dictionary attributed to Matteo Ricci (1552-1610) and/or Michele Ruggieri (1543-1607),[20] these syllables are represented as follows:

捲 chiuon [kyɔn] 勸 chiuon [k'yɔn]

In these cases, we have a final which has medial [y] followed by [ɔn]. This does not prove that the 'Phags-pa final **-ÿon** had this same shape, but it does give us as a possible model an alphabetically attested parallel from a pre-modern variety of standard Chinese pronunciation. Faute de mieux, it can serve us as a working possibility for further study; and it is in this spirit that we adopt it here. Perhaps we should assume that the actual form was [yøn], but for the nonce we shall eschew this nicety and retain [yɔn] as our interpretation.

The element **ÿu** is the last **ÿ** combination with which we must deal. The Mongolian reading of it would be [y]. A reading which retained the medial semivowel would be [jy]. As Pulleyblank remarks (1970: 365), either interpretation would be theoretically possible. Hashimoto (1978-79: 103) and Pulleyblank (loc. cit.) write [ü], and Shen (in press) joins them with [y]. Cheng (1985: 174) has [ju]. Early Guānhuà alphabetic sources, together with the pronunciation of the corresponding final in modern Mandarin dialects, all point to [y]. We consequently join Hashimoto, Pulleyblank, and Shen in choosing this value here. A special case is the final **-ÿung**. The Mongolian reading of this would be [yŋ]. An alternative which included the medial would be [jyŋ]. Hashimoto (1978-79: 102) writes [üəŋ]. Cheng (1985: 173) has [juŋ]. Pulleyblank gives the final in transliteration only, without a phonetic interpretation. It is in fact rather difficult to determine the exact phonetic nature of the underlying form here. By way of comparison, the corresponding final in modern standard Chinese, spelled -iong in pīnyīn, is interpreted in a number of different ways by modern observers. For example, in a reading which is strikingly reminiscent of the Mongolian 'Phags-pa one mentioned above, Jiāngsū shěng hé Shànghǎi shì (1960:

573-575) writes the modern final as [yŋ]. The common or "traditional" rendering of it is [juŋ]. Chao (1968: 24) writes it as [iɷŋ]. Norman (1988: 141, 143) transcribes it as [yɷɴ] and remarks that the medial element is actually rounded. Li (1999: 44) has the same view and writes [ˀuŋ], etc. In fact, there is considerable variation in the pronunciation of this final among speakers of modern standard Chinese. For example, while rounded medial readings such as those mentioned by Norman and Li are indeed heard among Pekingese and other northern speakers, in Taiwan Mandarin today one definitely hears [juŋ] and [joŋ] as well. In a broader range of Mandarin dialects [juŋ], [yuŋ], [yoŋ], etc., all occur.[21] All else being equal, an argument in favor of selecting a high rounded onset is the fact that this final takes the initial letter **x**, which, as we have seen in section 3.3.7, occurs almost exclusively before phonetic [u], [y], and [w]. For this reason, our solution here is to interpret **-ÿung** as [yuŋ].

3.4 Some Residual Orthographic Issues

3.4.1 Matters involving **ÿ**, etc. Where initial **y-** and medial **-ÿ-** co-occur, it is assumed that they correspond to a single glide [j] in the underlying syllable. For example,

782.  **yÿa** [jɛ] rù 鞠

Likewise, where **Y** [ʔj] is followed by **ÿ**, a single high front medial after [ʔ] is assumed:

578.  **Yÿaw** [ʔjɛw] píng 腰

When **Y** is not followed by **ÿ**, it nonetheless implies the existence of [j] in the syllable, and this must be indicated in the phonetic transcription. Compare the following pairs of examples:

306.  **'ay** [ʔaj] píng 哀

307.  **Yay** [ʔjaj] píng 洼

355.  **'in** [ʔin] píng 殷

356.  **Yin** [ʔjin] píng 因

The presence of **ÿ** will of course often affect the reading of the main vowel of the syllable, as illustrated in the following pairs:

781.  **Yÿa** [ʔjɛ] rù 噎

S21.  **Ya** [ʔja] rù 押

670.  **Yam** [ʔjam] shǎng 黯

697.  **Yÿam** [ʔjɛm] shǎng 黶

The medial combination **-wÿ-** is now widely thought to represent an underlying medial semivocalic [y] (Hashimoto 1978-79, Cheng 1985, Shen in press). We concur with this view (Coblin 1999). Examples are:

499.  **kwÿan** [gyɛn] píng 權

804.  **swÿa** [syɛ] rù 雪

3.4.2 Functional Overlap of **'-** and **Y**. As we have seen in section 3.3.7 above, **Y** [ʔj] was a palatal allograph in the 'Phags-pa script whose purpose was to stand for the glottal stop before high front medials (i.e., [j] and [y] in medial position) or, in some instances, to specifically stand for the glottal stop plus [j]. The non-palatal counterpart whose function was to represent the glottal stop in other environments was **'-** [ʔ]. The normal distribution of these two graphs in the orthography is therefore complementary. However, there are several exceptions to this. Four are the first members of the following pairs:[22]

37.  **'ÿung** [ʔyuŋ] píng 雍，廱，癰，邕，噰，雝，饔，灉，shǎng 擁，壅，qù 雍，灉，擁

39.  **Yÿung** [ʔyuŋ] píng 縈

495.  **'ÿan** [ʔjɛn] píng 焉，嫣，嫣，鄢，shǎng 偃，鼹，鄢，鼴，鰋，qù 堰

496.  **Yÿan** [ʔjɛn] píng 煙，燕，咽，胭，qù 宴，燕， 鷰，醼，嬿，咽

511.  **'wÿan** [ʔyɛn] píng 鳶，冤，鵷，蜿，宛，怨，shǎng 婉，莞，苑，蜿，畹，琬，宛，qù 怨

513.  **Ywÿan** [ʔyɛn] píng 淵，鼘，蜎，娟，悁

780.  **'ÿa** [ʔjɛ] rù 謁，暍，腌，浥

781.  **Yÿa** [ʔjɛ] rù 噎，咽，厭

In each pair, the 'Phags-pa heading of the second entry line (i.e., lines 39, 496, 513, and 781) is canonically spelled, while the form in the first entry line (i.e., 37, 495, 511, and 780) violates the orthographic canon by placing **'-** before **ÿ** or **wÿ**. The pronunciations of the syllables in each pair were, so far as we can determine, homophonous.[23] Why, then, has the compiler of the text gone out of his way to separate the paired lines in these sets? The answer to this is that the separate lines belong to different homophone groups in the traditional rime books of the Sòng period. For example, in the *Xīnkān yùnlüè*, the character sets found in pairs 495/496 and 511/513 are quite far apart from each other,[24] while those in pairs 37/39 and

780/781 occur under entirely different rimes.[25] Readers of the MGZY would have expected to find them separated, and the compilers took this into account. However, it is an implicit principle in the text that the 'Phags-pa headings of different lines in the same rime cannot be spelled the same way. In order to maintain that pattern here, it was apparently necessary to depart slightly from the spelling canons of the script and place **'-** before **ÿ** or **wÿ** in lines 37, 495, 511, and 780.

3.4.3 The Role of Final **-e** as Semivowel. The vowel **e** occurs as the second member of two graphically diphthongal finals, **-ue** [uɛ] and **-ÿue** [yɛ]. In diphthongal sequences of this type, we are of course curious about which vowel is the main one. This can be established by comparisons such as the following:

203.  **gue** [kuɛ] rù 國

815.  **gwe** [kwɛ] rù 厥

205.  **kue** [guɛ] píng 逵

817.  **kwe** [gwɛ] píng 癸

These two syllable sets constitute minimal pairs, and in the second member of each pair the rounded segment of the final is unquestionably a glide. From this we can conclude, that in the first members, the segment **u** must represent a full vowel [u] in the final **-ue**. The situation is analogous in the following pair:

231.  **gÿue** [kyɛ] rù 橘

798.  **gwÿa** [kyɛ] rù 決

We have noted in section 3.4.1 that the combination **-wÿ-** is to be read as medial or semivocalic [y]. This leads us to conclude that the element [y] in the syllable jú 橘

here is a full vowel. What all this suggests is that in the finals **-ue** [uɛ] and **-ÿue** [yɛ] the element **e** [ɛ] is to be understood as a glide. Ladefoged and Maddieson (1996: 323) discuss a number of cases in languages of the world which have semivowels that correspond to mid-vowels. There are also such cases in current forms of Chinese. For example, the city dialect of Nanking is said to have the diphthongs [ae] and [ɑɔ] (corresponding to modern standard Chinese -ai and -ao), where the elements [e] and [ɔ] appear to function as glides following the full vowels [a] and [ɑ] (Liu 1995: 25). Similar cases are reported in other Yangtze watershed dialects. Ladefoged and Maddieson mark such glides by placing a breve over the vowel letter in question, and this convention can serve us here as well. Thus, we can transcribe our two finals as [uĕ] and [yĕ].

The finals **-ue** and **-ÿue** have been interpreted differently by different authorities. For example, Hashimoto (1978-79: 103) takes them as [ŭəĭ] and [ŭəɪ̆]. Cheng (1985: 168) has [wej] and [yej], respectively. Similarly, Pulleyblank (1970: 365) writes [uəj] for **-ue**. Shen (2000: 99-101) takes a different tack, interpreting the sound we now transcribe with ĕ as an allophone of the final semivowel [j] in finals such as **-ay** [aj] and **-^{h}iy** [əj]. This is quite reasonable as a phonemic refinement of the phonetic data. However, in a phonetic interpretation of the script, such as we have attempted here, it seems advisable to retain our ĕ as is. Just as field dialectologists have given us interesting phonetic information about Yangtze watershed dialects by reporting finals such as [ae], [aæ], etc., rather than normalizing them as /aj/, at the present stage in our study of 'Phags-pa Chinese there are advantages to recovering as much phonetic detail as possible from the alphabetic record before proceeding to higher levels of analysis.

Notes

[1]For a useful table comparing all interpretations current as of ca. 1970, see Nakano (1971: 43-46).

[2]The head numbers in the examples are those of the appropriate entry lines in the Glossary. Bold text transliterations of the 'Phags-pa letters will be discussed in section 3.3.

[3]As indicated in Chapter 1, views on the linguistic basis of this text are far from unanimous.

[4]Sin's forms are cited from Kim (1991).

[5]For a summary of earlier discussions of this question, see Hashimoto (1967).

[6]The misspellings collected by Cheng (and also tabulated by Hashimoto 1978) also occasion another observation. It is sometimes asserted, for example by Pulleyblank (1970: 369), that the writing of 'Phags-pa Chinese was a purely mechanical process in which forms were copied down from normative glossaries like the MGZY. However, irregular forms such as those under consideration here show that this was by no means always the case. Clearly, some writers were doing the job by ear, resulting in spelling errors that reflected features of their own pronunciation of Yuán period standard Chinese.

[7]Poppe (loc. cit.) describes this Mongolian sound as an "unvoiced deep velar stop." In modern handbooks it is characterized as a voiceless uvular plosive.

[8]The sound represented by this letter in north Indian languages today is characterized by Ladefoged and Maddieson (1996) as velar voiced aspirated (58) or velar breathy voiced aspirated (70).

[9]"Muddy" renders the traditional philological term zhuó.

[10]For a full exposition of the formulas used in the *Gǔjīn yùnhuì jǔyào*, see Cheng (1965: 35). Compare also Nakano (1971: 78) and Wáng Shuòquán (2002: 111).

[11]For a summary of earlier interpretations of ^{h}i, see Shen (2001: 462).

[12]For an example of this, see the sample passage from a Sanskrit 'Phags-pa inscription reproduced in Hope (1953, insertion between 52 and 53), together with Hope's comments.

[13][This is apparently an error for *Shūshǐ huìyào* 書史會要.]

[14]*Fǎshūkǎo* has 重呼.

[15]Two of these facsimiles are found in Poppe (1957: 10-13). The third appears in Clauson (1959: 321).

[16]For a comparative list of these, see Luó (1963: tables between 64 and 65).

[17]Hashimoto actually writes not [kjiŋ] but [kj̯ing] in such instances.

[18]Note that Hashimoto adopts slightly different transcriptional conventions for his phonetic interpretations in (1978) and (1978-79), but his basic view is the same in these two works.

[19]For a discussion of this final in the context of the 'Phags-pa Chinese system as a whole, see Chapter 4, section 4.2.2.3 below.

[20]On the background and interpretation of this work, see P. Yang (1989) and Coblin (1997).

[21]*Hànyǔ fāngyīn zìhuì* (1989: 369).

[22]The other exceptions occur in lines 279, 596, and 810, the latter two involving rare graphs.

[23]It is interesting in this connection that the framers of the 'Phags-pa inscriptions did not adopt the non-canonical spelling **'ÿan** for 焉. Instead, they wrote **Yÿan** for this syllable. See Hashimoto (1978: 141-142). For the other pairs, i.e., lines 37/39, 511/513, and 780-781 of the example, no data are available in the inscriptions or other epigraphical sources.

[24]In the *Xùxiū Sìkù quánshū* edition they occur on pages 263/260 and 261/262, respectively.

[25]Pages 9/24 and 368/372, respectively.

IV

A Structural and Historical Consideration of the 'Phags-pa Chinese Sound System

4.1 Preliminary Matters

4.1.1 The Comparative and Historical Study of Standard Forms of Pronunciation. The types of language which serve as koines are invariably those which have some sort of wider application in an extended speech community. And of these, the ones which are reduced to writing and come to serve as standard written languages usually have not only broad currency but also social and/or political prestige of some sort. It is these traits of particular languages which have given rise to the majority of written records with which historical linguists deal. The extensive recording of specifically non-standard or regional vernaculars (i.e., "dialects") is a phenomenon of recent times. It was little known in the past. Furthermore, so far as we know, incontestably direct descent from some earlier standard form of language has not been a criterion for selecting and recording a current language as standard. Whether such direct descent has been present or not seems to have been a matter of happenstance rather than design. In this connection, it is interesting to consider briefly two sample cases from the histories of languages other than Chinese.

4.1.1.1 Old English and Middle English.[1] In the Old English period (mid-fifth century to mid-eleventh century) there were four major dialect types: Kentish, West Saxon, Mercian, and Northumbrian. In the ninth century, cultural ascendancy devolved upon the kingdom of Wessex; and during the time of King Alfred (849-899) his capital, Winchester, became the chief center of learning in England. As a result, West Saxon was the language in which important texts of this period were written. In fact, it is the texts in this language, together with those transcribed into it from other dialects, which form the literary corpus of what is normally spoken of as "Old English." "Standard Old English" was, in other words, a West Saxon-based language.

Middle English (mid-eleventh century to ca. 1500) can actually be divided into two sub-periods, i.e., Early Middle English (mid-eleventh century to mid-fourteenth century) and Late Middle English (mid-fourteenth century to 1500). It is in fact to the latter period that the term Middle English is commonly applied. Late Middle English was rooted in the language of London. For example, Geoffrey Chaucer (1342/43-1400), author of *The Canterbury Tales*, *Troilus and Criseyde*, etc., which are often thought of as prototypical Middle English texts, was born and died in London. In the second half of the fourteenth century, London saw a massive immigration from the Midlands area, and as a result its speech contained numerous Midlands features. This language was not a "Midlands dialect" as such. It was instead a composite koine in which Midlands features were preponderant. Now, looking backward to the Old English period, we see that the Midlands dialects were derived not from West Saxon dialects but rather from Mercian ones. Thus, Middle English and its more or less direct descendant, Modern Standard English, are not the direct phonological descendants of Old English. As a convenient fiction they are sometimes spoken of as if they were, but this usage is imprecise and is not found in technical works on the history of English.

4.1.1.2 Middle High German and Modern Standard German.[2] The medieval period of German language history is usually said to date from 1050 to 1500. The term Middle High German conventionally refers to a written or literary language dating primarily from ca. 1170 to 1230 and called *mittelhochdeutsche Dichtersprache* ("Middle High German poetic language") by specialists. Textual evidence attests to a number of spoken dialect groups or types for the German Middle Ages. Three of these are of interest to us here. In a broad swath of the central part of German-speaking Europe was found Middle German. In the south was Upper German ("upper" referring to topographical altitude), of which there were two sub-types, a western one called Alemannic and an eastern one called Bavarian. In addition to the ordinary dialects as such, in the High Medieval period there began to form in the princely courts a polite, socially elevated chivalric language, sometimes referred to as the *Rittersprache* ("language of the knights"). Since many of the ancestral estates of the landed nobility were in Franconia and Swabia (the latter in the Alemannic-speaking area), the speech patterns of these regions played prominent roles in the formation of the courtly koine. A particularly elevated and refined literary adaptation of this koine was the language used in the writings of the great Middle High German poets. The works of these individuals were preserved in manuscripts, and

these were later collected, compared, and orthographically regularized or normalized in various ways by editors, among whom the legendary Karl K. F. W. Lachmann (1793-1851) is the most notable. The corpus of Middle High German literary texts we see today is the result of such text critical and normalizing efforts. Regarding the dialectal complexion of these texts, Wells (1985: 116) remarks, "The language of medieval German chivalric literature around 1200 was supra-regional in style, vocabulary, and ethos . . . but it was regional in spelling, sounds, and form. The editors' texts and the grammars based upon them usually orientate themselves according to one regional type, namely U[pper] G[erman] of an essentially Alem[annic] bias, following the practice of Karl Lachmann, who had taken as exemplary a limited number of literary texts." From this we see that, phonetically speaking, Middle High German in its received and edited textual form is dialectally an Alemannic-based language.

By the end of the medieval period, there had arisen in the recently settled East Middle German area a set of relatively uniform dialects which, due to the migration patterns of the settlers who spoke them, comprised elements from both West Middle German and Upper German. As time passed, certain of these dialects became the basis for chancellery languages (*Kanzleisprachen*) in the states of that area. The language of one of these, Saxony, became the basis for the Bible translation of Martin Luther (1483-1546). This translation was widely read in Protestant areas, its cadences were replicated in sermons and church services, and its grammar and orthography began to be recognized as authoritative by schoolmasters. This process was accentuated by the newly introduced technology of printing, for publishers felt that Luther's language would give their books the widest possible currency. In the end, this language became the springboard from which modern standard German evolved. What is of interest to us is that the sound system of modern standard German cannot be viewed as directly descended from that of Middle High German. It is not an Alemannic dialect or an Alemannic-based language. On the contrary, its direct ancestor was the chancellery language of Saxony, an East Middle German-based regional standard language. Although Middle High German and Modern High German are sometimes spoken of in common parlance as if they had a direct filiation, this characterization of their relationship is inaccurate and is not found in formal linguistic treatments of German language history.

4.1.1.3 Chinese Parallels. Let us now ask, what if we were to claim that the Old English of ca. 900 was the direct ancestor not only of the standard Middle English

of Chaucer's London but also of *all* the various forms of English used elsewhere in England at that time and preserved in written sources?[3] And what if we were then to go a step further and assert that all these different materials of Chaucer's time really represent not different fourteenth-century English language types but rather *one* unitary standard form of "Middle English," with all observable orthographic divergences to be explained as textual archaisms, blind reliance on old dictionaries, and scribal malfeasance of various types? We would of course be laughed out of the Anglicists' hall. But all of this is in fact reminiscent of the sorts of claims regularly made by those who have conflated the 'Phags-pa Chinese and the *Zhōngyuán yīnyùn* systems and then proceeded to derive them directly from the QYS. What we as sinologists learn by examining the histories of other languages is that koines of successive eras are not necessarily related by linear filiation, and that it is fallacious to assume such a relationship as a given when we begin our work. Only when historical, demographic, and linguistic facts have been adduced to prove it can such an affiliation be considered established. We must remain mindful of this as we proceed to the next section.

4.1.2 The Study of 'Phags-pa Chinese Phonology. The comparative and historical study of 'Phags-pa Chinese phonology has been approached from a number of different angles. For example, the detailed treatment of Nakano (1971) brought the general structure of the QYS, the sound categories of the *Zhōngyuán yīnyùn*, alphabetic forms from the *Xīrú ěrmùzī* of Trigault, and data from the modern dialects to bear on the problem. Cheng (1985) used primarily the QYS and *Zhōngyuán yīnyùn* frameworks in his analysis. Hashimoto worked mainly from the perspective of the QYS but also considered the *Xīrú ěrmùzī*. The recent articles of the present writer have involved comparison with the *Zhōngyuán yīnyùn* system and the later Guānhuà alphabetic sources (1999; 2001).

It is probably fair to say that comparison of the 'Phags-pa system with the QYS reached its apogee in the work of Hashimoto. His very detailed comparative study (1978-79), together with his indexes, reverse indexes, and tables (1978) now make it possible see at a glance how 'Phags-pa Chinese pronunciation relates to the sound classes of the QYS. In its presentational format, this type of comparative work has taken the particular path found generally in Chinese historical linguistics. That is, the QYS has been assumed to represent the actual pronunciation of some standard form of Chinese, and the 'Phags-pa system has then been assumed to be directly derived from that earlier standard form. Depending on how the individual

investigator conceives of or "reconstructs" the pronunciation of the QYS, the 'Phags-pa sounds are then viewed as direct reflexes of the QYS sounds.

The matter of the *Zhōngyuán yīnyùn* comparisons is different. To be sure, the system found in the *Zhōngyuán yīnyùn* tends to be treated as directly descended from the QYS. But the relationship of the 'Phags-pa system to that of the *Zhōngyuán yīnyùn* is, as mentioned in Chapters 1 and 2 above, not a matter of consensus. One school holds that the *Zhōngyuán yīnyùn* and 'Phags-pa systems represent the pronunciation of the same underlying language. Where the 'Phags-pa system does not accord with that of the *Zhōngyuán yīnyùn*, incongruences are viewed as archaisms, artificialities, or other such anomalies. Once these embarrassments are removed, the remaining 'Phags-pa orthographic elements are freely drawn upon to aid in "reconstructing" the *Zhōngyuán yīnyùn* system. A hallmark of such reconstructions is that, not surprisingly, they have a strongly "'Phags-pa-like" appearance wherever the categories of the two systems agree. On the other hand, investigators of the *Zhōngyuán yīnyùn* who do not accept the 'Phags-pa link, and pursue their work without considering the 'Phags-pa material, tend to produce *Zhōngyuán yīnyùn* reconstructions which might be characterized as "Karlgrenian" rather than 'Phags-pa-like, in that they resemble the reconstructive work of Karlgren and those who have adopted his ideas about the shape of early Chinese syllables. There are various gradations and hybridizations of these two prototypes. Our own earlier comparison of the *Zhōngyuán yīnyùn* and 'Phags-pa systems differed from other studies in that our primary purpose was to highlight the differences between the two systems and to demonstrate that they could not have been based on the same underlying language (1999).

Older comparisons with Guānhuà, as embodied in the *Xīrú ěrmùzī* (Nakano 1971; Hashimoto 1978-79), assumed that the 'Phags-pa system should be treated as ancestral to Guānhuà pronunciation. In our 1999 study, we pointed out similarities between the 'Phags-pa system and those of several later Guānhuà varieties. And in a later paper (2001) we tested the hypothesis that the 'Phags-pa system might be ancestral to the Standard Reading system of Sin Sukchu, with which it clearly shares many common features. Our conclusion there was that there could be no direct filiation between the two, their similarities notwithstanding.

In the present work, we shall draw on the QYS whenever its categories and attendant terminology aid in reference and presentation. Those who desire a full comparison of the QYS with 'Phags-pa Chinese should refer to Hashimoto's tables, as mentioned above. We shall not concern ourselves with the *Zhōngyuán yīnyùn*

here. For comparisons with that system, one can consult Cheng (1985: 159-176), Yáng (1981), and our 1999 study. Our concern here will be comparison of the 'Phags-pa system with later systems preserved in alphabetic form. The comparisons are intended to be typological rather than historical, in that we make no claims about direct historical filiation. In fact, we doubt that such filiation exists, for, on the one hand, the alphabetic data themselves do not support a direct connection and, on the other, we know of no historical or demographic reasons for assuming one. The situation is in fact similar to those described for English and German in sections 4.1.1.1 and 4.1.1.2 above. Our hope is nonetheless that this sort of typological comparison can throw light on the nature and origins of the 'Phags-pa system.

4.1.3 Source Materials for Guānhuà. As mentioned in Chapter 3, the pronunciation of Míng/Qīng Guānhuà (hereafter GH) can be divided into two types, i.e., a southern one, traditionally called Nányīn, and a northern one called Běiyīn. Alphabetic records are available for both types. Those to be used in this chapter are described below.

4.1.3.1 Nányīn Materials. The earliest Nányīn sources date from the fifteenth century. They are in Han'gûl transcription and are attributed to the Korean linguist and sinologist Sin Sukchu 申叔舟(1417-1475):

(1) Standard Readings (zhèngyīn 正音, abbreviated here as SR), as preserved in the *Hongmu chông'un yôkhun* 洪武正韻譯訓, completed in 1455, and the *Sasông t'onggo* 四聲通考 (completed ca. 1450), a lost work whose spellings are preserved in the *Sasông t'onghae* 四聲通解 (completed 1517) of Ch'we Sejin 崔世珍 (1467-1542).

(2) Popular Readings (súyīn 俗音, abbreviated as PR), as preserved in the *Yôkhun* and the *T'onghae*.

(3) The so-called Left Readings (zuǒyīn 左音, abbreviated as LR) in the *Pônyôk No Gôltae* 翻譯老乞大 and the *Pônyôk Pak Tongsa* 翻譯朴通事 of Ch'we Sejin. The LR in these works are believed to derive from Sin Sukchu and, like the PR, to reflect spoken GH pronunciation (Kim 1991). They can be taken together with the PR as representing a common system.

Sin's orthographic forms will be cited from Kim (1991) and will be supplemented with materials from Endo (1990). The transcription of the Korean spellings follows Kim, except that his phonemicized /ju/ is here interpreted as [y] in most environments and his /ɨ/ is read as [ə]. Tonal side-dot designations for the LR are: no dot = píngshēng 平聲, one dot = qùshēng 去聲 and rùshēng 入聲, two dots = shǎngshēng 上聲.

For later Míng and Qīng Nányīn pronunciation we must turn to Western alphabetic sources. The materials cited here are as follows:

A. Late Míng Period

(1) Romanized Chinese essays of Matteo Ricci (1552-1610), written during the decade before his death. The material survives today in a collection known as the *Xīzì qíjī* 西字奇蹟 (see Wénzì gǎigé chūbǎnshè [1957]).

(2) The *Xīrú ěrmùzī* 西儒耳目資, a GH syllabary compiled by Nicolas Trigault (1577-1628) and printed in 1626.

B. Early Qīng Period

(1) Francisco Varo, *Arte de la Lengua Mandarina*, Canton 1703; actually completed in Fúzhōu in 1684. This text is a grammar of early Qīng GH. It is cited here after Coblin and Levi (2000). The *Arte* forms are supplemented with material from Varo's manuscript lexicon of GH, entitled "Vocabulario de la Lengua Mandarina." Versions of this text are held by the German State Library in Berlin and the British Library in London. Items taken from it will be identified with the bracketed insert "Voc."

(2) Joseph Prémare, *Notitia Linguae Sinicae*, a grammar of GH completed ca. 1730. Data are derived primarily from a printed version of 1893 and secondarily from an earlier printing of 1831.

C. Mid-Qīng Period

(1) Robert Morrison, *Dictionary of the Chinese Language, in Three Parts* (Macao and London, 1815-22), Part II, vol. II, *Chinese and English, Arranged Alphabetically* (1820).

(2) S. Wells Williams, *English and Chinese Vocabulary in the Court Dialect* (Macao, 1844).

4.1.3.2 Běiyīn Materials. The oldest Běiyīn forms were recorded by Ch'we Sejin in the early decades of the sixteenth century. Ch'we' s forms are called yòuyīn 右音 ("Right Readings," hereafter: RR). Ch'we gathered material in Peking, and also in Liáodōng 遼東, the part of China which lay closest to Korea and to which Koreans had relatively free access in Míng times. The material he recorded was different from that of Sin' s Standard, Popular, and Left Readings, and it is generally believed to be of northern provenance. In our opinion, it represents north Chinese koine pronunciation, i.e., the Běiyīn system. Tonal side dot designations for the RR are: no dot = shǎng 上, one dot = yīnpíng 陰平 or qù 去, two dots = yángpíng 陽平. For the later Běiyīn of the nineteenth century many alphabetic materials are available. In the following discussion we will cite data from Wade (1867).

In the examples given below, QYS forms are added for reference to the traditional phonological inventory. The QYS spellings are those of Bernhard Karlgren, as emended by F. K. Li. Superscript numbers 3 and 4 in these spellings identify Division III and IV chóngniǔ 重紐 forms. GH orthographic forms are followed, when necessary, by phonetic interpretations in square brackets.

4.2 The Sound System of 'Phags-pa Chinese

Among GH pronunciation systems preserved in alphabetic form, it is the southern or Nányīn systems which most resemble that of 'Phags-pa Chinese. The highest degree of similarity is found with Sin Sukchu's SR system. But there are also points of similarity with other systems, both northern and southern. A full, point-by-point comparison of the 'Phags-pa Chinese system with Sin's SR is found in Coblin (2001). Wider comparisons with other types of GH are included in

Coblin (1999). In the following sections, we will focus on some features of the 'Phags-pa system which are of special comparative interest.

4.2.1 Syllable Initials. The 'Phags-pa Chinese sound system, as we have interpreted it in Chapter 3, had the following initial consonants:

p p' b m f v ʋ

t t' d n ɳ l

ts ts' dz s z

tʂ tʂ' dʐ ʂ ʐ r

k k' g ŋ ʔ x ɣ ɦ

Ø

With this inventory we can now compare that of Sin's SR initials, as follows:

p p' b m f v ʋ

t t' d n l

ts ts' dz s z

tʂ tʂ' dʐ ʂ ʐ r

k k' g ŋ ʔ x ɣ

Ø

The two sets are grossly quite similar, the only difference being that 'Phags-pa has two consonants, [ɳ] and [ɦ], which are not found in the SR system. However, there are at certain points significant differences in the distribution of the shared elements. Our discussion will focus on the dissimilarities between the two systems.

4.2.1.1 'Phags-pa **w-** [ʋ]. This initial generally corresponds well to its GH counterpart. For example:

wàng 望 QYS mjwang-
'Phags-pa 149 **wang** (去) [ʋaŋ]
Sin Sukchu SR ʋaŋ (去); PR —; LR .ʋaŋ

However, there is a significant set of cases where this is not so, as the following examples illustrate:

mèng 夢 QYS mjung-
'Phags-pa 16 **wung** (去) [ʋuŋ]
Sin Sukchu SR muŋ (去); PR —; LR —

móu 謀 QYS mjəu
'Phags-pa 628 **wuw** (平) [ʋuw]
Sin Sukchu SR məw (平); PR —; LR —

mù 目 QYS mjuk
'Phags-pa 254 **wu** (入) [ʋu]
Sin Sukchu SR mu (入); PR —; LR .muʔ

mù 牧 QYS mjuk
'Phags-pa 254 **wu** (入) [ʋu]
Sin Sukchu SR mu (入); PR —; LR —

In these cases, 'Phags-pa has initial **w** [ʋ] where all later GH materials show initial m. The QYS finals -jəu, -juk, and -jung in these forms normally gave rise to dentilabialization of labial initials in north Chinese dialects, but this process failed to occur where these particular finals followed QYS m-. Now it would seem that in 'Phags-pa Chinese the expected dentilabialization did indeed take place, yielding labiodental ʋ- where the GH varieties have m-. Other examples of this phenomenon are unknown in modern north Chinese dialects. A striking parallel, however, occurs in at least one ancient form of Chinese, which is attested on the verso side of the London Long Scroll (Takata 1993). The Long Scroll is a large Tibeto-Chinese transcriptional document from Dunhuang, and it comprises a number of separate

texts. On the recto of the scroll, the word mù 目 (QYS mjuk) is found in the expected Tibetan transcriptional form *'bug*, probably representing a well-attested medieval northwest Chinese [^{m}buk]. But on the verso side, line 156, it is transcribed as *'wug*, which may reflect something like [^{m}vuk] or [vuk]. (It should be noted that 目 is also spelled once as *'bug* in verso line 122.) A similar case in the Long Scroll corpus is the word móu 牟 (QYS mjəu). This syllable occurs many times in the Scroll texts. On the recto it is always spelled as Tibetan *'bu* [^{m}bu], while the verso equally consistently renders it as *'wu* [^{m}vu] or [vu]. The corresponding 'Phags-pa form is 628 **wuw** (平) [ʊuw]. It would therefore seem that certain materials on the verso side of the Long Scroll reflect a language sub-type which, like the 'Phags-pa system, underwent dentilabialization in syllables of the type in question here. On the other hand, the historical GH varieties followed the path taken by all known modern northern dialects, where dentilabialization was blocked.

4.2.1.2 'Phags-pa **ñ-** [ɲ]. The 'Phags-pa system has two nasals at the coronal position, a dental **n-** [n] and a palatal **ñ-** [ɲ]. These are in full phonemic contrast, as the following examples illustrate:

農 6 **nung** (平) [nuŋ]	醲 10 **ñung** (平) [ɲuŋ]
囊 104 **nang** (平) [naŋ]	娘 108 **ñang** (平) [ɲaŋ]
泥 164 **ni** (平) [ni]	尼 168 **ñi** (平) [ɲi]

In the earlier GH varieties, pairs of this sort always have n- in both members. However, in the later GH period, the Portuguese-Chinese Dictionary (Port-Chin Dict in examples) sometimes has either a palatal nasal or palatal and dental nasal variant readings in competition in such cases. Compare the following examples:

niáng 娘 QYS ɲjang
'Phags-pa 109 **ñang** (平) [ɲaŋ]
Early Míng: Sin Sukchu SR njaŋ (平); PR —; LR njaŋ
Late Míng:
Ricci —; Trigault niâm [niaŋ]
Port-Chin Dict nia' [niaŋ]; Dialogues —

nóng 濃 QYS ŋjwong, (nung)
'Phags-pa 10 **ñung** (平) [ŋuŋ]
Early Míng: Sin Sukchu SR nuŋ (平); PR —; LR —
Late Míng:
Ricci —; Trigault nûm [nuŋ]
Port-Chin Dict gnium, gniu [ŋiuŋ]; Dialogues —

nǚ 女 QYS ŋjwo:
'Phags-pa 270 **ñÿu** (上) [ŋy]
Early Míng: Sin Sukchu SR ny (上); PR —; LR :ny
Late Míng:
Ricci niù [ny]; Trigault niù [ny]
Port-Chin Dict nu, gnu [ny ~ ŋy]; Dialogues —

In general, 'Phags-pa **ñ-** [ŋ] corresponds to the QYS niáng 娘 initial, ŋ-, as can be seen in the cases above. This might lead to the suspicion that **ñ** is an artificial entity based solely on the traditional rime books. However, the following example, where **ñ** does not correspond to the traditional niáng initial, would seem to rule against this possibility:

nǐ 你 QYS nï:
'Phags-pa MGZY ñi (上) [ŋi]
Sin Sukchu: SR njej (上); PR ni; LR :ni

In closing this section we may note that in traditional Division II-type syllables the niáng initial is consistently realized as **n-** rather than **ñ-** in 'Phags-pa Chinese, e.g., 赧 (QYS ŋan:) 414 **nan** (上) [nan], 喃 (QYS ŋăm) 655 **nam** (平) [nam].

4.2.1.3 'Phags-pa **j** [dʐ]. In most cases, this initial corresponds directly to Sin Sukchu's SR dʐ-, e.g.,

chéng 程 QYS ʤjäng
'Phags-pa MGZY **cing** (平) [dʐiŋ]
Sin Sukchu: SR dʐiŋ (平); PR —; LR dʐiŋ

However, there is a significant set of exceptions to this, where the correspondence is with SR z̧-, as illustrated in the following:

shén 神 QYS dźjen
'Phags-pa 342 **cin** (平) [dz̧in]
Sin Sukchu: SR z̧in (平); PR —; LR z̧in

shí 食 QYS dźjək
'Phags-pa 167 **ci** (入) [dz̧i]
Sin Sukchu: SR z̧i (入); PR —; LR .z̧i?

shéng 繩 QYS dźjəng
'Phags-pa 53 **cing** (平) [dz̧iŋ]
Sin Sukchu: SR z̧iŋ (平); PR —; LR z̧iŋ

shì 示 QYS dźi-
'Phags-pa 167 **ci** (去) [dz̧i]
Sin Sukchu: SR z̧i (去); PR z̧ɿ; LR —

shù 述 QYS dźjuet
'Phags-pa 269 **cÿu** (入) [dzy]
Sin Sukchu: SR zy (入); PR —; LR —

shùn 順 QYS dźjuen-
'Phags-pa 386 **cÿun** (去) [dzyn]
Sin Sukchu: SR zyn (去); PR —; LR .z̧yn

shì 事 QYS dz̧ï-
'Phags-pa 191 **c^{h}i** (去) [dz̧ɿ]
Sin Sukchu: SR z̧i (去); PR z̧ɿ; LR .z̧ɿ

shì 士 QYS dz̧ï:
'Phags-pa 191 **c^{h}i** (上) [dz̧ɿ]
Sin Sukchu: SR z̧i (上 去); PR z̧ɿ; LR —

Many of these cases involve the QYS initial dź- (chuángsānmǔ 床三母). Several others have QYS dẓ- (chuángèrmǔ 床 二 母). In the 'Phags-pa orthography these are combined with QYS ź- (shànmǔ 禪母) to form a common 'Phags-pa initial, [dẓ]. In the SR system they are not so combined and have instead become part of SR ẓ-. Later forms of GH resemble the SR system in that they all have fricative initials here. An early medieval language which resembled 'Phags-pa Chinese in this regard is the late sixth-century language of the Nanking area as reflected in the *Mahāmāyūrī* transcriptions of Sanghabhara. In this form of Chinese, QYS dź- and ź- had merged into a common voiced affricate initial which was used to transcribe Sanskrit *j* (Coblin 1990: 206-207). QYS dẓ- does not occur in the *Mahāmāyūrī* material at all, so we cannot be certain if the parallel is perfect. But it seems clear that on this point the 'Phags-pa configuration reflects some ancient sound system similar to that manifested in the Sanghabhara transcriptions. The SR system and the later GH forms were on the contrary quite different here.

4.2.1.4 'Phags-pa **zh** [ẓ]. This 'Phags-pa initial for the most part corresponds to Sin's SR ẓ-, e.g.,

shàn 善 QYS źjän:, źjän-
'Phags-pa 480 **zhen** (上) [ẓɛn]
Sin Sukchu: SR ẓjen (上 去); PR ẓjen (去); LR :ẓjen (上)

However, there are exceptions:

cháng 常 QYS źjang
'Phags-pa 121 **zhang** (平) [ẓaŋ]
Early Míng: Sin Sukchu SR dẓjaŋ (平); PR —; LR dẓjaŋ
Late Míng:
Ricci ch'âm [tʂ'aŋ]; Trigault c'hâm, xâm [tʂ'aŋ ~ ʂaŋ]
Port-Chin Dict ciam, ciã [tʂ'aŋ]; Dialogues cia' [tʂ'aŋ]
Early Qīng: Varo ch'âng [tʂ'aŋ]; Prémare t'châng, tch'âng [tʂ'aŋ]

cháng 嘗 QYS źjang
'Phags-pa 121 **zhang** (平) [ẓaŋ]
Early Míng: Sin Sukchu SR dẓjaŋ (平); PR —; LR dẓjaŋ
Late Míng:

Ricci xâm [ʂaŋ]; Trigault c'hâm, xâm [tʂ'aŋ ~ ʂaŋ]
Port-Chin Dict sciam [ʂaŋ]; Dialogues —
Early Qīng: Varo ch'âng (Voc.) [tʂ'aŋ]; Prémare —

cháng, shang 裳 QYS źjang
'Phags-pa 121 **zhang** (平) [ʐaŋ]
Early Míng: Sin Sukchu SR dʐjaŋ (平); PR ʐjaŋ; LR ʐjaŋ
Late Míng:
Ricci —; Trigault xâm, c'hâm [ʂaŋ ~ tʂ'aŋ]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo ch'âng (Voc.) [tʂ'aŋ]; Prémare —

chéng 成 QYS źjäng
'Phags-pa 64 **zhing** (平) [ʐiŋ]
Early Míng: Sin Sukchu SR dʐiŋ (平); PR —; LR dʐiŋ
Late Míng:
Ricci —; Trigault c'hîm, xîm [tʂ'iŋ ~ ʂiŋ]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo ch'îng [tʂ'iŋ]; Prémare t'chîng, tch'îng [tʂ'iŋ]

chéng 城 QYS źjäng
'Phags-pa 64 **zhing** (平) [ʐiŋ]
Early Míng: Sin Sukchu SR dʐiŋ (平); PR —; LR dʐiŋ
Late Míng:
Ricci c'hîm [tʂ'iŋ]; Trigault c'hîm, xîm [tʂ'iŋ ~ ʂiŋ]
Port-Chin Dict cin [tʂ'in]; Dialogues —
Early Qīng: Varo ch'îng, Fr. tch'îne [tʂ'iŋ]; Prémare —

chéng 盛 QYS źjäng
'Phags-pa 64 **zhing** (平) [ʐiŋ]
Early Míng: Sin Sukchu SR dʐiŋ (平); PR —; LR dʐiŋ
Late Míng:
Ricci —; Trigault c'hîm, xîm [tʂ'iŋ ~ ʂiŋ]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo —; Prémare —

chéng 承 QYS źjəng
'Phags-pa 64 **zhing** (平) [ʑiŋ]
Early Míng: Sin Sukchu SR dʑiŋ (平); PR —; LR —
Late Míng:
Ricci —; Trigault c'hîm, xîm [tʂ'iŋ ~ ʂiŋ]
Port-Chin Dict sin [sin]; Dialogues cin [tʂ'in]
Early Qīng: Varo chîng' (Voc.) [tʂ'iŋ]; Prémare tch'îng [tʂ'ing]

These examples all involve píng tone syllables with the 'Phags-pa main vowels **a** [a] and **i** [i]. The Sin forms have initial dʑ- rather than ʑ-, and most of the GH forms have initial tʂ'-. However, it is significant that in these cases Trigault's forms always show variant readings in ʂ-, which corresponds well to the 'Phags-pa fricative initial forms here. It would seem that later Nányīn GH pronunciation represents several different strains, and 'Phags-pa Chinese is in agreement with the "ʂ- strain" here.

4.2.1.5 'Phags-pa **ng** [ŋ]. When this initial occurs before the 'Phags-pa vowels **a** [a] and **o** [ɔ], the corresponding forms in the SR system and the later GH varieties usually also have ŋ-:

ài 礙 QYS ngậi-
'Phags-pa 287 **ngay** (去) [ŋaj]
Early Míng: Sin Sukchu SR ŋaj (去); PR —; LR .ŋaj
Late Míng:
Ricci ngái [ŋai]; Trigault gái [ŋai]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo gáy (Voc.) [ŋai]; Prémare ngái [ŋai]

wǒ 我 QYS ngâ:
'Phags-pa 732 **ngo** (上) [ŋɔ]
Early Míng: Sin Sukchu SR ŋɔ (上); PR ɔ; LR :ɔ
Late Míng:
Ricci ngò [ŋɔ]; Trigault gò [ŋɔ]
Port-Chin Dict ngo [ŋɔ]; Dialogues ngo [ŋɔ]
Early Qīng: Varo gò [ŋɔ]; Prémare ngò [ŋɔ]

In syllables having the 'Phags-pa vowels **i** [i] and **e** [ɛ], the GH forms tend to show some variation in their realizations:

yì 義 QYS ngje-3
'Phags-pa 160 **ngi** (去) [ŋi]
Early Míng: Sin Sukchu SR i (去); PR —; LR .i
Late Míng:
Ricci nhí [ɲi]; Trigault ní, í [ni ~ i]
Port-Chin Dict gni, i, y [ɲi ~ i]; Dialogues —
Early Qīng: Varo ý [i]; Prémare í [i]

yí 宜 QYS ngje3
'Phags-pa 160 **ngi** (平) [ŋi]
Early Míng: Sin Sukchu SR i, (ŋi)* (平); PR —; LR ŋi, i
*Following the Měnggǔ yùn 蒙古韻 .
Late Míng:
Ricci nhî [ɲi]; Trigault nî, î [ni ~ i]
Port-Chin Dict gni, i, y [ɲi ~ i]; Dialogues —
Early Qīng: Varo ŷ [i]; Prémare î [i]

yí 疑 QYS ngjï
'Phags-pa 160 **ngi** (平) [ŋi]
Early Míng: Sin Sukchu SR i, (ŋi)* (平); PR —; LR ŋi
*Following the Měnggǔ yùn 蒙古韻 .
Late Míng:
Ricci nhî [ɲi]; Trigault nî, î [ni ~ i]
Port-Chin Dict gni, i, y [ɲi ~ i]; Dialogues —
Early Qīng: Varo ŷ [i]; Prémare î [i]

yè 業 QYS ngjɐp
'Phags-pa S35 **nge** (入) [ŋɛ])
Early Míng: Sin Sukchu SR ŋje (入); PR —; LR —
Late Míng:
Ricci nhiě [ɲiɛʔ]; Trigault niě, iě [niɛʔ ~ iɛʔ]
Port-Chin Dict gnie', ie' [ɲiɛʔ ~ iɛʔ]; Dialogues —
Early Qīng: Varo niě (Voc.) [niɛʔ]; Prémare —

yán 言 QYS ngjɐn
'Phags-pa 469 **ngen** (平) [ŋɛn]
Early Míng: Sin Sukchu SR jen (平); PR —; LR jen
Late Míng:
Ricci yên [iɛn]; Trigault iên [iɛn]
Port-Chin Dict yen [iɛn]; Dialogues —
Early Qīng: Varo iên [iɛn]; Prémare iên [iɛn]

yán 嚴 QYS ngjɐm
'Phags-pa 676 **ngem** (平) [ŋɛm]
Early Míng: Sin Sukchu SR jem (平); PR jen; LR jen
Late Míng:
Ricci —; Trigault niên, iên [niɛn ~ iɛn]
Port-Chin Dict gnie' [ɲiɛn]; Dialogues gnien [ɲiɛn]
Early Qīng: Varo iên, niên (Voc.) [iɛn ~ niɛn]; Prémare —

In these cases, the SR will nearly always have a zero initial. Sometimes there is also an ŋ- initial variant, and this is often identified as having been copied from 'Phags-pa sources of some sort. Thus, in the SR system the zero initial is the "real" SR reading. In the LR system, though, there are sometimes valid readings or variant forms in ŋ-. In the later GH varieties, there are often variant readings with initial zero and a nasal initial. Some varieties, such as those of Trigault and Varo, have n- here. Others, such as those of Ricci and the Portuguese-Chinese Dictionary, have a palatal nasal, which is a distinct phoneme in these languages.[4] In all of these cases, the QYS initial of the syllable in question is ng-, the so-called yímǔ 疑母. A related example is the following:

niú 牛 QYS ngjəu
'Phags-pa 602 **ngiw** (平) [ŋiw]
Early Míng: Sin Sukchu SR ŋiw, iw (平); PR niw; LR niw
Late Míng:
Ricci —; Trigault niêu, iêu [niɛu ~ iɛu]
Port-Chin Dict neu, gneu, gnieu, yeu [nɛu ~ ɲɛu ~ ɲiɛu ~ iɛu]; Dialogues neu [nɛu]
Early Qīng: Varo niêu (Voc.) [niɛu]; Prémare nieôu [niɛu]

Mid-Qīng: Morrison nèw (common reading), yēw (dictionary reading) [niu ~ iu]; Williams niú[2] [niu]

In this example, the common word for "bovine," readings in n- were already present in Sin's PR and LR systems and became dominant during the later history of southern GH. Interestingly, the zero initial forms also persisted into the nineteenth century as literary readings.

There is another class of curious 'Phags-pa **ng-** initial examples which do not have the QYS yímǔ:

yǒu 有 QYS jəu:
'Phags-pa 602 **ngiw** (上) [ŋiw]
Early Míng: Sin Sukchu SR iw (上); PR —; LR :iw
Late Míng:
Ricci ièu [iɛu]; Trigault ièu [iɛu]
Port-Chin Dict yeu [iɛu]; Dialogues hieu, yeu`, hyeu, ye [xiɛu(?), iɛu]
Early Qīng: Varo ièu [iɛu]; Prémare ieòu [iɛu]

yòu 又 QYS jəu-
'Phags-pa 602 **ngiw** (去) [ŋiw]
Early Míng: Sin Sukchu SR iw (去); PR —; LR .iw
Late Míng:
Ricci —; Trigault iéu [iɛu]
Port-Chin Dict —; Dialogues yeu [iɛu]
Early Qīng: Varo iéu [iɛu]; Prémare ieóu [iɛu]

yòu 右 QYS jəu-
'Phags-pa 602 **ngiw** (上 去) [ŋiw]
Early Míng: Sin Sukchu SR iw (上 去); PR —; LR :iw
Late Míng:
Ricci —; Trigault iéu [iɛu]
Port-Chin Dict —; Dialogues yeu, yeū [iɛu]
Early Qīng: Varo iéu [iɛu]; Prémare ieóu [iɛu]

In these examples the traditional initial is the yùsānmǔ 喻三母, and all syllables take the QYS shape jəu. 'Phags-pa Chinese is perhaps unique among

known Sinitic languages in showing an initial velar nasal in such words. There are no n- or ŋ- variants in the later GH varieties in such cases.

4.2.1.6 'Phags-pa **x** [ɦ]. If we put aside the final set of examples in the preceding section, the 'Phags-pa initial which corresponds most regularly to the traditional yùsānmǔ is **x** [ɦ]. As we would expect from our discussion of the distribution of this initial in section 3.3.7, it occurs before finals with rounded onsets, e.g.,

wáng 王 QYS jwang
'Phags-pa 149 **xwang** (平) [ɦwaŋ]
Early Míng: Sin Sukchu SR waŋ (平); PR —; LR waŋ
Late Míng:
Ricci —; Trigault vâm, uâm [vaŋ ~ uaŋ]
Port-Chin Dict guam [ɣuaŋ]; Dialogues gua' [ɣuaŋ]
Early Qīng: Varo vâng [vaŋ], vuâng (Voc.) [vuaŋ]; Prémare ouâng, vâng [uaŋ ~ vaŋ]

wǎng 往 QYS jwang:
'Phags-pa 149 **xwang** (上) [ɦwaŋ]
Early Míng: Sin Sukchu SR waŋ (上); PR —; LR :waŋ
Late Míng:
Ricci vàm [vaŋ]; Trigault uàm [uaŋ]
Port-Chin Dict uam [uaŋ]; Dialogues —
Early Qīng: Varo vàng [vaŋ], vuâng (Voc.) [vuaŋ]; Prémare vàng, ouàng [vaŋ ~ uaŋ]

wéi 為 QYS jwe
'Phags-pa 228 **xue** (平) [ɦuĕ]
Early Míng: Sin Sukchu SR uj (平); PR —; LR uj
Late Míng:
Ricci guêy, guêi [ɣuɛi]; Trigault goêi, uêi [ɣuɛi ~ uɛi]
Port-Chin Dict guei [ɣuɛi]; Dialogues guei [ɣuɛi]
Early Qīng: Varo goêi [ɣuɛi]; Prémare ouêi [uɛi]

yǒng 永 QYS jwɐng:
'Phags-pa 38 **xÿung** (上) [ɦiyuŋ]

Early Míng: Sin Sukchu SR jujŋ (上); PR juŋ; LR :juŋ
Late Míng:
Ricci —; Trigault iùm [iuŋ]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo iùng [iuŋ]; Prémare —

yǔ 雨 QYS ju:
'Phags-pa 280 **xÿu** (上) [ɦy]
Early Míng: Sin Sukchu SR y (上); PR —; LR :y
Late Míng:
Ricci yù [y]; Trigault iụ̀ [y]
Port-Chin Dict yu [y]; Dialogues iu, iū [y]
Early Qīng: Varo iù [y]; Prémare iù [y]

In these examples, the initial in Sin's forms is always zero. But in the later GH varieties the situation is more complex. Where the 'Phags-pa final begins with [u] or [w], the later GH forms sometimes show a velar or laryngeal initial of some sort, spelled *g* in the missionary sources and interpreted in the above examples as [ɣ]. This feature appears to correspond to 'Phags-pa **x** [ɦ] here.

In another set of examples the QYS initial type is ng-:

wǎ 瓦 QYS ngwa:
'Phags-pa 793 **xwa** (上) [ɦwa]
Early Míng: Sin Sukchu SR ŋwa (上); PR wa; LR :wa
Late Míng:
Ricci —; Trigault uà [ua]
Port-Chin Dict gua [ɣua]; Dialogues guā [ɣua]
Early Qīng: Varo và [va]; Prémare ouà [ua]

wài 外 QYS ngwâi-
'Phags-pa 228 **xue** (去) [ɦuě]
Early Míng: Sin Sukchu SR ŋwaj (去); PR ŋwaj, waj; LR .waj
Late Míng:
Ricci vái [vai]; Trigault vái, uái [vai ~ uai]
Port-Chin Dict guai [ɣuai]; Dialogues guai [ɣuai]
Early Qīng: Varo vái [vai]; Prémare ouái, vái [uai ~ vai]

yú 魚 QYS ngjwo
'Phags-pa 280 **xÿu** (平) [ɦiy]
Early Míng: Sin Sukchu SR ŋy (平); PR —; LR ŋy
Late Míng:
Ricci —; Trigault iû [y]
Port-Chin Dict —; Dialogues iu [y]
Early Qīng: Varo iû [y]; Prémare iû [y]

yuán 元 QYS ngjwɐn
'Phags-pa 512 **xwÿan** (平) [ɦiyɛn]
Early Míng: Sin Sukchu SR ŋyen (平); PR —; LR yen
Late Míng:
Ricci iuên [yɛn]; Trigault iuên [yɛn]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo iuên (Voc.) [yɛn]; Prémare iuên [yɛn]

yuè 月 QYS ngjwɐt
'Phags-pa 811 **xwÿa** (入) [ɦiyɛ]
Early Míng: Sin Sukchu SR ŋye (入); PR —; LR ŋyeʔ
Late Míng:
Ricci iuĕ [yɛʔ]; Trigault iuĕ [yɛʔ]
Port-Chin Dict iuo [yɔʔ]; Dialogues Juo` [yɔʔ]
Early Qīng: Varo iuĕ [yɛʔ]; Prémare iuĕ [yɛʔ]

In cases such as this, the SR will invariably have initial ŋ-. The LR forms sometimes have this initial if the final begins in [y]. The later GH varieties will never have initial ŋ- in such examples. An interesting curiosity is the following case:

yuē 曰 QYS jwɐt
'Phags-pa 811 **xwÿa** (入) [ɦiyɛ]
Early Míng: Sin Sukchu SR ŋye (入); PR —; LR —
Late Míng:
Ricci iuĕ [yɛʔ]; Trigault iuĕ [yɛʔ]
Port-Chin Dict —; Dialogues iuo, iuo`, yuo, yuo` [yɔʔ]
Early Qīng: Varo —; Prémare iuĕ [yɛʔ]

Here, though the traditional initial is yùsān, the SR form surprisingly has ŋ-. Since the word in question is entirely literary, one might suspect that this was a fluke or a misspelling of some sort. But the case is not so simple. In the Tibeto-Chinese transcriptional corpus from Dunhuang, the word yuē 曰 is usually transcribed ywar, ywa[r], 'war, etc. (Takata 1988: 372-373, no. 0735). All of these correspond to the QYS form for the word. But in addition there is another variant spelling in one text: 'gwar. And initial 'g- here is the normal rendering for QYS ng- in the Tibeto-Chinese transcriptions. Thus, it would appear that there already existed in the Late Táng/Five Dynasties period a variant reading in ŋ- or ᵑg- for the word yuē 曰.

4.2.1.7 'Phags-pa Zero. True initial zero occurs in 'Phags-pa Chinese only in the syllables **o** [ɔ], **on** [ɔn], and **u** [u]. The following are examples:

wò 臥 QYS nguâ-
'Phags-pa 763 **o** (去) [ɔ]
Early Míng: Sin Sukchu SR ŋɔ (去); PR ɔ; LR .ɔ
Late Míng:
Ricci guó [ŋuɔ]; Trigault gó [ŋɔ]
Port-Chin Dict guo [ŋuɔ]; Dialogues —
Early Qīng: Varo gó (Voc.) [ŋɔ]; Prémare —

wán 玩 QYS nguân-
'Phags-pa 453 **on** (去) [ɔn]
Early Míng: Sin Sukchu SR ŋwɔn (去); PR wɔn; LR —
Late Míng:
Ricci —; Trigault uôn, uón, uán [uɔn ~ uan]
Port-Chin Dict cuon, cuoã, guan [xuɔn ~ xuan ~ ɣuan]; Dialogues —
Early Qīng: Varo uân (Voc.) [uan]; Prémare ouân, ouán [uan]

wǔ 五 QYS nguo:
'Phags-pa 284 **u** (上) [u]
Early Míng: Sin Sukchu SR ŋu (上); PR —; LR :ŋu
Late Míng:
Ricci —; Trigault ù [u]
Port-Chin Dict u [u]; Dialogues —
Early Qīng: Varo ù [u]; gù (Voc.) [ŋu]; Prémare où [u]

The SR system invariably has initial ŋ- in such cases, while the LR system has this initial only in examples of the third type. In the later southern GH varieties, such as those represented in these examples, syllables such as wò 臥 normally have initial ŋ-, while those like wán 玩 do not. In cases like wǔ 五 there is much variation among the later varieties. For example, Varo knew variant readings in both [u] and [ŋu]. In the northern (i.e., Běiyīn) pronunciation of GH, there was no initial ŋ- at all, and all syllables such as these had initial zero. 'Phags-pa Chinese seems to have sided with this type of language here.

4.2.2 Syllable Finals. We have found the following syllable finals in the 'Phags-pa Chinese sound system:

ɿ	ɭ										
i	ji	yi	iŋ	jiŋ	in	jin	win	iw	jiw	im	jim
u	uě	yě	uŋ	wuŋ	yuŋ	un	uw				
y	yn										
aj	jaj	waj	aŋ	jaŋ	waŋ	yaŋ	an	jan	wan	aw	
	waw*	jaw	am	jam	a	ja	wa				
Aŋ											
ɛn	jɛn	yɛn	ɛw	jɛw	yɛw*	ɛm	jɛm	ɛ	jɛ	wɛ*	
	yɛ*										
ɔŋ	ɔn	yɔn	ɔw	ɔ	wɔ						
əj*	əŋ	ən	əw	əm							

(Finals followed by stars occur exclusively in the rùshēng tone category in the MGZY.)

The vowel system inherent in these finals is as follows:

i, u ɿ, ɻ u

ɛ ə ɔ

a A

The vowel represented by the letter "A" here is interpreted as [ɒ] by Nakano (1971) and as [ɑ] by Shen (2001). Syllable codas are -j, -w, -ĕ, -n, -ŋ, and -m. No final glottal stop is indicated in the orthography. The possible existence of such a coda is taken up in section 4.2.3 below. It is assumed that prevocalic [y] joins [j] and [w] as a medial semivowel.

When the 'Phags-pa final system is compared with that of Sin's SR system, and also with later forms of GH, a number of differences obtain, involving individual syllables or small sets of syllables. These have been discussed in some detail in our two earlier articles (1999; 2001), and will not be dealt with again here. Instead, we shall concentrate on several points of wider comparative interest.

4.2.2.1 Medial [j]. Medial [j] occurs before the vowels [a], [ɛ], and [i]. It is not found before [ɿ], [ɻ], [A], or [ə]. Medial [y] occurs before the back rounded vowels [u] and [ɔ] in our analysis. Certain other investigators interpret our medial [y] as [j] here (see 3.3.10).

'Phags-pa Chinese is decidedly unusual in contrasting the syllable nuclei [i] and [ji]. To the best of our knowledge, no other form of alphabetically recorded or modern spoken Chinese shows a contrast of this type. The following are some examples:

jī 雞 QYS kiei
'Phags-pa 198 **gÿi** (平) [kji]
Early Míng: Sin Sukchu SR kjej (平); PR ki; LR ki

jī 基 QYS kjï
'Phags-pa 157 **gi** (平) [ki]
Early Míng: Sin Sukchu SR kjej (平); PR ki; LR ki

jīng 經 QYS kieng
'Phags-pa 92 **gÿing** (平) [kjiŋ]
Early Míng: Sin Sukchu SR kiŋ (平); PR —; LR kiŋ

jīng 驚 QYS kjɐng
'Phags-pa 43 **ging** (平) [kiŋ]
Early Míng: Sin Sukchu SR kiŋ (平); PR —; LR —

However, within the 'Phags-pa system as a whole, the configuration [ji] is no more unusual than are [jɛ] and [ja]. It is worth noting here that one never finds such contrasts as [-ja-] versus [-ia-] or [-ja-] versus [-jia-], etc., in 'Phags-pa Chinese, or in any other alphabetically recorded form of pre-modern Chinese, for that matter.

The interaction between forms with and without medial [j] in 'Phags-pa Chinese has been of some interest to Chinese historical phonologists because in certain cases it is found to replicate the so-called sìděng 四等 ("four level" or "four division") arrangement of finals found in the Sòng rime tables. Examples:

	'Phags-pa		Sin SR	Varo
I.	干 409 **gan**	[kan] (平)	kan (平)	kān [kan]
II.	間 463 **gyan**	[kjan] (平)	kjan (平)	kiēn [kjɛn]
III.	建 466 **gen**	[kɛn] (去)	kjɛn (去)	kién [kjɛn]
IV.	見 484 **gÿan**	[kjɛn] (去)	kjɛn (去)	kién [kjɛn]

Here we see that 'Phags-pa Chinese shows distinctions not found either in Sin's SR system or in later forms of GH, as represented by the Varo data. In the 'Phags-pa forms all rime table categories are indeed distinguished. If a speaker of 'Phags-pa Chinese had chosen to read this set of rime table syllables aloud, this is what he would have heard in the mid-thirteenth century. But are we then justified in projecting the distinguishing features seen here back to the time when the earliest prototypes of the tables were produced, whenever that was, and claiming that this very configuration is what the table-makers heard and tried to incorporate into their charts? Of course not. No evidence for such an idea has ever been adduced. We do

not know who the table-makers were, when or where they worked, or how their language or languages may have been related to 'Phags-pa Chinese. All we can say, until these questions have been addressed and convincingly answered, is that in the thirteenth century this particular set of finals was distinguished in this way.

4.2.2.2 The 'Phags-pa vowel **e** [ɛ]. The 'Phags-pa vowel **e** [ɛ] is interesting in that it corresponds almost exclusively to the combination [je] or [jɛ] in the SR system and various later forms of alphabetically attested Chinese. This is illustrated in the following examples:

biàn 辯 QYS bjän:3
'Phags-pa 476 **pen** (上) [bɛn]
Early Míng: Sin Sukchu SR bjen (上); PR —; LR :bjen
Late Míng:
Ricci pién [piɛn]; Trigault pièn, pién [piɛn]
Port-Chin Dict —; Dialogues —
Early Qīng: Varo pién [piɛn]; Prémare —

lián 連 QYS ljân
'Phags-pa 482 **len** (平) [lɛn]
Early Míng: Sin Sukchu SR ljen (平); PR —; LR ljen
Late Míng:
Ricci —; Trigault liên [liɛn]
Port-Chin Dict —; Dialogues lien, lie' [liɛn]
Early Qīng: Varo liên [liɛn]; Prémare liên [liɛn]

In some cases of this type there is no significant contrast involved. For example, there is no 'Phags-pa syllable ***lÿan** [ljɛn] opposite 連 **len** (平) [lɛn]. But in others there is a definite contrast. The syllables jiàn 建 (**gen** [kɛn]) and jiàn 見 (**gÿan** [kjɛn]) in the preceding section illustrate this.

The philological significance of the contrast found in the following pair is of a different sort:

zhān 邅 QYS ʈjän
'Phags-pa 474 **jen** [tʂɛn] (平)
Early Míng: Sin Sukchu SR tʂjen (去); PR —; LR —

zhān 旃 QYS tśjän
'Phags-pa 486 **jÿan** [tʂjɛn] (平)
Early Míng: Sin Sukchu SR tʂjen (去); PR —; LR —

In 'Phags-pa Chinese the QYS shéshàng 舌上 (i.e., ṭ-, etc.) and zhèngchǐ 正齒 (i.e., tś-, etc.) initials are not distinguished. However, in the present pair of syllables, the traditional distinction survives in the 'Phags-pa finals. It is not preserved in the SR system, where the two syllables are homophones.

4.2.2.3 'Phags-pa Final **-ÿon** [-yɔn]. This final has a very limited distribution. The entry lines of the Glossary in which it appears are the following:

516. **gÿon** [kyɔn] shǎng 卷 · 捲 · qù 眷 · 睠 · 卷

517. **khÿon** [k'yɔn] píng 券 · 棬 · shǎng 綣 · qù 券 · 勸

518. **lÿon** [lyɔn] píng 孿 · shǎng 臠 · 孌 · qù 戀

As mentioned in 3.3.10, syllables of this type belong to a larger group whose finals tend to be realized as [yɛn] or [yen] in many of the known GH types and as [yɔn] in certain others. Mixture of the two types in a single language variety is not characteristic of the GH materials. The following examples illustrate this:

quǎn 犬 QYS khiwen:
'Phags-pa 498 **khwÿan** (上) [k'yɛn]
Early Míng: Sin Sukchu SR k'yen (上); PR —; LR —
Late Míng:
Ricci —; Trigault k'iuèn [k'yɛn]
Port-Chin Dict chiuon [k'yɔn]; Dialogues —
Early Qīng: Varo k'iuèn [k'yɛn]; Prémare k'uèn [k'yɛn]

chuán 傳 QYS ḍjwän
'Phags-pa 502 **cwÿan** (平) [dʐyɛn]
Early Míng: Sin Sukchu SR dʐyen (平); PR —; LR dʐyen

Late Míng:
Ricci c'huên [tʂ'uɛn]; Trigault c'huên [tʂ'uɛn]
Port-Chin Dict —; Dialogues ciuõ [tʂ'uɔn]
Early Qīng: Varo chuên' (Voc.) [tʂ'uɛn]; Prémare tch'ouên [tʂ'uɛn]

quán 全 QYS dzjwän
'Phags-pa 505 **tswÿan** (平) [dzyɛn]
Early Míng: Sin Sukchu SR dzyen (平); PR —; LR dzyen
Late Míng:
Ricci ç'iuên [ts'yɛn]; Trigault 'çiuên [ts'yɛn]
Port-Chin Dict çiuon [ts'yɔn]; Dialogues —
Early Qīng: Varo çh'iuên, Fr. ts'iuên [ts'yɛn]; Prémare t'suên [ts'yɛn]

yuān 冤 QYS ʔjwɐn
'Phags-pa 511 **'wÿan** (平) [ʔyɛn]
Early Míng: Sin Sukchu SR ʔyen (平); PR —; LR —
Late Míng:
Ricci —; Trigault iuēn [yɛn]
Port-Chin Dict yuon [yɔn]; Dialogues —
Early Qīng: Varo iuēn (Voc.) [yɛn]; Prémare iuēn [yɛn]

yuán 圓 QYS jwän
'Phags-pa 512 **xwÿan** (平) [ɦyɛn]
Early Míng: Sin Sukchu SR yen (平); PR —; LR yen
Late Míng:
Ricci yuên [yɛn]; Trigault iuên [yɛn]
Port-Chin Dict yuon [yɔn]; Dialogues —
Early Qīng: Varo iuên (Voc.) [yɛn]; Prémare iuên [yɛn]

Here we see that it is only in the regional GH varieties of the Portuguese-Chinese Dictionary and the Dialogue texts that [yɔn] occurs. 'Phags-pa Chinese seems to represent a mixture of the two types. Perhaps this is not that surprising, if we are correct in viewing the 'Phags-pa system as a composite one. However, the fact is that the mixture here is not random, for the syllables having final -ÿon [yɔn] invariably occur in syllables belonging to the third level (or "division") of the rime tables. Syllables which contrast with them in the system and have final **-wÿan** [yɛn]

appear in the fourth division of the tables. The following are the pertinent contrasting fourth division-type entry lines, which constrast with lines 516 and 517 above:

497. **gwÿan** [kyɛn] píng 涓，睊，鵑，蠲，shǎng 畎，qù 睊，罥，絹，狷

498. **khwÿan** [k'yɛn] píng[5] 犬

Now, it defies credence to suppose that this is an accident. How has it come about? The answer may be as follows. In the rime books of the Sòng period, such as the *Xīnkān yùnlüè*, the characters in lines 497/516 and 498/517 are in separate, non-contiguous homophone groups. Consequently, the inclination of the MGZY compilers would have been to separate them. However, such a separation would require that their 'Phags-pa head forms differ in spelling. It seems likely that none of the speech types on which the 'Phags-pa system was based actually made such a distinction, and the script did not readily lend itself to an artificial or purely orthographic differentiation at this point.[6] Consequently, different pronunciation types from different koine sub-varieties were chosen to represent the distinction. Our assumption is, then, that no single "real" koine sub-variety made the distinction seen here. But both realizations of the finals in question, i.e., [yɛn] and [yɔn], were actually found among speakers of the various koine sub-types.

4.2.2.4 'Phags-pa **-^{h}ang** [Aŋ] and **-wang** [uaŋ]. In 3.3.9 we noted that the 'Phags-pa equivalent of final [aŋ] in Sin Sukchu's SR system is sometimes **-^{h}ang** [Aŋ]. However, there is another interesting equivalence, which the following examples illustrate:

shuāng 雙 QYS ṣång
'Phags-pa 146 **shwang** (平) [ʂwaŋ]
Early Míng: Sin Sukchu SR ʂaŋ (平); PR ʂwaŋ; LR ʂwaŋ
Late Míng:
Ricci —; Trigault xoām, xuām [ʂuaŋ]
Port-Chin Dict sa', san, xan [san ~ ʂan]; Dialogues —
Early Qīng: Varo xoāng [ʂuaŋ]; Prémare choāng, chouāng [ʂuaŋ]

zhuàng 撞 QYS ḍång-
'Phags-pa 145 **cwang** (去) [dʐwaŋ]
Early Míng: Sin Sukchu SR tʂaŋ (去); PR tʂwaŋ; LR .tʂwaŋ
Late Míng:
Ricci —; Trigault choám, chuám [tʂuaŋ]
Port-Chin Dict zam, cia', ciam, zan, can [tsaŋ ~ tʂaŋ ~ tsan ~ tʂan]; Dialogues —
Early Qīng: Varo choáng [tʂuaŋ]; Prémare —

In these cases the 'Phags-pa equivalent to the SR final is **-wang** [uaŋ], in agreement with the other forms of GH, except that of the Portuguese-Chinese Dictionary. Now it is notable that these examples involve the QYS final -ång, while those cases where 'Phags-pa **-^{h}ang** [Aŋ] obtains are invariably syllables having QYS -jaŋ after QYS retroflex initials:

zhuàng 壯 QYS tʂjang-
'Phags-pa 151 **j^{h}ang** (去) [tʂAŋ]
Early Míng: Sin Sukchu SR tʂaŋ (去); PR tʂwaŋ; LR .tʂwaŋ
Late Míng:
Ricci —; Trigault choám, chuám [tʂuaŋ]
Port-Chin Dict za' [tsaŋ]; Dialogues —
Early Qīng: Varo choáng, çhiáng (Voc.) [tʂuaŋ ~ tsiaŋ]; Prémare tchoáng, tchouāng [tʂuaŋ]

Thus, 'Phags-pa Chinese preserves here a distinction which has been lost in all alphabetically recorded forms of GH, for these will invariably represent the two QYS finals the same way, whether as [aŋ] or as [uaŋ].

4.2.3 Rùshēng Tones and Finals. The MGZY arranges syllables according to the four traditional tone categories, i.e., píng, shǎng, qù, and rù. This was ostensibly the ideal or "standard" tone system of the language underlying the script. However, because the received four-tone classification is in fact the traditional one of the QYS, one must wonder how well it accorded with reality. For example, comparison of modern Mandarin dialects of both north China and the Yangtze watershed suggests that these languages developed from a seven-tone prototype in which lower register shǎng had merged with lower register qù (Baxter [2000]: 106-108). It seems likely

that most speakers of 'Phags-pa Chinese would have had, at the least, a tonal reduction of this type in their speech. But we are hard put to say anything beyond this.

The nature of the rùshēng in 'Phags-pa Chinese is a complex question. In GH of later times the Nányīn pronunciation had a checked or glottal-stop rù tone, while the Běiyīn had no rù tone at all. It seems likely that Yangtze watershed speakers of 'Phags-pa Chinese would have had checked finals in traditional rù tone syllables. But it is equally possible that northerners did not have this feature in such syllables when they spoke the koine. Of particular interest here are rùshēng syllables which have 'Phags-pa diphthongal finals. The following are examples of these:

'Phags-pa	Ch'we (1510)	Trigault (1626)	Wade (1867)
百 295 **bay** [paj]	—/:pɔ	pĕ [pɛʔ]	pai^{3}/po^{2}
北 214 **bue** [puĕ]	:pəj/:pɔ	pĕ [pɛʔ]	pei^{3}/po^{4}
麥 298 **may** [maj]	—/—	mĕ [mɛʔ]	mai^{1,4}/mo^{4}
墨 217 **mue** [muĕ]	:məj/:mɔ	mĕ [mɛʔ]	mei^{4}/mo^{4}
宅 294 **cay** [dʐaj]	:tʂaj/:tʂɔ	çĕ [tsɛʔ]	chai^{2}/tse^{2}
賊 330 **ts^{h}iy** [dzəj]	:tsəj/—	çĕ [tsɛʔ]	tsei^{2}/tse^{2,4}

In this table, 'Phags-pa forms are accompanied by early Běiyīn RR forms of Ch'we Sejin, mid-period Nányīn forms of Trigault, and late Běiyīn forms of Thomas Wade (1867). In the two Běiyīn columns, right-hand forms are formal or authorized Běiyīn readings, which are in fact northern attempts to replicate contemporaneous Nányīn pronunciation. The left-hand forms are vernacular northern pronunciations of the etyma in question which have forced their way into the formal Běiyīn reading system. It is noteworthy that in the early vernacular Běiyīn forms two different finals are in play, i.e., -əj and -aj, while in the Nányīn forms there is only a single final, -ɛʔ. The late Běiyīn vernacular forms of Wade match the early ones of Ch'we. The late formal Běiyīn forms show what is historically one final, whose two different forms, -o and -e, are determined by

syllable-initial types. Now, what is of interest to us here is that the 'Phags-pa forms match the Běiyīn vernacular ones, not only in the distinction made by the latter, but, to a considerable extent, also in the actual phonetic shapes which manifest the distinction. The 'Phags-pa forms are, in other words, much more like the northern vernacular ones than like those found in the Nányīn system of traditional times. This suggests that at this point the framers of the 'Phags-pa script may have based their orthography directly on northern usage. The situation here is therefore the opposite of that which we have seen for the initial consonants, where, in preserving the zhuó series of initials, the framers hewed to southern usage.

If this observation is correct, what implications does it have for the way the script was actually read? In the case of the syllables in the table above, a northerner could perhaps have simply read the orthographic forms letter by letter. But what would a southerner have done? To begin, he would presumably have added the glottal stop automatically to any rùshēng word he encountered.[7] But how would he have handled the diphthongs, if, for example, he spoke a variety of the Nányīn like those of Trigault, Varo, etc., which had monophthongs here? In fact, the problem may not have been that difficult to deal with. It would be a fairly easy matter for such a person to internalize a "reading rule" that **-ay** and **-^{h}iy** were to be read as [ɛ] when occurring before his inserted final [ʔ]. A similar rule could reduce **-ue** [uĕ] to [ɛ] under the same circumstances. Conventions of this sort would be no more difficult to learn and implement than those needed by northerners when faced with the tripartite initial system embodied in the script. To add a further example involving a different syllable type, consider the following:

	'Phags-pa	Ch'we (1510)	Trigault (1626)	Wade (1867)
薄	532 **paw** [baw]	—/:pwɔ	pŏ [pɔʔ]	pao^{2}/po^{2}

Here the northerner would read the 'Phags-pa final as spelled. The southerner would need to add the glottal stop and substitute the vowel [ɔ] for **-aw** [aw] before this consonant.

Let us now consider what these speculations suggest regarding the nature of the 'Phags-pa Chinese language on the one hand and the Chinese 'Phags-pa orthography on the other. We have envisaged the spoken koine as composite and multifaceted, comprising several different sub-types. In this respect it may have resembled Táiwān Guóyǔ 臺灣國語 of the 1950s and 1960s. At that time one heard a number of different sub-types of this koine in the city of Taipei. These

included, for example, (1) a northern sub-type usually close in pronunciation to the recommended "textbook" sound system and spoken by a fairly small number of mainland immigrants, (2) several closely related central or Yangtze watershed varieties spoken by a rather large number of mainland immigrants, (3) several closely related "southernized" varieties used by native Taiwanese speakers of Mǐn and Hakka dialects, (4) other assorted varieties spoken by individuals of various origins. 'Phags-pa Chinese may have been similar to Táiwān Guóyǔ in certain respects as regards its typological complexity.

The 'Phags-pa Chinese orthography that was meant to write this composite language may have been a "pan-koine diasystem," in that it could be read and pronounced by speakers of the different koine sub-types included under the rubric "'Phags-pa Chinese." In writing a particular syllable, such a system would need to make the maximum number of orthographic distinctions necessary to enable any particular user of the koine to pronounce it in his own sub-variety. Consider, for example, the following cases:

532. **paw** [baw] píng 袍
Northern reader: **paw** [baw] → [p'aw]
Southern reader: **paw** [baw]

532. **paw** [baw] rù 薄
Northern reader: **paw** [baw] → [paw]
Southern reader: **paw** [baw] → [baw?] → [bɔ?]

For the first syllable in this pair, a píng tone word, the northerner must be prepared to read the initial **b-** as voiceless aspirated. The southerner required no changes. For the second syllable, both readers would need to make adjustments. The northerner must select his plain voiceless initial. He could then read the final as spelled. The southerner would, as mentioned earlier, add the glottal stop and then select the appropriate "pre-glottal-stop" monophthong [ɔ] in place of the orthographic diphthong. Conventions of this sort are found in most known alphabetic writing systems that are meant to encompass more than a single type of underlying pronunciation, and it is our suggestion that they were also inherent in the 'Phags-pa Chinese orthography. This hypothesis must now be tested by comparing the received orthographic corpus with our steadily growing body of information on

early koine pronunciation types. If it proves to be correct, what would it mean for the field of 'Phags-pa Chinese studies as a branch of Chinese historical phonology? Essentially, it would force us to set aside efforts to restore a unitary 'Phags-pa Chinese sound system as such. Instead, we must begin thinking in terms of the different koine sub-types which are encompassed by the orthography. It is these and only these which will have had historical reality as varieties of early Chinese pronunciation. Finally, to what extent does the linguistic nature of 'Phags-pa Chinese parallel those of earlier koines, such as, for example, the ones which existed in Táng times, in *Qièyùn* times, or earlier? These are questions which the study of 'Phags-pa Chinese will enable us to address with greater realism and precision.

Notes

[1]References for this section are Baugh (1935), Görlach (1997), and Fennell (2001).

[2]References are Lockwood (1965), Waterman (19765), and Wells (1985).

[3]There is in fact a considerable corpus of such sources.

[4]For a more detailed discussion of these GH initials, see Coblin (2002).

[5]Tone sic!

[6]In 3.4.2 we have seen cases where such an orthographic distinction was made by exploiting the fact that two different letters, **'-** [ʔ] and **Y** [ʔj], were used to write the glottal stop in the system. But no such strategy serves in the present case.

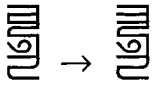
[7]We must remember here that the script would be tonally unreadable to anyone who did not have access to the corresponding written Chinese forms, whence came the need for parallel 'Phags-pa and Chinese character texts. A reader would automatically know the correct tone once he had seen the character.

Glossary of 'Phags-pa Chinese Forms

This Glossary contains a selection of Chinese characters from the MGZY, arranged according to the format of that text. The material is not intended as an actual edition of the MGZY. The facsimile editions already published by Luó and Cài (1959) and Jūnast and Yang (1987) should be used in formal textual studies. We have excluded certain characters for two reasons. The first is that many of the excluded items are rare or unusual characters which are mainly of philological or antiquarian rather than linguistic interest. The second is that the rare graphs do not occur in the Chinese font used to print the glossary. However, where a particular entry line of the MGZY is represented exclusively by such rare graphs, one or more have been specially created to serve as exemplars of the sound classes represented by the lines in question. Furthermore, wherever the MGZY uses variant or unusual forms of common graphs, the current modern forms have been substituted here. There are many scribal errors among the characters found in the original MGZY manuscript. Corrections of these have been suggested by Cheng (1967), Jūnast and Yang (1987), and Níng (1997, Chapter 5). In cases where their emendations are obviously valid we have substituted the correct characters for the erroneous ones. In all other cases we have left the material as it stands. This does not mean that we reject the unadopted emendations, but only that we reserve judgment regarding them.

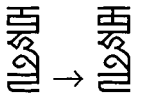
Entry lines of the MGZY are numbered consecutively from 1 to 818, following Nakano (1971: 105-134). Nakano's arrangement of the reconstructed material from the lost final two pages of the text is also adopted, with the entries numbered S1-S37 and placed at the end of the Glossary. Her data have been supplemented at certain points with forms taken from the notes of Jūnast and Yang (1987: 140-144). See 2.3 and 2.4 for further discussion of this material. Each entry line of the Glossary begins with the MGZY 'Phags-pa script form. This is followed by a paleographical transliteration in bold type and a phonetic interpretation in IPA, enclosed in square brackets. For full discussion of the transliterations and interpretations, see Chapter 3. Characters in each entry line are divided by traditional tone category as in the MGZY, i.e., píng 平, shǎng 上, qù 去, and rù 入, with the tone names given in pīnyīn romanization. A number of the 'Phags-pa entry forms in the MGZY are

generally believed to be erroneous. In some cases, the errors are simple misspellings. Entries of this type take the form below:

35.  → **cÿung > zÿung**

The first 'Phags-pa form here is the one actually found in the MGZY. This is followed by an arrow pointing to the presumed correct form. Both forms are then transliterated and are separated by a derivational symbol.

In other cases, the original form in the MGZY is corrupt in that it is in some way at variance with the known letters of the 'Phags-pa script. Anomalies of this type are illustrated in the following:

77.  → **ch^{h}ing**

In this example, the first letter of the MGZY form is unknown but is presumably a corruption of the 'Phags-pa letter  **ch**. The correct form is given after the arrow. In cases of this type, only the correct form is transliterated.

In a third type of example, one finds in 'Phags-pa sources other than the MGZY, such as the inscriptions or the Bǎijiāxìng, forms which regularly and systematically differ from their MGZY counterparts. The following is one such instance:

128.  (~ ) **khÿang (~ khyang)**

In this case the MGZY form comes first, followed by the alternate form in parentheses. In examples of this type, we transliterate both forms, bracketing the second one.

Justification for emendations of the above type is found in the textual notes of Nakano (1971) and Jūnast and Yáng (1987) among others and is not repeated here. For the source materials from which the variant forms are derived, see Hashimoto (1978: 134-146).

In addition to the material from the MGZY, we have added, for comparison, forms from the inscriptions, the sutras, and the Bǎijiāxìng. These have been taken from Hashimoto (1978: 134-146). Our selection includes only cases where forms in these other sources differ from the canonical ones found in the MGZY. For the far more numerous cases where there is complete agreement with the MGZY material,

see the tables in Hashimoto (op. cit.). The forms we cite are arranged under the pertinent MGZY entry lines and are identified using the following abbreviations:

Inscr:	Inscriptions
Su:	Sutras
BJX:	Báijiāxìng

Cross-references to the page numbers of the Luó and Cài (1959) and Jūnast and Yang (1987) editions of the MGZY are inserted throughout the Glossary on the right-hand side of each page, in bold type. The abbreviations used in these cross-references are:

LC	Luó and Cài (1959)
JY	Jūnast and Yang (1987)

There are three indexes to the Glossary. The first is a pīnyīn index to the Chinese characters in the material, the second a stroke order index to the same characters, and the third an index to the transliterations of the 'Phags-pa forms into the Latin alphabet.

[LC 99; JY 27]

I. 東  **dung** [tuŋ]

1.  **gung** [kuŋ] píng 公，功，工，攻，觥，肱， shăng 礦， qù 貢，贛，灨，虹

2.  **khung** [k'uŋ] píng 空，箜, 崆，悾，倥，shăng 孔，倥，悾，qù 控，倥，空，鞚

3.  **dung** [tuŋ] píng 東，凍，冬，蝀， shăng 董，蝀，懂， qù 凍，棟

4.  **thung** [t'uŋ] píng 通，恫，侗，shăng 捅，桶，qù 痛，統

5.  **tung** [duŋ] píng 同，仝，童，僮，銅，桐，筒，膧，曈，犝，潼，罿，橦，峒，筩，侗，酮，彤，洞，鼕， 佟，shăng 動，挏，恫，慟
Inscr: 同 **thung**

6.  **nung** [nuŋ] píng 農， 儂，膿

[LC 99; JY 28]

7.  **jung** [tʂuŋ] píng 中，衷，忠，鍾，鐘，蚣，終，螽，shăng 冢，塚，腫，種，踵，qù 中，衷，種，眾

8.  **chung** [tʂ'uŋ] píng 忡，充，珫， 茺，傭，衝， 罿，憧，shăng 寵

9.  **cung** [dʐuŋ] píng 崇
Inscr: 崇 **cÿung**

10.  **ñung** [ɲuŋ] píng 醲，濃，襛，穠

11.  **bung** [puŋ] shăng 琫，菶

12. **pung** [buŋ] píng 蓬，逢，篷，髼，芃，韸， shăng 唪，qù 唪

13.  **mung** [muŋ] píng 蒙，冢，濛，朦，曚，罞，幪，霥，盲，虻，鄳，甍，萌，氓，甿，shǎng 蠓，懵，幪，猛，艋，qù 霿，孟，盟，霥，懵

14.  **hwung** [fuŋ] píng 風，楓，豐，酆，澧，封，葑，峰，鋒，丰，蜂，烽，shǎng 覂，捧，qù 諷，風，賵，葑

[LC 99; JY 29]

15.  **Hwung** [vuŋ] píng 馮，溤，逢，縫，夆，shǎng 奉，qù 鳳，俸，縫

16.  **wung** [ʋuŋ] píng 曹，夢，慒，qù 夢，曹

17.  **dzung** [tsuŋ] píng 騣，崧，豵，艐，鬃，棕，宗，shǎng 總，摠，傯， qù 粽, 傯，綜

18.  **tshung** [ts'uŋ] píng 匆，璁，蔥，聰，驄，qù 謥

19.  **tsung** [dzuŋ] píng 叢，潀，琮，悰，淙，賨

20.  **sung** [suŋ] píng 鬆，qù 宋，送

21.  **shung** [ʂuŋ] píng 舂，憃，椿

22.  **zhung** [ʐuŋ] píng 傭

[LC 23; JY 30]

23.  **hung** [xuŋ] píng 轟，鍧， 薨

24.  **Xung** [ɣuŋ] píng 洪，訌，紅，虹，鴻，葒，烘，洚，橫，黌，喤，鍠，宏，紘，蝧，翃，鉉，弘，靖，閎，shǎng 澒， qù 哄，烘，鬨，橫

25.  **'ung** [ʔuŋ] píng 翁，shǎng 蓊，滃，qù 瓮，甕，罋

26.  **lung** [luŋ] píng 籠，朧，聾，蘢，曨，瓏，曚，櫳，shǎng 籠，攏， qù 弄

27.  **gÿung** [kyuŋ] píng 弓，躬，躬，宮，恭，龔，供，共， shǎng 拱，鞏，珙，栱，冏，璟，qù 供

28.  **khÿung** [k'yuŋ] píng 穹，芎，蛩， shǎng 恐，qù 倥，恐

29.  **kÿung** [gyuŋ] píng 窮，蛩，邛， 筇，蓖，qù 共

30. **cÿung** [dzyuŋ] píng 蟲，沖，盅，重，种，shǎng 重，qù 仲，重
Inscr: 重 **jÿung**

[LC 100; JY 31]

31.  **dzÿung** [tsyuŋ] píng 縱，蹤，qù 從，縱

32.  **tshÿung** [ts'yuŋ] píng 樅

33.  **tsÿung** [dzyuŋ] píng 從，qù 從

34.  **sÿung** [syuŋ] píng 嵩，崧，娀，菘，騬，埬，shǎng 悚，竦，聳

35.  →  **cÿung > zÿung** [zyuŋ] píng 松，qù 頌，誦，訟
BJX: 松 **sÿung**.

36.  **hÿung** [xyuŋ] píng 胸，凶，兇，洶，恟，qù 夐

37. **'ÿung** [ʔyuŋ] píng 雍，廱，癰，邕，噰，雝，饔’ 灉，shǎng 擁，壅，qù 雍，灉，擁

38.  **xÿung** [ɦyuŋ] píng 顒，喁，榮，shǎng 永，qù 詠，泳，縈，營
Inscr: 榮 **yÿung**

39.  **Yÿung** [ʔyuŋ] píng 縈

[LC 100; JY 32]

40.  **yÿung** [jyuŋ] píng 融，肜，濃，容，溶，庸，墉，鎔，鏞，鄘，傭，蓉，瑢，營，塋，瑩，shǎng 甬，涌，勇，踴，慵，傭，穎，qù 用

41.  **lÿung** [lyuŋ] píng 隆，癃，窿，龍，shǎng 隴，壟

42.  **Zhÿung** [ryuŋ] píng 戎，茙，駥，絨，茸，shǎng 冗，氄

II. 庚 **gÿing** [kjiŋ]

43.  **ging** [kiŋ] píng 驚，京，荊，競，矜，shǎng 警，儆，景，境，撽，qù 敬，竟，鏡

44.  **khing** [k'iŋ] píng 卿，qù 慶

45.  **king** [giŋ] píng 擎，勍，黥，鯨，檠，qù 競，倞

46.  **nging** [ŋiŋ] píng 迎，凝，qù 迎，凝

47.  **ding** [tiŋ] píng 丁，釘，玎，仃，shǎng 朾，頂，鼎，酊，qù 碇，釘，定，飣，訂

[LC 100; JY 33]

48.  **thing** [t'iŋ] píng 汀，聽，廳，shǎng 珽，侹，頲，qù 聽

49.  **ting** [diŋ] píng 庭，停，莛，筵，亭，霆，渟，綎，娗，蜓，廷，shǎng 梃，艇，鋌，訂，qù 定，廷，錠

50.  **ning** [niŋ] píng 寧，shǎng 濘，qù 甯，佞，濘

51.  **jing** [tsiŋ] píng 貞，楨，禎，征，鯖，鉦，正，徵，蒸，烝，shǎng 整，證，拯， qù 政，正，証，證
Inscr: 貞 **cing**; 政 **cing, j^{h}ing**

52.  **ching** [tsʻiŋ] píng 檉，赬，稱，偁，shǎng 逞，騁，qù 逞，偵，稱，秤

53.  **cing** [dziŋ] píng 呈，程，醒，程，澄，澄，懲，繩，乘，溗，qù 鄭，瞪，乘，剩，賸，凌，甸，嵊

54.  **bing** [piŋ] píng 兵，并，冰，掤，shǎng 丙，邴，炳，秉，餅，鉼，屏，餅，鞞，qù 柄，怲，摒，栟，并

[LC 100; JY 34]

55.  **phing** [pʻiŋ] píng 俜，砯，qù 聘，娉

56.  **ping** [biŋ] píng 平，評，苹，枰，瓶，鉼，屏，萍，萍，馮，憑，shǎng 並，qù 病，平，評，憑

57.  **ming** [miŋ] píng 覭，明，盟，鳴，名，洺，冥，銘，溟，螟，蓂，暝，shǎng 皿，茗，酩，qù 命，暝

58.  **dzing** [tsiŋ] píng 蜻，精，菁，鶄，晶，睛，甑，旌，旍，shǎng 井，qù 甑

59.  **tshing** [tsʻiŋ] píng 鯖，清，青，shǎng 請，qù 倩，清，鼭，掅

60.  **tsing** [dziŋ] píng 情，晴，緧，鄄，嶒，shǎng 靜，靖，阱，qù 凈，阱，靚，請

[LC 101; JY 35]

61.  **sing** [siŋ] píng 星，腥，醒，惺，shǎng 醒，省，惺，qù 醒，姓，性

62.  **zing** [ziŋ] píng 餳

63.  **shing** [ʂiŋ] píng 聲，升，昇，陞，勝，qù 聖，勝，賸

64.  **zhing** [ʐiŋ] píng 成，城，誠，盛，郕，承，丞，qù 盛，晟

65.  **Xing** [ɣiŋ] píng 恆

66.  **'ing** [ʔiŋ] píng 霙，譻，英，瑛，應，鷹， shǎng 影，qù 映，應

67.  **Ying** [ʔjiŋ] píng 甇，罌，鶯，嚶，櫻，鸚，攖，瓔，嬰，纓，shǎng 癭，qù 鎣，瑩，澄

68.  **ying** [jiŋ] píng 盈，贏，籯，瀛，楹，蠅，(qù =) shǎng 郢，梬，浧，qù 鞕，硬，孕

[LC 101; JY 36]

69.  **ling** [liŋ] píng 令，靈，齡，囹，鴒，蛉，鈴，醽，欞，苓，伶，泠，笭，玲，聆，零，翎，瓴，陵，凌，淩，蔆，菱，綾，shǎng 領，嶺，冷， qù 令

70.  **Zhing** [riŋ] píng 仍，陾

71.  **g^{h}ing** [kəŋ] píng 絙，qù 亙，恆

72.  **kh^{h}ing** [k'əŋ] shǎng 肯

73.  **d^{h}ing** [təŋ] píng 登，燈，簦，shǎng 等，qù 嶝，鐙，蹬，磴

74.  **t^{h}ing** [dəŋ] píng 騰，滕，縢，螣，謄， qù 鄧，蹬

75.  **n^{h}ing** [nəŋ] píng 獰，儜，能

76.  **j^{h}ing** [tʂəŋ] píng 丁，爭，箏，shǎng 朾，qù 偵，諍，幀

[LC 101; JY 37]

77.  → **ch^{h}ing** [tʂ'əŋ] píng 瞠，鎗，鏘，槍，琤，錚，鏘，撐

78.  **c^{h}ing** [dzə̤ŋ] píng 棖，橙

79.  **b^{h}ing** [pəŋ] píng 崩，閍，繃，祊，絣，併，qù 迸

80.  **ph^{h}ing** [p'əŋ] píng 烹，亨，抨

81.  **p^{h}ing** [bəŋ] píng 彭，棚，朋，堋，鵬，弸，shǎng 併，qù 併

82.  **dz^{h}ing** [tsəŋ] píng 增，憎，曾，矰，罾，橧

83.  **ts^{h}ing** [dzəŋ] píng 層，曾，qù 贈

84.  **s^{h}ing** [səŋ] píng 僧，鬠

85. **sh^{h}ing** [ʂəŋ] píng 生，笙，牲，鉎，甥，猩，shǎng 省，眚

86. **l^{h}ing** [ləŋ] píng 楞，棱，稜，shǎng 冷

[LC 101; JY 38]

87.  (~ ) **gÿung (~ gyung)** [kyuŋ] píng 扃，駉，坰，shǎng 熲

88.  (~ ) **khÿung (~ khyung)** [k'yuŋ] píng 傾，頃，shǎng 頃，傾，褧，綮

89.  (~ ) **kÿung (~ kyung)** [gyuŋ] píng 瓊，惸，煢，惸

90.  (~ ) **hÿung (~ hyung)** [xyuŋ] shǎng 詗

91.  (~ ) **Hÿung (~ Hyung)** [ɣyuŋ] píng 雄，熊，榮，熒，螢，shǎng 迥，炯，泂

92.  **gÿing** [kjiŋ] píng 庚，鶊，更，粳，賡，羹，耕，經，涇，shǎng 梗，挭，綆，鯁，耿，剄，頸，qù 更，徑，經，逕，侹，勁

93.  **khÿing** [k'jiŋ] píng 阬，坑，鏗， 牼，硜，誙，輕，shǎng 罄，磬，謦

94.  **hÿing** [xjiŋ] píng 脝，享，馨，興，qù 興

95.  →  **Hÿing > hÿing** [xjiŋ] píng 兄

[LC 102; JY 39]

96.  **'wung** [ʔwuŋ] píng 泓

97.  (~ ) **Hÿing (~ Hying)** [ɣjiŋ] píng 行，衡，珩，蘅，莖，陘，形，刑，邢，侀，硎，型，shǎng 杏，荇，荇，幸，倖，婞，脛，qù 行
Inscr: 行 **hwu**; 衡 **Xwung**

III. 陽 **yang** [jaŋ]

98.  **gang** [kaŋ] píng 岡，崗，堈，剛，鋼，綱，亢，qù 鋼

99.  **khang** [k'aŋ] píng 康，糠， shǎng 慷，qù 抗，閌，炕，伉，亢

100.  **ngang** [ŋaŋ] píng 昂，卬

101.  **dang** [taŋ] píng 當，鐺，艡，簹，襠，璫，shǎng 黨，党，讜，qù 讜，當，擋

102.  **thang** [t'aŋ] píng 湯，鎕，shǎng 矘，儻，帑，qù 儻，湯，盪

103.  **tang** [daŋ] píng 唐，煻，榶，瑭，螗，螳，塘，溏，糖，堂，棠，shǎng 蕩，盪，簜，qù 宕，踢，碭，逿

[LC 102; JY 40]

104.  **nang** [naŋ] píng 囊，shǎng 曩，qù 灢

105.  **jang** [tʂaŋ] píng 張，粻，章，漳，樟，璋，彰，障，獐，shǎng 長，掌，仉，qù 脹，漲，帳，墇，嶂，瘴，障

106.  → **chang** [tʂ'aŋ] píng 猖，倀，昌，倡，閶，菖，shǎng 昶，鯧，敞，廠，qù 悵，鬯，韔，瑒，唱，倡，暢
Inscr: 昌 **cang**

107.  **cang** [dzaŋ] píng 長，萇，腸，場，shǎng 丈，杖，仗，qù 仗，長

108. **ñang** [ɳaŋ] píng 娘，孃，qù 釀

109.  **bang** [paŋ] píng 幫，縍，謗，邦，shǎng 榜，牓，謗

110.  **phang** [p'aŋ] píng 滂，鎊，雱，艕

[LC 102; JY 41]

111.  **pang** [baŋ] píng 傍，彷，房，旁，龐，逢，shǎng 棒，蚌，玤，qù 傍，徬

112.  →  **mang** [maŋ] píng 茫，忙，邙，蘉，厖，哤，尨，shǎng 莽

113.  **Hwang** [faŋ] píng 祊，方，坊，肪，枋，妨，芳，shǎng 昉，倣，放，仿，彷，紡，髣，qù 放，舫，訪

114.  → **hang > hwang** [vaŋ] píng 房，防，坊，魴，qù 防

115.  **wang** [ʋaŋ] píng 亡，芒，荒，忘，鋩，望，shǎng 網，罔，輞，魍，惘，枉，qù 妄，忘，望，墓

116.  **dzang** [tsaŋ] píng 臧，贓，牂，戕，shǎng 駔，髒，qù 葬

117.  **tshang** [ts'aŋ] píng 倉，蒼，鶬，滄，shǎng 蒼

118.  **tsang** [dzaŋ] píng 藏，shǎng 奘，qù 藏，臟

[LC 102; JY 42]

119.  **sang** [saŋ] píng 桑，喪，shǎng 嗓，搡，顙，qù 喪

120.  **shang** [ʂaŋ] píng 商，傷，殤，觴，湯，場，shǎng 賞，鬺，qù 餉，向

121. **zhang** [ʐaŋ] píng 常，尚，裳，嘗，償，鱨，shǎng 上，qù 尚，上

122.  **Xang** [ɣaŋ] píng 航，行，頏，杭，shǎng 沆，骯，qù 吭，行

123.  **'ang** [ʔaŋ] shǎng 块，泱，qù 盎

124.  **yang** [jaŋ] píng 陽，暘，楊，揚，颺，煬，鍚，瘍，羊，佯，徉，洋，痒，shǎng 養，痒，癢，瀁，qù 漾，恙，羕，颺，煬，樣，養，瀁

125. **lang** [laŋ] píng 筤，郎，瑯，稂，桹，廊，榔，鋃，浪，蜋，琅，狼，shǎng 朗，qù 閬，浪，埌，蒗

126.  **Zhang** [raŋ] píng 穰，攘，禳，瀼，瓤，shǎng 壤，穰，攘，qù 讓

[LC 103; JY 43]

127.  (~ ) **gÿang (~ gyang)** [kjaŋ] píng 薑，疆，韁，殭，礓，橿，僵，姜，扛，杠，釭，矼，江，shǎng，繈，襁，鏹，講，港，qù 彊，降，虹

128.  (~ ) **khÿang (~ khyang)** [k'jaŋ] píng 羌，蜣，腔，悾，蛩，shǎng 控
Inscr: 羌 **gÿang**

129.  (~ ) **kÿang (~ kyang)** [gjaŋ] píng 強，彊，shǎng 彊

130.  (~ ) **ngÿang (~ ngyang)** [ŋjaŋ] píng 仰，qù 仰

131.  (~ ) **dzÿang (~ dzyang)** [tsjaŋ] píng 將，漿，蔣，螿，shǎng 獎，槳，槳，蔣，qù 醬，將

132.  (~ ) **tshÿang (~ tshyang)** [ts'jaŋ] píng 蹡，槍，鎗，瑲，蹌，牄，槍

133.  (~ ) **tsÿang (~ tsyang)** [dzjaŋ] píng 牆，廧， 嬙，檣，薔，戕，蘠，qù 匠

134.  (~ ) **sÿang (~ syang)** [sjaŋ] píng 纕，襄，廂，湘，相，緗，箱，驤，shǎng 想，qù 相

[LC 103; JY 44]

135.  (~ ) **zÿang (~ zyang)** [zjaŋ] píng 詳，祥，翔，庠，shǎng 橡，像，襐

136.  (~ ) **hÿang (~ hyang)** [xjaŋ] píng 香，鄉，鄉，肛，shǎng 響，饗，蠁，嚮，享，溝，qù 向，嚮

137.  (~ ) **Hÿang (~ Hyang)** [ɣjaŋ] píng 降，洚，缸，缶，鈁，shǎng 項，鈁，qù 巷，鬨

138.  (~) **'ÿang (~ 'yang)** [ʔjaŋ] píng 央，鴦，殃，鉠，秧，雲，泱，shǎng 鞅

139.  (~) **lÿang (~ lyang)** [ljaŋ] píng 良，梁，粱，糧，蜋，糧，量，涼，輬，shǎng 兩，魎，qù 亮，諒，緉，兩，悢，量，掠，涼

140.  **gwang** [kwaŋ] píng 光，洸，胱，shǎng 廣，qù 誑

141.  **khwang** [k'waŋ] píng 匡，筐，恇，眶，qù 曠，曠，壙，纊

142.  **kwang** [gwaŋ] píng 狂

143.  **jwang** [ʈʂwaŋ] píng 椿，qù 戇

[LC 103; JY 45]

144.  **chwang** [ʈʂ'waŋ] píng 窗，摐

145.  **cwang** [dʐwaŋ] píng 憧，橦，淙，qù 撞

146.  **shwang** [ʂwaŋ] píng 雙

147.  **hwang** [xwaŋ] píng 荒，肓，shǎng 慌，爌

148.  **'wang** [ʔwaŋ] píng 汪，尪，shǎng 枉，qù 汪

149.  →  **tshwang > xwang** [ɦwaŋ] píng 王，shǎng 往，皇，qù 迋，旺，王

150.  **lwang** [lwaŋ] píng 瀧

151.  **j^{h}ang** [ʈʂAŋ] píng 莊，庄，裝，妝，qù 壯

152.  **ch^{h}ang** [ʈʂ'Aŋ] píng 創，瘡，shǎng 搶，qù 刅，創，愴，凔

153.  **c^{h}ang** [dzˌAŋ] píng 床，qù 狀

[LC 103; JY 46]

154.  **sh^{h}ang** [ʂAŋ] píng 霜，鵝，孀，shǎng 爽，鵝，塽

155.  **Xong** [ɣɔŋ] píng 湟，騜，黃，皇，遑，惶，煌，艎，隍，蝗，偟，媓，徨，篁，凰，璜，潢，簧，shǎng 晃，幌，滉，qù 擴，擴，晬

156.  →  **Hwÿang > hwyang** [xyaŋ] shǎng 怳，qù 貺，況

IV. 支 **ji** [tʂi]

157.  **gi** [ki] píng 羈，畸，奇，飢，肌，姬，基，其，箕，幾，譏，磯，鞿，饑，襟，璣，機，shǎng 麂，紀，己，幾，蟣，qù 寄，冀，既，暨，覬，穊，驥，記，屬，rù 訖，吃，戟，擊，急，汲，給，伋，級，殛，亟，襋，棘

158.  **khi** [k'i] píng 崎，欺，shǎng 綺，起，杞，屺，芑，豈，qù 器，亟，氣，憩，愒，揭， rù 乞，隙，卻，泣，湆，吃

[LC 104; JY 47]

159.  **ki** [gi] píng 奇，琦，騎，錡，其，期，旗，蜞，萯，萁，琪，麒，淇，棋，祺，祈，頎，畿，崎，圻，幾，shǎng 技，妓，錡，跽，qù 騎，暨，墅，洎，忌，恙，鵸，誓，偈，rù 劇，及，笈，姞，姞， 佶，極
Inscr: 及，極 **khi**

160.  **ngi** [ŋi] píng 宜，儀，鼓，涯，疑，嶷，沂，湜，shǎng 蟙，蟻，蛾，錡，艤，擬，儗，蘙，矣，顗，qù 議，誼，義，劓，毅，刈，乂，艾，rù 疙，逆，嶷，岌
Inscr: 宜， 沂 **'i**; 矣 **yi**

161.  **di** [ti] píng 低，氐，磾，羝，隄， shǎng 邸，底，詆，坻，柢，

抵，牴，觝，軧，弤，氐，qù 帝，諦，嚏， 柢，蒂，蝭，rù 的，適，嫡，甋，靮，馰，滴，弔，葯，芍，蹢，樀

[LC 104; JY 48]

162.  **thi** [t'i] píng 梯，睇，shǎng 體， 涕，qù 替，剃，涕，屜，rù 逖，逿，倜，趯，剔，惕，踢，籊

163.  **ti** [di] píng 啼，遞，蹄，折，提，題，綈，稊，醍，禔， 鵜，荑，緹，騠， shǎng 弟，娣，悌，遞，qù 弟，第，遰，提，締，悌，娣，禘，棣，杕，踶，題，遞，逮，地，rù 狄，荻，敵，籊，翟，覿，笛，糴，滌，踧，迪

164.  **ni** [ni] píng 泥，鬡，shǎng 禰，瀰，qù 泥，迡，rù 怒，溺

[LC 104; JY 49]

165.  **ji** [tsi] píng 知，蜘，胝，祗，砥，支，卮，梔，枝，肢，禔，氐，泜，鳷，楮，脂，之，芝，shǎng 徵，紙，只，坻，軹，咫，枳，抵，砥，旨，指，底，止，畤，沚，趾，址，芷，阯，qù 智，知，置，致，懫，寔，輊，躓，質，實，忮，觶，鷙，至，志，誌，制，製，晢，摯，贄，rù 陟，植，縶，蛰，窒，隻，炙，摭，蹠，跖，質，晊，郅，桎，蛭，騭，鑕，礩，職，織，樴，執，汁，慹

166. **chi** [ts'i] píng 絺，瓻，摛，魑，痴，笞，鴟，眵，蚩，媸，shǎng 恥，社，侈，齒，茝 qù 眙，熾，饎，幟，楴，掣，滯，rù 抶，哳， 敕， 飭，鷙，叱，尺，赤，蚇，斥

[LC 104; JY 50]

167.  **ci** [dzi] píng 馳， 池，篪，踟，墀，坻，汦，遲，治，持，shǎng 豸， 褫，鴲，雉，薙，峙，跱，倚，峙，痔，庤，畤，舐，qù 織，稚， 治，值，植，滯，堯，示，諡， rù 秩，紩，豉，帙，姪，擲，蛰，直，實，射，食，蝕
Inscr: 治 **ji**; 持 **chi**; 示 **zhi**

168.  **ñi** [ɲi] píng 尼，怩，shǎng 柅，你，旎，qù 膩，rù 暱，昵，怩， 匿
Inscr: 尼 **ni**; Su: 尼 **ni**

169.  **bi** [pi] píng 卑，椑，箄，蜱，鎞，篦，shǎng 妣，秕，比，俾，qù 臂，痺，畀，庇，閉，嬖，箄，蔽，rù 必，畢，篳，蹕，澤，縪，觱，玭，辟，躄，璧，壁
Inscr: 比 **bue**

170.  **phi** [p'i] píng 紕，批， shǎng 諀，庀，仳，qù 譬，媲，淠，rù 匹，僻，辟，癖，霹，劈，澼

[LC 105; JY 151]

171. **pi** [bi] píng 陴，脾，埤，裨，椑，鼙，毗比，琵，貔，膍，蚍，枇， shǎng 婢，痹，陛，椑，髀，qù 鼻，比，痹，枇，避，辟，獘，斃，幣，敝，rù 邲，比，苾，佖，飶，辟

172.  **mi** [mi] píng 彌，瀰，迷，麛，shǎng 洟，弭，瀰，羋， 敉，米，眯，qù 寐，謎，袂， rù 蜜，謐，覓，幎， 幭，羃，汨，埊

173.  →  **hi > hwi** [fi] píng 菲，飛，扉，緋，非，騑，騑，誹，霏，妃，騛， shǎng 匪，篚，棑，榧，蟦，斐，菲，朏，悱，qù 沸，芾，誹，廢，癈，費，肺

174.  →  **Hi > Hwi** [vi] píng 肥，腓，淝，qù 狒，扉，翡，蜚，吠

175.  **wi** [ui] píng 微，薇，shǎng 尾，亹，qù 未，味

176.  **dzi** [tsi] píng 齎，賚，齎，擠，躋， 隮，shǎng 濟，qù 霽， 濟，祭，際，穄，rù 堲，唧，積，脊，蹐，跡， 踖，鯽，蹟，勣，即，稷，績，漅

[LC 105; JY 52]

177.  **tshi** [ts'i] píng 妻，萋，淒，凄，悽，霋，shǎng 泚，玼，qù 砌，切，妻，rù 七，漆，磧，刺，戚，慼， 鍼，緝，葺，諿，耳

178.  **tsi** [dzi] píng 齊，臍，蠐，shǎng 薺，qù 穄，嚌，劑，眥，齊，懠，rù 疾，嫉，蒺，籍，藉，耤， 堲， 瘠，寂，堲，集，輯，鏶

179.  **si** [si] píng 西，棲，栖，犀，嘶，shǎng 洗，洒，qù 細，婿，rù 悉，膝，蟋， 昔，腊，潟，舄，錫，析，晳，淅，息，熄，惜

180.  **zi** [zi] rù 席，夕，穸，蓆，習，襲，隰，飁，霫

181.  **shi** [ʂi] píng 絁，施，尸，鳲，屍，蓍，詩，shǎng 弛，矢，豕，始，qù 翅，施，啻，試，僿，弒，世，贅，貰，rù 失，室，釋，適，奭，識，式，拭，軾，飾，濕，嫡，蜇，襫
Inscr: 識 **ji**

[LC 105; JY 53]

182.  **zhi** [ʐi] píng 時，塒，提，匙，禔，栺，shǎng 是，氏，諟，市，恃，視，qù 豉，嗜，侍，逝，蒔，噬，誓，筮，澨，rù 石，碩，祏，鈰，鼎，寔，湜，殖，植，埴，褶，什，拾，十

183.  **hi** [xi] píng 犧，羲，戲，嶬，曦，僖，凞，嬉，禧，熹，希，晞，稀，豨，俙，shǎng 喜，蟢，豨，唏，qù 戲，熹，欷，餼，愾，rù 赩，觫，吸，歙，翕，滀，闟，肹，迄，釔，忔，汔，奭

184.  **'i** [ʔi] píng 漪，猗，椅，禕，醫，毉，噫，依，衣，shǎng 倚，扆，偯，qù 懿，饐，意，瘞，衣，rù 乙，鬱，憶，億，臆，醷，薏，抑，邑，悒，浥

[LC 105; JY 54]

185.  **Yi** [ʔji] píng 伊，咿，鷖，緊，黳，qù 縊，翳，暱，殪，rù 壹，一，嗌，膉，揖，挹，益

186.  **yi** [ji] píng 移，箷，椸，詒，酏，匜，蛇，姨，彝，夷，崺，悐，痍，栘，荑，洟，飴，怡，圮，貽，詒，台，瓵，倪，霓，齯，輗，猊，麑，鯢，兒，shǎng 迤，匜，旖，以，已，苡， qù 易，肄，異，异，食，曳，裔，勩，泄，洩，枻，跠， 詍，詣，羿，睨， 藝，甈， 蓺，rù 逸，佚，佾，溢，軼，鎰，洟，弋，翊，杙，弒，黓，翌，翼，繹，亦，弈，奕，帟，譯，懌，斁，驛，醳，嶧，腋，掖，液，易，蜴，埸，圛，射，墨，熠，艗，鷁，鶂

[LC 106; JY 55]

187.  **li** [li] píng 離，籬，醨，璃，漓，灕，縭，蘺， 梨， 棃， 犁，黎，黧，藜，釐，貍，棃，蓠，罹，驪，狸，麗，鸝，蠡，蔾，劙， shǎng 邐，岦，里，履，鯉，悝，李，理，娌，俚，禮，蠡，澧，醴，鱧，qù 詈，離，利，涖，吏，麗，戾，栵，隸，儷，瀝，唳，悷，荔，例，厲，礪，勵，癘，rù 栗，慄，鷅，溧，篥，揱，力，劦，立，粒，笠，苙，靂，酈，轢，歷，曆，瀝，鬲， 躒，

礫，皪，瓅，櫪，櫪
Su: 利 **Zhi**

188.  **Zhi** [ri] píng 兒，而，栭，陑，胹，鴯，洏，shǎng 爾，邇，耳，駬，qù 二，貳，餌，珥，哖，則，rù 日，馹，入

[LC 106; JY 56]

189.  **j^{h}i** [tʂɻ] píng 茬，笫，淄，輜，錙，shǎng 滓，胏，qù 胾，rù 櫛，戠，濈

190.  → **ch^{h}i** [tʂ'ɻ] píng 差，嵯，qù 廁

191.  **c^{h}i** [dzɻ] píng 鼒，shǎng 士，仕，柿，屎，俟，涘，qù 事

192.  **dz^{h}i** [tsɻ] píng 貲，訾，鄑，觜，咨，資，粢，齎，諮，姿，茲，孳，孜，滋，鼏，仔，shǎng 紫，訾，訾，姊，秭，子，耔，梓，杍，qù 積，恣

193.  **tsh^{h}i** [ts'ɻ] píng 雌，shǎng 此，佌，玼，泚，qù 刺，刺，次，佽

194.  **ts^{h}i** [dzɻ] píng 慈，磁，鷀，茲，茨，餈，瓷，疵，毗，茈，qù 字，牸，孳，自，漬
Inscr: 慈 **tsh^{h}i**

195.  **s^{h}i** [sɻ] píng 思，司，罳，絲，緦，私，斯，廝，厮，澌，褫，覗，偲，shǎng 徙，璽，死，枲，葸，qù 賜，四，肆，泗，駟，笥，伺，思

[LC 106; JY 57]

196.  **z^{h}i** [zɻ] píng 詞，祠，辭，shǎng 兕，似，祀，姒，巳，耜，汜，qù 寺，嗣，飤，食
Inscr: 祀 **c^{h}i, s^{h}i**; 辭 **s^{h}i**; 嗣 **c^{h}i**

197.  **sh^{h}i** [ʂɻ] píng 師，shǎng 屍，史，使， qù 駛，屍，使，rù 瑟，蝨，瑟，澀

198.  **gÿi** [kji] píng 雞，稽，枅，笄， qù 計，係，繫，薊，髻，繼，rù 吉，激，擊
Inscr: 稽 **gi, khi**

199.  **khÿi** [k'ji] píng 谿，溪，磎，豯，shǎng 啟，棨，綮，稽，企，跂，qù 契，企，跂，岐，棄，**弃**， rù 喫，詰

200.  **kÿi** [gji] píng 祇，示，岐，歧，疵，軝，鬐，祁，蘄

[LC 106; JY 58]

201.  **hÿi** [xji] píng 醯

202.  **Hÿi** [ɣji] píng 奚，徯，蹊，嵇，兮， 谿，屎，shǎng 徯， 謑，qù 系，禊，繫，rù 檄，覗，欯

203.  **gue** [kuĕ] píng 媧，龜，歸， 傀，瑰， shǎng 詭，垝，庋，軌，簋，晷，宄，匭，鬼，qù 媿，愧，貴，儈，膾，鱠，檜，澮，鄶，廥，劊，會，獪，襘，旝，憒，劌，蹶，rù 國

204.  **khue** [k'uĕ] píng 虧，恢，詼，魁，悝，盔，shǎng 跪，qù 喟，塊

205.  **kue** [guĕ] píng 逵，夔，騤，騉，頍，shǎng 跪，qù 匱，蕢，饋， 櫃，簣，歸

206.  **due** [tuĕ] píng 堆， 鎚，敦，qù 對，碓，祋

207.  **thue** [t'uĕ] píng 蘀，推，shǎng 腿，qù 駾，退

[LC 107; JY 59]

208.  **tue** [duĕ] píng 頹，隤，隤，魋， qù 兌， 隊，憝，鐓，錞，譈

209.  **nue** [nuĕ] shǎng 餒，qù 內

210.  **jue** [tʂuĕ] píng 追，錐，隹，騅，鵻，shăng 捶，箠，qù 惴，綴，贅

211.  **chue** [tʂ'uĕ] píng 吹，炊，推，qù 吹，出，毳

212.  **cue** [tʂuĕ] píng 鬠，錘，鎚，椎，qù 錘，膇，墜，縋

213.  **ñue** [ɳuĕ] qù 諉

214.  **bue** [puĕ] píng 陂，詖，碑，鵯，悲，桮，盃，shăng 彼，鄙，qù 賁，詖，陂，祕，秘，毖，閟，轡，泌，費，背，輩，rù 碧，筆，逼，偪，幅，北
Inscr: 碑 **bung**; 詖 **pue**

215.  **phue** [p'uĕ] píng 披，鈹，邳，丕，柸，駓，醅，胚，坏，伾，shăng 披，秛, qù 帔，滗，配，妃，rù 堛，愊，稫，副
Inscr: 丕，配 **pue**

[LC 107; JY 60]

216.  **pue** [buĕ] píng 皮，疲，罷，邳，裴，徘，培，陪，shăng 被，否，圮， qù 髮，被，鞁，備， 奰，佩，珮，邶， 誹，背， 旆，rù 弼，復， 菔，蔔， 匐， 踣

217.  **mue** [muĕ] píng 縻，糜，靡， 眉，嵋，湄，楣，郿，檗，枚，梅，媒，玫，煤， 禖，莓，鋂， shăng 靡， 美，嬍，浼，每， qù 媚，魅，妹，昧，沫，每，痗，瑁，眛，rù 密，宓，默，纆，墨

218.  **dzue** [tsuĕ] píng 劑，shăng 觜，qù 醉，晬， 最

219.  **tshue** [ts'uĕ] píng 崔，催，縗，shăng 漼，璀， qù 翠，毳，脆，悴，倅，淬

220.  **tsue** [dzuĕ] píng 摧，崔，shăng 罪， qù 萃， 悴，瘁，蕞

[LC 107; JY 61]

221.  **sue** [suĕ] píng 眭，綏，雖，睢，挼， shăng 髓， qù 遂，誶，粹，祟，晬，歲， 繐，碎

222.  **zue** [zuĕ] píng 隨，隋，qù 遂，彗，隧，襚，璲，檖，燧，穗，鐩，穗，篲，彗

Inscr: 隨 **cue**

223.  **shue** [ʂuĕ] shăng 水，qù 税，説，蛻，帨

224.  **zhue** [ʐuĕ] píng 垂，陲，誰，倕，shăng 蓳，qù 睡，瑞

225.  **hue** [xuĕ] píng 灰，shăng 賄，悔，qù 翽，誨，悔，晦

226.  **Xue** [ɣuĕ] píng 迴，回，洄，槐，徊，瑰，茴，shăng 廆，匯，qù 會，潰，繢，闠，迴，rù 或，惑，蜮

227.  **'ue** [ʔuĕ] píng 逶，萎，委，威，葳，隈，煨，椳，偎，揋，shăng 委，骪，磈，鬼，qù 尉，慰，畏，蔚，蔚，穢，濊，蔕，rù 域，戫，棫，緎，淢

[LC 107; JY 62]

228.  **xue** [ɦuĕ] 危，峗，帷，為，巍，幃，韋，圍，闈，違，湋，桅，鬼，嵬，shăng 硊，頠，焉，鵐，蘧，洧，韙，煒，暐，偉，瑋，葦，韡，鬼，頠，qù 偽，位，為，魏，胃，謂，緯，彙，蝟，渭，衛，彗，外，磈

229.  **lue** [luĕ] píng 纍，蘲，縲，瓃，qù 類，淚，纍，累，類，禷，耒，酹，櫑，罍，雷，羸，shăng 絫，累，樏，壘，蘽，誄，磊，蕾，儡，櫑

230.  **Zhue** [ruĕ] píng 蕤，緌，shăng 蘂，qù 芮，汭，蚋，枘

231.  (~) **gÿue (~ gyue)** [kyĕ] píng 規，圭，珪，邽，閨，窐，shăng 癸，qù 季，桂，rù 橘，鵴

[LC 108; JY 63]

232.  (~) **khÿue (~ khyue)** [k'yĕ] píng 闚，窺，睽，奎，刲，shăng 跬，珪，頍，rù 闋

233.  (~) **kÿue (~ kyue)** [gyĕ] píng 葵，shăng 揆，qù 悸

234.  (~) **hÿue (~ hyue)** [xyĕ] qù 嘒

235.  (~) **Hÿue (~ Hyue)** [ɣyĕ] píng 隳，墮，攜， 蠵，鑊，觿，畦， qù 憓，慧，惠，蕙，譓，rù 獝

236.  →  **sÿue > hÿue** [xyĕ] píng 麾，揶，揮，烳，輝，暉，翬，徽，禕， shăng 毀，燬，譭， 虺，虫，卉， qù 諱，卉，喙， rù 洫，侐，閾
Inscr: 揮 **Hÿue**

237.  **'wi** [ʔwi] qù 恚

238.  **ywi** [yi] píng 惟，維，遺，濰，唯， qù 遺，銳， 睿， rù 聿，遹，鷸，裔，役，疫

[LC 108; JY 64]

V. 魚  **xÿu** [ɦy]

239.  **gu** [ku] píng 孤， 菰，姑，辜，酤，鴣，蛄，呱，觚，沽，柧，罛， shăng 古，鼓， 瞽，股，罟，蠱，估，鹽，牯，鈷，羖，賈，詁， qù 顧，雇，故，酤，痼，固，錮， 涸， rù 穀， 轂，谷，梏，牿，告，骨，滑，汨，愲

240.  **khu** [k'u] píng 枯，刳， shăng 苦，qù 庫，胯，rù 哭，酷，髂，譽，窟，矻

241.  **du** [tu] píng 都，闍，shăng 睹，賭，堵，qù 妒，蠹，斁，rù 篤，督

242.  **thu** [t'u] shăng 土，吐，稌，qù 菟，兔，吐，鵌，rù 禿，鵚，突

[LC 108; JY 65]

243.  **tu** [du] píng 徒，屠，瘏，塗，途，酴，荼，圖，菟，shăng 杜，肚，土，qù 渡，鍍，鎪，度，rù 獨，讀，黷，讟，髑，殰，櫝，牘，韣，瀆，犢，毒，蠹

244.  **nu** [nu] píng 奴，笯，駑，帑，孥，shăng 怒，弩，努，qù 怒，rù 訥

245.  **ju** [tʂu] píng 葅，shăng 阻，俎，qù 詛，阻

246.  **chu** [tʂ'u] píng 初，芻，shăng 楚，礎，楮，rù 矗

247. **cu** [dzu] píng 鉏，鋤，雛，鶵，shăng 齟，qù 助

248.  **bu** [pu] píng 逋，餔，晡，shăng 補，譜，圃，qù 布，圃，佈，rù 卜，濮，樸，瀑，不
Inscr: 卜 **pu**

249.  **phu** [p'u] píng 鋪，痡，shăng 普，溥，浦，qù 怖，鋪，rù 扑，醭，撲

[LC 108; JY 66]

250. **pu** [bu] píng 醭，匍，菩，蒲，蒱，shăng 簿，部，qù 捕，哺，步，rù 暴，曝，瀑，僕，渤，勃，酵，悖，桲，孛，浡

251.  **mu** [mu] píng 模，撫，謨，摸，shăng 姥，莽，姆，qù 暮，慕，募，墓，慔，rù 木，沐，鞪，騖，霂，黎，沒，歿

252. **Hwu** [fu] píng 跗，趺，膚，鈇，夫，扶，敷，麩，尃，孚，郛，鄜，俘，罦，稃，莩，桴，痡，shăng 甫，脯，斧，頫，俯，府，簠，黼，莆，父，撫，弣，qù 付，賦，傅，赴，訃，仆，rù 福，腹，複，輻，幅，蝠，蝮，副，覆，拂，茀，祓，鼣，刜，弗，紱，黻，紼，紼，芾，韍，不，娄，泭
Inscr: 甫 **bu**

253.  → **hwu > Hwu** [vu] píng 扶，芙，符，鳧，夫，泭，shăng 父，輔，腐，滏，釜，qù 附，袝，賻，駙，膊，rù 伏，復，服，茯，馥，輹，鵬，箙，匐，鮒，袱，怫，佛，咈，宓，虙
Su: 伏 **hwou** (sic!)

[LC 109; JY 67]

254.  **wu** [ʊu] píng 無，毋，蕪，誣，巫，shǎng 武，舞，嫵，侮，憮，碔，廡，甒，鵡，膴，qù 務，婺，霧，騖，rù 目，睦，穆，牧，繆，物，勿，芴，岉

255.  **dzu** [tsu] píng 租，葅，shǎng 祖，珇，組，qù 作，rù 鏃，卒

256.  **tshu** [ts'u] píng 麤，麄，怵，qù 措，醋，錯，rù 簇，蔟，猝，卒

257.  **tsu** [dzu] píng 徂，殂，shǎng 粗，祖，胙，阼，rù 族，捽

258.  **su** [su] píng 蘇，穌，酥，qù 訴，愬，泝，素，傃，嗉，塑，rù 速，觫，餗，樕，涑，窣

[LC 109; JY 68]

259.  → **zhu > shu** [ʂu] píng 疏，梳，蔬，釋，餚，愉，shǎng 所，數，qù 疏，數，縮，茜，蹜，率，帥，蟀

260.  **hu** [xu] píng 呼，戲，膴，滹，幠，shǎng 虎，琥，滸，qù 謼，rù 熇，忽，惚

261.  **Xu** [ɣu] píng 胡，壺，狐，餬，瑚，湖，鶘，醐，糊，弧，乎，瓠，虖，shǎng 戶，扈，怙，鄠，祜，昈，岵，雇，酤，qù 護，瓠，讋，互，濩，沍，韄，rù 穀，槲，斛，鵠，嚳，麩，齕，紇，淈，鶻

Inscr: 乎 **hu**; 護 **hwu**

262.  **'u** [ʔu] píng 烏，嗚，洿，杇，於，惡，shǎng 鄔，qù 惡，汙，rù 屋，剭，沃，鎒

263.  **lu** [lu] píng 盧，鑪，壚，蘆，顱，鱸，櫨，轤，瀘，纑，旅，shǎng 魯，櫓，滷，虜，鹵，qù 路，露，潞，輅，鷺，璐，賂，蕗，rù 爐，祿，鹿，漉，琭，簏，麓，盝，碌，騄，濼

[LC 109; JY 69]

264.  **gÿu** [ky] píng 居，裾，据，琚，鶋，車，拘，駒，挶，俱，shǎng 舉，莒，矩，筥，拒，qù 據，鋸，倨，踞，鐻，屨，句，絇，瞿，rù 菊，鞠，掬，鵴，鞫，匊，輂，掲，厥，屈

265. **khÿu** [k'y] píng 墟，祛，椐，胠，區，驅，歐，軀，嶇，shǎng 去，齲，踽，驅，rù 麴，曲，屈，詘

266. **kÿu** [gy] píng 渠，磲，蕖，璩，蘧，籧，衢，瞿，醵，鐻，劬，朐，鴝，絇，腒，shǎng 巨，鉅，拒，秬，距，炬，詎，虡，窶，qù 遽，詎，懼，具，rù 鞠，局，跼，倔，崛，掘
Inscr: 璩 **kew**; 瞿 **gÿu**

267. **jÿu** [tɕy] píng 豬，瀦，諸，誅，株，邾，朱，珠，絑，蛛，shǎng 貯，楮，煮，陼，渚，主，塵，炷，qù 著，翥，註，鉒，駐，蛀，注，鑄，羜，炷，澍，rù 竹，竺，筑，築，粥，祝，琢，椓，斸，窋，絀，燭，茁，屬，囑，矚

[LC 109; JY 70]

268. **chÿu** [tɕ'y] píng 攄，摅，貙，樞，姝，shǎng 楮，褚，逐，杵，處，qù 處，rù 俶，觸，黜，出

269. **cÿu** [dzy] píng 除，躇，儲，篨，滁，廚，躕，趎，shǎng 佇，紵，杼，羜，宁，紓，抒，柱，qù 箸，除，住，rù 舳，逐，軸，柚，術，述，贖，躅，朮，沭，潏
Inscr: 住 **jÿu**

270. **ñÿu** [ȵy] píng 袾，帑，挐，shǎng 女，qù 女，rù 肭，恧，忸，衄

271. **dzÿu** [tsy] píng 且，蛆，苴，諏，娵，qù 怚，沮，足，rù 蹙，顣，蹴，卒，足
Inscr: 沮 **tsu**

[LC 110; JY 71]

272. **tshÿu** [ts'y] píng 疽，岨，砠，趄，苴，沮，徂，睢，趨，趍，shǎng 取，qù 覷，娶，趣，rù 促

273. **tsÿu** [dzy] shǎng 咀，沮，跙，聚，qù 聚，rù 崒，踤

274.  **sÿu** [sy] píng 胥，須，鬚，繻，需，shǎng 諝，胥，醑，湑，qù 絮，rù 肅，宿，蓿，夙，卹，恤，戍，詘，卹，粟，涑

275.  **zÿu** [zy] píng 徐，shǎng 敍，緒，序，嶼，rù 續，俗，贖

276.  **shÿu** [ʂy] píng 書，舒，紓，輸，shǎng 暑，鼠，黍，癙，qù 恕，庶，戍，rù 叔，倏，菽，束
BJX: 束 **su**

277.  **zhÿu** [zy] píng 蜍，殊，銖，洙，茱，殳，shǎng 墅，豎，樹，裋，qù 署，曙，樹，澍，rù 熟，孰，淑，塾，璹，婌，蜀，鐲，屬

[LC 110; JY 72]

278.  **hÿu** [xy] píng 虛，歔，噓，訏，吁，欨，shǎng 許，詡，嗅，栩，珝，煦 qù 昫，酗，煦，rù 蓄，畜，慉，旭，頊，勗，欻

279.  **'ÿu** [ʔy] píng 於，淤，紆，迂，shǎng 傴，qù 飫，淤，嫗，饇，rù 郁，彧，燠，薁，墺，澳，隩，棫，鬱，爩，苑，尉，熨，蔚
Inscr: 於 **'u**, **xÿu**, **yÿu**; BJX: 於 **'u**

280.  **xÿu** [ɦy] píng 魚，漁，虞，愚，娛，堣，嵎，隅，盂，雩，竽，shǎng 語，禦，圉，敔，圄，齬，禦，覷，俣，羽，禹，雨，宇，瑀，qù 御，馭，語，遇，寓，芋，雨，羽，rù 玉，獄，崛，囿，汩
Inscr, BJX: 于 **yÿu**. This graph is not included in the MGZY proper.

281.  **yÿu** [jy] píng 余，餘，畬，輿，璵，旟，歟，與，譽，舁，妤，予，逾，踰，窬，臾，栯，腴，覦，俞，榆，褕，瑜，揄，萸，渝，諛，shǎng 與，予，庾，窳，愈，瘉，斞，qù 豫，預，譽，輿，蕷，與，蓣，澞，裕，諭，喻，籲，rù 育，毓，鬻，煜，昱，欲，浴，鴥，慾，谷，峪

[LC 110; JY 73]

282.  → **lÿu** [ly] píng 臚，閭，廬，驢，蘆，櫚，蔞，shăng 呂，旅，膂，祣，稆，侶，縷，僂，褸，qù 慮，屢，rù 六，陸，戮，稑，蓼，律，繂，膟，嵂，率，錄，淥，綠，醁，籙，碌，騄，逯

283.  **Zhÿu** [ry] píng 如，茹，儒，濡，懦，嚅，醹，shăng 女，汝，敉，茹，乳，qù 洳，茹，孺，rù 肉，辱，蓐，褥，鄏，縟，溽

284.  **u** [u] píng 吾，鼯，吳，琯，鋘，梧，shăng 五，伍，午，仵，qù 誤，悟，寤，忤，迕，晤，悟，梧，rù 兀，杌，扤，屻，矶，卼，刖

[LC 110; JY 74]

VI. **gyay** [kjaj]

285.  **gay** [kaj] píng 該，垓，荄，陔，峐，祴，shăng 改，qù 蓋，溉，概

286.  **khay** [k'aj] píng 開，shăng 愷，凱，塏，鎧，闓，qù 磕，愒，慨，愾，敳，鎧

287.  **ngay** [ŋaj] píng 皑，敱，qù 艾，礙

288.  **day** [taj] shăng 歹，qù 帶，靆，戴

289.  **thay** [t'aj] píng 胎，台，邰，qù 泰，忕，太，貸，態

290. **tay** [daj] píng 臺，薹，抬，儓，苔，駘，shăng 殆，怠，迨，紿，詒，待，qù 大，汏，代，岱，黛，袋，逮，埭，靆

291. **nay** [naj] píng 能，shăng 乃，迺，鼐，嬭，妳，qù 柰，奈，耐，鼐，rù 搦

292. **jay** [tsaj] píng 齋，qù 債，瘵，祭，rù 責，嘖，幘，簀，咋，迮，窄，舴，摘，謫，笮

[LC 111; JY 75]

293.  **chay** [tṣ'aj] píng 釵，叉，差，shǎng 茝，qù 差，瘥，蠆，rù 冊，柵，策，筴，坼

294.  **cay** [dzaj] píng 柴，祟，豺，儕，shǎng 焻，豸，qù 眥，寨，rù witness，宅，擇，澤，翟

295.  **bay** [paj] shǎng 擺，捭，qù 拜，扒，敗，貝，沛，狽，rù 伯，百，柏，擘，迫

296.  **phay** [p'aj] qù 派，湃，霈，沛，rù 拍，珀，魄

297. **pay** [baj] píng 牌，排，俳，shǎng 罷，倍，qù 粺，稗，憊，敗，rù 白，帛，舶
BJX: 白 **bay**

[LC 111; JY 76]

298.  **may** [maj] píng 埋，薶，霾，shǎng 買，qù 賣，邁，勱，韎，昧，沫，rù 陌，貊，載*，驀，貊，麥，脈，霢，眽
*This item appears to have been miscopied here from the following entry.

299.  **dzay** [tsaj] píng 災，栽，哉，菑，shǎng 宰，綵，載，qù 再，綵

300.  **tshay** [ts'aj] píng 猜，偲，shǎng 采，採，綵，寀，彩，qù 蔡，菜，埰

301.  **tsay** [dzaj] píng 裁，纔，財，才，材，shǎng 在，qù 載，在，酨，栽

302.  **say** [saj] píng 腮，qù 賽，塞

303.  →  **zhay > shay** [ʂaj] shǎng 灑，qù 曬，洒，殺，rù 索，棶，摵，憖

304.  **hay** [xaj] píng 咍，shǎng 海，醢

305.  **Xay** [ɣaj] píng 孩，頦，shǎng 亥，qù 害，劾

306. **'ay** [ʔaj] píng 哀，埃，欸，qù 藹，壒，靄，愛，僾，黮，噯，曖

[LC 111; JY 77]

307.  **Yay** [ʔjaj] píng 娃，洼，哇，shǎng 矮，qù 隘，阨，呃，噫，餲，喝，嗄，rù 啞，厄，搤，扼，軛，阨

308.  **yay** [jaj] píng 崖，涯， rù 額，詻

309.  **lay** [laj] píng 來，萊，騋，qù 賴，籟，癩，癩，瀨，賚

310.  **gway** [kwaj] píng 乖，媧，緺，蝸，騧，qù 怪，壞，卦，挂，掛，詿，罣，夬，獪， rù 虢，蟈，馘，幗，摑

311.  **khway** [k'waj] qù 快，噲，駃，蒯，蕢，喟

312.  **chway** [tʂ'waj] shǎng 揣，qù 嘬

313.  →  **zhway > shway** [ʂwaj] píng 衰，摔，qù 帥，率

314.  **hwaj** [xwaj] rù 耴，涕

[LC 111; JY 78]

315.  **Xway** [ɣwaj] píng 懷，櫰，淮，瀤，qù 畫，壞，話，rù 獲，畫，劃

316.  **'way** [ʔwaj] píng 蛙，rù 擭

317.  →  **tshway > xway** [ɦwaj] qù 瞶

318.  →  **gyay** [kjaj] píng 佳，街，皆，偕，喈，階，湝，荄，楷，shǎng 解，qù 懈，解，鮮，廨，誡，戒，界，介，疥，玠，价，芥，屆，械，恝，犗，rù 格，貉，骼，隔，鬲，革，茖
Inscr: 格 **gue**

319.  → **khyay** [k'jaj] píng 揩，shǎng 楷，鍇，qù 劾，揩，rù 客

320.  →  **hyay** [xjaj] rù 赫，嚇

321.  →  **Hyay** [ɣjaj] píng 鞋，諧，骸，shǎng 蟹，解，獬，澥，嶰，駭，qù 邂，解，械，薤，瀣，rù 辂，覈，翮，核，絃

[LC 112; JY 81]

322.  **kh^{h}iy** [k'əj] rù 刻，克，剋

323.  **d^{h}iy** [təj] rù 德，得

324.  →  **z^{h}iy > th^{h}iy** [t'əj] rù 忒，慝，貣

325.  **t^{h}iy** [dəj] rù 特，螣
Inscr: 特 **d^{h}iy, th^{h}iy**

326.  **j^{h}iy** [tʂəj] rù 昵，仄，側

327.  **ch^{h}iy** [tʂ'əj] rù 測，惻，冟

328.  **c^{h}iy** [dzʐəj] rù 崱

329.  **dz^{h}iy** [tsəj] rù 則

330.  **ts^{h}iy** [dzəj] rù 賊，蝍

331.  **s^{h}iy** [səj] rù 塞

[LC 112; JY 82]

332.  → **zh^{h}iy > sh^{h}iy** [ʂəj] rù 色，嗇，穡

333.  **l^{h}iy** [ləj] rù 勒，扐，肋，仂，泐

334.  **hiy** [xij] rù 黑

335.  **Xiy** [ɣij] rù 刻

VII. 真  **jin** [tʂin]

336.  **gin** [kin] píng 巾，斤，筋，釿，shǎng 謹，槿，堇，慬，巹，瑾，qù 斤，靳

337.  **kin** [gin] píng 勤，芹，懃，慬，shǎng 近，qù 近，僅，覲，殣，瑾，饉，墐

338.  **ngin** [ŋin] píng 銀，閺，鬙，垠，圻，斷，齦，shǎng 听，qù 慇，垠

339.  **nin** [nin] píng 紉

340.  **jin** [tʂin] píng 珍，真，甄，振，畛，shǎng 軫，眕，眹，絻，診，袗，鬒，裖，稹，qù 震，振，賑，鎮，填，瑱

[LC 113; JY 83]

341.  → **chin** [tʂ'in] píng 瞋，嗔，謓，shǎng 齔，qù 疢，趁

342.  **cin** [dzin] píng 神，陳，塵，shǎng 紖，朕，qù 陳，陣
Inscr: 神 **zhin**, **zhim**

343.  **bin** [pin] píng 賓，濱，鑌，彬，斌，豳，邠，儐，qù 儐，殯，鬢，擯

344.  **phin** [p'in] píng 繽

345.  **pin** [bin] píng 頻，蘋，嬪，玭，蠙，顰，嚬，貧，shǎng 牝，臏

346.  **min** [min] píng 旻，岷，緡，閩，民，shǎng 愍，憫，閔，敏，瞑，泯，僶

347.  **dzin** [tsin] píng 津，璡，shǎng 盡，qù 晉，搢，縉，進，

348.  **tshin** [ts'in] píng 親，qù 親

349.  **tsin** [dzin] píng 秦，螓，shǎng 盡

[LC 113; JY 84]

350.  **sin** [sin] píng 辛，新，qù 信，訊，迅，汛

351.  **zin** [zin] píng 賚，燼，藎，贐

352.  **shin** [ʂin] píng 申，伸，紳，呻，娠，身，shǎng 矧，哂

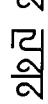
353.  **zhin** [ʐin] píng 辰，晨，鷐，臣，shǎng 腎，蜃，裖，脤，qù 慎，蜃

354.  **Xin** [ɣin] píng 痕，shǎng 狠，qù 恨

355.  **'in** [ʔin] píng 殷，慇，shǎng 隱，qù 隱

356.  **Yin** [ʔjin] píng 因，茵，禋，闉，駰，湮，氤，絪，姻，堙，歅，qù 印

357.  **yin** [jin] píng 寅，夤，shǎng 引，蚓，螾，qù 胤，酳，靷

358.  **lin** [lin] píng 粼，轔，嶙，粼，磷，潾，暽，麟，鱗，璘，驎，shǎng 嶙，qù 遴，吝，藺，磷，瞵

[LC 113; JY 85]

359.  **Zhin** [rin] píng 人，仁，shǎng 忍，qù 刃，認，仞，軔，牣，訒

360.  **gun** [gun] píng 昆，惲，崑，琨，鯤，錕，shǎng 袞，蓘，錕，緄，輥

361.  **khun** [k'un] píng 坤，髡，shǎng 閫，梱，悃，捆，壼，qù 困

362.  **dun** [tun] píng 敦，惇，墩，qù 頓

363.  **thun** [t'un] píng 噸，shǎng 腿

364.  **tun** [dun] píng 屯，豚，臀，燉，shǎng 囤，敦，盾，沌，遁，遯，qù 鈍，遁，遯

365.  **nun** [nun] qù 嫩

366.  **bun** [pun] píng 奔，賁，shǎng 本，畚

367.  **phun** [p'un] píng 濆，噴，qù 噴

368.  **pun** [bun] píng 盆，qù 坌

[LC 113; JY 86]

369.  **mun** [mun] píng 門，捫，璊，黾，shǎng 悗，懣，qù 悶，懣

370.  → **Hun > Hwun** [fun] píng 分，饙，芬，紛，雰，豮，氛，shǎng 粉，忿，qù 溢，忿，糞，瀵，憤，奮

371.  → **hun > hwun** [vun] píng 汾，氛，棻，頒，枌，蚡，棻，弇，蕞，賁，焚，墳，豶，shǎng 憤，墳，扮，坋，鼢，賁，qù 分，坋

372.  →  **khun > wun** [ʊun] píng 文，聞，紋，雯，蚊，shǎng 吻，刎，抆，忞，qù 問，汶，璺，絻，紊，聞，抆

373.  **dzun** [tsun] píng 尊，鐏，樽，鶎，shǎng 撙，噂，qù 拵

374.  **tshun** [ts'un] píng 村，shǎng 忖，qù 寸

375.  **tsun** [dzun] píng 存，蹲，shǎng 鐏，鱒

[LC 114; JY 87]

376.  **sun** [sun] píng 孫，蓀，猻，飧，shǎng 損，qù 巽，潠，遜，愻

377.  **hun** [xun] píng 昏，惛，婚，閽

378.  **Xun** [ɣun] píng 魂，渾，shǎng 混，渾，緷，焜，qù 恩，溷

379.  **'un** [ʔun] píng 溫，shǎng 穩

380.  **lun** [lun] píng 論，崙，掄，qù 論

381.  **gÿun** [kyn] píng 君，軍，皸，均，鈞，袀，麇，qù 捃，皸

382.  **khÿun** [k'yn] píng 困，箘

383.  **kÿun** [gyn] píng 群，裙，shǎng 窘，箘，菌，qù 郡

384.  **jÿun** [tʂyn] píng 屯，窀，迍，諄，shǎng 準，准，埻，純，qù 稕

385.  **chÿun** [tʂ'yn] píng 春，椿，輴，杶，shǎng 蠢，踳

[LC —; JY 88]

386.  **cÿun** [dzyn] píng 脣，漘，shǎng 盾，揗，楯，qù 順，揗
Inscr: 順 **chÿun**

387.  **dzÿun** [tsyn] píng 遵，僎，qù 俊，餕，畯，駿

388.  **tshÿun** [ts'yn] píng 逡，皴

389.  **sÿun** [syn] píng 荀，郇，詢，峋，珣，恂，shǎng 莘，筍，隼，簨，qù 峻，濬，浚

390.  **zÿun** [zyn] píng 旬，巡，馴，紃，循，洵，楯，揗，qù 徇，殉，侚

391.  **shÿun** [ʂyn] qù 舜，蓴，瞬

392.  **zhÿun** [zyn] píng 醇，純，蓴，鶉，錞，淳

393.  **hÿun** [xyn] píng 薰，曛，勳，勛，熏，燻，纁，醺，葷，焄，臐，qù 訓

394. →  **Yÿun > yÿun** [jyn] píng 匀，昀，shǎng 尹，允，狁

395. →  **lÿun** [lyn] píng 淪，輪，倫，綸，掄

[LC —; JY 89]

396.  **Zhÿun** [ryn] píng 犉，shǎng 蜳，qù 閏，潤

397.  **g^{h}in** [kən] píng 根，跟，qù 艮

398. **kh^{h}in** [k'ən] shǎng 懇，墾

399. **th^{h}in** [t'ən] píng 吞，qù 褪

400. **j^{h}in** [tʂən] píng 臻，蓁，溱，榛

401. **ch^{h}in** [tʂ'ən] qù 櫬，襯，儭，齔

402. **sh^{h}in** [ʂən] píng 莘，駪，娠，姺，詵，侁，鮮

403.  **ʻ^{h}in** [ʔən] píng 恩

404. **gÿin** [kjin] shǎng 緊

405.  **hÿin** [xjin] píng 欣，忻，昕，訢，炘，qù 釁，熅，炘

[LC 114; JY 90]

406. **Hÿin** [ɣin] píng 礥

407. **'win** [ʔwin] píng 贇，煴，氳，褞，shǎng 惲，蘊，薀，韞，醖，qù 醞，慍，縕，蘊，煴

408. **xwin** [ɦwin] píng 雲，芸，蕓，紜，耘，筠，云，員，沄，shǎng 殞，隕，霣，qù 韻，員，運，暈，餫，鄆

VIII. 寒  **Xan** [ɣan]

409. **gan** [kan] píng 干，乾，竿，肝，奸，玕，shǎng 笴，簳，皯，稈，qù 旰，幹，榦，矸

410.  **khan** [k'an] píng 看，刊，shǎng 侃，衎，qù 侃，看，衎

411.  **ngan** [ŋan] píng 豻，犴，qù 岸，諫，犴，嵅

[LC 115; JY 91]

412.  **dan** [tan] píng 單，鄲，丹，殫，簞，shǎng 亶，癉，澶，qù 旦

413.  **than** [t'an] píng 灘，嘽，嘆，攤，shǎng 坦，qù 炭，歎，嘆

414.  **tan** [dan] píng 壇，檀，撢，彈，驒，驙，shǎng 但，袒，誕，qù 彈，但，僤，灘，憚，燀

415.  **nan** [nan] píng 難，shǎng 赧，戁，qù 難

416.  **jan** [tʂan] shǎng 醆，琖，盞

417.  **chan** [tʂ'an] shǎng 鏟，qù 鏟

418.  **can** [dʐan] píng 潺，孱，僝，shǎng 棧，輚，qù 棧，輚，綻

419.  **ban** [pan] píng 班，頒，鴅，斑，般，媥，扳，shǎng 版，板，鈑，蝂

420.  **phan** [p'an] píng 攀，扳，販，qù 攀，盼，盻

[LC 115; JY 92]

421.  **pan** [ban] qù 辦，瓣，辨

422.  **man** [man] píng 蠻，qù 慢，嫚，謾，縵

423.  → **han > hwan** [fan] píng 翻，旛，番，幡，蕃，藩，轓，繙，反，shǎng 反，阪，返，qù 畈

424.  → **Han > Hwan** [van] píng 蹯，繁，蘩，蘩，樊，蠜，蠜，煩，燔，蕃，膰，璠，笲，袢，shǎng 飯，qù 飯

425.  → **wan** [ʋan] shǎng 晚，娩，挽，輓，qù 萬，万，蔓，曼

426.  **dzan** [tsan] qù 贊，讚，鄼

427.  **tshan** [ts'an] píng 餐，qù 粲，燦，璨

428.  **tsan** [dzan] píng 殘，戔，shǎng 瓚

[LC 115; JY 93]

429.  **san** [san] píng 跚，珊，姍，shǎng 散，繖，傘，qù 散

430.  →  **zhan > shan** [ʂan] píng 刪，訕，潸，山，shǎng 潸，產，簅，滻，qù 訕，汕

431.  **han** [xan] shǎng 罕，暵，熯，qù 漢，暵，熯

432.  **Xan** [ɣan] píng 寒，韓，翰，邯，汗，shǎng 旱，qù 翰，扞，釬，汗，悍，瀚，閈，駻

433. **'an** [ʔan] píng 安，鞍，qù 按，案

434.  **Yan** [ʔjan] píng 殷，qù 晏，鴳

435.  **yan** [jan] píng 顏，shǎng 眼，qù 鴈，贋

436.  **lan** [lan] píng 爛，蘭，瀾，闌，欄，攔，讕，shǎng 嬾，懶，qù 爛，讕

437.  **on** [ɔn] píng 屽，刓，怨，蚖，抏，猨，qù 玩，妧，翫

[LC 115; JY 94]

438. **gon** [kɔn] píng 官，莞，觀，冠，倌，棺，shǎng 管，筦，盥，窾，琯，痯，qù 貫，裸，館，瓘，灌，鸛，爟，冠，盥，觀
Su: 觀 **khÿu**

439. **khon** [k'ɔn] píng 寬，髖，shǎng 款，梡

440.  **don** [tɔn] píng 端，shǎng 短，qù 鍛，斷

441.  **thon** [t'ɔn] píng 湍，shǎng 疃，qù 彖，褖

442.  **ton** [dɔn] píng 團，慱，敦，漙，shǎng 斷，qù 段

443.  **non** [nɔn] shǎng 暖，煖，餪

444.  **bon** [pɔn] píng 般，qù 半，絆

445.  **phon** [p'ɔn] píng 潘，拌，qù 判，泮，汳

446.  **pon** [bɔn] píng 槃，盤，柈，瘢，磻，幋，磐，胖，般，鞶，繁，蟠，弁，shǎng 伴，qù 叛，畔，伴

[LC 116; JY 95]

447.  **mon** [mɔn] píng 瞞，謾，饅，鏝，曼，shǎng 滿，懣，qù 縵，幔，漫，墁，謾

448.  **dzon** [tsɔn] píng 鑽，shǎng 纂，纘，儹，鄼，qù 鑽

449.  **tshon** [ts'ɔn] qù 竄，爨

450.  **tson** [dzɔn] píng 攢，巑，敔，qù 攢

451.  **son** [sɔn] píng 酸，狻，shǎng 算，篹，qù 筭，蒜
Inscr: 算 **swan**

452.  **hon** [xɔn] píng 歡，懽，驩，讙，貛，qù 喚，煥，奂，渙

453.  **Xon** [ɣɔn] píng 桓，完，丸，紈，紈，汍，芄，萑，綄，貆，shǎng 緩，澣，浣，qù ， 換，逭

454.  **'on** [ʔɔn] píng 剜，豌，蜿，shǎng 蜿，qù 惋，腕

[LC 116; JY 96]

455.  **lon** [lɔn] píng 鑾，鸞，巒，欒，灤，圞，shǎng 卵，qù 亂

456.  **gwan** [kwan] píng 關，瘝，擐，鰥，綸，矜，qù 慣，丱，摜，串

457.  **jwan** [ʧwan] píng 跧

458.  **chwan** [ʧw'an] qù 篡

459.  **cwan** [ʤwan] shǎng 撰，饌，譔，僎，qù 饌

460.  **Xwan** [ɣwan] píng 還，環，鬟，寰，鍰，圜，鐶，轘，澴，shǎng 脘，睆，莞，qù 患，擐，宦，轘，豢，幻

461.  **'wan** [ʔwan] píng 彎，灣，shǎng 綰

462.  → **tshwan > xwan** [ɦwan] píng 頑

463.  (~) **gÿan (~ gyan)** [kjan] píng 間，艱，簡，姦，菅，shǎng 簡，柬，揀，qù 襉，間，澗，諫

[LC 116; JY 97]

464.  (~) **khÿan (~ khyan)** [k'jan] píng 牽，慳

465.  (~) **Hÿan (~ Hyan)** [ɣjan] píng 閑，間，嫻，癇，鷳，憪，shǎng 僩，限，qù 莧，骭

IX. 先  **sÿan** [sjɛn]

466.  **gen** [kɛn] píng 鞬，shăng 蹇，謇，qù 建

467.  **khen** [k'ɛn] píng 愆，褰，騫，qù 譴，遣
Inscr: 搴 **khen**. This graph does not occur in the MGZY proper.

468.  **ken** [gɛn] píng 乾，虔，shăng 件，鍵，揵，楗，qù 健

469.  **ngen** [ŋɛn] píng 言，焉，焉，shăng 嶮，讞，甗，qù 彥，唁，喭，諺

470.  **den** [tɛn] píng 顛，瘨，巔，蹎，滇，shăng 典，qù 殿

471.  **then** [t'ɛn] píng 天，shăng 腆，琠，靦，qù 瑱

[LC 116; JY 98]

472.  **ten** [dɛn] píng 田，佃，畋，鈿，填，闐，shăng 電，殿，奠，澱，淀，甸，佃，鈿，闐

473. **nen** [nɛn] píng 年，shăng 撚，涊，qù 睨，輾，碾

474.  **jen** [ʈʂɛn] píng 邅，鱣，qù 驙

475.  **cen** [dʐɛn] píng 躔，纏，廛，纏

476.  **ben** [pɛn] píng 蹁，蝙，軿，駢，胼，玭，便，楄，諞，平，shăng 辮，扁，辯，辨，諞，qù 卞，抃，忭，閞，弁，便

477.  **men** [mɛn] píng 眠，綿，shăng 緬，沔，湎，靦，勉，免，娩，俛，冕，qù 麵，瞑，眄，靦，面，偭

478.  **tsen** [dzɛn] píng 前，錢，踐，餞，俴，qù 荐，洊，栫，賤，餞

[LC 117; JY 99]

479.  **zen** [zɛn] píng 涎，qù 羨

480.  **zhen** [ʐɛn] píng 鋋，單，蟬，禪，撣，嬋，澶，shǎng 善，墠，單，鄯，qù 繕，擅，膳，禪，單

481.  **yen** [jɛn] píng 延，埏，筵，綖，蜒，鋋，妍，研，shǎng 演，衍，戭，qù 衍，筵，羨，硯

482.  **len** [lɛn] píng 蓮，憐，怜，零，連，聯，shǎng 輦，璉，qù 練，鍊，楝，湅

483.  **Zhen** [rɛn] píng 然，燃，shǎng 燀

484.  **gÿan** [kjɛn] píng 堅，肩，豜，麘，鵳，甄，shǎng 趼，蜎，繭，qù 見

485.  **khÿan** [k'jɛn] píng 牽，汧，岍，shǎng 遣，qù 倹

486.  **jÿan** [tʂjɛn] píng 饘，旃，栴，氈，鸇，shǎng 展，輾，qù 戰，顫

[LC 117; JY 100]

487.  **chÿan** [tʂ'jɛn] píng 燀，shǎng 闡，繟，嬗，嘽，燀

488.  **bÿan** [pjɛn] píng 邊，籩，蝙，編，鞭，shǎng 緶，褊，扁，qù 變，遍

489.  **phÿan** [p'jɛn] píng 篇，偏，翩，扁，shǎng 鴘，蒪，qù 片，騙

Inscr: 篇 **pÿan**

490.  **dzÿan** [tsjɛn] píng 箋，牋，錢，棧，煎，濺，shǎng 剪，翦，戩，錢，qù 薦，箭，煎，濺

491.  **tshÿan** [ts'jɛn] píng 千，阡，芊，遷，韉，shǎng 淺，qù 蒨，茜，倩

492.  **sÿan** [sjɛn] píng 先，躚，仙，僊，鮮，shǎng 銑，洗，跣，毨，獮，鮮，癬，燹，癬 ，蘚，qù 霰，先，線

493.  →  **zhÿan > shÿan** [ʂjɛn] píng 羶，埏，挺，扇，煽 ，qù 扇，煽

494.  **hÿan** [xjɛn] píng 軒，掀，騫，shǎng 幰，顯，qù 獻，憲
Inscr: 顯 **Hwÿan**

[LC 117; JY 101]

495.  **'ÿan** [ʔjɛn] píng 焉，嫣，嫣，鄢，shǎng 偃，鼹，鄢，鼴，鰋，qù 堰
Inscr: 焉 **Yÿan**

496.  **Yÿan** [ʔjɛn] píng 煙，燕，咽，胭，qù 宴，燕，鷰，醼，嬿，咽

497.  **gwÿan** [kyɛn] píng 涓，睊，鵑，蠲，shǎng 畎，qù 睊，罥，絹，狷

498.  **khwÿan** [k'yɛn] píng 犬

499.  **kwÿan** [gyɛn] píng 權，拳，顴，鬈，卷，shǎng 圈，qù 倦，圈
Inscr: 惓 **gwÿan**. This graph does not occur in the MGZY proper.

500.  **jwÿan** [ʈʂyɛn] píng 專，顓，篿，shǎng 轉，剸，qù 囀，傳，轉

501.  **chwÿan** [ʈʂ'yɛn] píng 穿，川，shǎng 舛，喘，qù 釧，穿

502.  **cwÿan** [dzyɛn] píng 船，椽，傳，shǎng 篆，瑑，qù 傳

503.  **dzwÿan** [tsyɛn] píng 鐫，朘

504.  **tshwÿan** [ts'yɛn] píng 詮，佺，銓，痊，筌，絟，荃，拴，悛

[LC 117; JY 102]

505.  **tswÿan** [dzyɛn] píng 全，泉，牷，shǎng 雋，吮

506.  **swÿan** [syɛn] píng 宣，瑄，朘，shǎng 選，qù 選

507.  **zwÿan** [zyɛn] píng 旋，璿，璇，還，qù 旋

508.  **zhwÿan** [zyɛn] píng 遄，圌

509.  **hwÿan** [xyɛn] píng 翾，儇，蠉，嬛，駽，暄，喧，萱，諼，塤，壎，諠，shǎng 環，烜，咺，qù 絢，駽，椽，楦

510.  **Hwÿan** [ɣyɛn] píng 玄，縣，懸，shǎng 泫，鉉，琄，鞙，qù 縣，衒，昡，炫，衒，玄

511. **'wÿan** [ʔyɛn] píng 鳶，冤，鵷，蜿，宛，怨，shǎng 婉，莞，苑，蜿，畹，琬，宛，qù 怨

512.  **xwÿan** [ɦyɛn] píng 元，原，邊，源，媛，騵，諼，沅，蚖，黿，袁，爰，垣，園，援，媛，猿，員，園，圓，湲，shǎng 阮，遠，qù 願，愿，遠，諼，瑗，援，媛，阮

[LC 118; JY 103]

513.  **Ywÿan** [ʔyɛn] píng 淵，鼘，蜎，涓，悁

514.  **ywÿan** [jyɛn] píng 沿，鈆，鉛，捐，鳶，蠉，緣，shăng 兗，沇，抗，qù 掾，緣

515.  **Zhwÿan** [ryɛn] píng 堧，shăng 軟，蝡

516.  **gÿon** [kyɔn] shăng 卷，捲，qù 眷，睠，卷

517.  **khÿon** [k'yɔn] píng 券，棬，shăng 綣，qù 券，勸

518.  **lÿon** [lyɔn] píng 孿，shăng 臠，孌，qù 戀

519.  **Xÿen** [ɣjɛn] píng 賢，弦，絃，蚿，舷，shăng 峴，俔，睍，qù 見，現

X. 蕭 **sÿaw** [sjɛw]

[LC 118; JY 104]

520.  **gaw** [kaw] píng 高，膏，皋，羔，槁，橐，咎，鼛，篙，槔，shăng 暠，杲，槁，縞，qù 誥，郜，告，縞，膏，rù 各，閣

521.  **khaw** [k'aw] shăng 考，攷，栲，槁，祰，薧，qù 犒，rù 恪

522.  **ngaw** [ŋaw] píng 敖，遨，翱，鰲，驁，熬，獒，鼇，螯，滶，嗷，qù 傲，螯，驁，慠，rù 詻，愕，鄂，諤，萼，鍔，鶚，鱷，噩，堮

523.  **daw** [taw] píng 刀，魛，忉，舠，shăng 倒，禱，搗，島，qù 到，禱，倒

524. 𰾡 **thaw** [t'aw] píng 饕，洮，韜，慆，叨，絛，挑，綢，弢，滔，shǎng 討，rù 託，拓，橐，籜，祏，薸，飥，魄

525. 𰾢 **taw** [daw] píng 陶，綯，逃，咷，桃，鞱，掏，騊，啕，萄，濤，檮，翿，shǎng 道，稻，槄，qù 導，翿，纛，悼，蹈，盜，燾，幬，陶，rù 鐸，度

[LC 118; JY 105]

526. 𰾣 **naw** [naw] píng 猱，猱，鐃，呶，譊，恞，臑，shǎng 腦，惱，撓 qù 撓，淖，鬧，rù 諾

527. 𰾤 **jaw** [tṣaw] píng 嘲，shǎng 爪，笊，獠，璪，qù 罩，抓

528. 𰾥 **chaw** [tṣ'aw] píng 抄，shǎng 炒，qù 抄，鈔

529. 𰾦 **caw** [dẓaw] píng 巢，qù 棹，櫂

530. 𰾧 **baw** [paw] píng 褒，包，苞，shǎng 寶，保，堡，褓，鴇，飽，qù 報，豹，儤，爆，犦，rù 博，爆，襮，鎛，鑤，簙，搏，餺，剝，駁，馮

BJX: 包 **paw**

531. 𰾨 **phaw** [p'aw] píng 胞，脬，拋，泡，qù 窇，砲，rù 濼，朴，撲，璞

[LC 118; JY 106]

532. 𰾩 **paw** [baw] píng 庖，咆，匏，炮，鮑，跑，袍，麃，shǎng 鮑，匏，抱，qù 鉋，暴，虣，曝，瀑，菢，rù 雹，撲，泊，箔，怕，薄，礴

BJX: 鮑 **baw**

533. 𰾪 **maw** [maw] píng 毛，髦，耄，旄，茅，蝥，貓，shǎng 卯，茆，昴，qù 帽，耄，芼，眊，瑁，冒，旄，貌，rù 寞，瞙，塻，莫，幕，膜，鏌，摸，漠，瘼

Inscr: 寞 **mwo**

534.  **Hwaw** [vaw] rù 縛，懭

535.  **dzaw** [tsaw] píng 糟，遭，shǎng 早，澡，藻，蚤，璪，棗，鄵，繅，qù 躁，rù 作，鑿

536.  **tshaw** [ts'aw] píng 操，shǎng 草，慅，qù 操，造，慥，糙，rù 錯，綽

537.  **tsaw** [dzaw] píng 曹，槽，嘈，螬，艚，漕，shǎng 阜，造，qù 漕，rù 昨，酢，怍，鑿，柞，筰

[LC 119; JY 107]

538.  **saw** [saw] píng 騷，搔，繅，繰，臊，颼，艘，shǎng 嫂，燥，掃，埽，慅，qù 臬，噪，埽，掃，燥，rù 索

539.  **shaw** [ʂaw] píng 稍，捎，弰，髾，旓，筲，蛸，qù 稍

540. **haw** [xaw] píng 蒿，薅，撓，shǎng 好，qù 耗，秏，好，郝，嗃

541.  **Xaw** [ɣaw] píng 豪，號，毫，嗥，濠，壕，shǎng 皓，昊，皜，浩，鎬，灝，顥，鄗

542.  **'aw** [ʔaw] píng 鏖，shǎng 襖，懊，燠，媼，夭，qù 奥，懊，隩，墺，燠，澳，rù 惡，堊

[LC 119; JY 108]

543.  **Yaw** [ʔjaw] píng 坳，shǎng 拗， qù 靿，袎，rù 渥，握，偓，幄，喔，約

544.  **yaw** [jaw] píng 聱，謷，shǎng 咬，qù 樂，磽，墝，rù 嶽，岳，樂，鸑

545.  **law** [law] píng 勞，牢，醪，撈，簝，shǎng 老，橑，潦，栳，恅，qù 嫪，澇，潦，勞，僗，rù 落，絡，洛，珞，酪，硌，駱，雒，樂，轣

546.  **gew** [kɛw] píng 驕，嬌，憍，鷮，shǎng 矯，敽，撟，蹻，rù 腳，蹻，屩

547.  **khew** [k'ɛw] píng 趫，撬，rù 卻

548.  **kew** [gɛw] píng 喬，橋，僑，蕎，qù 嶠，rù 噱，臄，醵
Inscr: 喬 **kÿa**

549.  **ngew** [ŋɛw] píng 鴞，rù 虐，瘧

550.  **tew** [dɛw] píng 迢，條，髫，齠，跳，蜩，佻，笤，調，鋚，shǎng 窕，掉，挑，qù 藋，掉，調，蓧，嬥，銚

[LC 119; JY 109]

551.  **jew** [tʂɛw] píng 朝，昭，招，釗，鉊，shǎng 沼，qù 照，炤，詔，rù 著，灼，斫，礿，勺，酌，妁，繳，焯，禚，斮

552.  **chew** [tʂ'ɛw] píng 弨，rù 綽，

553.  **cew** [dʐɛw] píng 巢，朝，潮，shǎng 肇，兆，趙，旐，珧，qù 召，rù 著

554.  **bew** [pɛw] píng 鑣，臕，儦，灥，穮，蔈，標，杓，shǎng 褾，標，表

555.  **pew** [bɛw] píng 瓢，剽，薸，shǎng 摽，鰾，殍，莩，qù 驃

556.  **mew** [mɛw] píng 苗，描，貓，shǎng 眇，渺，淼，杪，藐，qù 妙，廟

557.  **shew** [ʂɛw] píng 燒，shǎng 少，qù 燒，少，rù 爍，鑠

558.  **zhew** [ʐɛw] píng 韶，軺，qù 紹，邵，召，劭，rù 勺，杓，芍

559.  **hew** [xɛw] píng 囂，梟，歊，rù 謼

[LC 119; JY 110]

560.  **'ew** [ʔɛw] píng 妖，祆，訞，夭，shǎng 夭，殀，rù 約

561.  **yew** [jɛw] píng 堯，嶢，遙，傜，繇，颻，窯，銚，姚，搖，謠，愮，軺，陶，瑤，shǎng 鷂，涤，qù 突，耀，鷂，燿，曜，rù 藥，躍，杓，鑰，瀹，籥

Inscr: 堯 **Yÿaw**; BJX: 姚 **yÿaw**

562.  **lew** [lɛw] píng 聊，膋，遼，憀，飂，料，寥，橑，廖，僚，寮，鐒，鷚，嘹，shǎng 了，蓼，瞭，繚，燎，憭，僚，qù 料，鐒，燎，療，rù 略，掠

563.  **Zhew** [rɛw] píng 饒，橈，蕘，shǎng 擾，繞，遶，rù 若，弱，蒻，嬈

Inscr: 若 Zhiw

564.  **gÿaw** [kjɛw] píng 驍，梟，澆，憿，徼，shǎng 皎，皦，qù 徼，繳

565.  **khÿaw** [k'jɛw] píng 蹻，qù 竅

[LC 120; JY 111]

566.  **kÿaw** [gjɛw] píng 翹，荛，劋

567.  **dÿaw** [tjɛw] píng 貂，刁，琱，凋，鵰，雕，彫，shǎng 鳥，蔦，qù 吊，弔，釣，蔦

568.  **thÿaw** [t'jɛw] píng 祧，佻，挑，恌，shǎng 朓，窱，qù 糶，眺，覜，趒

569.  **nÿaw** [njɛw] shǎng 嫋，褭，嬈

570.  **chÿaw** [tʂ'jɛw] píng 超，怊，rù 婼，逴

571.  **pÿaw** [bjɛw] píng 漂，飄，慓，翲，shǎng 縹，醥，qù 剽，漂

572.  **dzÿaw** [tsjɛw] píng 焦，蕉，膲，鷦，椒，鐎， shǎng 勦，剿，qù 醮，僬，釂，噍，爝， rù 爵，雀，灂

573.  **tshÿaw** [ts'jɛw] píng 鍬，shǎng 悄，愀，qù 俏，哨，峭，rù 鵲，碏，皵

574. **tsÿaw** [dzjɛw] píng 樵，蕉，譙，燋， qù 誚，rù 噣

[LC 120; JY 112]

575.  **sÿaw** [sjɛw] píng 簫，瀟，蕭，箾，翛，霄，消，宵，逍，綃，硝，哨，銷，蛸，痟，shǎng 篠，謏，小，qù 笑，嘯，肖，鞘，rù 削

576.  **hÿaw** [xjɛw] píng 嘵，憢，shǎng 曉

577. **Hÿaw** [ɣjɛw] shǎng 皎

578.  **Yÿaw** [ʔjɛw] píng 么，怮，葽，要，腰，喓，邀，shǎng 杳，窅，窈，qù 要
Inscr: 要 **ngaw**

579. **gwaw** [kwaw] rù 郭，槨，彏

580.  **khwaw** [k'waw] rù 廓，鞹，漷，擴
Inscr: 廓 **gwaw**

581.  **nwaw** [nwaw] rù 搦

582.  **jwaw** [tʂwaw] rù 捉，斲，斲，涿，諑，琢，卓，倬，啄，穬

583.  **chwaw** [tʂ'waw] rù 逴，趠，踔，娖，齪，擉，籉

[LC 120; JY 113]

584.  **cwaw** [dzwaw] rù 浞，濯，鷟，濁，擢，鐲，篧，濯

585.  **shwaw** [shwaw] rù 朔，嗽，槊，數

586.  **hwaw** [xwaw] rù 霍，藿，彏，擉

587.  **Xwaw** [ɣwaw] rù 穫，鑊，濩

588.  **'waw** [ʔwaw] rù 臒，蠖，矱

589.  **lwaw** [lwaw] rù 犖

590.  (~ ) **gÿaw (~ gyaw)** [kjaw] píng 交，蛟，咬，郊，茭，鮫，教，膠，嘐，shǎng 絞，狡，佼，鉸，姣，攪，qù 教，窖，校，鉸，較，覺，rù 覺，斠，角，較，桷，玨，殼，榷，捔，傕，搉

591.  (~ ) **khÿaw (~ khyaw)** [k'jaw] píng 敲，磽，墝，shǎng 巧，qù 礉，rù 殼，毃，慤，確，礐，埆

[LC 120; JY 114]

592.  (~ ) **hÿaw (~ hyaw)** [xjaw] píng 虓，猇，髇，嗃，哮，烋，涍，qù 孝

593.  (~ ) **Hÿaw (~ Hyaw)** [ɣjaw] píng 肴，餚，崤，殽，爻，淆，shǎng 佼，qù 效，校，恔，傚，rù 學，硪，斆
Inscr: 校 **Hÿaw**; 學 **hÿaw**

594.  **gwÿaw** [kyɛw] rù 玃，攫，矍

595.  **khwÿaw** [k'yɛw] rù 躩

596.  **'wÿaw** [ʔyew] rù 孃

597.  **xwÿaw** [ɦyew] rù 籰

598.  **ba'o** [pao] 寶 (This form is a variant spelling of  **baw** [paw] 寶 listed under no. 530 above. It was reserved for imperial use.)

XI. 尤 **ngiw** [ŋiw]

599.  **giw** [kiw] píng 鳩，捄，shǎng 九，久，玖，灸，韭，qù 救，灸，廄，究，疚

[LC 121; JY 115]

600.  →  **khiw** [k'iw] píng 邱，shǎng 糗

601.  **kiw** [giw] píng 裘，仇，氿，銶，逑，求，絿，璆，艽，糾，毬，球，捄，shǎng 舅，臼，咎，qù 舊，柩

602.  **ngiw** [ŋiw] píng 牛，尤，疣，訧，郵，shǎng 有，右，友，qù 宥，又，佑，祐，囿，侑

603.  **jiw** [tʂiw] píng 輈，侜，舟，周，州，鵰，賙，譸，調，輖，洲，shǎng 肘，帚，qù 晝，咮，噣，祝

604.  **chiw** [tʂ'iw] píng 抽，惆，瘳，妯，犨，shǎng 丑，扭，杶，醜，qù 畜，臭，殠
Inscr: 畜 **giw**

605.  **ciw** [dʐiw] píng 儔，幬，疇，籌，裯，紬，綢，稠，shǎng 紂，胄，酎，宙，繇，籀

606.  **ñiw** [ȵiw] shăng 紐，鈕，杻，狃，qù 糅

607.  **biw** [piw] píng 彪，髟

[LC 121; JY 116]

608.  **miw** [miw] píng 繆，qù 謬，繆
Inscr: 繆 **muw**

609.  **dziw** [tsiw] píng 啾，揪，湫，shăng 酒，qù 僦

610.  **tshiw** [ts'iw] shăng 秋，鞦，鶖，鰍，楸

611.  **tsiw** [dziw] píng 酋，遒，qù 就，鷲

612.  **siw** [siw] píng 脩，修，羞，shăng 滫，qù 秀，琇，繡，宿

613.  **ziw** [ziw] píng 囚，qù 袖，岫

614. **shiw** [ʂiw] píng 收，shăng 首，手，守，qù 狩，獸，守，首，收

615.  **zhiw** [ʐiw] píng 讎，酬，shăng 受，壽，綬，售

616.  **hiw** [xiw] shăng 吼，qù 戵，詬

617. **Xiw** [ɣiw] píng 侯，鍭，喉，猴，餱，篌，shăng 厚，後，后，郈，qù 鍭，後，候，堠，后，逅

[LC 121; JY 117]

618.  **'iw** [ʔiw] píng 憂，優，麀，耰

619.  **Yiw** [ʔjiw] píng 幽，呦，shăng 黝，恆，qù 幼

620.  **yiw** [jiw] píng 猷，猶，悠，油，攸，由，蓧，蝣，蝤，斿，游，遊，繇，shǎng 酉，誘，脩，卣，楢，莠，羑，輶，qù 狖，柚，猶，鼬，蝣，褎，楢

621.  **liw** [liw] píng 劉，留，騮，遛，瘤，鶹，颮，流，飂，旒，鏐，瀏，榴，shǎng 柳，罶，懰，qù 溜，霤，鎦，瘤，留，窌

622.  **Zhiw** [riw] píng 柔，鍒，蹂，鞣，揉，shǎng 蹂，揉，鞣，qù 蹂，揉，楺

623.  → **cuw > buw** [puw] shǎng 掊

624.  **phuw** [p'uw] shǎng 剖，qù 仆，踣

[LC 121; JY 118]

625.  **puw** [buw] píng 裒，抔，掊，shǎng 部，培，箁

626.  **muw** [muw] shǎng 母，牡，某，拇，畝，莽，qù 茂，貿，楙，戊，袤，懋

627.  → **Hwuw > hwuw** [fuw] píng 不，紑，shǎng 缶，否，不，qù 副，仆，覆，富，輻

628.  → **khuw > wuw** [ʊuw] píng 謀，眸，牟，侔，矛，鍪，麰，蝥
Inscr: 牟 **mo**

629.  **g^{h}iw** [kəw] píng 鉤，溝，韝，雊，篝，拘，勾，軥，shǎng 苟，垢，笱，枸，狗，qù 遘，媾，覯，姤，購，雊，彀，構，句
Inscr: 勾 **giw**

630.  **kh^{h}iw** [k'əw] píng 彄，摳，shǎng 口，扣，叩，釦，qù 寇，扣，詬
Inscr: 寇 **k^{h}iw**

631.  **ng^{h}iw** [ŋəw] shǎng 藕，偶，耦，蒠

632.  **d^{h}iw** [təw] píng 兜，shǎng 斗，枓，蚪，陡，qù 鬥

633.  **th^{h}iw** [t'əw] píng 偷，媮，shǎng 薡，qù 透

[LC 122; JY 119]

634.  **t^{h}iw** [dəw] píng 頭，投，骰，qù 豆，竇，逗，酘，荳，桓

635.  → **c^{h}iw > n^{h}iw** [nəw] shǎng qù 耨

636.  **j^{h}iw** [tʂəw] píng 鄒，鄹，騶，shǎng 掫，qù 皺，甃，縐

637.  **ch^{h}iw** [tʂ'əw] píng 搯，篛，掙，qù 簉

638.  → **z^{h}iw > c^{h}iw** [dʐiw] píng 愁，qù 驟，傷

639.  **dzhiw** [tsəw] píng 緅，陬，楸，掫，shǎng 走，qù 奏，走
Inscr: 奏 **th^{h}iw**

640.  **tsh^{h}iw** [ts'əw] shǎng 趣，取，qù 輳，湊，腠，簇

641.  **ts^{h}iw** [dzəw] píng 鯫

642.  **s^{h}iw** [səw] shǎng 叟，藪，擻，嗾，qù 嗽，漱，敕

643.  → **zh^{h}iw > sh^{h}iw** [ʂəw] píng 搜，颼，廋，蒐，shǎng 溲，qù 瘦

[LC 122; JY 120]

644.  **^{h}iw** [ʔəw] píng 謳，歐，甌，區，鷗，shǎng 歐，嘔，毆，qù 漚

645.  **l^{h}iw** [ləw] píng 樓，婁，髏，慺，膢，蝼，shǎng 塿，簍，qù 陋，漏，鏤，瘺

646.  **gÿiw** [kjiw] píng 樛，shǎng 糗，糾，赳

647.  **kÿiw** [gjiw] píng 蚪，觓，璆，shǎng 蟉

648.  **hÿiw** [xjiw] píng 休，咻，貅，庥，shǎng 朽，qù 嗅
Inscr: 休 **hiw**

649.  **Hwow** [vɔw] píng 浮，桴，枹，罦，罘，涪，蜉，shǎng 婦，負，阜，偩，qù 復，伏，覆，複
Inscr: 阜 **Hwow**; 負 **hwu**

XII. 覃 **tam** [dam]

650.  **gam** [kam] píng 甘，弇，柑，泔，shǎng 感，敢，澉，qù 贛，淦，紺

651.  **kham** [k'am] píng 龕，堪，戡，shǎng 坎，qù 勘，闞，瞰

[LC 122; JY 121]

652.  **dam** [tam] píng 探，耽，湛，忱，酖，擔，儋，shǎng 黮，膽，紞，qù 擔，甔，儋，石

653.  **tham** [t'am] píng 貪，探，聃，shǎng 撢，嗿，菼，毯，qù 撢，賧，暺，探

654.  →  **tam** [dam] píng 覃，潭，曇，譚，燂，談，郯，惔，淡，澹，餤，痰，shǎng 橝，黮，窨，髡，萏，醰，嘾，噉，啖，澹，淡，憺，惔，qù 憺，惔，淡，啗，澹，靉，郯

655.  **nam** [nam] píng 南，男，枏，楠，諵，喃

656.  **jam** [ʦam] shǎng 斬，qù 蘸，站

657. **cham** [ʦ'am] píng 攙，shǎng 攙，劖，qù 懺

[LC 122; JY 122]

658.  **cam** [dʑam] píng 讒，饞，毚，巉，shǎng 湛，qù 賺

659.  →  **hwam** [fam] qù 汎，泛，氾

660.  **Hwam** [vam] píng 凡，帆，圻，杌，shǎng 范，軓，範，犯，qù 梵，帆

661.  **wam** [ʋam] shǎng 錽

662. **dzam** [tsam] píng 簪，鐕，shǎng 咱，寋

663. **tsham** [ts'am] píng 參，驂，shǎng 慘，懫，朁，黲

664.  **tsam** [dzam] píng 蠶，撏，慚，鏨，shǎng 歜，qù 暫，蹔，鏨

665.  **sam** [sam] píng 毿，三，參，shǎng 糝，qù 三

666.  **sham** [ʂam] píng 櫼，槮，杉，杉 (duplicate)，縿，芟，shǎng 襂，qù 彡

667.  **ham** [xam] píng 憨，shǎng 喊

[LC 123; JY 123]

668.  **Xam** [ɣam] píng 含，鋡，涵，函，酣，shǎng 頷，撼，菡，qù 憾，唅

669.  **'am** [ʔam] píng 諳，庵，菴，腤，喑，shǎng 晻，唵，揜，qù 暗，闇

670.  **Yam** [ʔjam] shǎng 黭，黯

671.  **yam** [jam] píng 嵓，晏，巖，shǎng 黯

672.  **lam** [lam] píng 婪，懍，嵐，藍，籃，shǎng 壈，覽，攬，欖，qù 濫，纜，嚂

673.  **gem** [kɛm] shǎng 檢，qù 劍

674.  **khem** [k'ɛm] qù 欠

675.  **kem** [gɛm] píng 箝，鉗，鉆，黔，鍼，鈐，shǎng 儉，芡

676.  **ngem** [ŋɛm] píng 嚴，shǎng，儼，qù 釅，驗

[LC 123; JY 124]

677.  **dem** [tɛm] shǎng 點，玷，qù 店，坫，痁，墊

678.  **them** [t'ɛm] píng 添，shǎng

679.  **tem** [dɛm] píng 甜，恬，shǎng 簟，橝

680.  **nem** [nɛm] píng 拈，qù 念
Inscr: 念 **ñem**

681.  **jem** [tʂɛm] píng 霑，沾，詹，瞻，占，shǎng 颭，qù 占

682.  **chem** [tʂ'ɛm] píng 覘，襜，涂，shǎng 諂，覘，qù 襜，覘

683.  **ñem** [nʑɛm] píng 黏，粘

684.  →  **bem** [pɛm] píng 砭，shǎng 貶，qù 窆

685.  →  **dzem** [tsɛm] píng 尖，殲，漸，熸，qù 僭

686.  **tshem** [ts'ɛm] píng 僉，籤，shǎng 憸，懺，qù 塹，槧

[LC 123; JY 125]

687.  **sem** [sɛm] píng 銛，暹，鐉，纖，憸

688.  **shem** [ʂɛm] píng 苫，shǎng 陝，睒，閃，qù 閃，掞，苫
Inscr: 陝 **sem**

689.  **zhem** [ʐɛm] píng 撏，蟾，shǎng 剡，qù 贍

690.  **'em** [ʔɛm] píng 淹，崦，閹，醃，shǎng 奄，掩，揜，晻，渰，弇，qù 裺，俺

691.  **yem** [jɛm] píng 炎，焱，鹽，閻，檐，簷，shǎng 琰，剡，qù 豔，艷，爓，焰，灩

692.  **lem** [lɛm] píng 廉，鐮，簾，奩，磏，帘，shǎng 斂，撿，qù 斂，瀲，獫

693.  →  **'em > Zhem** [rɛm] píng 髯，shǎng 冉，苒，染，qù 染

694.  **gÿam** [kjɛm] píng 兼，縑，鶼，蒹，鰎

[LC 123; JY 126]

695.  **khÿam** [k'jɛm] píng 謙，shǎng 慊，脥，傔，qù 傔，歉

696.  **tsÿam** [dzjɛm] píng 潛，shǎng 漸

697.  **Yÿam** [ʔjɛm] píng 猒，黶，shǎng 黶，厭，qù 厭，猒，黶

698.  **gyam** [kjam] píng 緘，監，礛，shǎng 減，qù 鑑，鍳，監

699.  **khyam** [k'jam] qù 歉

700.  **hyam** [xjam] shǎng 喊

701.  **Hyam** [ɣjam] píng 咸，鹹，諴，銜，shǎng 豏，檻，艦，濫，轞，qù 陷

702.  **hÿem** [xjɛm] píng 欦，shǎng 險，譣，嶮

703.  **Hÿem** [ɣjɛm] píng 嫌

XIII. 侵 **tshim** [ts'im]

[LC 124; JY 127]

704.  **gim** [kim] píng 金，今，衿，襟，禁，shǎng 錦，qù 禁

705.  **khim** [k'im] píng 欽，衾

706.  **kim** [gim] píng 琴，黔，禽，芩，擒，檎，shǎng 噤，qù 吟，噤

707.  **ngim** [ŋim] píng 吟，崟

708.  **jim** [tsim] píng 碪，砧，斟，針，鍼，箴，shǎng 枕，qù 枕

709.  **chin** [ts'im] píng 琛，踩，郴，shǎng 瞫，瀋，qù 闖

710.  **cim** [dzim] píng 沉，shǎng 朕，qù 鴆，葚

711.  **ñim** [ɲim] qù 賃

712.  **bim** [pim] shǎng 稟

713.  →  **phim** [p'im] shǎng 品

[LC 124; JY 128]

714.  **dzim** [tsim] píng 梫，qù 浸，寖，祲

715.  **tshim** [ts'im] píng 侵，綅，駸，shǎng 寢，寑，錖，qù 沁

716.  **sim** [sim] píng 心，qù 沁

717.  **zim** [zim] píng 尋，鐔，潯，鬖，灊

718.  **shim** [ʂim] píng 深，shǎng 沉，審，瞫，諗，瀋，嬸
Inscr: 深 **shin**

719.  **zhim** [ʐim] píng 諶，忱，煁，shǎng 甚，qù 葚

720.  **'im** [ʔim] píng 音，陰，瘖，shǎng 飲，qù 蔭，窨，廕，飲
Inscr: 廕 **in**

721.  **Yim** [ʔjim] píng 愔

722.  **yim** [jim] píng 淫，霪，婬，蟫

723.  → **lim** [lim] píng 林，琳，淋，霖，臨，shǎng 廩，懍，凜

[LC 124; JY 129]

724.  **Zhim** [rim] píng 任，壬，紝，shǎng 荏，飪，恁，qù 妊，紝，任

725.  **j^{h}im** [tʂəm] píng 簪，qù 譖

726.  **ch^{h}im** [tʂ'əm] píng 嶄，qù 讖

727.  **c^{h}im** [dzʐəm] píng 岑，涔

728.  **sh^{h}im** [ʂəm] píng 森，參，蓡，qù 滲，慘

729.  **hÿim** [xjim] píng 歆

XIV. 歌 **go** [kɔ]

730.  **go** [kɔ] píng 歌，柯，哥，shǎng 哿，舸，qù 箇，個，rù 葛，割，轕，閣，鴿，合，蛤，韐，蓋

731.  **kho** [k'ɔ] píng 軻，shǎng 可，軻，坷，qù 坷，rù 渴，溘，客，榼，磕

[LC 124; JY 130]

732.  **ngo** [ŋɔ] píng 莪，哦，娥，峨，鵝，俄，蛾，shǎng 我，硪，qù 餓，rù 噩，鄂

733.  **do** [tɔ] píng 多，shǎng 亸，qù 癉

734. **tho** [t'ɔ] píng 佗，他，它，蛇，qù 拖

735.  **to** [dɔ] píng 駝，鼉，紽，陀，沱，跎，酡，鉈，池，駄，佗，shǎng 柁，舵，qù 駄，大

736.  **no** [nɔ] píng 那，儺，shǎng 娜，那，qù 柰，那

737.  **dzo** [tsɔ] shǎng 左，qù 佐，左

738.  **tsho** [ts'ɔ] píng 蹉，瑳，搓，磋，shǎng 瑳

739. **tso** [dzɔ] píng 醝，瘥，鹺，嵯

[LC 125; JY 131]

740.  **so** [sɔ] píng 娑，抄，杪，獻，鈔，qù 些

741.  →  **ho** [xɔ] píng 訶，呵，shǎng rù 喝，猲，欱

742.  **Xo** [ɣɔ] píng 何，河，荷，菏，苛，shǎng 荷，qù 賀，rù 曷，褐，毾，鶡，盍，闔，嗑，合，郃，盒

743.  **'o** [ʔɔ] píng 阿，痾，rù 遏，額，堨，閼，靄，罨，唱
Su: 阿 **xa**

744.  **lo** [lɔ] píng 羅，蘿，儸，欙，囉，鑼，籮，shǎng 儸

745.  **gwo** [kwɔ] píng 戈，過，鍋，shǎng 果，裹，猓，qù 過，rù 括，活，檜，栝，聒，适，佸

746. **khwo** [k'wɔ] píng 科，窠，薖，蝌，shǎng 顆，qù 課，rù 闊，筈

747.  **dwo** [twɔ] shǎng 埵，髶，朵，rù 掇，剟
Inscr: 埵 **da**

[LC 125; JY 132]

748.  **thwo** [t'wɔ] píng 託，shǎng 妥，嫷，橢，qù 唾，rù 棁，脫

749.  **two** [dwɔ] shǎng 墮，垛，椯，惰，qù 墮，惰，rù 奪，敓，脫

750.  **nwo** [nwɔ] píng 捼，qù 糯，懦，濡

751.  **bwo** [pwɔ] píng 波，墦，番，shǎng 跛，簸，譒，qù 播，簸，譒，rù 芰，撥，缽，鱍

752.  **phwo** [p'wɔ] píng 頗，坡，玻，shǎng 叵，頗，qù 破，rù 鑚，潑
Inscr: 破 **phÿo**. This form is clearly a scribal error for **phwo**.

753.  **pwo** [bwo] píng 婆，蟠，膰，rù 跋，胈，魃，拔，軷，芰，鈸

754.  **mwo** [mwɔ] píng 摩，魔，磨，劘，shǎng 麼，qù 磨，rù 末，昧，抹，秣，沫
Inscr: 磨 **mue**; Su: 摩 **ma**

755.  **dzwo** [tswɔ] qù 挫，娑，rù 撮，綴

756.  **tshwo** [ts'wɔ] shǎng 脞，qù 剉，莝，磋，rù 撮

757.  **tswo** [dzwɔ] píng 矬，痤，shǎng 坐，qù 坐，座

[LC 125; JY 133]

758.  **swo** [swɔ] píng 莎，蓑，唆，梭，shǎng 鎖，瑣

759.  **hwo** [xwɔ] shǎng 火，qù 貨，rù 豁，濊

760.  **Xwo** [ɣwɔ] píng 和，禾，龢，shǎng 禍，夥，犗，qù 和，rù 佸，活，越

761.  **'wo** [ʔwɔ] píng 倭，堝，渦，踒，qù 涴，rù 斡

762.  **lwo** [lwɔ] píng 騾，螺，蠃，蠃，shǎng 裸，瘰，蓏，蠃，qù 邏，摞，rù 捋

763.  **o** [ɔ] píng 訛，吪，qù 臥

XV. 麻 ꡂ **ma** [ma]

764. ꡂ **gÿa** [kjɛ] rù 結，拮，潔，袺，頰，鋏，筴，挾，莢，唊

765. ꡃ **khÿa** [k'jɛ] rù 挈，契，愜，箧

[LC 125; JY 134]

766. ꡄ **dÿa** [tjɛ] rù 窒，喋，跕

767. ꡅ **thÿa** [t'jɛ] rù 鐵，餮，驖，怗，帖，鉆，貼

768. ꡆ **nÿa** [njɛ] rù 涅，窒，聶，躡，鑷，敛，攝

769. ꡇ **jÿa** [tʂjɛ] píng 遮，shǎng 者，赭，qù 柘，鷓，炙，蔗，rù 哲，蜇，輒，徹，撤，澈，晢，浙，折，讋，懾，慴，轍，慴

Su: 遮 **je**

770. ꡈ **chÿa** [tʂ'jɛ] píng 車，硨，shǎng 齹，rù 撤，徹，掣

771. ꡉ **bÿa** [pjɛ] rù 彌，閉，鷩，鱉，別

772. ꡊ **phÿa** [p'jɛ] rù 瞥，撇

773. ꡋ **mÿa** [mjɛ] shǎng 乜，rù 蔑，蠛，篾，礪，滅，搣

Su: 乜 **me, mi, 'i**

774. ꡌ → ꡍ **dzÿa** [tsjɛ] píng 嗟，罝，shǎng 姐，担，qù 借，rù 節，截，接，楫，椄，婕，萎，浹

[LC 126; JY 135]

775. ꡎ **tshÿa** [ts'jɛ] shǎng 且，rù 切，竊，妾，緁

776. ꡏ → ꡐ **sÿa** [sjɛ] píng 些，shǎng 寫，瀉，qù 卸，瀉，rù 屑，揳，躠，薛，偰，紲，泄，褻，媟，离，屧

777. ꡑ → ꡒ **zhÿa > shÿa** [ʂjɛ] píng 奢，賒，shǎng 捨，舍，qù 舍，赦，庫，rù 攝，葉，歙，韘，設

778. ꡓ **hÿa** [xjɛ] rù 脅，愶，熁

779. ꡔ **Hÿa** [ɣjɛ] rù 纈，擷，頡，協，勰，挾，俠

780. ꡕ → ꡖ **'ÿa** [ʔjɛ] rù 謁，暍，腌，浥

781.  **Yÿa** [ʔjɛ] rù 噎，咽，厭

782.  **yÿa** [jɛ] rù 齧，臬，辟，皶，隉，闑，槸，嵲

[LC 126; JY 136]

783.  **lÿa** [ljɛ] rù 列，迾，烈，冽，裂，荋，颲，獵，鬣，躐

784.  **Zhÿa** [rjɛ] shǎng 惹，若，rù 熱，讘，囁

785.  **gwa** [kwa] píng 瓜，騧，緺，蝸，媧，shǎng 寡，剮，rù 刮

786.  **khwa** [k'wa] píng 誇，夸，姱，侉，shǎng 髁，qù 跨，胯

787.  **nwa** [nwa] rù 豽

788.  **jwa** [tʂwa] píng 檛，髽，rù 茁，莌

789.  →  **zhwa > shwa** [ʂwa] shǎng 蒆，傻，rù 刷

790.  **hwa** [xwa] píng 華，花，譁，qù 花

791.  **Xwa** [ɣwa] píng 華，驊，鋘，鏵，shǎng 踝，qù 搳，樺，樸，華，嬅，rù 滑，猾

[LC 126; JY 137]

792.  **'wa** [ʔwa] píng 窊，洼，蛙，窪，哇

793.  →  **xwa** [ɦwa] shǎng 瓦，刖

794.  →  **gÿa (~ gya)** [kja] píng 嘉，家，加，葭，茄，麚，豭，痂，枷，shǎng 榎，嘏，假，賈，斝，qù 架，稼，嫁，架，價，假，賈，rù 戛，秸，頡，夾，郟，袷，甲，胛，押，鉀，恝，蛱

795. (~) **khÿa (~ khya)** [k'ja] shǎng 骼，qù 髂，rù 楬，恰，掐，帢，劼

796. (~) **hÿa (~ hya)** [xja] píng 蝦，呀，qù 嚇，罅，謑，rù 瞎，呷

797.  (~ ) **Hÿa (~ Hya)** [ɣja] píng 遐，蝦，鍜，霞，瑕，騢，碬，shǎng 下，夏，廈，qù 暇，下，夏，芋，rù 黠，鴷，轄，洽，狎，浹，峽，袷，狎，匣，柙，硤，押

798.  **gwÿa** [kyɛ] rù 玦，滊，譎，訣，鐍，駃，觖，鴃，決，觼

[LC 126; JY 138]

799.  **khwÿa** [k'yɛ] rù 闋，缺

800.  →  **jwÿa** [tʂyɛ] rù 輟，惙，拙，棳

801.  **chwÿa** [tʂ'yɛ] rù 歠

802.  **dzwÿa** [tsyɛ] rù 蕞

803.  **tswÿa** [dzyɛ] rù 絕

804.  **swÿa** [syɛ] rù 雪

805.  **zwÿa** [zyɛ] rù 蛰折

806.  **shwÿa** [ʂyɛ] rù 說

807.  **zhwÿa** [ʐyɛ] rù 啜

808.  **hwÿa** [xyɛ] rù 血

[LC 127; JY 139]

809.  **Hwÿa** [ɣyɛ] rù 穴

810.  **'wÿa** [ʔyɛ] rù 抉

811.  → **xwÿa** [ɦyɛ] rù 月，刖，軏，越，粵，鉞，樾，蚎，曰

812.  **ywÿa** [jyɛ] rù 悦，說，閱
Inscr: 閱 **xwÿa**

813.  **lwÿa** [lyɛ] rù 劣，鉝

814.  **Zhwÿa** [ryɛ] rù 爇，蚋，吶

815.  **gwe** [kwɛ] rù 厥，蹶，癥，蕨
Inscr: 厥 **khwe**

816.  **khwe** [k'wɛ] rù 闕
Inscr: 闕 **khwÿa**

817.  **kwe** [gwɛ] píng 癐，rù 鷹

818  **Hwe** [ɣwɛ] píng [no examples]

[End of Received MGZY Text]

Supplement

S1.  **da** [ta] shǎng 打，rù 怛，答

S2.  **tha** [t'a] rù 闥，獺，錔，榻

S3.  **ta** [da] rù 達，沓

S4.  **na** [na] píng 拏，rù 捺，納

S5.  **ja** [tʂa] píng 楂，爹，shǎng 鮓，qù 吒，託，rù 哳，箚

S6.  **cha** [tʂ'a] píng 叉，shǎng 奼，qù 詫，汊，rù 察，剎，靫

S7.  **ca** [dzạ] píng 槎，秅，shǎng 槎，qù 乍，rù 霅，煠

S8.  **ba** [pa] píng 巴，shǎng 把，qù 霸，rù 八

S9.  **pha** [p'a] píng 葩，qù 帊，rù 汃

S10.  **pa** [ba] píng 杷，qù 杷，罷，rù 拔

S11.  **ma** [ma] píng 麻，shǎng 馬，qù 禡

S12.  **hwa** [fa] rù 髮，發，法

S13.  **Hwa** [va] rù 伐，閥

S14.  **wa** [ʋa] rù 韈

S15.  **dza** [tsa] rù 拶，匝，挾，眨

S16.  **tsha** [ts'a] rù 擦

S17.  **tsa** [dza] rù 截，雜

S18. **sa** [sa] rù 薩，趿

S19.  **sha** [ʂa] píng 沙，shǎng 灑，qù 嗄， rù 殺，歃

S20.  **ha** [xa] shǎng 閜

S21. **Ya** [ʔja] píng 鴉，shǎng 啞，qù 亞，rù 軋，押

S22.  **ya** [ja] píng 牙，shǎng 雅，qù 訝

S23.  **la** [la] rù 剌，啦，臘

S24.  **ge** [kɛ] píng 迦，rù 訐，劫，揭，孑

S25.  **khe** [k'ɛ] píng 呿，rù 朅，笈

S26. **ke** [gɛ] píng 伽，rù 竭，跲，傑

S27.  **nge** [ŋɛ] rù 噦，業，孽，鑿

S28. **te** [dɛ] rù 牒，姪

S29.  **ce** [dzɛ] píng 蛇，qù 射，rù 轍，舌

S30.  **pe** [bɛ] rù 蹩，別

S31. **tse** [dzɛ] qù 藉，rù 截

S32.  **ze** [zɛ] píng 邪，shǎng 灺，qù 謝，捷

S33.  **zhe** [ʐɛ] shǎng 闍，qù 社，rù 涉，折

S34. **he** [xɛ] rù 歇

S35.  **ye** [jɛ] shǎng 也，野，qù 夜，rù 葉，拽
Inscr. 葉 **yaw**

S36.  **me** [mɛ] rù 乜

S37.  **xa** [ɦa] píng 阿

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