# A Handbook of Old Chinese Phonology

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*by*

William H. Baxter

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*to B. J., Jonathan,*
*and Emily*

# Preface

The intellectual origins of this book may be found in a paper presented over twenty years ago by my teacher Nicholas C. Bodman to a group of colleagues, in which he outlined a scheme for the reconstruction of Old Chinese based largely on the distribution of elements in its daughter language Middle Chinese (Bodman 1971). This scheme—together with ideas of E. G. Pulleyblank and S. E. Jaxontov—seemed to offer considerable insight into Chinese phonological history, but also appeared to conflict with the traditional analysis of Old Chinese rhyming developed by traditional Chinese scholars over the last several centuries (see Chapter 4). Were the new ideas simply wrong, then? Or did they apply to a different stage of the language from that examined by traditional Chinese scholars? Or was the traditional analysis wrong? A good deal of my research, from my doctoral dissertation (Baxter 1977) to the present, has focused on resolving these conflicts, developing this reconstruction scheme, and investigating its implications. It appears that the traditional analysis is not so much wrong as insufficiently precise; and the new ideas about Old Chinese, when worked out in detail, prove to be a useful tool in resolving the very kinds of philological problems that traditional Chinese scholars were interested in.

This book incorporates the results, so far, of this research: it presents a rather detailed reconstruction of the Old Chinese sound system, and argues that it is more adequate than previous analyses. The word "handbook" in the title is intended to recall the handbooks of Indo-European historical linguistics which present results in a similarly comprehensive and detailed manner. I hope that it will be a useful tool for those interested in Chinese historical linguistics or related areas of literature and philology.

With a book of this size, it is perhaps appropriate to give some guidance to readers who may not wish to begin at the beginning and read straight through to the end. Chapters 1 and 5, which introduce the study and summarize the reconstruction system, are probably appropriate for all readers. Students of Chinese historical linguistics might wish to read Chapter 2, which describes the phonological system of Middle Chinese, and Chapters 5 through 8, which describe the Old Chinese phonological system; Chapter 10 presents the reconstruction system in detail, rhyme group by rhyme group, and summarizes the evidence for revising the traditional analysis of Old

Chinese rhyming. Linguists with no special knowledge of Chinese may be interested in the discussion of rhyme and the use of rhymes as linguistic evidence in Chapter 3, and in the discussion of the Chinese linguistic tradition in Chapters 2 and 4. Those interested in areas of contact between linguistics and the study of literature may be interested in the general discussion of verse in section 3.1 of Chapter 3, and in Chapter 9, which discusses some of the philological problems which arise in studying early written texts.

Many people have helped make this book possible. My primary debt of gratitude is to my teacher Nicholas Bodman, who introduced me to this field of research, read an early version of the manuscript, and has kindly and generously supported me in many ways. Tsu-lin Mei also encouraged my efforts from their early stages and has been generous with his assistance and suggestions. Edwin Battistella, W. South Coblin, S. A. Starostin, and Thomas Toon have read parts of the manuscript and given me help of other kinds as well. This research was supported by Faculty Research Grants from the University of Alabama in Birmingham, by the American Council of Learned Societies, and by a Rackham Faculty Fellowship from the University of Michigan, and I am glad to express my gratitude. My colleagues in the Department of Asian Languages and Cultures and the Program in Linguistics at the University of Michigan have also given frequent help and encouragement. I would like to thank John Warner of the University of Michigan Statistical Research Laboratory for his mathematical assistance; the University of Michigan Phonetics Lab for the use of their laser printer in preparing camera-ready copy; and the staff of Mouton de Gruyter for their patience. Finally, I thank my family for their support and understanding.

# Contents

# Chapter 1
# Introduction

## 1.1. Goals

This study proposes a new phonological reconstruction system for Old Chinese, the Chinese language of the early and mid Zhōu 周 dynasty—that is, approximately the eleventh to the seventh centuries B.C.[1] I take Old Chinese to be the ancestor of all attested varieties of Chinese, and the earliest stage of the Chinese language that can presently be reconstructed from Chinese evidence alone.

Old Chinese occupies a pivotal position in the study of language and history in East Asia. In the Old Chinese period, the Chinese began to produce one of the world's great literatures, which has both reflected and shaped human culture in East Asia for millennia. But our understanding of these early documents is hampered by a still inadequate knowledge of the language in which they were composed. Many unanswered or poorly answered questions arise even in the most thoroughly studied early Chinese texts. The lexicon of early Chinese gives the impression of being vast and patternless, with many words of similar meaning and unclear interrelationship. Our knowledge of the varieties of early Chinese is also poor. An important step in addressing these problems is a more adequate reconstruction of Old Chinese phonology.

Old Chinese is also the most distant recoverable Chinese outpost in the broad and only partially explored territory of Sino-Tibetan, one of mankind's major linguistic groups. A better understanding of this group's development would doubtless clarify the history and prehistory of East Asia, just as the reconstruction of the Indo-European family has clarified the history and prehistory of Western Asia and Europe. Yet further progress in Sino-Tibetan reconstruction will be difficult without a better reconstruction of the early stages of Chinese, the best-documented language of the group.

The position of Chinese is also pivotal within the study of human language in general, because it can help to correct the European bias of much modern linguistics. It has been too easy in recent linguistic study to confuse what is human with what is European. Only when non-European languages and their histories are understood as well as European ones can we begin to speak with confidence about the characteristics of the human language

faculty. It is with these broad goals in mind that I attempt in this study to develop a more adequate reconstruction of Old Chinese phonology.

A phonological reconstruction can be divided conceptually into two aspects. The first is a reconstruction system, which specifies a set of possible phonological elements, their possible arrangements, and their development in daughter languages. The second aspect is the application of this system to the basic linguistic expressions of the languages whose ancestor is being reconstructed. We can illustrate this using the reconstructed Proto-Indo-European (PIE) form **ḱm̥tóm* 'hundred'. It is the reconstruction system which tells us that **ḱ*, **m̥*, **t*, and so forth are possible elements for a Proto-Indo-European form. The reconstruction system also predicts that PIE **ḱ* will be reflected as *c-* in Latin, *k* in Greek, and *ś* in Sanskrit; that PIE **m̥* will become *a* in Greek and Sanskrit; and so on. We apply this reconstruction system by reconstructing particular Proto-Indo-European forms which are consistent with the data from attested Indo-European languages: thus **ḱm̥tóm* 'hundred' is reconstructed to account for Latin *centum*, Greek *(he-)katón*, Sanskrit *śatám*, and so forth. Clearly, formulating reconstructions of individual words is different from formulating the reconstruction system itself; the reconstruction of particular items could be wrong even if the overall system is correct.

Though it is useful to distinguish a reconstruction system from its application, the two are intimately related, since a system is judged adequate only by being successfully applied. A reconstruction system is more than just a summary of the data; it is rather a set of hypotheses which make predictions about the data, including data not yet seen.

The present study focuses primarily on developing a more adequate reconstruction system for Old Chinese, and applying it to enough of the available data to make a convincing case that it is an improvement over previous systems. Detailed reconstruction of the particular words found in early Chinese texts would be the task of an etymological lexicon (and a very large one); it is beyond the scope of a book such as this. Though I propose reconstructions for some two thousand words (listed in Appendix C), many of these individual reconstructions are tentative or incomplete, and a good number may be wrong. But I believe some new insights into Old Chinese and its development are possible even within these limitations.

The main types of available evidence on Old Chinese are the following:

1. *Texts originating in the Old Chinese period.* These include both inscriptions on Zhōu-dynasty bronze vessels and early classical texts such as the *Shījīng* 詩經 [Classic of poetry],[2] the *Shūjīng* 書經 [Classic of documents],

and parts of the *Yìjīng* 易經 [Classic of changes]. Those texts which include rhymes are especially valuable for reconstructing early pronunciation. The rhymes of the *Shījīng*, the largest collection of early rhymed texts, form the basic corpus for the present study; the textual history of the *Shījīng* is discussed in Chapter 9.

2. *The Chinese characters and their structure.* The Chinese script was once more closely connected to pronunciation than it now is, so Chinese characters often provide clues to earlier pronunciation. The use of the Chinese script as evidence is also discussed in Chapter 9.

3. *Middle Chinese pronunciation.* The pronunciation of the Middle Chinese period (roughly, the Suí 隋 and Táng 唐 dynasties) is rather thoroughly documented in contemporary sources. Since the language represented in these sources is descended from Old Chinese, they are also a major part of our information about Old Chinese. Evidence from Middle Chinese is discussed in Chapter 2.

Old Chinese, the language of early to mid Zhōu, is probably the earliest stage of Chinese for which reasonably detailed and complete reconstruction is feasible at present. The oracle-bone inscriptions of the Shāng 商 dynasty (sixteenth to eleventh centuries B.C.) are earlier, but present many more problems: they are more limited in content, are often difficult to interpret, and lack rhymes. For now, refining our knowledge of early Zhōu Chinese seems to offer the best hope of expanding our understanding of the early history of Chinese and of the relationships between Chinese and other languages.

The study of Old Chinese phonology already has a long history. Chinese scholars of the Qīng 清 dynasty (1644–1911) studied Old Chinese pronunciation in order to better understand the classical texts, and left a rich body of work which has been the foundation for all later research. The Swedish scholar Bernhard Karlgren (1889–1978) pioneered in applying European-style historical linguistics to Chinese: first to Middle Chinese (which he called "Ancient Chinese") and then to Old Chinese (his "Archaic Chinese").[3] Others have proposed modifications of, or alternatives to, his reconstructions.[4] My approach to Old Chinese reconstruction differs in several ways from much previous work in this area:

1. I pay special attention to the naturalness of the phonological systems and changes reconstructed. Karlgren saw himself as reconstructing phonetics, not phonology, and paid little attention to phonological structure. As a result, the systems he reconstructed often lack the symmetry and pattern

which are typical in the phonological systems of natural languages. For example, the vowel system he reconstructed for Old Chinese (his "Archaic Chinese") seems almost a random collection of phonetic symbols, as pointed out by Ting Pang-hsin (1975: 19):

| | | |
|---|---|---|
| | | *u, ŭ* |
| *e, ĕ* | | *ô, ǫ̂* |
| | *ə* | *o, ŏ* |
| *ɛ* | | *ê* |
| | *a, ă* | *â* |

Although later scholars have modified many of Karlgren's reconstructions, they have not always made them more natural.[5] We are on firmest ground, I believe, when we reconstruct systems and changes which are well within the range of variation actually observed in human languages.

2. I place special importance on the phonological pattern of Middle Chinese and the clues it provides about earlier stages. For example, as S. E. Jaxontov (1960b) first pointed out, the distribution of *-w-* in Middle Chinese strongly suggests that *-w-* did not exist in Old Chinese as an independent element, but only as a component of labialized initials $*k^w$-, etc.

3. I reexamine and revise the traditional analysis of Old Chinese rhyming developed by Chinese scholars of the Qīng dynasty, using newly-developed statistical methods. As pointed out above, the rhymes in early Chinese texts provide crucial evidence for the phonological reconstruction of Old Chinese. Under the Qīng, phonological studies flourished, and a succession of brilliant classical scholars devised a set of rhyme categories intended to specify which words rhymed with which in Old Chinese. Though Karlgren was willing to differ with the Qīng phonologists, most modern research in Old Chinese reconstruction (e.g. Li 1971 [1980]; Pulleyblank 1977–1978) has assumed that this traditional analysis is basically correct as it stands. But while the work of the Qīng phonologists was a brilliant intellectual achievement, the rhyming of Old Chinese needs to be reexamined using modern methods. (Statistical procedures for rhyme analysis are presented in Chapter 3; traditional studies of Old Chinese phonology are discussed in Chapter 4.)

4. I take a new approach to the use of evidence from the Chinese script. Previous work on Old Chinese has relied largely on the script of the classical texts in their present versions, or on the "small seal" script described in the *Shuōwén jiězì* 說文解驻 (A.D. 100), a dictionary of the Hàn 漢 dynasty

(206 B.C. to A.D. 220).[6] Both these script forms often reflect post-Zhōu phonological changes; it is anachronistic to use them in reconstructing Old Chinese. Some of the inadequacies of the traditional rhyme categories for Old Chinese can be traced to the Qīng phonologists' use of late forms of the Chinese script as evidence about Old Chinese. This point is developed further in Chapter 9 and in Baxter (in press).

The present line of research began with a paper by Nicholas C. Bodman (1971), proposing a reconstruction of Old Chinese which assumed only six main vowels. In my doctoral thesis (Baxter 1977), I applied this system to the origin of the so-called *chóngniǔ* 重紐 distinctions of Middle Chinese (discussed in Chapters 2 and 7), and proposed a partial reconstruction system for Old Chinese. Subsequent papers by Bodman and myself have tested, refined, and revised the reconstruction system which grew out of these efforts. The present study is a comprehensive presentation of this system and of the evidence and arguments supporting it.[7]

The overall plan of this book is to review the available evidence, present a reconstruction system for Old Chinese, and test the predictions of that system against the rhyme evidence of the *Shījīng*. The phonological system of Middle Chinese is described in Chapter 2, which also presents the notation for Middle Chinese used in this book. Chapter 3 examines the theoretical and statistical problems of using rhymes as evidence about phonology, while Chapter 4 summarizes the traditional analysis of Old Chinese rhyming and its history. These chapters lay the groundwork for the development of the proposed reconstruction system itself, presented in Chapters 5 through 8. Chapter 9, on the text and script of the *Shījīng*, prepares for Chapter 10, in which the predictions of the proposed reconstruction system are tested against the rhyme evidence of the *Shījīng*. In Chapter 10, the reconstruction of each of the traditional rhyme groups is discussed individually; where my reconstruction system predicts the existence of previously unrecognized rhyme distinctions, these predictions are tested against the *Shījīng* rhymes, using the statistical methods developed in Chapter 3. Three appendices are provided for reference: a list of proposed phonological changes in Appendix A, a complete list of the rhyme sequences of the *Shījīng* in Appendix B, and an alphabetical list of the rhyme words of the *Shījīng*, along with reconstructions and references to their occurrences, in Appendix C.

The remainder of this introduction will give some basic background information on Chinese and its history, discuss certain methodological issues, and introduce some of the terminology and notation to be used.

## 1.2. The Chinese languages, present and past

This section discusses the forms of the Chinese language, ancient and modern, referred to in subsequent discussion. It will be convenient to begin by introducing a uniform terminology for functional positions in a Chinese syllable. The various dialects and historical stages of Chinese are similar enough in syllable structure that, as a rule, this terminology can be used for any of them without confusion, though we will modify it somewhat for Old Chinese.

### 1.2.1. Chinese syllable structure

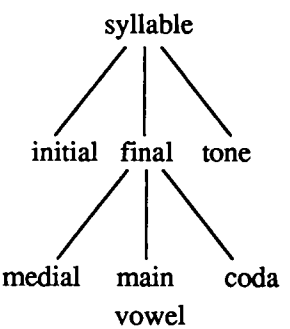
In general, a Chinese syllable can be divided into three parts:

1. the "initial" (*shēngmǔ* 聲母 ), the initial consonant of the syllable;
2. the "final" (*yùnmǔ* 韻母), consisting of all segments after the initial; and
3. the "tone" (*shēngdiào* 聲調), a tone contour superimposed over the whole syllable.

The final can be further subdivided into

1. the "medial" (*jièyīn* 介音): segments of the final which precede the main vowel;
2. the "main vowel" (*zhǔyào yuányīn* 主要元音): the nucleus of the syllable; and
3. the "coda" (*yùnwěi* 韻尾): segments following the main vowel.

These terms are summarized in the diagram below:



Since the medial is normally assumed to have no effect on rhyming, the main vowel and the coda are sometimes grouped together as the "rhyme" (*yùn* 韻). However, I will normally use the term "rhyme" instead for the Middle Chinese rhyme categories given in the rhyming dictionary *Qièyùn* 切韻, a rhyme dictionary of Middle Chinese (see page 13 below), which do not coincide with the phonological rhymes of Middle Chinese.[8] Given this terminology, the phonological system of a variety of Chinese can be described by giving the inventory of elements which can occur at each position in the syllable, and any restrictions on combinations of elements.

For Old Chinese, this terminology must be modified. Since Old Chinese allowed consonant clusters in both initial and final positions, I introduce the term "pre-initial" for the first segment of initial clusters (such as the **s-* of **sk-*), and the term "post-coda" for the final segment of syllable-final clusters (such as the **-s* of **-ks*). In the reconstruction presented here, it is assumed that the tones of Middle Chinese developed from Old Chinese codas and post-codas, and that Old Chinese syllables had no distinctive tones as such. (A summary of Old Chinese syllable structure is presented in Chapter 5.)

### 1.2.2. Dialects or languages?

The modern Chinese language is commonly said to consist of many related "dialects", spoken both in China and in Chinese settlements elsewhere. Many of these so-called dialects are not mutually intelligible; if one's terminology requires that only mutually intelligible forms of speech be called dialects of the same language, then they should be called separate languages, not dialects. However, the Chinese word for 'dialect', *fāngyán* 方言, does not usually carry this implication.[9] Most Chinese seem to feel that the existence of a common written form for these dialects, and the common culture and history of their speakers, justify regarding them all as constituting a single language. This is not simply a misunderstanding, as it is sometimes portrayed; it involves differences of intellectual tradition.

In the view of linguistics which prevails in the People's Republic of China, the sociolinguistic characteristics of a language are intimately related to the stage of social organization of the society which uses it. This view, which closely follows Soviet Marxist views of the place of language in social development, is central to many Chinese discussions of language and dialect, so it is appropriate to summarize it briefly here.

In this view, social organization proceeds by stages from the "clan" (Chinese *shìzú* 氏族, Russian *rod*) to the "tribe" (Chinese *bùluò* 部落, Russian *plemja*) to the "nationality" (Chinese *bùzú* 部族, Russian *narodnost'*), to the "nation" (Chinese *mínzú* 民族, Russian *nacija*), and finally to the "multinational state" (Chinese *duōmínzú guójiā* 多民族國家, Russian *mnogonacional'noe gosudarstvo*).

Language shows corresponding stages of development: A clan has a "clan language" (*shìzúyǔ* 氏族語) which covers a small territory, and shows little differentiation into dialects. A tribe has a "tribal language" (*bùluòyǔ* 部落語), used over a broader area, in which distinctions begin to appear between a common or standard language and local dialects. This trend continues in the language of a nationality (*bùzú*), the stage intermediate between tribe and nation.

Under normal circumstances, a nation (*mínzú*) is held to have its own "common language" (*gòngtóngyǔ* 共同語), generally based on the dialect of an area which is politically, economically, and culturally well-developed; at this stage the role of dialects gradually diminishes, and the dialects tend to disappear under the influence of the common language. For example, the majority ethnic group of China—loosely referred to in the West as "ethnic Chinese"—are officially known as the "Hàn nation" (*Hàn mínzú* 漢民族 or *Hànzú* 漢族), and are legally on a par with the other nations of China such as the Tibetans (*Zàngzú* 藏族) or Mongols (*Měnggǔzú* 蒙古族). The common language of the Hàn nation is *pǔtōnghuà* 普通話 or standard Mandarin, based on the northern or Mandarin dialect.

Finally, in a multinational state such as China or the Soviet Union, there is a "language for common communication" (*gòngtóng jiāojìyǔ* 共同交際語) or "inter-national language" (*mežnacional'nyj jazyk*)—where "nation" is understood in the sense of *mínzú*. Such a language allows the various *mínzú* to communicate with each other; in China, *pǔtōnghuà* or standard Mandarin serves both as the "common language" of the Hàn nation and as the "language for common communication" for the whole country.[10]

Since having its own language is one of the normal characteristics of a "nation" or *mínzú*, to regard, say, Cantonese and Mandarin as different languages, merely because they are mutually unintelligible, would seem to imply that Cantonese and Mandarin speakers belong to different *mínzú*—a conclusion which would be both historically inaccurate and politically unacceptable.

There is nothing inconsistent about this use of terms; it simply includes historical and sociolinguistic factors as well as purely linguistic ones in

deciding where language boundaries should be drawn. Of course, in the West, too, language boundaries are often not drawn by purely linguistic criteria either: Swedish, Danish, and Norwegian, though mutually intelligible, are usually considered different languages. Considering all this, I will continue to use the conventional term "dialects" even for mutually unintelligible varieties of Chinese.

### 1.2.3. Classification of Chinese dialects

There have been various proposals on how the Chinese dialects should be grouped and named. The following classification follows that of Zhān Bóhuì (1981 [1985]). Zhān identifies seven dialect groups:

1. *Běifāng fāngyán* 北方方言 (Northern or Mandarin dialects)
2. *Wú fāngyán* 吳方言 (Wú dialects)
3. *Xiāng fāngyán* 湘方言 (Xiāng or Húnán dialects)
4. *Gàn fāngyán* 贛方言 (Gàn or Jiāngxī [Kiangsi] dialects)
5. *Kèjiā fāngyán* 客家方言 (Kèjiā or Hakka dialects)
6. *Yuè fāngyán* 粵方言 (Yuè or Cantonese dialects)
7. *Mǐn fāngyán* 閩方言 (Mǐn or Fújiàn [Fukien] dialects)

Since these will come up in later discussion, I will describe each group briefly below.

1. The "northern dialects" are in English usually called Mandarin dialects (a translation of the older term *guānhuà* 官話 'officials' speech'), though "Mandarin" is sometimes also used in a narrower sense to denote standard Mandarin or *pǔtōnghuà*. These dialects are spoken by over 70% of the Hàn population, in about three-fourths of the Hàn-speaking area, including all areas of Hàn settlement north of the Chángjiāng (Yangtze) and part of its southern bank, and the southwestern provinces of Sìchuān (Szechwan), Yúnnán, and Guìzhōu (Kweichow). These dialects have few consonantal codas (e.g. no final *-p, -t,* or *-k*), and rather simple tonal systems (usually four or five tones, though some dialects have as few as three or as many as six). The standard language, *pǔtōnghuà* or standard Mandarin, is said to "take the pronunciation of Beijing as its standard pronunciation, the northern dialect (*běifāng fāngyán*) as its base dialect, and the classic works of

modern *báihuà* 白話 literature as its grammatical standard" (*Cíhǎi* 1979, s.v.; my translation).

Recently, Lǐ Róng (1985) has proposed that certain dialects in and near Shānxī province, heretofore assigned to the Mandarin group, should be considered a separate dialect group, which he calls "*Jìnyǔ* 晉語 [Jìn dialects]"—*Jìn* being the literary name for Shānxī province.[11]

2. The Wú dialects are spoken near the mouth of the Chángjiāng, including most of Zhèjiāng (Chekiang) and parts of Jiāngsū (Kiangsu) and Ānhuī (Anhwei). They preserve as a distinct class the voiced obstruent initials (*b-*, *d-*, *g-*, etc.) of Middle Chinese; in most other dialects, these have become voiceless. Most Wú dialects have seven or eight tones. The speech of Shànghǎi is a Wú dialect, although, with only five tones, its tone system is simpler than that of a typical Wú dialect such as that of Sūzhōu (Soochow).

3. The Xiāng or Húnán dialects are spoken in most of Húnán province (*Xiāng* being the literary name for Húnán). They are popularly known for changing *hu-* to *f-* and for confusing *n-* and *l-* (so that *Húnán* may sound like *Fúlán*). As in the Wú dialects, the Middle Chinese voiced obstruent initials (*b-*, *d-*, etc.) are widely preserved in this group (though not in the speech of the provincial capital, Chángshā).

4. The relatively little-studied Gàn or Jiāngxī dialects are spoken in most of Jiāngxī province (*Gàn* being the literary name for Jiāngxī). Middle Chinese voiced stops and affricates have generally become voiceless aspirates in this group.

5. The Kèjiā or Hakka dialects are spoken in various areas of southern China, especially northeastern Guǎngdōng, southern Jiāngxī, and western and northern Fújiàn. (The term "Hakka" represents the Cantonese pronunciation of *Kèjiā* 客家.) Hakka speakers are believed to be descended from inhabitants of northern China who moved south in several waves of migration during periods of political upheaval, especially at the end of the Sòng dynasty, bringing their speech with them. In the south they have generally remained culturally and linguistically distinct from their neighbors. In these dialects, Middle Chinese voiced obstruents have generally become voiceless aspirates, as in the Gàn dialects; velar initials (*k-*, *kh-*, etc.), which in many dialects have become palatal before front vowels, are preserved everywhere in Hakka, as they are in Cantonese and Mǐn. Hakka dialects generally lack the high front medial *-ü-* ([y] in the International Phonetic Alphabet).

6. The Yuè or Cantonese dialects are spoken in parts of Guǎngdōng (Kwangtung) and Guǎngxī (Kwangsi), and widely in Chinese settlements overseas. (Standard Cantonese is based on the dialect of Guǎngzhōu, also spoken in Hong Kong.) Cantonese dialects tend to have complex tonal systems, and generally retain the Middle Chinese codas *-p, -t,* and *-k*. As in Hakka and Mǐn, velar initials have not become palatal.

7. The Mǐn or Fújiàn dialect group evidently broke off from the other dialects at an early date, and also shows considerable diversity within itself; it is often further subdivided, e.g. into *Mǐnběi huà* 閩北話 'Northern Mǐn' and *Mǐnnán huà* 閩南話 'Southern Mǐn', though the proper way of subdividing the group is a matter of controversy. One characteristic of the group as a whole is the absence of the initial labiodental [f], which evidently developed as an innovation in other dialect groups after the Mǐn group had already split away. What is usually called Northern Mǐn is spoken in the northern part of Fújiàn; it includes the speech of the capital, Fúzhōu (Foochow). Southern Mǐn includes the speech of southern Fújiàn, Eastern Guǎngdōng, and Táiwān, as well as part of Hǎinán; it is also widely spoken in Chinese communities in Southeast Asia.

### 1.2.4. Written sources for the history of Chinese

It is possible to learn much about the history of Chinese just from modern dialects, using the comparative method; some recent studies have taken this approach, in an attempt to get evidence independent of written sources, or for dialect groups where written evidence is sparse or lacking.[12] But Chinese historical phonology has usually relied heavily on written records. For example, Bernhard Karlgren reconstructed the phonological categories of "Ancient Chinese" (called Middle Chinese in this study) on the basis of the distinctions made in written Chinese phonological works; he used dialect data only in choosing phonetic values for these categories.

One might wonder how Chinese written records, written in a nonalphabetic script, could be of much value for historical linguistics. In fact, they provide many kinds of useful information on the history of Chinese phonology. Some of the evidence is indirect, coming in the form of (1) *xiéshēng* 諧聲 characters, (2) rhymes, and (3) transcriptions. These are discussed individually below.

1. Xiéshēng *characters*. The Chinese script itself does not entirely conceal the sounds of the language it originally represented. Most of the characters

originated as so-called "phonetic compounds" (*xiéshēng* 諧聲 'harmonizing sound') consisting of two parts: a signific (also called a radical or determiner) and a phonetic. The phonetic is a character originally similar in sound to the word represented by the compound character; the signific is a character used for its semantic value to distinguish one compound from others which have the same phonetic. For example, the character 河 *hé* 'river' is a phonetic compound consisting of the phonetic 可 *kě* 'may, can' plus the signific 氵, an abbreviated form of 水 *shuǐ* 'water'. The phonetic 可 *kě* was chosen for its phonetic similarity to 河 *hé*, while the signific 氵 'water' suggests the meaning 'river', and distinguishes the character for 'river' from other characters written with the phonetic 可 *kě*. The set of characters written with the same phonetic element is called a "*xiéshēng* series". *Xiéshēng* series are one of the main sources of information about Old Chinese, since many of the *xiéshēng* characters were created during the Old Chinese period.[13] In this example, 河 *hé* and 可 *kě* are still similar in sound, but in other cases, because of sound changes since Old Chinese, words in the same *xiéshēng* series may show little or no phonetic resemblance in modern pronunciation.

2. *Rhymes*. Virtually all Chinese poetry before modern times has employed rhyme, and rhyming practice often provides important evidence about phonology. (The use of rhymes as evidence in historical phonology is discussed in Chapter 3.) By a fortunate coincidence, the earliest extant collection of Chinese poetry, the *Shījīng*, reflects approximately the same stage of the language as the *xiéshēng* characters, so that the two kinds of evidence can be tied together in reconstructing Old Chinese.

3. *Transcriptions*. Chinese characters are sometimes used purely for their sound to write foreign words in Chinese texts: proper names, for example, or technical terms in Buddhist scriptures. For example, in modern Chinese, *Washington* is written 華盛頓 *Huáshèngdùn*. The meanings of these three characters ('flowery'—'prosperous'—'pause') are basically irrelevant to their use in this name (though morphemes with neutral or vaguely complimentary connotations are usually preferred for this purpose). The same device was used to write foreign names in ancient China also; in those cases where the original foreign words can be identified, they can provide a key to the contemporary pronunciation of the Chinese characters used to transcribe them. Similarly, in early Japan, Chinese characters were used for their sound to write native Japanese words in the writing system known as *man'yōgana* 万葉仮名, from which the later kana syllabaries were derived (see Miller 1967: 90–99).

Conversely, Chinese texts sometimes appear transcribed in foreign alphabets, e.g. Tibetan, Uygur, 'Phags-pa—an alphabet based on the Tibetan, used for official purposes during the Yuán 元 dynasty (1279–1368)—and more recently, Roman.[14]

Very similar to transcriptions are the numerous Chinese loan words in Japanese, Korean, and Vietnamese (known respectively as Sino-Japanese, Sino-Korean, and Sino-Vietnamese, or collectively as "Sino-xenic"[15]). During the Táng dynasty, when the cultural influence of China on Japan, Korea, and Vietnam was especially strong, Chinese was widely used as a literary language there. Eventually, these languages borrowed massive amounts of Chinese vocabulary, adapting the Chinese pronunciations to the native phonological system. For purposes of historical phonology, these words are normally used in their earliest available written forms rather than their present-day spoken forms, and are thus, in effect, transcriptions of Chinese words in foreign scripts.

In addition to such indirect written evidence, there is a large traditional literature, dating from as early as the Hàn dynasty (206 B.C. to A.D. 220), dealing explicitly with language; this literature can conveniently be divided into four main types:

1. *Glosses on the classics.* Many works are devoted to the explication and correct reading of difficult words in classical texts. The glosses may appear in annotated editions of particular works or in separate works intended to be read alongside the classics. The *Jīngdiǎn shìwén* 經典釋文 (A.D. 583) of Lù Démíng 陸德明 is an important work of the latter type.

2. *Etymological works.* A number of works deal with the pronunciations, meanings, and origins of words, but are not tied to particular classical texts. This group includes dictionaries such as the *Ěryǎ* 爾雅 (probably from Western Hàn), the *Shuōwén jiězì* 說文解字 (completed in A.D. 100, henceforth simply the *Shuōwén*) of Xǔ Shèn 許慎, the *Shìmíng* 釋名 of Liú Xī 劉熙 (second century A.D.; see Bodman 1954), the *Yùpiān* 玉篇 (A.D. 548) of Gù Yěwáng 顧野王, and even dialect studies, such as the *Fāngyán* 方言 of Yáng Xióng 揚雄 (53 B.C. to A.D. 18).

3. *Rhyme books* (*yùnshū* 韻書). These are really dictionaries, arranged so that words which rhyme are grouped together. The most famous is the *Qièyùn* 切韻 (A.D. 601) of Lù Fǎyán 陸法言. Arrangement by rhymes made these works useful in writing poetry, of course, but it was also one logical solution to the problem of how to arrange a dictionary for a language

written in a nonalphabetic script. The rhyme-book tradition is described in more detail in Chapter 2.

4. *Rhyme tables* (*yùntú* 韻圖). These are phonological tables in which characters are arranged according to their initials and finals (see section 1.2.1 above). Accompanying the rhyme tables is a traditional terminology for describing the phonological characteristics of Chinese syllables: a set of thirty-six names for initial consonants, terms referring to vowel quality, terms for the presence or absence of a rounded glide before the main vowel, etc. This tradition is also discussed in Chapter 2.

### 1.2.5. Stages in the history of Chinese

Dividing a language's history into periods is convenient but always somewhat artificial, since languages change constantly and gradually. Names tend to be given first to those periods about which there is most evidence, and other periods are sometimes left with no commonly agreed-upon name. I will not attempt to give an exhaustive terminology for the periods of the history of Chinese; the following terms are, however, useful:

1. *Old Chinese* (OC)—the Chinese language of the early and mid Zhōu dynasty. It is the language of the early Chinese classics and of Zhōu bronze inscriptions; it corresponds roughly to what Bernhard Karlgren called "Archaic Chinese" (see Karlgren 1954), and to what is called *Shànggǔ Hànyǔ* 上古漢語 in Chinese. I will describe my use of this term more precisely below (section 1.4.5).

2. *Early Middle Chinese* (EMC)—the language codified in the rhyming dictionary *Qièyùn* of A.D. 601, which probably represents a conservative version of the standard literary language of the sixth century. Because the rhyme-book tradition provides such detailed information about it, Early Middle Chinese is one of the main sources of evidence about Old Chinese. I quote Early Middle Chinese forms in a transcription which is described in more detail in Chapter 2.

3. *Late Middle Chinese* (LMC)—the language of late Táng, represented in the rhyme-table tradition of late Táng and early Sòng 宋. Most of the distinctions found in modern Chinese dialects can be traced no further back than Late Middle Chinese, although many dialects retain a few distinctions from an earlier stage. Late Middle Chinese is also the source of the major strata of Sino-xenic loan words (except for the Go'on stratum of Sino-

Japanese; see Chapter 2). The Mǐn dialect group shows distinctions which predate Early Middle Chinese, so it must have split off from the other dialects still earlier.[16]

4. *Old Mandarin* (OM). This term is used for the early form of Mandarin preserved in such works as the *Zhōngyuán yīnyùn* 中原音韻 (1324), a rhyme book of the Yuán dynasty intended as a standard for rhymes in Yuán opera (see Stimson 1966).

Karlgren's term "Ancient Chinese" encompasses both Early Middle Chinese and Late Middle Chinese; I follow Pulleyblank (1970–1971, 1984) in recognizing a distinction between them. Strictly speaking, the term "Middle Chinese" (which corresponds to the Chinese term *Zhōnggǔ Hànyǔ* 中古漢語) includes both Early Middle Chinese and Late Middle Chinese, but since it is the former which concerns us more here, I will often use the term "Middle Chinese" (MC) loosely, to refer to Early Middle Chinese.

For other stages of Chinese, which lack well-established standard names, it is convenient to use the names of historical periods; thus we can speak of the Chinese of late Shāng (eleventh or twelfth century B.C.), or of the Zhànguó 戰國 period (475–221 B.C.), or of Eastern Hàn (A.D. 21–220).

## 1.3. Notation and style

I include here some remarks about the form of cited examples. A typical example is cited in the following form:

(1) 人 *rén* < *nyin* < **njin* 'person'

The following points should be noted:

1. Chinese characters are cited in their traditional forms, not in simplified characters.

2. In cited examples, modern Chinese pronunciation is given first, in the *pīnyīn* romanization. The pronunciations given are those considered standard according to recent dictionaries published in the People's Republic of China. (These sometimes differ from the pronunciations given in older dictionaries, or in dictionaries from Taiwan.)

3. In cases where the modern pronunciation is not what would be expected as the regular reflex of the recorded Middle Chinese pronunciation, I usually enclose the modern reading in square brackets to mark it as irregular. For example, the character 洵, used to mean 'far away' in Ode 31.5, is now

standardly read *xún,* although from its Middle Chinese reading *xwen* we would expect modern *xuān.* (The reading *xún* is evidently influenced by the phonetic element 旬 *xún* 'ten-day week'.) I therefore cite it as

(2) 洵 [*xún*] < *xwen* < **hwin* 'far away'.

4. (Early) Middle Chinese pronunciations are given in the transcription described in Chapter 2. (The equivalent notation in Karlgren's Ancient Chinese reconstruction may be deduced from the information in that chapter.) Middle Chinese forms are distinguished from modern forms by the absence of the usual *pīnyīn* tone marks, and from Old Chinese forms by the absence of an asterisk.

5. Old Chinese forms are given in the reconstruction system presented in this book.

6. After the pronunciations comes a gloss, usually brief, and intended for identification only; these glosses are often based, without further attribution, on the glosses in Karlgren's "Grammata serica recensa" (1957) and in Schuessler (1987), which I have found especially useful. A fully adequate representation of the meaning of an Old Chinese word (or of what we understand of its meaning) would require careful comparison of its attested uses and possible etymological connections; in most cases this is beyond the scope of this book.

Poems of the *Shījīng* are cited in the form "Ode 198.2", where 198 is the ode number and 2 the stanza number, according to the text of the *Máo Shī yǐndé* (Harvard-Yenching Institute 1934 [1962]). From this information the name of each ode and the section of the *Shījīng* in which it occurs may be found in Appendix B. *Shījīng* rhyme sequences are cited by letter: "198.2A" indicates the first rhyme sequence of stanza 2 of Ode 198, "198.2B" indicates the second rhyme sequence in the stanza, and so on. (The first sequence of a stanza is marked "A" even if it is the only rhyme sequence in the stanza.)

Each reconstructed sound change is given a name by which it is referred to throughout the text (e.g. ****r*-loss** for the change by which medial **r* was lost); such names are printed in boldface wherever they occur. As noted above, a summary of the changes reconstructed is found in Appendix A.

## 1.4. Methodological remarks

### 1.4.1. Theoretical assumptions

The primary focus of this study is on recovering the basic facts of Old Chinese phonology, not on phonological theory. A dichotomy between facts and theory is ultimately false, of course; any research on historical phonology makes some theoretical assumptions, explicit or implicit. The theoretical assumptions underlying this study are, I believe, largely uncontroversial; but in this section I will try to make some of them explicit.

I assume that the phonological system of a language includes (1) a set of phonological representations which embody what is phonologically distinctive about each basic expression of the language, and (2) a set of phonological rules which apply generally. Both phonological representations and phonological rules can change over time, and changes in one part of the system can have consequences in another.

The units of phonological representations may be called phonemes. (I do not assume that these phonemes necessarily have the property of biuniqueness typically attributed to them in American Structuralism.) I take phonemes to be bundles of distinctive features, possibly from some universal set. When reference to features is called for, I use the feature system of Chomsky and Halle (1968) for convenience, supplemented by additional categories and terms when necessary. For most purposes, however, phonemes are represented by letters of the International Phonetic Alphabet, set between slanted lines.

Since they are tied both to the social functioning of language and to human biology, phonological systems do not vary without limit. Too simple a system (say, one allowing only one possible syllable) would not function adequately; too complex a system (say, one including ten thousand distinct vowels) would be unlearnable or unusable or both. We can say, loosely, that such extreme systems would be unnatural. Phonological changes also do not vary without limit, for the same reasons. An adequate general theory of phonology would specify the limits of variation, and explain the origins of these limits—whether historical, biological, or both. Beyond the extreme cases outlined above, defining what is phonologically natural is difficult. I will return to this question below.

There has been perennial controversy in modern linguistics over the relationship between phonological representations and actual pronunciation. One aspect of this controversy is the question of when speakers construct

abstract representations of morphemes to account for morphological alternations. For example, in English, are *knife* [naif] and *knives* [naivz] derived from a single form of the root, or from two forms /naif/ ~ /naiv/? Such questions rarely arise in Chinese historical phonology, since morphological alternations are rather uncommon.[17]

Much recent work in phonology examines how features are organized within syllables. While I sympathize with this line of inquiry, I do not attempt here to fit Old Chinese into a general theory of syllable structure. The traditional terminology for syllable positions outlined above is usually adequate for descriptive purposes, and could probably be translated into any reasonable theory of syllable structure.

### 1.4.2. The nature of phonological reconstruction

A phonological reconstruction is sometimes thought of simply as a collection of spellings, in some more or less phonetic alphabet, intended to represent the pronunciations of an earlier age. This characterization, correct as far as it goes, obscures the conceptual structure of a reconstruction. The spellings which are the visible form of a reconstruction reflect a set of hypotheses about the phonology of a language and about its development. These hypotheses show a complex pattern of interdependence; hypothesis A cannot be consistently maintained unless one also accepts hypothesis B, accepting hypothesis B makes it impossible to accept hypothesis C, and so on. These hypotheses, which are the conceptual structure of the reconstruction, are represented only indirectly in the spellings of the reconstruction.

For example, Karlgren's Archaic reconstruction incorporates the hypothesis that Old Chinese, like Sanskrit, had four manners of articulation for initial stops:

voiceless unaspirated (e.g. **k-*, **p-*, **t-*)

voiceless aspirated (e.g. **k'-*, **p'-*, **t'-*)

voiced unaspirated (e.g. **g-*, **b-*, **d-*)

voiced aspirated (e.g. **g'-*, **b'-*, **d'-*)

Karlgren's reconstruction also incorporates the related hypothesis that the voiced unaspirated initials **g-*, **b-*, **d-*, etc. were lost, but that the voiced aspirates **g'-*, **b'-*, **d'-*, etc. survived into Middle Chinese (Karlgren's "Ancient Chinese"). Neither hypothesis can be read directly from the reconstructions of particular words.

The importance of reconstructing changes as well as forms should not be overlooked. To give an adequate phonological history of a language, it is not enough to describe the language as one believes it was, even if the phonological system reconstructed for it is a plausible one. Any reconstruction implies a set of changes by which later stages are derived, and these must be specified along with the reconstructions of particular words. I have attempted to do this in a preliminary way in this study (see the summary of major phonological changes in Appendix A). Eventually, it may be possible to define these changes more explicitly, locate them in space and time, and use them to examine early Chinese dialects—perhaps to date or place early texts on phonological grounds, as can sometimes be done for languages such as English whose phonological history is better understood.

Phonological changes vary widely in their scope of application: some affect a large proportion of a language's morphemes (such as the Great Vowel Shift of English, which affected words with long vowels); others, which we may call minor changes, affect a few syllables, or even a single syllable only. An example of a minor change is the relatively recent change in Mandarin by which the syllable *yóng* became *róng*:[18]

(3) 榮 *róng* < *yóng* < *hjwæng* 'glory'

(4) 融 *róng* < *yóng* < *yuwng* 'melt; blend'

(5) 容 *róng* < *yóng* < *yowng* 'contain'

The same syllable in other tones (*yōng, yǒng, yòng*) was not affected, nor were most other syllables with initial *y-*.[19] I will have occasion to propose several minor changes of this type.[20] Of course, sometimes what seems to be a minor change later turns out to be a special case of a more general change; but there is nothing implausible about minor changes per se.

The hypotheses of a reconstruction are formulated within a framework of methodological assumptions about which hypotheses are possible in principle, where hypotheses come from, what data the hypotheses are intended to account for, and how to choose among competing hypotheses. Karlgren, for example, assumed that the four-way distinction in manner of articulation described above, being attested for Sanskrit, was available as a possible structure for Old Chinese also. He assumed (quite reasonably) that the ground rules of Old Chinese phonology are not radically different from those which apply to other languages. A possible alternative view is that Chinese is governed by different principles entirely, any comparisons with Sanskrit or other languages being therefore irrelevant.

Although scholars working in historical reconstruction seem to share many basic assumptions, it may be useful to state explicitly some of the methodological assumptions which underlie the hypotheses presented in this study. This is done in the remainder of this section.

### 1.4.3. Naturalness in reconstruction

The first assumption involves the goals of reconstruction:

> Assumption 1: A reconstructed language should be a natural synchronic system from which known later stages can be derived by natural diachronic processes.

We may take "natural" here to mean "possible in a natural language". A fully adequate theory of phonology and phonological change in human language would presumably specify which synchronic systems and diachronic processes are natural and which are not. Unfortunately, such a theory does not yet exist. In its absence, we must rely on our experience with linguistic structures and changes. We have confidence in reconstructed structures and changes for which we can easily find parallels in other languages, and we are suspicious of reconstructions for which parallels are hard to find.

For example, our experience with vowel systems suggests that they have a certain degree of symmetry and that there are limits on the number of elements they can include. Probably no one would accept a reconstructed vowel system which consisted of all the vowels for which there are symbols in the International Phonetic Alphabet, for example. Most random subsets of these would not be considered natural vowel systems, either. It is this kind of thinking which has led to dissatisfaction with Karlgren's Archaic Chinese reconstruction, as mentioned above.

Of course, there may be differences due to language type; what is natural for one type of language may be unnatural for another type. If we think of naturalness as a set of constraints on possible human languages, then some of these constraints may be unconditional, applying to any human language; they may be stated in the form

> for any natural language L, p(L) is true,

where p(L) is some proposition involving L. "All languages have syllables" would be a constraint of this kind. Other constraints may be conditional; they may be stated in the form

> for any natural language L, if p(L) then q(L).

For example, constraints which apply only to tone languages would be of this kind.

Crucially, however, I assume that a language's "type" is not permanent, but can change over time. Some writers speak of the "characteristics" (*tèdiǎn* 特點) of the Chinese language (that it is tonal, uninflected, and so forth) as if they belonged to Chinese permanently and must always have been so. Certainly, language characteristics can persist for long periods of time, but I take the view that the only truly permanent characteristics of any language are those common to all possible human languages. It follows from this assumption that Old Chinese may have been typologically rather different from Middle and Modern Chinese. It also follows that typological characteristics are not a reliable guide to genetic relationships among languages; we cannot assume that two languages are genetically related just because they are both tonal, for example.

Partly for historical reasons, the idea of naturalness of structure has received insufficient attention in Old Chinese reconstruction. Judging from their fondness for symmetrical diagrams of phonological categories, the Qīng phonologists seem to have had a notion of phonological structure, but it was rather abstract and unconstrained by conditions on naturalness in the modern sense. Karlgren's lack of attention to naturalness has already been mentioned.

Besides Karlgren's, many other current reconstructions of Old Chinese are also implausible as phonological structures, even if they otherwise fit the available evidence fairly well. For example, the system recently proposed by Wáng Lì (1980b) allows a total of seven different semivowels and semivowel combinations in medial position before the main vowel: **-e-*, **-i-*, **-y-*, **-u-*, **-o-*, **-iu-*, and **-yu-*; I doubt if any known language has such an array. (Even with such a rich system of medials, Wáng Lì's system still fails to account for many crucial distinctions.) Li Fang-kuei's system (1971 [1980]) accounts more adequately for the evidence about Old Chinese, but its contrasts among **-j-*, **-i-*, and **-ji-* in prevocalic position, though perhaps not impossible, also seem implausible. Pulleyblank's reconstruction with only two main vowels has already been mentioned (see note 5). I argue that we should construct such typologically unusual systems only when compelled to do so by the evidence. (In the case of Old Chinese, I will argue that a simpler, less unusual system can actually account for the evidence better.) This leads to the second assumption, which is closely related to the first:

> Assumption 2: Since many hypotheses may be consistent with our knowledge at any given time, it is best to check first those hypotheses that are typologically least unusual.

We are rarely in the position of being able to confirm one hypothesis and disconfirm all the competing ones; so we need a way to decide among hypotheses all of which appear to be consistent with our knowledge at the moment. There are probably fewer simple, typologically ordinary solutions than complex, unusual ones; if we start with simple solutions and move toward more complex ones only when the simpler ones prove to be inadequate, we will be able to find a simple solution if there is one.

Again, in judging what is typologically unusual and what is not, we must rely on our experience with language structure and language change; no phonological theory can yet do this for us adequately. And again, what is unusual may vary with language type.

### 1.4.4. Ockham's Razor

The third assumption is a version of Ockham's Razor:

> Assumption 3: Hypotheses which tie a number of phenomena together are to be preferred over hypotheses which account for only one phenomenon at a time.

As an example of this assumption, consider the reconstruction of the following words:

(6) 藍 *lán* < MC *lam* 'indigo'

(7) 監 *jiān* < MC *kæm* 'inspect'

(8) 鑾 *luán* < MC *lwan* 'harness bells'

(9) 蠻 *mán* < MC *mæn* 'Southern barbarian'

Note that item (6) is a *xiéshēng* character with item (7) 監 as its phonetic element, and that (8) and (9) share the same phonetic element 䜌. In both cases, we have words with Middle Chinese (and modern) initial *l-* in the same *xiéshēng* series with words having other Middle Chinese initial consonants: *k-* in 'inspect', *m-* in 'Southern barbarian'. Since words in a single *xiéshēng* series usually have similar initials, Karlgren reconstructed Old Chinese *l*-clusters in words like these:

藍 'indigo', Karlgren's **glâm*

監 'inspect', Karlgren's **klam*

鑾 'harness bells', Karlgren's **blwân*

蠻 'Southern barbarian', Karlgren's **mlwan.*

Notice that he also reconstructed two different vowels in these words: **â* > MC *-a-* and **a* > MC *-æ-*. His **â* and **a* rhyme with each other in Old Chinese poetry, although their reflexes *-a-* and *-æ-* do not rhyme with each other in Middle Chinese. Karlgren accounted for this by assuming that rhyme standards were laxer in Old Chinese times than in Middle Chinese times. Thus he accounted for these words and their history by using three different hypotheses, involving (1) *l*-clusters in Old Chinese, (2) an **â/a* distinction in Old Chinese, and (3) a change in the strictness of rhyming.

S. E. Jaxontov (1960a), on the other hand, has proposed an alternative analysis, part of which was summarized above: according to his account, MC *-æ-* developed from OC **-a-* when a preceding **-l-* was lost. This makes Karlgren's **â/a* distinction unnecessary in Old Chinese. I adopt this proposal in the reconstruction system proposed here, but with **r* instead of Jaxontov's **l*. My reconstructions are

藍 'indigo' *lán* < *lam* < **g-ram*

監 'inspect' *jiān* < *kæm* < **kram*

鑾 'harness bells' *luán* < *lwan* < **b-rwan* (< **b-ron*)

蠻 'Southern barbarian' *mán* < *mæn* < **mrwan* (< **mron*)

This single hypothesis of Jaxontov's simultaneously accounts for (1) the presence of MC *l-* in *xiéshēng* series with other initials in these words; (2) the Middle Chinese distinction between *-a-* and *-æ-*; and (3) the change in rhyming practice between Old Chinese and Middle Chinese (due to the phonological split of **-a-* into /a/ and /æ/), where Karlgren had a separate explanation for each phenomenon. By assumption 3 above, Jaxontov's solution is to be preferred.

### 1.4.5. Defining Old Chinese

The last assumption defines more precisely what we mean by "Old Chinese", by specifying what evidence is to be considered relevant when

reconstructing it. In the strictest sense, I use the term "Old Chinese" for a reconstructed stage with these properties:

> Assumption 4: A reconstruction of Old Chinese should account for the rhymes of the *Shījīng*, the *xiéshēng* characters of Zhōu-dynasty script, the phonological system of Middle Chinese, and the modern Chinese dialects.

More loosely, "Old Chinese" can refer to any variety of the Chinese of early and mid Zhōu. In this looser sense, Old Chinese need not be a single synchronic stage; we can speak of dialects and stages of Old Chinese.

In the usual terminology of historical linguistics, an "old" language is the language of the earliest written documents; a "modern" language is the contemporary form; and a "middle" language is a stage in between. An earlier reconstructed stage, unattested in written documents, is called a "proto-" language. This terminology developed within Indo-European historical linguistics, and was first applied to languages with alphabetical writing systems. The distinction between an "old" language and a "proto-" language was founded on the idea that it was relatively easy to figure out the phonology of an "old" language from the available written texts (since they were written alphabetically); but the forms of a "proto-" language were unattested and had to be reconstructed.

It is difficult to draw this distinction in the same way for Chinese, however, because the language of the oldest texts is not attested in the same sense that Latin or Old English are attested; we must reconstruct it, just as an Indo-Europeanist must reconstruct Proto-Germanic or Proto-Slavic.[21] At the same time, the texts themselves do provide independent, albeit rather incomplete, evidence. Thus most reconstructions of "Old Chinese" have analogies to both the "old" and the "proto-" languages of the traditional European terminology. Old Chinese is, in a way, attested, since ancient texts provide evidence in the form of rhymes, *xiéshēng* series, and so forth. Yet it must also be reconstructed in such a way that all the distinctions of Middle Chinese can be derived from it.

Assumption 4 does not require that our Old Chinese reconstruction be identical with, say, the language of the *Shījīng*—only that the language of the *Shījīng* is derivable from it. We cannot know a priori that all the Old Chinese features which can be reconstructed from other evidence were still present in all varieties of Chinese represented in the *Shījīng*. But by definition, Old Chinese, if not identical to the *Shījīng* language, must at least be ancestral to it. Similarly, it is possible that no variety of Chinese repre-

sented in the *Shījīng* is the direct ancestor of Middle Chinese; but Old Chinese is ancestral to Middle Chinese by definition.[22]

Assumption 4 mentions both Middle Chinese and the modern Chinese dialects. If we assume that the modern dialects can be derived from Middle Chinese, then this is redundant; accounting for Middle Chinese will also account for those dialects. But as I mentioned above, there is at least one group of dialects, the Mǐn dialects, which split off from the others before the Middle Chinese stage, and therefore cannot be derived from Middle Chinese. In principle, a reconstruction of Old Chinese should account for these dialects also. In fact, however, because the reconstruction of the Mǐn group and its history is still at a preliminary stage, I will largely ignore this part of the definition. Further research on the Mǐn group should make it possible to correct this deficiency in our reconstruction.

### 1.4.6. Evidence from Tibeto-Burman

Is it legitimate to use evidence from Tibeto-Burman in reconstructing Old Chinese? As I have defined it, Old Chinese is the system in terms of which we can explain the Old Chinese rhymes and graphic evidence, and the phonology of Middle Chinese and modern dialects. Clearly, then, it would be inconsistent to incorporate phonological distinctions into Old Chinese purely on the basis of Tibeto-Burman evidence—distinctions which are not reflected in any way in the Chinese evidence. If, for example, Tibeto-Burman shows a contrast between final **-n* and final **-l*, and if this distinction is not reflected in any way in Chinese, then it would be confusing levels of the analysis to incorporate the distinction between **-n* and **-l* into Old Chinese. On this issue, I believe, there is little disagreement.

On the other hand, if we wish to explore the well-supported hypothesis that Chinese is related to the Tibeto-Burman family, we may wish to construct hypotheses about stages intermediate between Old Chinese and an assumed ancestor, incorporating distinctions from languages we assume to be related. Bodman's Proto-Chinese reconstructions (1980) make use of evidence of this type. Such reconstructions are simply a way of exploring possible relationships between Chinese and other languages; our understanding of these relationships is unlikely to proceed very far without them. As long as we do not confuse Tibeto-Burman distinctions with Chinese ones, I see nothing wrong with such reconstructions.

Moreover, in searching for possible hypotheses to explain the Chinese evidence, it seems to me that we are perfectly justified in looking to Tibeto-

Burman evidence (or to other languages, or to common sense, or to yarrow stalks, for that matter) for ideas on how to account for the problem within our Old Chinese reconstruction—as long as we test the hypotheses against Chinese evidence. As a hypothetical example, let us suppose that Proto-Tibeto-Burman has a contrast of **-n* and **-l* in final position; and suppose that we find in Old Chinese pairs of words of similar form and meaning, except that one member of the pair ends in MC *-n* and the other in MC *-w*; and suppose further that we have many good examples of apparent cognates between such pairs and Tibeto-Burman words ending in **-l*. Then we are entitled to investigate the hypothesis that Old Chinese, too, had a contrast of **-n* and **-l*, possibly cognate to the Tibeto-Burman distinction, and that **-n* consistently became MC *-n*, but **-l* developed into *-n* in some dialects, and into *-w* in others. (This example is based on an actual proposal in Bodman 1980: 75–79.)

Whether we ultimately accept this hypothesis will depend, of course, on further evidence and argumentation; but the hypothesis is not contaminated by the fact that we got the idea from looking at Tibeto-Burman. In fact, if this hypothesis can account for the facts, then (by our third assumption above) it has an advantage over other competing explanations, since it not only explains the Chinese evidence but also contributes to a plausible account of the evolution of Old Chinese within the larger Sino-Tibetan family.

Of course, there will be borderline cases where judgments may vary. But in general, the validity of hypotheses is independent of where we get the hypotheses. All we must remember is that hypotheses about Old Chinese must be tested primarily against Chinese evidence.

# Chapter 2

# The Middle Chinese phonological system

## 2.1. The need for a new transcription system

As the previous chapter pointed out, the phonological system of Middle Chinese is one of the major kinds of evidence used to reconstruct Old Chinese. This chapter describes the available evidence about Middle Chinese, summarizes its phonological structure, and introduces a transcription for (Early) Middle Chinese.

The transcription for Middle Chinese introduced here requires some explanation. Research in Chinese historical phonology has been severely hampered by the lack of a convenient and adequate notation for Middle Chinese pronunciation. Karlgren's "Ancient Chinese", because of its availability in a number of reference works,[23] has become a kind of de facto standard, but this is in many ways unfortunate. Despite its historical importance as the first attempt at a detailed phonetic reconstruction of Middle Chinese, Karlgren's system is both inconvenient and seriously flawed. Some of the flaws are corrected in more recent proposed reconstructions,[24] but I know of no reconstruction which is entirely suitable as a standard notation; along with much that is uncontroversial, each system includes its author's solutions to problems on which no consensus has been reached, and each would probably be unacceptable to others in the field. This dilemma can perhaps be resolved if we distinguish transcription from phonological reconstruction. The notation I introduce here is not intended as a reconstruction; rather it is a convenient transcription which adequately represents all the phonological distinctions of Middle Chinese while leaving controversial questions open. It is my hope that it will be acceptable and useful as a common notation for scholars who may disagree on the details of Middle Chinese reconstruction. (Even those who may not wish to adopt it as a standard notation may find it useful for some purposes since, with certain simple substitutions, it can be made fully typable and is thus easy to use in computer applications.) There is no reason why we should be without a satisfactory notation for Middle Chinese while waiting for the remaining controversial points of interpretation to be resolved.[25]

To explain the need for a notation other than Karlgren's, I summarize here the major disadvantages of Karlgren's Ancient Chinese reconstruction.

First, Karlgren failed to mark certain distinctions which are clearly indicated in the Early Middle Chinese sources and are relevant to Old Chinese reconstruction. For example:

1. Karlgren failed to distinguish the *Qièyùn*'s 脂 Zhī and 之 Zhī rhymes, both of which he reconstructed as *-i*; for example, he reconstructed both the following words as *kji*, even though the first is in the 脂 Zhī rhyme and the second in the 之 Zhī rhyme (my transcriptions are given for comparison):

(10) 飢 *jī* 'famine' (Karlgren's *kji*, my *kij*)

(11) 箕 *jī* 'winnowing basket' (Karlgren's *kji*, my *ki*)

2. Karlgren failed to distinguish the *Qièyùn*'s 佳 Jiā and 夬 Guài rhymes, both of which he reconstructed as *-(w)ai*; for example, he reconstructed both the following words as *kwai-*, even though the rhyme books put them in different rhymes:

(12) 卦 *guà* 'prognosticate with yarrow stalks' (Karlgren's *kwai-*, my *kwɛiH*)

(13) 夬 *guài* 'divide, make a breach' (Karlgren's *kwai-*, my *kwæjH*)

3. Karlgren failed to distinguish the so-called *chóngniǔ* 重紐 doublets found in certain *Qièyùn* rhymes (discussed in more detail in section 2.4.1.4); for example, Karlgren reconstructed both the following words as *mi̯ět*, even though they are listed separately in the *Qièyùn*, and given distinct *fǎnqiè* spellings:

(14) 密 *mì* 'dense' (Karlgren's *mi̯ět*, my *mit*)

(15) 蜜 *mì* 'honey' (Karlgren's *mi̯ět*, my *mjit*)

Second, as noted in Chapter 1, Karlgren paid little attention to the distribution of the elements he reconstructed, or to whether they were distinctive or not. He described phonemic analysis as a "craze" in which one attempts "to write a given language with as few simple letters as possible, preferably no other than those to be found on an American typewriter" (1954: 366). This view often led him to mark spurious distinctions between sounds which he apparently believed to be phonetically different, even though they were probably phonologically (and perhaps phonetically) identical. For example, Karlgren's Ancient Chinese vowels *-e-* and *-ä-* are in complementary distribution, since *-e-* occurs only after *-i-*, while *-ä-* occurs only after *-i̯-*. (Karlgren described *-i-* as a "strong vocalic" medial, *-i̯-* as a "weak consonantal" one.) Moreover, words with Karlgren's *-e-* and words with Karl-

gren's *-ä-* appear to rhyme freely with each other in poetry of the Middle Chinese period. The following pair illustrates these vowels as reconstructed by Karlgren:

(16) 先 *xiān* 'first', Karlgren's *sien* (my *sen*)

(17) 仙 *xiān* 'an immortal', Karlgren's *si̯än* (my *sjen*).

All evidence appears to indicate that these two words actually had the same main vowel in Early Middle Chinese, and differed only in the preceding medial; accordingly, I write them *sen* and *sjen,* respectively. Karlgren's reconstruction, in which the words appear to have both different medials and different main vowels, obscures both the phonological structure of Middle Chinese and the rhyming patterns of Middle Chinese poetry.

Third, not only did Karlgren use more than one symbol for the same vowel in some cases; in other cases, he used the same symbol for vowels which are clearly different. This is probably because he failed to recognize the distinction between Early Middle Chinese and Late Middle Chinese. For example, Karlgren reconstructed the same main vowel *-ə-* in both the following words:

(18) 根 *gēn* 'root', Karlgren's *kən* (my *kon*)

(19) 斤 *jīn* 'axe; catty', Karlgren's *ki̯ən* (my *kjin*)

His reconstruction makes it appear that the two words would make a good rhyme. This may have been true for Late Middle Chinese,[26] but in Early Middle Chinese, rhymes of this type are quite rare. Instead, the overwhelming tendency in Early Middle Chinese is for Karlgren's *-ən* and *-uən* to rhyme with the finals he reconstructed as *-i̯ɒn* and *-i̯wɒn*, not with his *-i̯ən* and *-i̯uən* (for Suí dynasty data see Lǐ Róng 1961–62 [1982]: 167–82). This probably indicates that in Early Middle Chinese, Karlgren's finals *-ən* and *-uən* had the same main vowel as his finals *-i̯ɒn* and *-i̯wɒn*; accordingly, in my notation I write the former as *-on* and *-won,* the latter as *-jon* and *-jwon.* The *-o-* in these finals is probably best interpreted as a mid back unrounded vowel [ʌ].

The fourth problem is of less theoretical importance, but a great practical disadvantage: it is that Karlgren's symbols are difficult to handle typographically, especially on a typewriter or computer. Moreover, they are confusing and even misleading to nonspecialists, who have difficulty reproducing them accurately and are tempted to simplify his notation by ignoring some of its troublesome distinctions. The problem is that although some of Karlgren's diacritics are superfluous and safely omitted, others, though not

visually salient, mark crucial distinctions. For example, removing the diacritics from Karlgren's *ljĕn* (my *lin*) makes it look like the quite different syllable written by him as *lien* (my *len*).

The system for Middle Chinese transcription introduced here is designed to avoid these disadvantages. Its major features are the following:

1. It represents all the distinctions of the *Qièyùn* phonological system, including those ignored by Karlgren.

2. By using a few straightforward substitutions, it can be made fully typable, using only characters available on ordinary typewriters and computer keyboards, without diacritics, overstrikes, superscripts, or subscripts. In this typable version of the transcription, all the symbols used have standard ASCII codes, and can be used in any standard word-processing or database software. We may wish for a day when the computer world agrees on a standard way to handle diacritics and phonetic symbols, but that day has not yet come; until it does, the desire to use only symbols found on an American typewriter, though ridiculed by Karlgren, deserves to be taken seriously in designing a practical transcription system. But even aside from mechanical convenience, avoiding diacritics and minimizing special symbols makes the notation easier to read and remember, especially for nonspecialists.

3. Because the number of available symbols is limited, letters are used to represent features which Karlgren represented with diacritics. For example, *-y-* is used as a general sign for palatalization: Karlgren's palatal *ś-* is written *sy-*.

4. All syllables in the same *Qièyùn* rhyme are written with the same main vowel. The converse is not true: syllables found in different *Qièyùn* rhymes do not necessarily have different main vowels. For example, 先 *xiān* < *sen* 'first' and 仙 *xiān* < *sjen* 'immortal', cited above, are written with the main vowel *-e-*, even though they are in different *Qièyùn* rhymes, because they rhyme in Suí dynasty poetry.

I emphasize again that the Middle Chinese transcription proposed here is not intended as a reconstruction of any synchronic state of the Chinese language. A number of its notations are merely representations, more or less arbitrary, of distinctions which are preserved in the Chinese phonological tradition. Indeed, given the fact that the *Qièyùn* probably represented more distinctions than were preserved in any single dialect (see section 2.2.1.1 below), it may be that no true linguistic reconstruction should include all of

its distinctions. What the proposed notation does is represent, in compact and reasonably realistic form, the phonological information provided for each word by the native linguistic tradition.

Section 2.2 below discusses the Middle Chinese rhyme books and rhyme tables. My Middle Chinese transcription is presented in detail in section 2.3 (on Middle Chinese initials) and section 2.4 (on Middle Chinese finals). Although the details of the transcription are not presented until sections 2.3 and 2.4, I will use it in citing examples in section 2.2, since this will make the discussion of the rhyme books and rhyme tables easier to follow. To make these examples clearer, I will first summarize here some of the notational conventions of the transcription:

1. The initial *ʔ-* represents a glottal stop [ʔ]; when this symbol is not available, an apostrophe *'-* may be substituted. An initial letter *h-* represents a voiced guttural initial, probably [ɦ] or [ɣ].

2. Secondary features of articulation in initials are represented by letters rather than diacritics. Thus *-y-* represents palatal articulation: *sy-* is equivalent to Karlgren's *ś-*, and so on. Similarly, *-r-* represents retroflex articulation, and serves the function of Karlgren's subscript dot.[27]

3. When a palatal initial spelled with *-y-* occurs with a final whose first letter is normally *-j-*, the *-j-* is omitted: thus the syllable consisting of the initial *tsy-* plus the final *-jang* is written as *tsyang*, not *tsyjang*. This convention simplifies the spelling of syllables, and involves no loss of contrast, for the palatal initials occur only with finals beginning with *-j-* or *-i-* (and *-ji-* never contrasts with *-i-* after palatals).

4. Conventions for main vowels are: (1) The symbol *-æ-* may be interpreted as a low front (unrounded) vowel [æ]; when this symbol is not available, the digraph *-ae-* may be substituted. (2) The symbol *-ɛ-* may be interpreted as an open mid front (unrounded) vowel [ɛ]; when this symbol is not available, the typable digraph *-ea-* may be substituted. (3) The barred-*i* symbol *-ɨ-* is used for a high central unrounded vowel [ɨ]; when this symbol is unavailable, a plus sign *-+-* may be substituted. (4) The letter *-o-* is usually best interpreted as a mid back unrounded vowel [ʌ].

5. The traditional tone categories *píng* 平 'level', *shǎng* 上 'rising' or 'up', *qù* 去 'departing', and *rù* 入 'entering' are identified by the last letter of the syllable; no diacritics are used. *Shǎngshēng* is marked by a suffixed *-X*, and *qùshēng* by a suffixed *-H*. (The use of small capitals for tone marks is optional, but helps to distinguish these symbols from the initial consonants

written *x-* and *h-* respectively.) *Rùshēng* words are those ending in *-p*, *-t*, or *-k*; syllables not ending with *-X*, *-H*, *-p*, *-t*, or *-k* are *píngshēng*.

## 2.2. Major sources of evidence on Middle Chinese

Traditional Chinese phonological texts dating from the Middle Chinese period are so abundant and detailed that the usual practice, from Karlgren's time to the present, has been to use them as the primary basis for reconstructing the phonological categories of Middle Chinese, and to use other evidence—principally the modern Chinese dialects and Chinese loan words in other languages—in an auxiliary way, to fill in the phonetic values of these categories. The principal written sources used are (1) the rhyme books (*yùnshū* 韻書) of the *Qièyùn* tradition, which arrange words by rhyme and indicate the pronunciation of each syllable (in a manner to be described below); and (2) rhyme tables (*yùntú* 韻圖) such as the *Yùnjìng* 韻鏡, which plot syllables on a grid according to their initials and finals. These two types of evidence are discussed in sections 2.2.1 and 2.2.2 respectively.

There is some justification for this heavy reliance on written sources, since the rhyme books and rhyme tables often preserve evidence of distinctions which remain only incompletely, if at all, in the modern dialects, and could not be recovered by comparative reconstruction alone. The so-called *chóngniǔ* distinctions mentioned in section 2.1 are a good example: the words 密 *mì* < *mit* 'dense' and 蜜 *mì* < *mjit* 'honey', and many similar pairs of words, are systematically distinguished in the rhyme books and rhyme tables, and there is ample evidence that these distinctions were real. But the distinctions have been almost entirely lost in modern dialects, and would be difficult to recover without the written sources. At the same time, these distinctions are crucial, I believe, for a correct reconstruction of the Old Chinese vowel system.

However, the dangers of relying primarily on written evidence should be kept in mind. There is good reason to believe that some of the distinctions made in traditional phonology were artificial or incorrect. For example, the Early Middle Chinese initials which I write as *dzy-* and *zy-* appear to have been reversed by mistake in the rhyme-table tradition, so that the former was treated as a fricative and the latter as an affricate. This error probably occurred because the two initials had merged in most dialects by the Late Middle Chinese period (see section 2.3.6 below). Furthermore, the written evidence does not represent all dialects equally, and may be irrelevant or misleading when applied to the history of certain modern dialects (such as

those of the Mǐn group). Although in this study I continue a more or less traditional approach to Middle Chinese based primarily on written sources, further research on modern dialects may turn out to be an important corrective to the possible biases of this approach.

### 2.2.1. Rhyme books

Rhyme books are known by title from as early as the Wèi-Jìn period (A.D 220–420), but the most important part of the rhyme-book tradition is a series of rhyming dictionaries beginning in A.D. 601 with the *Qièyùn* 切韻 by Lù Fǎyán 陸法言 of the Suí dynasty (581–618). Although the rhyme books may originally have been intended simply as aids in writing poetry, they gradually took on many of the characteristics of general-purpose dictionaries, providing information on the pronunciations, meanings, and written forms of the literary Chinese vocabulary of the time.

Pronunciations in the rhyme books were indicated by the method known as *fǎnqiè* 反切 (translated by Karlgren as "turning and cutting", 1954: 213). A *fǎnqiè* spelling represents the pronunciation of a character by the use of two other characters: an initial speller, having the same initial consonant as the word being spelled, and a final speller, having the same final. For example, the word 東 *dōng* < MC *tuwng* 'east' is spelled 德紅, that is, "*dé* + *hóng*", or in Middle Chinese pronunciation, *t(ok)* + *(h)uwng*, indicating the combination of the initial *t-* with the final *-uwng*. Well-known characters were used as spellers whenever possible, so that readers could construct the pronunciation of an unfamiliar word from the pronunciations of words they already knew.

The method of *fǎnqiè* spelling is thought to have originated during the second century A.D.—possibly influenced by knowledge of Indian phonology. Before it was introduced, the only known way to indicate the pronunciation of a character was to give a homophonous character; where no homophone could be found (or none that the reader was likely to know), it was necessary to rely on near-homophones. This method (called *zhíyīn* 直音 'direct sounds') was widely used in Hàn-dynasty commentaries on the classics. *Fǎnqiè* spellings were a great advance in precision.[28]

All the rhyme books in the *Qièyùn* tradition have a similar organization, which may be summarized as follows:

1. *Tone groups.* Each rhyme book is divided into four main sections, one for each of the tones of Middle Chinese, in a conventional order: *píngshēng* 平聲 'even tone', *shǎngshēng* 上聲 'rising' or 'up tone', *qùshēng* 去聲

'departing tone', and *rùshēng* 入聲 'entering tone'. Most rhyme books assign one *juàn* 卷 ('fascicle') to each tone, except that the *píngshēng* section is divided into two *juàn* because of its length (*píngshēng* having more characters than any other tone).

2. *Rhymes*. Each tone group is subdivided into rhymes which are conventionally identified by their first entry: the 東 Dōng rhyme is the rhyme whose first word is 東 *dōng* < *tuwng* 'east', and so on. All the characters in a *Qièyùn* rhyme are assumed to have rhymed with each other, but they did not necessarily have identical finals: the 東 Dōng rhyme, for example, includes words with the two Middle Chinese finals *-uwng* and *-juwng*.

Generally speaking, each *píngshēng* rhyme has corresponding rhymes in *shǎngshēng* and *qùshēng*. Rhymes ending in nasal codas also have a corresponding rhyme in *rùshēng*, which ends in the corresponding voiceless stop; for example, MC *-et* is considered the *rùshēng* counterpart of MC *-en* (*píng*), *-enX* (*shǎng*), and *-enH* (*qù*). For convenience, the head character of the *píngshēng* rhyme is often used to refer to the whole set of corresponding rhymes regardless of tone. For example, "東 Dōng" sometimes refers not just to the first rhyme of the *píngshēng* section, but also, in a broader sense, to the corresponding rhymes in *shǎngshēng* and *qùshēng*: 董 Dǒng (containing words with finals *-uwngX* and *-juwngX*) and 送 Sòng (containing words with finals *-uwngH* and *-juwngH*); and sometimes also to the corresponding *rùshēng* rhyme 屋 Wū (containing words with finals *-uwk* and *-juwk*). The order of the rhymes is basically the same in all four tones; that is, the first rhyme in the *píngshēng* section corresponds to the first rhymes of *shǎngshēng*, *qùshēng*, and *rùshēng*, etc. But there are some anomalies which disturb this simple ordering. For example, in the *Qièyùn*, there are four rhymes which occur only in *qùshēng*: 祭 Jì, 泰 Tài, 夬 Guài, and 廢 Fèi.

The order of rhymes within a tone group does not follow any obvious order, except that similar rhymes are grouped together. For example, the 陽 Yáng rhyme (containing words with the finals *-jang* and *-jwang*) and the 唐 Táng rhyme (containing words with the finals *-ang* and *-wang*) are adjacent, reflecting the fact that all four of these finals normally rhymed with each other freely in poetry of the time. The words used as labels of the rhymes also seem to have some significance: when the labels of adjacent rhymes begin with the same Middle Chinese initial, this is probably an indication that the two rhymes were similar or perhaps, in some contemporary dialects, identical. For example, the rhymes labeled 先 Xiān (MC *sen*) and 仙 Xiān (MC *sjen*) are adjacent, and their first characters both begin with *s-*; the

words in these two rhymes rhymed freely with each other in Middle Chinese times, and the distinction between them was eventually lost in most dialects. Similarly, the 刪 Shān (MC *sræn*) and 山 Shān (MC *srɛn*) rhymes are adjacent, and their first characters both begin with *sr-*; they, too, eventually merged in most dialects, and this merger may already have taken place in some dialects by the time of the *Qièyùn*.[29]

3. *Homophone groups*. Within each rhyme, words which are completely homophonous are grouped together in homophone groups. Under each character a gloss is given, sometimes very brief, sometimes (especially in the later books of the tradition) longer, with references to the character's use in ancient literature. In addition, under the first character in each homophone group, the pronunciation of the words in the group is indicated by a *fǎnqiè* spelling of the form "*A B* fǎn 反" or "*A B* qiè 切", where *A* is the initial speller and *B* the final speller (see above). The number of characters in the homophone group is also given in the entry for the first character. If a character has more than one pronunciation, this fact may be indicated in one or both of the following ways: (1) the same character may appear in more than one homophone group, or (2) a character's entry in one homophone group may give an additional pronunciation, indicated either by a *fǎnqiè* spelling or by a homophonous character. The arrangement of homophone groups within a rhyme follows no obvious principle, though there are occasional patterns of some interest.

### *2.2.1.1. The* Qièyùn

Regarding the origins of the *Qièyùn* and the way in which it was compiled, we are fortunate in having Lù Fǎyán's own preface to the *Qièyùn*, dated A.D. 601. Although Lù Fǎyán was responsible for the final compilation of the work, the original draft, begun some twenty years earlier, is said to represent the judgments of a group of scholars who met at Lù Fǎyán's home. Lù describes how the *Qièyùn* grew out of their discussions:

> In the evening, after they had enjoyed their wine, their discussions always turned to phonology. Differences obtained between the pronunciations of the past and the present and different principles of selection were followed by the various authors....
>
> The *Yùnjí* 韻集 by Lǔ Jìng 呂靜, the *Yùnlüè* 韻略 by Xiàhóu Gāi 夏侯該, the *Yùnlüè* 韻略 by Yáng Xiūzhī 陽休之, the *Yīnpǔ* 音譜 by Lǐ Jìjié 李季節, and the *Yùnlüè* 韻略 by Dù Táiqīng 杜臺卿 all

> contain forms which are mutually inconsistent. The rhymes used in the South also differ widely from those used in the North. And so we discussed the right and the wrong of South and North, and the prevailing and the obsolete of past and present; wishing to present a more refined and precise standard, we discarded all that was ill-defined and lacked preciseness. The *wàishǐ* 外史 Yán Zhītuī 顏之推 and the *guózǐ* 國子 Xiāo Gāi 蕭該 were responsible for most of these judgments.
>
> The *zhùzuò* 著作 Wèi Yànyuān 魏彥淵 said to me, Fǎyán 法言: "Now that all doubtful cases have been solved through our recent discussions, why not write it all down in accordance with our discourses? Let us few friends settle these matters once and for all." And so I grasped my brush, and aided by the light of a candle, I wrote down a draft summary, which eventually was perfected through wide consultation and penetrating research. (Adapted from Zhōu Zǔmó 1968: 35)

The five works mentioned by Lù in the second paragraph were earlier rhyme books, now no longer extant. Although they are mentioned in the writings of the time, we know very little about them other than their names and authors. The most solid information we have about their contents comes from a manuscript of a later version of the *Qièyùn* (that of Wáng Rénxū—see below) in which the rhymes of the *Qièyùn* are listed and compared with those of earlier rhyme books. In general, the *Qièyùn* seems to maintain all the rhyming distinctions made in any one of the earlier works.

There has been much debate about precisely what language is represented in the *Qièyùn*. Was it the speech of a particular place and time, or did it include distinctions made in various different places, possibly at different times? Especially important is the question of whether the phonological system represented was artificial and arbitrary, or whether it accurately reflected, in one way or another, the linguistic reality of the time.

On this point, Karlgren, without really giving any arguments, took the view that the language represented in the *Qièyùn* was

> essentially the dialect of Ch'ang-an in Shensi; during the lapse of the T'ang era it became a kind of Koine, the language spoken by the educated circles in the leading cities and centres all over the country, except the coastal province of Fukien. (Karlgren 1954: 212)

Cháng'ān (now Xī'ān) was the capital of the Suí and Táng dynasties, and since the *Qièyùn* was written in the Suí dynasty, it may seem logical that the *Qièyùn* authors would have taken its dialect as their standard. However, there are strong arguments against this view. The Suí dynasty reunited

China only in 590—actually after the time, according to the *Qièyùn* preface, when the *Qièyùn* authors were beginning their nocturnal phonological discussions. As pointed out by Chén Yínkè (1949) and Zhōu Zǔmó (1963 [1966]), the dialect of Cháng'ān may have enjoyed less prestige at the time than those of other major cultural centers farther east—Luòyáng 洛陽, Yè 鄴 (in southern Héběi), and Jīnlíng 金陵 (modern Nanjing). In a work of his own, Yán Zhītuī (531–595), one of the *Qièyùn* authors whom Lù Fǎyán credits with making most of the judgments, speaks favorably of the speech of Luòyáng and Jīnlíng, but does not mention Cháng'ān. None of the *Qièyùn* authors was from Cháng'ān; three were from Jīnlíng, the rest from Yè. Moreover, we have independent sources of information about the Cháng'ān dialect which show a number of important differences from the language represented in the *Qièyùn* (K. Chang 1974: 67–69). Indeed, the *Qièyùn* preface itself strongly suggests that the intention of the authors was to establish a national standard which was not fully embodied in the speech of any single place. This would explain the fact that the *Qièyùn* maintained all the rhyme distinctions made in any one of the earlier rhyme books.

Although we cannot assume that the *Qièyùn* represented the language of a single place and time, the phonological system it represented may have been no more artificial than that represented in, say, an ordinary American dictionary. Typically, the pronunciations indicated in American dictionaries include more distinctions than are preserved in any one variety of English; thus they include both the distinction between [hw] and [w] (made by some Americans, but not preserved in standard British English) and the distinction between "broad a" as in *father* and "short o" as in *cot* (preserved in standard British English but not in most varieties of American English). The resulting system may not exactly represent the pronunciation of any single area, but it is far from artificial.[30]

Thus the artificiality of the *Qièyùn* standard should not be exaggerated. Some later scholars, such as the Qīng scholar Dài Zhèn 戴震 (1723–1777), suspected that many of the distinctions in the *Qièyùn* were without objective foundation; the existence of roughly two hundred separate rhyme groups (counting each tone separately) seemed implausible (Wáng Lì 1936–37 [1957]: 245–6). But most of the fine distinctions made in the *Qièyùn* can be confirmed by other evidence from approximately the same period, such as the *Yùpiān*, the *Jīngdiǎn shìwén*, and Xuányìng's *Yíqiè jīng yīnyì* (Zhōu Zǔmó 1963 [1966], Zhōu Fǎgāo 1948b [1968]; on these sources, see section 2.2.1.3 below). As Pulleyblank puts it:

> It may be that no one dialect in A.D. 600 retained all the distinctions made by the Ch'ieh-yün but we may feel reasonably sure that all the distinctions were to be found currently in some variety of cultivated speech. (Pulleyblank 1962: 65)

(For more detailed discussion of the *Qièyùn* and the language it represents, see Zhōu Zǔmó 1963 [1966] and K. Chang 1974.)

### *2.2.1.2. Revisions of the* Qièyùn

From contemporary sources we know of a number of revisions of the *Qièyùn* made during the Táng and Sòng dynasties. The major versions are listed in Table 2.1 (adapted from K. Chang 1974: 74). In modern times, the *Guǎngyùn* 廣韻 (1007–8) and the *Jíyùn* 集韻 (1038–9) were the only available versions for many years. The *Guǎngyùn* was compiled under imperial auspices in the Sòng dynasty (960–1279) by a group of scholars led by Chén Péngnián 陳彭年 (961–1017) and Qiū Yōng 邱雍. The *Jíyùn* was a revision of the *Guǎngyùn* compiled by Dīng Dù 丁度 (990–1053) later in Sòng. Unfortunately, the phonological value of the currently available version of the *Jíyùn* is greatly diminished by many obvious errors which probably crept in after the original version (Wáng Lì 1981: 72–74). The *Guǎngyùn*, the earlier of the two versions, has been assumed—correctly, as it turned out—to preserve the phonological categories of the original *Qièyùn* almost entirely intact, in spite of the passage of four centuries; and since the earlier rhyme books had all been lost, studies of *Qièyùn* phonology were really based until recently on the *Guǎngyùn*.

Since 1900, however, portions of some of the earlier versions have become available. Rhyme book fragments were discovered in the Dūnhuáng caves and in Turfan; others turned up in Beijing. Most were manuscripts, although some printed versions were found also. Wáng Guówéi 王國維 (1877–1927) argued that two of the three *Qièyùn* fragments from Dūnhuáng in the British Museum were from Zhǎngsūn Nèyán's version, and that the other represented Lù Fǎyán's original version (quoted in Wáng Lì 1936–37 [1957]: 178–80). Wáng Rénxū's "corrected and supplemented" edition was represented by fragments from Dūnhuáng and the Former Palace Museum (Gùgōng Bówùyuàn 故宮博物院) in Beijing. Fragments of the *Tángyùn* also came to light. A parallel edition of the available fragments and the *Guǎngyùn* was published in 1937, with the title *Shíyùn huìbiān* 十韻彙編 [Collected edition of ten rhyme books] (Liú, Luó, & Wèi 1937).

*Table 2.1.* Principal versions of the *Qièyùn*

| *Date* | *Principal author(s)* | *Title* |
|---|---|---|
| 601 | Lù Fǎyán 陸法言 | *Qièyùn* 切韻 |
| 677 | Zhǎngsūn Nèyán 長孫訥言 | *Qièyùn* 切韻 |
| 706 | Wáng Rénxū 王仁煦 | *Kānmiù bǔquē Qièyùn* 刊謬缺切韻 [Corrected and supplemented *Qièyùn*] |
| 720 | Sūn Miǎn 孫愐 | *Tángyùn* 唐韻 (first version) |
| 751 | Sūn Miǎn 孫愐 | *Tángyùn* 唐韻 (second version) |
| 763–84 | Lǐ Zhōu 李舟 | *Qièyùn* 切韻 |
| 1007–8 | Chén Péngnián 陳彭年, Qiū Yōng 邱雍 | *Guǎngyùn* 廣韻 [Broad rhymes] |
| 1038–9 | Dīng Dù 丁度 | *Jíyùn* 集韻 [Collected rhymes] |

(Adapted from K. Chang 1974: 74)

The most dramatic discovery, however, came in 1947 when an almost entirely complete manuscript of Wáng Rénxū's edition was discovered in the Former Palace Museum in Beijing (Zhōu Zǔmó 1966c). This version has been studied by Dǒng Tónghé (1948b [1974], 1952 [1974]) and by Lǐ Róng (1956); a critical edition by Lóng Yǔchún (1968) has also been published.

The various revisions of the *Qièyùn* were made not only to correct errors in the original version, but also to include more words and more information about each word. The main purpose of the original *Qièyùn* authors seems to have been to establish a standard phonological system, not primarily to write a dictionary; the glosses are sometimes extremely brief even in the *Guǎngyùn*, and even more so in earlier versions. The extra material inserted in the later versions served mostly to make the work more useful as a dictionary.

The phonological system of the original version remained largely unchanged, at least down to the *Guǎngyùn*; the *fǎnqiè* spellings used in later versions were almost always equivalent, if not identical, to the original ones. The total number of rhymes was increased from an original 193 in the *Qièyùn* to 206 in the *Guǎngyùn*, but this probably has no phonological significance; the changes involved either the filling of accidental gaps or the

separation into different rhymes of finals which, although distinguished already in the earlier versions, had been put in the same rhyme. (For example, the Middle Chinese finals *-an* and *-wan* were put in the same rhyme in the *Qièyùn,* but in separate rhymes in the *Guǎngyùn.*) The only important phonological difference between earlier and later versions appears to be that MC *dzr-* and *zr-,* which were still distinguished in Wáng Rénxū's version, were not distinguished in the *Guǎngyùn* (Dǒng Tónghé 1952 [1974]: 517–18).

In this study, most Middle Chinese readings are taken from the *Guǎngyùn,* which is still the most convenient rhyme book to use because of the existence of indexed versions and the relative lack of textual problems.

### *2.2.1.3. Other sources of* fǎnqiè *spellings*

In addition to the rhyming dictionaries, there are several other important works of the Middle Chinese period which give *fǎnqiè* spellings. I will discuss some of the major ones below.

The *Jīngdiǎn shìwén* 經典釋文 by Lù Démíng 陸德明 contains notes on the pronunciation of words in fourteen classical texts.[31] Although Lù Démíng is usually described as a man of the Táng dynasty (618–907), he lived from about 550 to 630, and the *Jīngdiǎn shìwén* was probably written in 583, actually before the *Qièyùn* (see Lín Tāo 1962, Zhōu Zǔmó 1966a: 275, Wáng Lì 1981: 63). In this work, pronunciations are given (usually by means of *fǎnqiè* spellings) for difficult words in the classical texts, or for words with unusual readings. Lù Démíng refers to many philological works of the preceding centuries, many of which are now lost and known only from the *Jīngdiǎn shìwén.* The phonological system represented is very close to that of the *Qièyùn,* with a few differences probably characteristic of the educated speech of the Wú 吳 area, Lù Démíng's home.[32] In reconstructing the pronunciations of rhyme words in the *Shījīng,* I generally follow the readings of the *Jīngdiǎn Shìwén,* except where it lacks distinctions made in the *Qièyùn.*

Another major source on Early Middle Chinese is the *Yùpiān* 玉篇, compiled in 543 by Gù Yěwáng 顧野王 (519–581). The *Yùpiān* was a dictionary modeled on the *Shuōwén jiězì* in which characters were arranged under 542 radicals.[33] A *fǎnqiè* spelling was given under each character. The original *Yùpiān* was a large and unwieldy work of thirty *juàn,* and during Táng and Sòng various abridgements and revisions of it were made, which often altered the original *fǎnqiè* spellings; of the original version only frag-

ments remain (some two thousand entries out of a reported original total of 16,917), and the currently-available version of the *Yùpiān* is not a reliable guide to Early Middle Chinese phonology.

However, the Japanese monk Kūkai 空海 (774–835), who went to China in 804, used the original *Yùpiān* as the basis for his character dictionary *Tenrei Banshō Meigi* 篆隸萬象名義. According to Zhōu Zǔmó's study of this work (1966a), comparison of its *fǎnqiè* with those which remain of the original *Yùpiān* shows that they faithfully preserve the original phonological system of the *Yùpiān*. Zhōu Zǔmó's analysis of these *fǎnqiè* reveals a phonological system very close to that of the *Jīngdiǎn Shìwén*; the major difference is that the *fǎnqiè* of the *Banshō meigi* apparently reflect the split of labial initials *p-*, *ph-*, and *b-* into labial and labiodental series.[34]

Several other works which include *fǎnqiè* spellings are important to the study of Middle Chinese and its varieties, but can be mentioned only briefly here. One such work is the *Yīqiè jīng yīnyì* 一切經音義, completed about 655 by the monk Xuányìng 玄應, a disciple of the famous Xuánzàng 玄奘 who brought Buddhist scriptures from India. This work provides *fǎnqiè* spellings for various texts in the Buddhist canon (see Zhōu Fǎgāo 1948b [1968]). About a century later, the monk Huìlín 慧琳 produced a similar but larger work of the same title (see Huáng Cuìbó 1930).

### 2.2.2. The rhyme-table tradition

The rhyme-table tradition is called in Chinese *děngyùnxué* 等韻學 'study of divisions and rhymes'. (On the meaning of "divisions" see below.) It consists of a number of phonological tables and an accompanying literature which probably began to develop in late Táng. The stage of the language represented by the rhyme tables (Late Middle Chinese) differs somewhat from the language of the *Qièyùn*; but the rhyme tables, if carefully used, are still very useful in reconstructing Early Middle Chinese, and much of their terminology is applicable to the Early Middle Chinese stage.

The earliest extant rhyme tables, and the most useful for the study of Early Middle Chinese, are the *Yùnjìng* 韻鏡 [Mirror of rhymes] and the *Qīyīn lüè* 七音略 [Summary of the seven sounds]. I will refer to these as the early rhyme tables, in contrast to other later tables which are less useful for studying the Early Middle Chinese period.

The available version of the *Yùnjìng* was published by Zhāng Línzhī 張麟之, who wrote two prefaces to it, dated 1161 and 1203. The *Qīyīn lüè* was included by the Sòng dynasty scholar Zhèng Qiáo 鄭樵 (1108–1166) in his

encyclopedia, the *Tōngzhì* 通志. (For a detailed discussion see Luó Chángpéi 1935.) It has been shown that both works represent a single pre-Sòng tradition. I will briefly describe the arrangement of the *Yùnjìng* here in order to give a more precise idea of what a rhyme table is. Most of the discussion applies also to the *Qīyīn lüè*, which is very similar.

The *Yùnjìng* consists of forty-three charts or *zhuǎn* 轉 (literally, 'turns') in which the syllables of the rhyme book tradition are tabulated according to their phonological characteristics. Each of the forty-three charts tabulates the occurrences of a set of finals with the various possible initials, in all tones. Within a particular chart, characters are placed in the row corresponding to their final and in the column corresponding to their initial.

### *2.2.2.1. Representation of finals in the* Yùnjìng

As many as four different finals (not counting tonal distinctions) may be listed in a single chart of the *Yùnjìng*, but the finals in any one chart all have the same coda (except that *rùshēng* has a final voiceless stop where the other tones have a final nasal), and probably had similar main vowels in Late Middle Chinese. Each chart is described as *nèizhuǎn* 內轉 'inner *zhuǎn*' or *wàizhuǎn* 外轉 'outer *zhuǎn*'—terms whose meaning is not completely clear.[35] In addition, the terms *kāi* 開 'open' and *hé* 合 'closed' (abbreviations of *kāikǒu* 開口 'open mouth' and *hékǒu* 合口 'closed mouth') are used to indicate the presence or absence of medial *-w-* before the main vowel: *hékǒu* indicates a medial *-w-*, *kāikǒu* indicates the absence of *-w-*. These terms will be used frequently throughout this study.[36]

Each chart has sixteen rows in four groups of four rows each. Each group of four rows corresponds to one of the four tones. The four rows within each tone category are called *děng* 等 'divisions' (or 'grades') and are commonly referred to by number: division I, division II, division III, and division IV.

The phonetic significance of these "divisions" is a much-debated problem on which the Chinese phonological tradition itself sheds little direct light. Most modern researchers, working from dialect reflexes, assume that (for the stage of the language represented by the rhyme tables) divisions III and IV had some kind of high front medial, while divisions I and II did not. There is further agreement that the vowel in the division I finals was "dark" or pronounced farther back than in division II finals. The distinction between divisions III and IV has left almost no trace in modern dialects;

various interpretations of this distinction have been proposed, including differences in the medial, differences in the main vowel, or both.

Table 2.2 illustrates the placement of finals in the rows of two adjacent charts (numbers twenty-three and twenty-four) of the *Yùnjìng*. The finals are given in the notation for Middle Chinese to be introduced below. Table 2.3 illustrates the reflexes of these finals with velar initials in Mandarin and Cantonese.

### 2.2.2.2. *Representation of initials in the* Yùnjìng

Each chart in the *Yùnjìng* has twenty-three columns which indicate the initials of the syllables in the table.[37] The twenty-three columns are separated into groups which correspond to positions of articulation: labials, dentals, and so on. Within each of these groups, the initials are ordered according to their manner of articulation. For example, the first four columns of each table include words with labial initials, in the following order: *p-* (voiceless unaspirated stop), *ph-* (voiceless aspirated stop), *b-* (voiced stop), and *m-* (nasal); the order in the other groups is parallel. There are traditional terms for both the positions and the manners of articulation, which differ somewhat from one rhyme table to another.

The rhyme-table tradition also includes a list of thirty-six traditional names for initial consonants (called *zìmǔ* 字母 'mothers of characters'), but these are not present in the *Yùnjìng* itself. This list does not entirely correspond to the set of Early Middle Chinese initials which can be derived from analysis of the *fǎnqiè* spellings of the rhyme book tradition, for the thirty-six *zìmǔ* arose later than the rhyme books and probably reflect Late rather than Early Middle Chinese. Though the *Yùnjìng* combines the thirty-six initials into twenty-three columns, some later rhyme tables have thirty-six columns, one for each initial (e.g. the *Qièyùn zhǐzhǎngtú* 切韻指掌圖). The traditional thirty-six *zìmǔ*, along with the traditional terminology for positions and manners of articulation, are listed and discussed in section 2.3, where the Middle Chinese initials are described in more detail.

*Table 2.2.* Middle Chinese finals in two adjacent tables of the *Yùnjìng*

| *Tone* | *Division* | Chart 23<br>*wàizhuǎn*<br>*kāikǒu* | Chart 24<br>*wàizhuǎn*<br>*hékǒu* |
|---|---|---|---|
| *píngshēng* | I | *-an* | *-wan* |
| | II | *-æn* | *-wæn* |
| | III | *-jen* | *-jwen* |
| | IV | *-en* | *-wen* |
| *shǎngshēng* | I | *-anX* | *-wanX* |
| | II | *-ænX* | *-wænX* |
| | III | *-jenX* | *-jwenX* |
| | IV | *-enX* | *-wenX* |
| *qùshēng* | I | *-anH* | *-wanH* |
| | II | *-ænH* | *-wænH* |
| | III | *-jenH* | *-jwenH* |
| | IV | *-enH* | *-wenH* |
| *rùshēng* | I | *-at* | *-wat* |
| | II | *-æt* | *-wæt* |
| | III | *-jet* | *-jwet* |
| | IV | *-et* | *-wet* |

*Table 2.3.* The four divisions illustrated in Mandarin and Cantonese

| *Example* | *Division* | *Middle Chinese* | *Mandarin* | *Cantonese* |
|---|---|---|---|---|
| 肝 'liver' | I | *kan* | *gān* | *gòn* |
| 姦 'adultery' | II | *kæn* | *jiān* | *gàan* |
| 蹇 'lame' | III | *kjenX* | *jiǎn* | *gín* |
| 肩 'shoulder' | IV | *ken* | *jiān* | *gìn* |
| 官 'official' | I | *kwan* | *guān* | *gùn* |
| 關 'to shut' | II | *kwæn* | *guān* | *gwàan* |
| 卷 'roll up' | III | *kjwenX* | *juǎn* | *gyún* |
| 涓 'streamlet' | IV | *kwen* | *juān* | *gyùn* |

## 2.3. The initials of Middle Chinese

Table 2.4 lists the initials of Middle Chinese as they are written in my transcription. The symbols used in Table 2.4 have their standard phonetic values, with the following exceptions:

1. Aspiration of stops and affricates is indicated by the letter *-h-*; this *-h-* is equivalent to the [ʰ] or ['] of the International Phonetic Alphabet.
2. The letter *-r-* is not intended as a separate segment, but rather represents retroflex articulation of the preceding consonant.
3. Similarly, the letter *-y-* indicates palatal articulation of the preceding consonant.
4. Initial *h-* represents a voiced guttural fricative, probably [ɦ] or [ɣ] in the International Phonetic Alphabet (the exact position of articulation is unclear), in contrast to *x-*, which is voiceless.

*Table 2.4.* The initials of Middle Chinese

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Labials: | *p-* | *ph-* | *b-* | *m-* | | | |
| Dentals: | *t-* | *th-* | *d-* | *n-* | | | |
| Lateral: | | | | | | *l-* | |
| Retroflex stops: | *tr-* | *trh-* | *dr-* | *nr-* | | | |
| Dental sibilants: | *ts-* | *tsh-* | *dz-* | | *s-* | *z-* | |
| Retroflex sibilants: | *tsr-* | *tsrh-* | *dzr-* | | *sr-* | *zr-* | |
| Palatals: | *tsy-* | *tsyh-* | *dzy-* | *ny-* | *sy-* | *zy-* | *y-* |
| Velars: | *k-* | *kh-* | *g-* | *ng-* | | | |
| Laryngeals: | *ʔ-* | | | | *x-* | *h-* | |

As Table 2.4 shows, Middle Chinese had oral stops and affricates with three manners of articulation, which I represent as follows:

1. *Voiceless unaspirated.* The traditional term for this class is *quán qīng* 全清 'full clear'.[38] These initials normally remain as voiceless unaspirated in modern dialects.

2. *Voiceless aspirated.* The traditional term for this class is *cì qīng* 次清 'second clear'.[39] In my notation, aspiration is indicated by the letter *-h-*,

always written after any mark of secondary articulation such as *-y-* (palatalization) or *-r-* (retroflexion). (As an independent initial, however, *h-* represents a voiced guttural fricative; see above.) The voiceless aspirated initials normally have voiceless aspirated reflexes in modern dialects.

3. *Voiced.* The traditional term for voiced obstruents is *quán zhuó* 全濁 'full muddy'. Voiced resonants such as the nasals and *l-*, on the other hand, were described as *cì zhuó* 次濁 'second muddy'.[40] Karlgren reconstructed the "full muddy" stop and affricate initials as voiced aspirates, writing them *b'-*, *d'-*, *dz'-*, etc. There is little evidence for this aspiration, however, and I follow Lǐ Róng (1956) and others in representing these initials as simply voiced. The voiced initials have lost their voicing in most modern dialects, becoming aspirated or unaspirated according to tone and dialect. (For example, in Mandarin, voiced initials in *píngshēng* become voiceless aspirated, while voiced initials in other tones normally become voiceless unaspirated.) However, in the Wú dialects and a number of others (including some of the Xiāng or Húnán dialects), the voiced initials are preserved as a separate class.

We now turn to a more detailed discussion of the initials at each position of articulation. Along with my own notation, I will give the reconstructions of Karlgren (1954) and Pulleyblank (1984) for reference. I will also discuss the label or labels for each initial in the traditional list of thirty-six initials (*zìmǔ* 字母), and the conventional labels used for initials in Chinese-language phonological works.

### 2.3.1. Labials (*chúnyīn* 脣音 'lip sounds')

The labial initials of Middle Chinese are listed in Table 2.5.

*Table 2.5.* Middle Chinese labial initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *p-* | *p-* | *p-* |
| *ph-* | *p'-* | *p'-* |
| *b-* | *b'-* | *b-* |
| *m-* | *m-* | *m-* |

Notice that Early Middle Chinese had no labiodental initials like *f-* or *v-*; such initials developed under certain conditions from the bilabial initials in

most later varieties of Chinese, including the Late Middle Chinese represented in the rhyme tables. This change, which we may call **labiodentalization** (see Appendix A), may be formulated as follows:

$P \rightarrow F$ / ____ *j* [V, + back]

That is, Early Middle Chinese labial initials became labiodentals when followed by medial *-j-* and a back vowel (*-i-*, *-u-*, *-a-*, or *-o-* in my notation).

This formulation of labiodentalization is due to Y. R. Chao (1941). Chao expressed doubts about this formulation because some syllables which Karlgren reconstructed with back vowels did not undergo the change: for example, 兵 *bīng* < *pjæng* (Karlgren's *pi̯ɒng*), 品 *pǐn* < *phimX*, Karlgren's *p'i̯əm:*), and 冰 *bīng* < *ping* (Karlgren's *pi̯əng*). As my transcription suggests, I suspect these actually had front vowels at the time labiodentalization occurred. (On the reconstruction of front vowels in the first two, see Pulleyblank 1962: 74–75, 78–79.) Other formulations of labiodentalization are possible, of course (see for example Pulleyblank 1984: 86–91).

In modern Mandarin, Middle Chinese *p-*, *ph-*, and *b-* have all developed into *f-* in these conditions; labiodentalized *m-* had probably become *v-* in Old Mandarin, later merging with *w-* in the standard language:

(20) 風 *fēng* < *pjuwng* 'wind'

(21) 芳 *fāng* < *phjang* 'fragrant'

(22) 伐 *fá* < *bjot* 'expedition'

(23) 無 *wú* (< OM *vú*) < *mju* 'have not'

Except for this process of labiodentalization, the Middle Chinese labial initials generally remain bilabial in modern dialects.

It is characteristic of the Mǐn dialects that they were unaffected by labiodentalization, except in literary items apparently borrowed from other dialects in the Táng period (618–907) or later. In words where other dialects have [f], colloquial Mǐn pronunciation (presumably inherited from the parent language rather than borrowed) has bilabials; in literary items, [f] has been borrowed as [h(u)] or [x(u)]. For example, in the dialect of Xiàmén (Amoy), we have the following doublet corresponding to 分 *fēn* < MC *pjun*:

分 *pun 1* 'to divide' (colloquial)

分 *hun 1* 'to divide' (literary)

corresponding to

(24) 分 *fēn* < *pjun* 'to divide'.

The Kèjiā (Hakka) dialects also preserve bilabial initials in a number of common words where other dialects have labiodentals.[41]

In the traditional terminology, which reflects Late rather than Early Middle Chinese, the bilabial initials are called *zhòng chúnyīn* 重脣音 'heavy lip sounds' while the labiodental initials which developed from them are called *qīng chúnyīn* 輕脣音 'light lip sounds'. In the thirty-six *zìmǔ*, there are four names for "heavy lip sounds" and four for the corresponding "light lip sounds". The traditional names for the "heavy lip sounds" (bilabials), with their Early Middle Chinese pronunciations, are

| | | |
|---|---|---|
| 幫 | Bāng < Pang | *p-* |
| 滂 | Pāng < Phang | *ph-* |
| 並 | Bìng < BengX | *b-* |
| 明 | Míng < Mjæng | *m-*. |

The traditional names for the "light lip sounds" (labiodentals) are:

| | | | |
|---|---|---|---|
| 非 | Fēi < Pjɨj | LMC *f-* | < EMC *p-* |
| 敷 | Fū < Phju | LMC *f-* | < EMC *ph-* |
| 奉 | Fèng < BjowngX | LMC *ffi-* | < EMC *b-* |
| 微 | Wēi < Mjɨj | LMC *v-* | < EMC *m-*. |

The Late Middle Chinese reconstructions above follow Pulleyblank (1984). Though the rhyme-table tradition maintains a distinction between 非 Fēi, the labiodental from EMC *p-*, and 敷 Fū, the labiodental from EMC *ph-*, Pulleyblank (1984: 69) argues that these initials were not phonetically different in Late Middle Chinese, the distinction being an artificial one based on Early Middle Chinese *fǎnqiè* spellings; a distinction between unaspirated [f] and aspirated [f'] would be rather unusual. It is possible, however, that at an early stage of labiodentalization, MC *p-* and *ph-* became labiodental affricates [pf] and [pf'] respectively before merging as [f].

The phonetic status of 微 Wēi, the labiodental initial derived from EMC *m-*, is also problematical. It is often represented as a labiodental nasal, IPA [ɱ] (e.g. in *Cíhǎi: Yǔyán wénzì fēncè* 1978: 43). But according to Ladefoged (1971: 37), labiodental [ɱ] is normally found only as a positional variant of other nasals; there are no known cases in the languages of the world where [ɱ] and [m] are phonologically distinct. Pulleyblank reconstructs this initial for Late Middle Chinese as a bilabial approximant [ʋ]. Note that some southern dialects show no evidence of labiodentalization in words with EMC *m-*; cf.

(25) 晚 Cantonese *máahn* 'late', Mandarin *wǎn* < EMC *mjonX*.

Rather than assume that labiodentalization occurred and was then reversed in such dialects, it may be better to assume that it just operated differently, and never affected EMC *m-* in the first place.

### 2.3.2. Dentals (*shé tóu yīn* 舌頭音 'tongue-head sounds')

The Middle Chinese dental initials are listed in Table 2.6.

*Table 2.6.* Middle Chinese dental initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *t-* | *t-* | *t-* |
| *th-* | *t'-* | *t'-* |
| *d-* | *d'-* | *d-* |
| *n-* | *n-* | *n-* |

It is unclear whether these should be regarded as dental or alveolar in articulation, but otherwise there is little controversy about their reconstruction. They are generally alveolars in modern dialects; note however that in many dialects *n-* is not distinguished from *l-*. The traditional names of these initials are

端 Duān < Twan *t-*
透 Tòu < ThuwH *th-*
定 Dìng < DengH *d-*
泥 Ní < Nej *n-*.

### 2.3.3. Lateral (*bàn shé yīn* 半舌音 'half tongue sound')

The Middle Chinese lateral initial is written *l-* in my transcription, and is reconstructed as *l-* by both Karlgren and Pulleyblank. About this initial there is also little controversy. Its traditional name is

來 Lái < Loj *l-*.

It is usually preserved as *l-* in modern dialects, except that it not infrequently merges with *n-*.

### 2.3.4. Retroflex stops (*shé shàng yīn* 舌上音 'tongue up sounds')

The Middle Chinese retroflex stops are listed in Table 2.7.

*Table 2.7.* Middle Chinese retroflex stop initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *tr-* | *ʈ-* | *tr-* (*t-*) |
| *trh-* | *ʈʻ-* | *trʻ* (*tʻ-*) |
| *dr-* | *ɖ-* | *dr-* (*d-*) |
| *nr-* | *ɳ* | *nr-* (*n-*) |

Karlgren reconstructed these initials as palatal stops, but it is more likely that they should be reconstructed as retroflex stops, as proposed by Luó Chángpéi (1931b), since they were regularly used to transcribe the retroflex stops of Sanskrit. As Pulleyblank observed (1984: 66), these initials are also represented as retroflex in Sino-Vietnamese, e.g.

(26) 知 *zhī* < *trje* 'to know', Sino-Vietnamese *tri.*

As noted above, the *-r-* in my transcription is simply a mark of retroflexion, and is not intended as a separate segment. The retroflex stop initials are almost in complementary distribution with the dentals, and the two types of initials are sometimes confused in *fǎnqiè* spellings; Pulleyblank gives convincing arguments that the failure to distinguish dental and retroflex initials was a southern dialect feature (1984: 168–69). We find a contrast in the pair

(27) 地 *dì* < *dijH* 'ground'

(28) 稚 *zhì* < *drijH* 'young',

but the syllable *dijH* is anomalous; normally, plain dental stops do not occur with those finals beginning with *-i-* or *-j-* (the so-called division-III finals; see section 2.4 below). But because of this contrast, the difference in transcription values, and the different treatment in traditional phonology, I maintain the distinction of dental and retroflex stop initials in my Middle Chinese notation.

In most modern dialects, *nr-* has merged with *n-*, but *tr-*, *trh-*, and *dr-* have merged with the palatal and retroflex affricates. However, the Mǐn dialects, in both colloquial and literary pronunciation, usually have dental stops corresponding to MC *tr-*, *trh-*, and *dr-* as well as MC *t-* *th-*, and *d-*. For example:

(29) 中 *zhōng* < *trjuwng* 'middle', Xiàmén *tiong 1* (literary)

(30) 茶 *chá* < *dræ* 'tea', Xiàmén *te 2* (colloquial)

The traditional names for the retroflex stop initials are

| | |
|---|---|
| 知 Zhī < Trje | *tr-* |
| 徹 Chè < Trhjet | *trh-* |
| 澄 Chéng < Dring | *dr-* |
| 娘 Niáng < Nrjang | *nr-*. |

### 2.3.5. Dental sibilants (*chǐ tóu yīn* 齒頭音 'tooth-head sounds')

The Middle Chinese dental sibilant initials are listed in Table 2.8.

*Table 2.8.* Middle Chinese dental sibilant initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *ts-* | *ts-* | *ts-* |
| *tsh-* | *ts'-* | *ts'-* |
| *dz-* | *dz'-* | *dz-* |
| *s-* | *s-* | *s-* |
| *z-* | *z-* | *z-* |

There is little controversy about the reconstruction of these initials. Their traditional names are

| | |
|---|---|
| 精 Jīng < Tsjeng | *ts-* |
| 清 Qīng < Tshjeng | *tsh-* |
| 從 Cóng < Dzjowng | *dz-* |
| 心 Xīn < Sim | *s-* |
| 邪 Xié < Zjæ | *z-*. |

In many dialects (including most Mandarin dialects), these initials have become palatalized before high front vowels, merging with velar initials, which palatalized in the same environment. For example, in standard Mandarin, the original dental sibilants and the velars have merged in this environment as palatal *j-*, *q-*, and *x-*. An example is the following pair:

(31) 津 *jīn* < *tsin* 'ford'

(32) 巾 *jīn* < *kin* 'kerchief'

Some Mandarin dialects still keep such pairs distinct (as [tsin] versus [cin], for example), and in those that do, the original dental sibilants are

traditionally called *jiān yīn* 尖音 'sharp sounds', while the palatals of velar origin are called *tuán yīn* 團音 'rounded sounds'.

### 2.3.6. Palatal sibilants

The Middle Chinese palatal sibilants are listed in Table 2.9.

*Table 2.9.* Middle Chinese palatal sibilant initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *tsy-* | *tś-* | *tɕ-* |
| *tsyh-* | *tś'-* | *tɕ'-* |
| *dzy-* | *ź-* | *dʑ-* (*ʑ-*) |
| *sy-* | *ś-* | *ɕ-* |
| *zy-* | *dź'-* | *ʑ-* |

These initials occur only with finals containing a high front medial or vowel *-j-* or *-i-*; as noted earlier, as a spelling convention, I uniformly omit *-j-* after any initial containing the sign of palatalization *-y-*.

The major point of controversy concerning the palatal initials is the status of the initials which I write as *dzy-* and *zy-*. My Middle Chinese notation follows the proposal by Lù Zhìwéi (1947 [1971]: 11–13) and Pulleyblank (1962: 67–68, 1984: 169–70) that the initial which Karlgren reconstructed as *ź-* was actually an affricate, while his *dź'-* was a fricative, in those dialects which distinguished them. The confusion originates with the rhyme tables, which place *zy-* in the same column with *dz-* and *dzr-*, and place *dzy-* in the same column with *z-* and *zr-*. This placement probably reflects the common confusion of *dzy-* and *zy-* in Late Middle Chinese times. There are several arguments in favor of Lù Zhìwéi and Pulleyblank's treatment of these initials:

1. As Pulleyblank points out, this treatment of *dzy-* and *zy-* makes possible a coherent interpretation of a statement by Yán Zhītuī (one of the *Qièyùn* authors), in his *Yán shì jiā xùn* 顏氏家訓 [Family instructions for the Yán clan]; Yán Zhītuī says that southerners pronounce

錢 *dzjen* like 涎 *zjen*
石 *dzyek* like 射 *zyek*
賤 *dzjenH* like 羨 *zjenH*, and
是 *dzyeX* like 舐 *zyeX*.

In the interpretation adopted here, the words on the left all begin with affricates, and the words on the right all begin with fricatives. If Karlgren's interpretation is adopted, then there is no consistent pattern. (See Zhōu Zǔmó 1943 [1966]: 412–13.)

2. There is a tendency for MC *dzy-* (Karlgren's *ź-*) to be used to transcribe the Sanskrit voiced palatal *j-*, while *zy-* (Karlgren's *dź'-*) is used to transcribe Sanskrit *y* or *ś* (see Pulleyblank 1962: 68).

3. Of somewhat less weight, but still significant, is the fact that MC *dzy-* usually seems to have *xiéshēng* connections with dental stops *t-*, *d-*, and so forth, which supports its reconstruction as **dj-* in Old Chinese. A change from **dj-* to a palatal affricate *dzy-* would be a very natural change. For example,

(33) 禪 *shàn* < *dzyenH* < **djans* 'hand over to another'[42]

has as phonetic

(34) 單 *dān* < *tan* < **tan* 'single'.

The proper Old Chinese reconstruction of MC *zy-* is more problematical, as we shall see, but it usually has *xiéshēng* connections with words we would reconstruct with **l-* or **j-*. These fit well with the theory that it was a fricative rather than an affricate in Middle Chinese.

In rhyme-table phonology, which reflects Late Middle Chinese, the palatal initials *tsy-*, *tsyh-*, *dzy-*, *sy-*, and *zy-* and the retroflex initials *tsr-*, *tsrh-*, *dzr-*, *sr-*, and *zr-* are treated as a single set, called *zhèng chǐyīn* 正齒音 'true front-tooth sounds'. Probably, the two types of initials had merged as the result of a sound change which caused EMC *-i-* and *-j-* either to be lost or to became back after retroflex sibilants *TSr-*; I call this change ***TSrj- > TSr-*** (see Appendix A).[43] Since the palatal initials occurred only before *-i-* or *-j-*, this change put the palatal and retroflex sibilants in complementary distribution, and they could be reanalyzed as a single series. (The retroflex initials are still put in division II and the palatals in division III, but this could be because of the difference in the following vocalism, not because of any phonological difference between the initials themselves.)

For example, in the available versions of the *Qièyùn*, the word

(35) 生 *shēng* < *srjæng* 'be born, live'

has the *fǎnqiè* spelling

所京反
*suǒ jīng fǎn* i.e. *srjoX + kjæng = srjæng*.

But later, in the *Guǎngyùn*, the spelling is

所庚切
*suǒ gēng qiè* i.e. *srjoX + kæng = sræng*.

reflecting the loss of *-j-* after the retroflex sibilant initial *sr-*.[44] (The *fǎnqiè* spellings preserved in the rhyme books do not show this change consistently, but the change appears to be complete by the time of the rhyme tables.) Since initial *sy-* occurs only before a front medial or vowel, the loss of *-j-* after *sr-* put *sy-* and *sr-* in complementary distribution, and they were probably reanalyzed as variants of a single initial in Late Middle Chinese.

The traditional names of the *zhèng chǐyīn* are

| | | |
|---|---|---|
| 照 Zhào < TsyewH | LMC *tʂ-* | < EMC *tsy-* and *tsr-* |
| 穿 Chuān < Tsyhwen | LMC *tʂʻ-* | < EMC *tsyh-* and *tsrh-* |
| 牀 Chuáng < Dzrjang | LMC *(t)ʂfi-* | < EMC *zy-* and *dzr-* |
| 審 Shěn < SyimX | LMC *ʂ-* | < EMC *sy-* and *sr-* |
| 禪 Shàn < DzyenH | LMC *ʂfi-* | < EMC *dzy-* and *zr-*. |

The influence of the traditional thirty-six *zìmǔ* was such that the Early Middle Chinese distinction between the palatal and retroflex sibilants was not discovered until the late Qīng scholar Chén Lǐ 陳澧 (1810–1882) analyzed the *fǎnqiè* spellings of the *Guǎngyùn* in his pioneering study *Qièyùn kǎo* 切韻考 (1842 [1965]). Since this distinction was overlooked in traditional phonology, the traditional labels must be modified in some way if we are to have separate labels for the Early Middle Chinese palatal and retroflex sibilants. Since the rhyme tables always place retroflex sibilants in division II and palatal sibilants in division III, one common solution is simply to add 二 *èr* 'two' or 三 *sān* 'three' as subscripts after the traditional labels, to represent the retroflex and palatal sibilants respectively. However, another solution, that of substituting a new set of labels for these initials, has become common in modern Chinese works on historical phonology (see for example Dīng Shēngshù & Lǐ Róng 1981). In this revised set of labels, the palatal initials are

| | | |
|---|---|---|
| 章 Zhāng < Tsyang | *tsy-* | (or "照三 Zhào sān") |
| 昌 Chāng < Tsyhang | *tsyh-* | (or "穿三 Chuān sān") |
| 禪 Shàn < DzyenH | *dzy-* | (or "禪三 Shàn sān") |
| 書 Shū < Syo | *sy-* | (or "審三 Shěn sān") |
| 船 Chuán < Zywen | *zy-* | (or "牀三 Chuáng sān"). |

(The revised labels for the retroflex sibilants are listed in section 2.3.8 below.)

In modern standard Mandarin, the palatal sibilants have become retroflex *zh-*, *ch-*, and *sh-*, merging with the retroflex stops and sibilants. For example, the following three syllables have merged as Mandarin *zhēn*:

(36) 珍 *zhēn* < *trin* 'precious' (retroflex stop)

(37) 真 *zhēn* < *tsyin* 'true, real' (palatal affricate)

(38) 榛 *zhēn* < *tsrin* 'hazel' (retroflex affricate)

In some dialects, these initials have further merged with the dental sibilants; for example, many speakers pronounce Mandarin *zh-*, *ch-*, *sh-* as *z-*, *c-*, *s-*.

### 2.3.7. Palatal nasal and glide

The Middle Chinese palatal nasal and glide are listed in Table 2.10.

*Table 2.10.* Middle Chinese palatal nasal and glide

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *ny-* | *ńź-* | *ɲ-* |
| *y-* | *i̯-* | *j-* |

From the point of view of Early Middle Chinese phonology, these two initials pattern exactly like the palatal sibilants above, but I treat them separately here because they are treated somewhat differently in the rhyme-table tradition.

The initial *ny-* is traditionally called a *bàn chǐyīn* 半齒音 'half front-tooth sound'; its traditional label is

日 Rì < Nyit *ny-*.

Karlgren's reconstruction *ńź-* for MC *ny-* was intended to account for the fact that its reflex is a nasal in some dialects and a nonnasal voiced fricative (e.g., Mandarin *r-*) in others. For Early Middle Chinese, however, it is widely agreed that it was simply a palatal nasal.

In the rhyme tables, EMC *y-* apparently merged with the palatalized allophone of initial *h-*, which I will write as *h(j)-*. (MC *h-* represents a voiced velar or pharyngeal fricative; like other guttural initials, it seems to have had

a special palatalized allophone before *-j-* or *-i-*.) In the rhyme-table tradition, the resulting initial is given the name

喻 Yù < YuH *y-* and *h(j)-*.

This initial is included among the *hóu yīn* 喉音 'throat sounds' (laryngeals). The words with initial *h(j)-* and the words with initial *y-* are still distinguishable in the rhyme tables, however, because *h(j)-* is placed in division III, while *y-* is placed in division IV. A sample of this contrast is the following pair:

(39) 尤 *yóu* < *hjuw* 'especially' (division III)

(40) 由 *yóu* < *yuw* 'from; by' (division IV)

This case is analogous in many ways to the merger of the palatal and retroflex sibilants. Both words above are traditionally regarded as having the initial 喻 Yù, but Chén Lǐ's analysis of the *fǎnqiè* of the *Guǎngyùn* showed that they had different initials in Early Middle Chinese. Therefore the traditional terminology is normally modified, either by adding a subscript 三 *sān* 'three' or 四 *sì* 'four' to 喻 Yù, or by revising the traditional labels. The new labels are

| | | |
|---|---|---|
| 云 Yún < Hjun | *h(j)-* | (or "喻三 Yù sān") |
| 以 Yǐ < YiX | *y-* | (or "喻四 Yù sì"). |

The *y-* initial is generally preserved as a high front glide in modern dialects (sometimes analyzed as a zero initial followed by a high front medial).

### 2.3.8. Retroflex sibilants

The retroflex sibilant initials of Middle Chinese are listed in Table 2.11. The *Qièyùn* distinguishes the two initials *dzr-* and *zr-* (the latter occurring in two words only), but they are not distinguished in the *Guǎngyùn,* and Karlgren's reconstruction, which was based on the *Guǎngyùn,* does not include the initial *zr-* for this reason.

*Table 2.11.* Middle Chinese retroflex sibilant initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *tsr-* | *tʂ-* | *tʂ-* |
| *tsrh-* | *tʂ'-* | *tʂ'-* |
| *dzr-* | *dʐ'-* | *dʐ-* |
| *zr-* | — | *ʐ-* |

As noted above, the retroflex sibilants are combined with the palatal sibilants in the rhyme tables, and the traditional labels have been revised to incorporate the Early Middle Chinese distinction between retroflex and palatal sibilants. There is, however, no standard label for *zr-*:

| | | |
|---|---|---|
| 莊 Zhuāng < Tsrjang | *tsr-* | (or "照二 Zhào èr") |
| 初 Chū < Tsrhjo | *tsrh-* | (or "穿二 Chuān èr") |
| 崇 Chóng < Dzrjuwng | *dzr-* | (or "牀二 Chuáng èr") |
| 生 Shēng < Srjæng | *sr-* | (or "審二 Shěn èr") |
| [no standard label] | *zr-* | ("禪二 Shàn èr") |

In modern Mandarin, the retroflex sibilants regularly become retroflex *zh-*, *ch-*, *sh-*, merging with the retroflex stops and the palatal sibilants (see above). However, in quite a number of words they become plain dental sibilants *z-*, *c-*, *s-* instead, even in dialects where these are distinct from *zh-*, *ch-*, and *sh-*. This irregularity probably reflects dialect mixture; for example, alongside the literary pronunciation

(41) 色 *sè* < *srik* 'color'

we have the colloquial pronunciation

(42) 色 *shǎi* < *srik* 'color',

one with *s-*, and one with *sh-*.

### 2.3.9. Velars (*yáyīn* 牙音 'back-tooth sounds')

The velar initials of Middle Chinese are listed in Table 2.12. There is little controversy about the reconstruction of these initials. The oral stops *k-*, *kh-*, and *g-* remain as velars in most dialects, although in many dialects they palatalized before high front vowels and glides—giving *j-* and *q-* in standard Mandarin, for example. Some southeastern dialects (Cantonese, Hakka, Mǐn) did not undergo this palatalization, and generally maintain original

velars in all positions. For example, 金 MC *kim* 'gold' is Mandarin *jīn*, but Cantonese *gàm*.

*Table 2.12.* Middle Chinese velar initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *k-* | *k-* | *k-* |
| *kh-* | *k'-* | *k'-* |
| *g-* | *g'-* | *g-* |
| *ng-* | *ng-* | *ŋ-* |

The velar nasal initial *ng-* (a digraph for [ŋ], not a prenasalized voiced stop) no longer occurs in initial position in standard Mandarin. It was generally lost in this position, but in a few exceptional items it shows up as Mandarin *n-* when [i] or [j] follows, e.g. 牛 *niú* < *ngjuw* 'ox', 逆 *nì* < *ngjæk* 'contrary'.

The traditional names for these initials are

| | |
|---|---|
| 見 Jiàn < KenH | *k-* |
| 溪 [Xī] < Khej | *kh-* |
| 群 Qún < Gjun | *g-* |
| 疑 Yí < Ngi | *ng-*. |

Note that the standard pronunciation of 溪 [*xī*] < *khej* is irregular; we would expect Mandarin *qī* (which occurs as an alternate reading for this character).

### 2.3.10. Laryngeals (*hóu yīn* 喉音 'throat sounds')

The laryngeal initials of Middle Chinese are listed in Table 2.13. When the glottal stop symbol *ʔ-* is not available, the apostrophe *'-* may be used as a typable substitute. Also, for typographical convenience, *x-* represents a voiceless fricative initial and *h-* a voiced one; their exact position of articulation is difficult to determine, and may have varied from dialect to dialect (as the reflexes of these initials do today). Thus *x-* may represent phonetic [x] or [h], while *h-* may represent [ɣ] or [ɦ]. (This is the reason for Pulleyblank's multiple reconstructions in this group.)

*Table 2.13.* Middle Chinese laryngeal initials

| Baxter | Karlgren | Pulleyblank (EMC) |
|---|---|---|
| *ʔ-* | *·-* | *ʔ-* |
| *x-* | *χ-* | *x- ~ h-* |
| *h-* | *ɣ-* | *ɣ- ~ ɦ-* |
| *h(j)-* | *jɣ-* | *w- ~ H-* |

The initial listed as *h(j)-* was probably just an allophone of *h-*, as occasional *fǎnqiè* spellings seem to indicate, and my notation treats it as such.[45] In the rhyme tables, however, *h(j)-* is not in the same column with *h-*, but rather with palatal *y-*: *h(j)-* is placed in division III and *y-* in division IV, and both are labeled 喻 Yù (see above).

In modern dialects there may or may not be a phonetic glottal stop corresponding to MC *ʔ-*, but when tones split according to the voicing of the initial, syllables beginning with MC *ʔ-* generally followed the pattern of syllables with voiceless initials. MC *x-* and *h-* are usually represented by guttural fricatives of some kind. However, most dialects reflect the Late Middle Chinese merger of *y-* and *h(j)-*.

The traditional terms for these initials are

| | |
|---|---|
| 影 Yǐng < ʔJængX | *ʔ-* |
| 曉 Xiǎo < XewX | *x-* |
| 匣 Xiá < Hæp | *h-* |
| 喻 Yù < YuH | *h(j)-* and *y-*. |

As noted above, the distinction between *h(j)-* and *y-* may be represented by revising the traditional labels:

| | | |
|---|---|---|
| 云 Yún < Hjun | *h(j)-* | (or "喻三 Yù sān") |
| 以 Yǐ < YiX | *y-* | (or "喻四 Yù sì") |

### 2.3.11. Natural classes of initials

It is convenient to recognize certain natural classes of initials which emerge from an examination of their phonetic character and distribution.

First, we may divide the initials into "grave" and "acute", terms borrowed from the feature system of Jakobson and Halle (1971). Grave initials include the labials, velars, and laryngeals—those which are [– coronal] in the system of Chomsky and Halle (1968)—while acute initials include all the

rest, which are [+ coronal] (including *y-*, traditionally included among the laryngeals).[46] The distinction between grave and acute initials is fundamental in Chinese historical phonology; a number of sound changes affecting finals were limited to syllables with one type of initial or the other. For example, the Old Chinese final **-jan* becomes MC *-jon* after grave initials, but *-jen* after acute initials (merging with original **-jen*), as in

(43) 言 *yán* < *ngjon* < **ngjan* 'word, speak'

(44) 然 *rán* < *nyen* < **njan* 'to burn; thus'.

As a result of such changes, certain types of Middle Chinese finals (such as the *-jon* in the example above) occur only with grave initials, so that grave and acute initials have quite different distributions in Middle Chinese.

I will also classify Middle Chinese initials as "simple" or "complex". By simple initials I mean the set of nineteen listed in Table 2.14.

*Table 2.14.* Middle Chinese simple initials

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Labials: | *p-* | *ph-* | *b-* | *m-* | | | |
| Dentals: | *t-* | *th-* | *d-* | *n-* | | | |
| Lateral: | | | | | | *l-* | |
| Dental Sibilants: | *ts-* | *tsh-* | *dz-* | | *s-* | | |
| Velars: | *k-* | *kh-* | | *ng-* | | | |
| Laryngeals: | *ʔ-* | | | | *x-* | *h-* | |

The simple initials can be defined distributionally: they include all initials which occur with the so-called division-I finals of Middle Chinese (see below). As we shall see, the division-I finals are to be reconstructed in Old Chinese without medial **-j-* or **-r-*.[47] As a group, the simple initials lack secondary features of articulation such as palatalization or retroflexion.

The complex initials, listed in Table 2.15, never occur with finals of division I, and include the palatal and retroflex initials, plus *z-* and *g-*.

*Table 2.15.* Middle Chinese complex initials

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Retroflex stops: | *tr-* | *trh-* | *dr-* | *nr-* | | | |
| Dental sibilants: | | | | | | *z-* | |
| Palatals: | *tsy-* | *tsyh-* | *dzy-* | *ny-* | *sy-* | *zy-* | *y-* |
| Retroflex sibilants: | *tsr-* | *tsrh-* | *dzr-* | | *sr-* | *zr-* | |
| Velars: | | | *g-* | | | | |

We will see later that the complex initials of Middle Chinese reflect Old Chinese initial consonants which have been influenced by a following medial **-j-* or **-r-*; when there is no such medial, the Middle Chinese reflex is a simple initial.

Initials *z-* and *g-* look as if they belong among the simple initials, but I include them among the complex initials because of their distribution: they never occur with Middle Chinese division-I finals. From a synchronic point of view, this distribution is probably accidental, but the present classification is convenient for historical purposes.

## 2.4. The finals of Middle Chinese

As explained in Chapter 1, a final includes at least a main vowel; the vowel may also be followed by a coda, and it may be preceded by one or more medials. My Middle Chinese transcription has a similar structure. I will first summarize the elements which can occur in the various positions in my transcription, and then describe the finals of Middle Chinese in more detail.

The eight elements listed in Table 2.16 may occur in main-vowel position in my notation.

*Table 2.16.* Middle Chinese main vowels

| | | |
|---|---|---|
| *i* | *ɨ* | *u* |
| *e* | | *o* |
| *ɛ* | | |
| *æ* | a | |

These symbols may be made typable by substituting digraphs *-ae-* and *-ea-* for *-æ-* and *-ɛ-* respectively, and a plus sign *-+-* for *-ɨ-*. The letter *-o-* is probably best thought of as representing a mid back unrounded vowel [ʌ].

These main vowels may be followed by the codas in Table 2.17 (though not all combinations occur).

*Table 2.17.* Middle Chinese codas

| | | | | |
|---|---|---|---|---|
| *zero* | *-w* | | *-j* | *-ɨ* |
| *-ng* | *-wng* | *-m* | *-n* | |
| *-k* | *-wk* | *-p* | *-t* | |

The symbol *-i* is written as a coda only in the finals *-ɛi* and *-wɛi* (the 佳 Jiā rhyme of the *Qièyùn*). This is a notational device for distinguishing these finals from *-ɛj* and *-wɛj* (the 皆 Jiē rhyme) and *-æj* and *-wæj* (the 夬 Guài rhyme, which occurs only in *qùshēng*). It is doubtful whether *-ɛj*, *-ɛi*, and *-æj* were all distinct in any single dialect, but they are distinguished in the *Qièyùn*, and they have distinct Old Chinese origins, so it is useful to distinguish them notationally.

The combinations *-wng* and *-wk* may be taken literally, or interpreted as labiovelars /ŋ$^{w}$/ and /k$^{w}$/, or simply regarded as a notational trick to get by with fewer vowel symbols. It seems realistic, though, to regard them as codas distinct from *-ng* and *-k*. This idea is supported by the arrangement of the *Qièyùn*, where the rhymes ending in *-wng* (and their *rùshēng* counterparts in *-wk*) are placed together at the very beginning:[48]

東 Dōng (Tuwng)
冬 Dōng (Towng)
鍾 Zhōng (Tsyowng)
江 Jiāng (Kæwng)

By contrast, the other rhymes in *-ng* (like their *rùshēng* counterparts in *-k*) are farther down the list.[49] This arrangement suggests that the *Qièyùn* authors felt *-wng* and *-wk* to be different codas from *-ng* and *-k*.

The basic medials in my transcription are *-j-* and *-w-*; they may also occur in combination: *-jw-*. Words with the medial *-w-* are traditionally referred to as *hékǒu* 合口 'closed mouth', as opposed to the finals without it, which are *kāikǒu* 開口 'open mouth'. As Y. R. Chao showed (1941), the medial *-w-* is not contrastive after labial initials; that is, finals like *-an* and *-wan* do not contrast after labials. Labial-initial words are sometimes treated as *kāikǒu* in the rhyme tables, sometimes as *hékǒu*; in *fǎnqiè* spellings, too, a syllable like MC *pan* might have a *kāikǒu* final speller like *kan* or a *hékǒu* final speller like *kwan* (or it might be spelled with another labial-initial word like *man*). In my transcription, I write *-w-* after labial initials only in words which the *Qièyùn* places in a distinctively *hékǒu* rhyme. The purpose of this convention is to make the *Qièyùn* rhyme recoverable from the spelling. For example, I write

(45) 奔 *bēn* < *pwon* 'to run'

with *-w-*, even though there is no contrasting syllable *pon*, because it is placed in the *Qièyùn*'s 魂 Hún (Hwon) rhyme with the other words in *-won*, not in the 痕 Hén (Hon) rhyme with the words in *-on*. On the other hand, I write

(46) 瞞 *mán* < *man* 'deceive',

without *-w-* because *-an* and *-wan* are included in the same *Qièyùn* rhyme, 寒 Hán (Han).[50]

In addition to the basic medials *-j-* and *-w-*, I add an *-i-* after the medial, and before the main vowel, in order to represent certain of the *chóngniǔ* distinctions (about which more below). An example of a *chóngniǔ* distinction is the following pair:

(47) 弁 *biàn* < *bjenH* 'cap'

(48) 便 *biàn* < *bjienH* 'comfortable; convenient'

Though these two words have merged in modern dialects, they are placed in different homophone groups in the *Qièyùn*, and have different *fǎnqiè* spellings. Moreover, in the rhyme tables, 弁 *bjenH* is placed in division III, and 便 *bjienH* in division IV; for this reason, such syllables are referred to as "division-III" and "division-IV" *chóngniǔ* syllables, respectively. In my notation, division-IV *chóngniǔ* syllables, and only these, contain both medial *-j-* and *-i-* (either as *-ji-* or as *-jwi-*); division-III *chóngniǔ* syllables (and other division-III syllables) contain either *-j-* or *-i-* but not both. The *chóngniǔ* distinction has been interpreted by some as a difference in the medial, by others as a difference in the main vowel; my notation (similar to that of Li Fang-kuei 1971 [1980]) is a compromise intended to represent the distinction graphically while leaving its phonological interpretation open.[51]

### 2.4.1. Distributional classes of finals

As with the initials, it is convenient to have terms for distributional classes of Middle Chinese finals. Traditionally, finals are classified according to how they are placed in the rhyme tables: those Early Middle Chinese finals which the rhyme tables place in division I are called division-I finals, and so on. This terminology is convenient and commonly used, although we must remember that the rhyme tables represent Late Middle Chinese rather than Early Middle Chinese, and not all the categories of the later stage necessarily apply to the earlier. I discuss the finals of Early Middle Chinese by category below.

### *2.4.1.1. Division-I finals*

Division-I finals are those placed in division I of the rhyme tables. Their placement in the rhyme tables may be diagrammed as in Table 2.18, using the division-I final *-an* as an example.

*Table 2.18.* Division-I finals in the rhyme tables

| | *P-* | *T(r)-* | *K-* | *TS(r,y)-* | *l-* | *y-* |
|---|---|---|---|---|---|---|
| I | *Pan* | *Tan* | *Kan* | *TSan* | *lan* | — |
| II | — | — | — | — | — | — |
| III | — | — | — | — | — | — |
| IV | — | — | — | — | — | — |

In Table 2.18 and in similar ones to follow, syllable types containing the finals under discussion are listed in the place assigned to them by the conventions of the rhyme tables. The capital letters represent classes of initials:

- *P-* represents the labial initials *p-*, *ph-*, *b-*, and *m-*.
- *T(r)-* represents the dental and retroflex stop initials: *T-* stands for *t-*, *th-*, *d-*, and *n-* (placed in divisions I and IV), and *Tr-* stands for the retroflex stop initials *tr-*, *trh-*, *dr-*, and *nr-* (placed in divisions II and III).
- *K-* represents the velar and laryngeal initials *k-*, *kh-*, *g-*, *ng-*, *ʔ-*, *x-*, and *h-*.
- *TS(r,y)-* represents the affricate and fricative initials: *TS-* stands for the dental sibilants *ts-*, *tsh-*, *dz-*, and *s-*, placed in divisions I and IV, and *z-*, which occurs in division IV only; *TSr-* stands for retroflex sibilants *tsr-*, *tsrh-*, *dzr-*, *sr-*, and *zr-*, placed in division II only; and *TSy-* stands for the palatals *tsy-*, *tsyh-*, *dzy-*, *ny-*, *sy-*, and *zy-*, placed in division III only.

The initials *l-* and *y-* are listed separately, since they have special characteristics: *l-* is similar in distribution to the dental stops, but unlike them it occurs in all four divisions (though only marginally in division II); *y-* has the same distribution as the other palatals, but is placed in division IV instead of division III.

*Table 2.19.* The division-I finals

| MC finals | | Karlgren | | *Qièyùn* rhymes |
|---|---|---|---|---|
| *-a* | *-wa* | *-â* | *-uâ* | 歌 Gē (Ka) |
| *-ajH* | *-wajH* | *-âi-* | *-wâi-* | 泰 Tài (ThajH) (*qùshēng* only) |
| *-aw* | | *-âu* | | 豪 Háo (Haw) |
| *-an* | *-wan* | *-ân* | *-uân* | 寒 Hán (Han) |
| *-ang* | *-wang* | *-âng* | *-wâng* | 唐 Táng (Dang) |
| *-am* | | *-âm* | | 談 Tán (Dam) |
| *-oj* | *-woj* | *-ậi* | *-uậi* | 咍 Hāi (Xoj), 灰 Huī (Xwoj) |
| *-on* | *-won* | *-ən* | *-uən* | 痕 Hén (Hon), 魂 Hún (Hwon) |
| *-ong* | *-wong* | *-əng* | *-wəng* | 登 Dēng (Tong) |
| *-owng* | | *-uong* | | 冬 Dōng (Towng) |
| *-om* | | *-ậm* | | 覃 Tán (Dom) |
| *-u* | | *-uo* | | 模 Mú (Mu) |
| *-uw* | | *-ậu* | | 侯 Hóu (Huw) |
| *-uwng* | | *-ung* | | 東 Dōng (Tuwng) |

The division-I finals occur only with the nineteen simple initials (listed in Table 2.14 above). In my notation, division-I finals can be identified by the presence of one of the [+ back] vowels *-a-*, *-o-*, or *-u-* as main vowel, without a preceding *-j-* or *-y-*. (Recall that medial *-j-* is omitted by convention after initials spelled with *-y-*.) They include the finals in Table 2.19, listed with the *Qièyùn* rhymes in which they are placed. In this and similar tables below, I list only *píngshēng* rhymes (except for those finals which occur only in *qùshēng*). Except for occasional accidental gaps, the finals with nasal codas have corresponding finals in *rùshēng*, with *-p*, *-t*, *-k*, or *-wk* instead of *-m*, *-n*, *-ng*, and *-wng*. Karlgren's Ancient Chinese reconstructions are included for comparison.

In the *Qièyùn*, the division-I finals are normally found in rhymes by themselves, not combined with finals of other types in the same rhyme; the only exceptions are as follows:

- The 東 Dōng (Tuwng) rhyme includes both the division-I final *-uwng* and the division-III final *-juwng*.

- The 歌 Gē (Ka) rhyme includes both the division-I finals *-a* and *-wa* and a few words with the division-III finals *-ja* and *-jwa* (e.g. 迦 *jiā* < *kja*, used to transliterate Sanskrit *ka*, and 靴 *xuē* < *xjwa* 'boot').

### *2.4.1.2. Division-IV finals*

The division-IV finals are those which occur exclusively in division IV of the rhyme tables. (I also call them "pure division-IV finals" to distinguish them from the division-IV *chóngniǔ* finals, which are actually a subtype of the division-III finals; see below.) Their placement in the rhyme tables can be diagrammed as in Table 2.20, using the division-IV final *-en* as an example.

*Table 2.20.* Division-IV finals in the rhyme tables

| | *P-* | *T(r)-* | *K-* | *TS(r,y)-* | *l-* | *y-* |
|---|---|---|---|---|---|---|
| I | — | — | — | — | — | — |
| II | — | — | — | — | — | — |
| III | — | — | — | — | — | — |
| IV | *Pen* | *Ten* | *Ken* | *Tsen* | *len* | — |

The division-IV finals occur with exactly the same set of initials as the division-I finals: the nineteen simple initials, which show neither palatalization nor retroflexion. From an Early Middle Chinese point of view, then, the division-I and division-IV finals together form a natural distributional class. In my notation, the division-IV finals all have the main vowel *-e-*, not preceded by *-j-* or *-y-*. In Early Middle Chinese, the difference between division-I and division-IV finals is that division-I finals have back vowels, while division-IV finals have the front vowel *-e-*. The division-IV finals of Early Middle Chinese are listed in Table 2.21, with their *Qièyùn* rhymes. Division-IV rhymes are invariably placed in separate *Qièyùn* rhymes by themselves.[52]

By Late Middle Chinese, it is likely that a sound change had introduced a front glide before the vowel *-e-* in division-IV finals:

$$\emptyset \rightarrow j \,/\, C \_\_ e$$

As a result of this change, EMC *-en* merged with *-jien* in syllables with grave initials, and with *-jen* in syllables with acute initials.

*Table 2.21.* The division-IV finals

| MC finals | | Karlgren | | *Qièyùn* rhymes |
|---|---|---|---|---|
| *-ej* | *-wej* | *-iei* | *-iwei* | 齊 Qí (Dzej) |
| *-ew* | | *-ieu* | | 蕭 Xiāo (Sew) |
| *-en* | *-wen* | *-ien* | *-iwen* | 先 Xiān (Sen) |
| *-eng* | *-weng* | *-ieng* | *-iweng* | 青 Qīng (Tsheng) |
| *-em* | | *-iem* | | 添 Tiān (Them) |

### *2.4.1.3. Division-II finals*

Division-II finals are those placed exclusively in division II of the rhyme tables.[53] Their placement may be diagrammed as in Table 2.22, using the division-II final *-æn* as an example. In my transcription, division-II finals are those with the main vowel *-æ-* or *-ɛ-*, not preceded by *-j-* (or *-y-*). Division-II finals are basically limited to occurring with the labial, velar, laryngeal, and retroflex stop and sibilant initials (though they occasionally occur exceptionally with other initials[54]). The division-II finals are listed in Table 2.23, with their *Qièyùn* rhymes.

*Table 2.22.* Division-II finals in the rhyme tables

| | *P-* | *T(r)-* | *K-* | *TS(r,y)-* | *l-* | *y-* |
|---|---|---|---|---|---|---|
| I | — | — | — | — | — | — |
| II | *Pæn* | *Træn* | *Kæn* | *Tsræn* | — | — |
| III | — | — | — | — | — | — |
| IV | — | — | — | — | — | — |

Most of the division-II finals are in separate *Qièyùn* rhymes by themselves; the following are exceptions to this pattern:

- The 麻 Má (Mæ) rhyme contains both the division-II finals *-æ* and *-wæ* and the division-III final *-jæ*.
- The 庚 Gēng (Kæng) rhyme contains both the division-II finals *-æng* and *-wæng* and the division-III finals *-jæng* and *-jwæng*.

*Table 2.23.* The division-II finals

| MC finals | | Karlgren | | *Qièyùn* rhymes |
|---|---|---|---|---|
| *-æ* | *-wæ* | *-a* | *-wa* | 麻 Má (Mæ) |
| *-æjH* | *-wæjH* | *-ai-* | *-wai-* | 夬 Guài (KwæjH) (*qùshēng* only) |
| *-æw* | | *-au* | | 肴 Yáo (Hæw) |
| *-æn* | *-wæn* | *-an* | *-wan* | 刪 Shān (Sræn) |
| *-æng* | *-wæng* | *-ɒng* | *-wɒng* | 庚 Gēng (Kæng) |
| *-æwng* | | *-ɑng* | | 江 Jiāng (Kæwng) |
| *-æm* | | *-am* | | 銜 Xián (Hæm) |
| *-ɛi* | *-wɛi* | *-ai* | *-wai* | 佳 Jiā (Kɛi) |
| *-ɛj* | *-wɛj* | *-ăi* | *-wăi* | 皆 Jiē (Kɛj) |
| *-ɛn* | *-wɛn* | *-ăn* | *-wăn* | 山 Shān (Srɛn) |
| *-ɛng* | *-wɛng* | *-ɛng* | *-wɛng* | 耕 Gēng (Kɛng) |
| *-ɛm* | | *-ăm* | | 咸 Xián (Hɛm) |

The division-II vowels *-æ-* and *-ɛ-* had merged by Late Middle Chinese, and it is likely that this merger had already begun in some dialects at the time of the *Qièyùn*. Note that some of the division-II rhymes occur in pairs which are adjacent in the *Qièyùn*, one with *-æ-* and one with *-ɛ-*, both labels beginning with the same initial:

刪 Shān (Sræn) and 山 Shān (Srɛn)

庚 Gēng (Kæng) and 耕 Gēng (Kɛng)

銜 Xián (Hæm) and 咸 Xián (Hɛm)

Use of the same initial in the names of adjacent rhymes probably indicates that some dialects in Early Middle Chinese times did not distinguish these rhymes. There is also independent evidence for this fact. Judging from the annotations in the rhyme list at the beginning of the Wáng Rénxū version of the *Qièyùn* (see section 2.2.1.2 above), *-ɛ-* and *-æ-* in these finals were not distinguished in the *Yīnpǔ* 音譜, a rhyme book mentioned in the *Qièyùn* preface but now lost. Its author, Lǐ Jìjié 李季節, was a native of what is now southern Héběi who served the Northern Qí 齊 dynasty (550–577). Moreover, Zhōu Zǔmó (1943 [1966]: 417) gives examples which suggest that the finals *-æn* and *-ɛn* were not distinguished by Guō Pú 郭璞 (276–

324), also from north of the Yellow River. Yán Zhītuī, one of the *Qièyùn* authors, criticizes northerners for pronouncing

(49) 洽 [*qià*] < *hɛp* 'accord with'

like

(50) 狎 *xiá* < *hæp* 'disrespectful'.

(See Zhōu Zǔmó (1943 [1966]: 413.) However, it is not clear that such confusions were characteristic of all northern speech; some of the rhyme books mentioned in the Wáng Rénxū rhyme list as distinguishing *-æ-* rhymes from *-ɛ-* rhymes were written by Northerners.

In some cases where we would expect to find a pair of division-II rhymes, we find only one: for example, there is a rhyme *-æw* but no corresponding rhyme *-ɛw*. Perhaps *-ɛ-* and *-æ-* had already merged before *-w* by the time of the *Qièyùn*.

### *2.4.1.4. Division-III or palatalizing finals*

All the remaining finals not so far discussed belong in the class conventionally called "division-III finals". In my transcription, syllables with division-III finals are those which have one or more of the following characteristics: (1) medial *-j-*, (2) initials spelled with *-y-* (after which *-j-* is omitted by spelling rule), or (3) the main vowel *-i-*. These finals are called "division-III finals" because they occur in division III in the rhyme tables; but syllables with division-III finals may also occur in divisions II or IV, depending on their initials. These finals might better be called "palatalizing" or "yodising" finals, because they appear to have conditioned palatalized allophones of certain of the initials which preceded them—a phenomenon which Karlgren called "yodisation".

The evidence for palatalized allophones before division-III finals comes from a tendency in *fǎnqiè* spellings for the initial spellers of division-III words to be division-III words themselves. For example, the word

(51) 薑 *jiāng* < *kjang* 'ginger',

with the division-III final *-jang*, is spelled in the *Qièyùn* as

居良反
*jū liáng fǎn*, i.e. *k(jo) + (l)jang = kjang*

where the initial speller 居 *jū* < *kjo* also has a division-III final (*-jo*). On the other hand, words with non-division-III finals usually have non-division-III words as initial spellers; for example, the word

(52) 剛 *gāng* < *kang* 'hard; strong',

with the division-I final *-ang*, is spelled

古郎反
*gǔ láng fǎn*, i.e. *k(uX) + (l)ang = kang*

where the initial speller has the division-I final *-uX*. Words with division-I finals may also be used as initial spellers for words with division-II or division-IV finals, and vice versa, but there are few cases of crossover between division-III and non-division-III initial spellers.

This suggests that the *k-* initial which preceded division-III finals like *-jang* and *-jo* was somehow phonetically different from the *k-* initial which preceded other types of finals. The most natural assumption seems to be that initial spellers like 居 *jū* < *kjo* represented a front or palatalized allophone of the initial *k-*, conditioned by a following high front vowel or medial.[55] The tendency to spell palatalized allophones differently is most noticeable with grave initials. This interpretation fits well with the idea that the common feature of the division-III finals was a high front medial or main vowel *-j-* or *-i-*, as suggested by my transcription. I trace this feature to the influence of the Old Chinese medial **-j-*.

Note also that the palatal initials *tsy-* etc. occur only with division-III finals, while the dentals *t-*, *th-*, *d-*, and *n-* never occur with these finals. (Apparent cases of dental initials with division-III finals probably represent dialects where these initials were not distinct from the retroflex stops *tr-* etc.) Because of this distribution, the Middle Chinese palatals can in most cases be reconstructed as dentals which underwent palatalization before **-j-*:

**tj-* > *tsy-*
**thj-* > *tsyh-*
**dj-* > *dzy-*
**nj-* > *ny-*

Pulleyblank's interpretation of these facts (1984) is somewhat different, and as the issue bears on the reconstruction of Old Chinese, I will discuss his views briefly.[56] In his view, what the division-III finals of Early Middle Chinese have in common is that they all begin with one of the high vowels /i/, /ɨ/, or /u/. Finals of this type are assumed to reflect a distinctive Old

Chinese syllable type which Pulleyblank calls "type-B syllables", which originally had an accent on the first mora of the syllable.

While it is worthwhile to explore alternatives to the traditional view that division-III finals involve a high front medial, I see several problems with this aspect of Pulleyblank's reconstruction of Middle Chinese. For one thing, it seems more natural to attribute the development of the palatal initials *TSy-* to the influence of a high front glide than to the influence of vowel height alone. Also, attributing the distinctiveness of the division-III finals to the main vowel makes it difficult to account in a straightforward way for cases where division-III finals rhyme with finals of other types. For example, the 東 Dōng (Tuwng) rhyme includes both a division-III final which I write as *-juwng* and a division-I final which I write as *-uwng*. According to Pulleyblank's hypothesis, the division-III final must begin with a high vowel, and the division-I final cannot; thus he reconstructs the two finals of the 東 Dōng (Tuwng) rhyme as /-uwŋ/ and /-owŋ/ respectively, with different main vowels, even though they are in the same *Qièyùn* rhyme and rhyme with each other freely in poetry. Similarly, Pulleyblank's /-ian/ (my *-jon*) rhymes with his /-ən/ (my *-on*) but not with his /-ian/ (my *-jen*); his /-ian/ rhymes instead with his /-ɛn/ (my *-en*).[57]

The division-III finals are a large class which can be further subdivided in several ways. I will speak of the following classes:

- independent division-III finals
- mixed division-III finals
- *chóngniǔ* finals

Independent division-III finals

The independent division-III finals are also called "pure" division-III finals, because they occur only in division III of the rhyme tables. They also occur only with grave initials. Their placement in the rhyme tables may be diagrammed as in Table 2.24, using the independent division-III final *-jon* as an example.

*Table 2.24.* Independent division-III finals in the rhyme tables

| | *P-* | *T(r)-* | *K-* | *TS(r,y)-* | *l-* | *y-* |
|---|---|---|---|---|---|---|
| I | — | — | — | — | — | — |
| II | — | — | — | — | — | — |
| III | *Pjon* | — | *Kjon* | — | — | — |
| IV | — | — | — | — | — | — |

The finals of this class are listed in Table 2.25, with their *Qièyùn* rhymes.

*Table 2.25.* The independent division-III finals

| MC finals | | Karlgren | | *Qièyùn* rhymes |
|---|---|---|---|---|
| *-jij* | *-jwij* | *-ɟi* | *-wɟi* | 微 Wēi (Mjij) |
| *-jojH* | *-jwojH* | *-ɟɒi-* | *-ɟwɒi-* | 廢 Fèi (PjojH) (*qùshēng* only) |
| *-jin* | | *-ɟən* | | 殷 Yīn (ʔJin) |
| *-jun* | | *-ɟuən* | | 文 Wén (Mjun) |
| *-jon* | *-jwon* | *-ɟɒn* | *-ɟwɒn* | 元 Yuán (Ngjwon) |
| *-jæm* | | *-ɟɒm* | | 嚴 Yán (Ngjæm) |
| *-jom* | | *-ɟwɒm* | | 凡 Fán (Bjom) |

In the *Qièyùn*, these finals all occur in rhymes by themselves. The finals *-jæm* and *-jom* are virtually in complementary distribution and should probably be reconstructed the same, but I transcribe them differently in order to represent the *Qièyùn*'s distinction, even if it turns out to be artificial. The division-III finals of the 庚 Gēng (Kæng) rhyme, which I write as *-jæng* and *-jwæng*, are sometimes treated as independent division-III finals, but I prefer to include them among the division-III *chóngniǔ* finals instead (see below).

Labial initials occurring with any of the independent division-III finals later became labiodentals. This resulted from the change **labiodentalization**, which I formulate as applying to labial initials when followed by *-j-* plus a [+ back] vowel (see section 2.3 above). Here are some examples:

(53) 飛 *fēi* < *pjij* 'to fly'

(54) 廢 *fèi* < *pjojH* 'to abandon'

(55) 分 *fēn* < *pjun* 'to divide'

(56) 翻 *fān* < *pjon* 'to overturn'

(57) 凡 *fán* < *bjom* 'in every case'.

(Labial initials do not occur with the independent division-III finals *-jɨn* or *-jæm*.)

How did it come about that the independent division-III finals occurred only after grave initials? This distribution results from the sound change I call **acute fronting** (see Appendix A), which caused back vowels after **-j-* to become fronted in certain syllables with acute initials. For example, original **-jɨn* was fronted to MC *-in* after acute initials (merging with original **-jin*); but after grave initials, **-jɨn* remained distinct, as in the following examples:

(58) 振 *zhēn* < *tsyin* < **tjɨn* 'numerous; majestic'

(59) 斤 *jīn* < *kjɨn* < **kjɨn* 'axe; catty'

Similarly, **-jan* became MC *-jen* after acute initials, but remained as MC *-jon* after grave initials:

(60) 然 *rán* < *nyen* < **njan* 'to burn; thus'

(61) 言 *yán* < *ngjon* < **ngjan* 'word'

(MC *-jon*, phonetically probably [jʌn], is derived from OC **-jan* by the change ****a*-raising**.)

Eventually, the independent division-III finals merged with other, more fully-distributed finals; for example, EMC *-jon* merged with *-jen* in Late Middle Chinese.

### Mixed division-III finals

I call this group the mixed division-III finals because they are placed in divisions II, III, or IV of the rhyme tables, according to their initials. Their arrangement may be diagrammed as in Table 2.26, using the final *-jang* as an example.

*Table 2.26.* Mixed division-III finals in the rhyme tables

| | *P-* | *T(r)-* | *K-* | *TS(r,y)-* | *l-* | *y-* |
|---|---|---|---|---|---|---|
| I | — | — | — | — | — | — |
| II | — | — | — | *TSrjang* | — | — |
| III | *Pjang* | *Trjang* | *Kjang* | *TSyang* | *ljang* | — |
| IV | — | — | — | *TSjang* | — | *yang* |

The finals of this group are listed in Table 2.27, with their *Qièyùn* rhymes.

*Table 2.27.* The mixed division-III finals

| MC finals | | Karlgren | | *Qièyùn* rhymes |
|---|---|---|---|---|
| *-i* | | *-i* | | 之 Zhī (Tsyi) |
| *-ing* | *-wing* | *-i̯əng* | *-i̯wəng* | 蒸 Zhēng (Tsying) |
| *-ju* | | *-i̯u* | | 虞 Yú (Ngju) |
| *-jo* | | *-i̯wo* | | 魚 Yú (Ngjo) |
| *-ja* | *-jwa* | *-i̯â* | *-i̯wâ* | 歌 Gē (Ka) |
| *-jæ* | | *-i̯a* | | 麻 Má (Mæ) |
| *-jang* | *-jwang* | *-i̯ang* | *-i̯wang* | 陽 Yáng (Yang) |
| *-juw* | | *-i̯ŭ* | | 尤 Yóu (Hjuw) |
| *-juwng* | | *-i̯ung* | | 東 Dōng (Tuwng) |
| *-jowng* | | *-i̯wong* | | 鍾 Zhōng (Tsyowng) |

Although most of these occur in separate *Qièyùn* rhymes by themselves, a few occur in rhymes with division-I or division-II finals:

- The 歌 Gē (Ka) rhyme includes both the division-I finals *-a* and *-wa* and the rare division-III finals *-ja* and *-jwa*.
- The 麻 Má (Mæ) rhyme includes both the division-II finals *-æ* and *-wæ* and the mixed division-III final *-jæ*.
- The 東 Dōng (Tuwng) rhyme includes both the division-I final *-uwng* and the mixed division-III final *-juwng*.

Labial initials become labiodental before the finals *-ju*, *-jang*, *-juw*, *-juwng*, and *-jowng*, but not before *-i* or *-ing*; before the other finals of this group, labial initials do not occur.

*Chóngniǔ* finals

The traditional term *chóngniǔ* 重紐 'repeated button' refers to pairs of syllables in certain *Qièyùn* rhymes which have the following characteristics:[58]

- Both syllables begin with the same initial (always grave).
- Both syllables have division-III finals (in the broad sense of finals which induced palatalized allophones).
- The syllables do not contrast with each other as *kāikǒu* (no *-w-*) versus *hékǒu* (with *-w-*).
- The syllables are given distinct *fǎnqiè* spellings.[59]
- In the rhyme tables, one of the syllables is placed in division III, and one in division IV.

These pairs are the so-called *chóngniǔ* doublets, and their finals are called *chóngniǔ* finals; the finals of the *chóngniǔ* words which are placed in division III are called "division-III *chóngniǔ* finals", and the finals of the *chóngniǔ* words which are placed in division IV are called "division-IV *chóngniǔ* finals". The *Qièyùn* rhymes containing *chóngniǔ* doublets (which we may call "*chóngniǔ* rhymes") also contain acute-initial words, which show no such contrasts; the acute-initial words are assigned to divisions in the same way as acute-initial words with mixed division-III finals.

In my notation, the *chóngniǔ* words placed in division III are spelled with *-j-* or *-i-*, but not both, while those placed in division IV are spelled with both *-j-* and *-i-*. For clarity, I will also usually add "(III)" or "(IV)" to call attention to *chóngniǔ* finals. Here is a selection of examples of *chóngniǔ* contrasts from various rhymes:

In the 支 Zhī (Tsye) rhyme:

(62) 陂 *bēi* < *pje* (III) 'river bank; dyke'

(63) 卑 *bēi* < *pjie* (IV) 'low; humble'

(64) 虧 *kuī* < *khjwe* (III) 'to fail, lack'

(65) 窺 *kuī* < *khjwie* (IV) 'to pry, spy'

In the 脂 Zhī (Tsyij) rhyme:

(66) 器 *qì* < *khijH* (III) 'vessel; instrument'

(67) 棄 *qì* < *khjijH* (IV) 'to throw away'

(68) 媚 *mèi* < *mijH* (III) 'love; flatter'

(69) 寐 *mèi* < *mjijH* (IV) 'to sleep'

(70) 軌 *guǐ* < *kwijX* (III) 'wheel-axle ends; rut'

(71) 癸 *guǐ* < *kjwijX* (IV) '10th heavenly branch'

In the 真 Zhēn (Tsyin) rhyme:

(72) 貧 *pín* < *bin* (III) 'poor'

(73) 頻 *pín* < *bjin* (IV) 'river bank; frequently'

(74) 麕 *jūn* < *kwin* (III) 'fallow-deer'

(75) 均 *jūn* < *kjwin* (IV) 'even, equal'

(76) 筆 *bǐ* < *pit* (III) 'writing implement'

(77) 必 *bì* < *pjit* (IV) 'necessarily'

(78) 密 *mì* < *mit* (III) 'silent; dense'

(79) 蜜 *mì* < *mjit* (IV) 'honey'

(80) 乙 *yǐ* < *ʔit* (III) '2nd heavenly branch'

(81) 一 *yī* < *ʔjit* (IV) 'one'

In the 仙 Xiān (Sjen) rhyme:

(82) 弁 *biàn* < *bjenH* (III) 'cap'

(83) 便 *biàn* < *bjienH* (IV) 'comfortable; convenient'

(84) 眷 *juàn* < *kjwenH* (III) 'look on with affection'

(85) 絹 *juàn* < *kjwienH* (IV) 'kind of silk stuff'

In the 宵 Xiāo (Sjew) rhyme:

(86) 喬 *qiáo* < *gjew* (III) 'high; rising'

(87) 翹 *qiáo* < *gjiew* (IV) 'long tail-feather; piled up'

(88) 夭 *yāo* < *ʔjew* (III) 'beautiful; supernatural'

(89) 腰 *yāo* < *ʔjiew* (IV) 'waist; demand'

In the 侵 Qīn (Tshim) rhyme:

(90) 音 *yīn* < *ʔim* (III) 'sound'

(91) 愔 *yīn* < *ʔjim* (IV) 'mild, peaceful'

In the 鹽 Yán (Yem) rhyme:

(92) 淹 *yān* < *ʔjem* (III) 'submerge'

(93) 厭 *yān* < *ʔjiem* (IV) 'contented, tranquil'

By relying on the rhyme tables and on *fǎnqiè* spellings, it is usually possible to identify the division-III and division-IV *chóngniǔ* finals even for syllables which do not show minimal contrasts. For example, the word

(94) 巾 *jīn* < *kin* (III) 'kerchief'

is listed in division III of the *Yùnjìng*; we may assign it the division-III *chóngniǔ* final *-in* even though there is no contrasting division-IV *kjin* in *píngshēng*. Conversely, in *shǎngshēng* we have

(95) 緊 *jǐn* < *kjinX* (IV) 'to bind tight'

which the *Yùnjīng* places in division IV; we may assign it the division-IV *chóngniǔ* final *-jin* even though there is no contrasting division-III *kinX* in *shǎngshēng*.

The interpretation of these contrasts has been a matter of controversy for some time. The first point of controversy is whether the distinction needs to be represented at all in a reconstruction of Middle Chinese. The philologist Zhāng Bǐnglín 章炳麟 (1867–1936) believed that the *chóngniǔ* distinctions, like many of the other distinctions in the *Qièyùn*, were artificially retained in the *Qièyùn* from an earlier period. In this view he was followed by Wáng Lì, who omitted the *chóngniǔ* distinctions in his reconstructions of Middle Chinese.[60] Karlgren also failed to mark the *chóngniǔ* distinctions in his Ancient Chinese reconstruction, without clearly stating his reasons.

The *chóngniǔ* distinctions have been largely lost in modern dialects, and it is not implausible that they had already been lost in some Middle Chinese dialects; but it is hardly likely that they were merely an archaism in the *Qièyùn*. Traces of the *chóngniǔ* distinctions are found in Sino-Vietnamese and Sino-Korean, in the *man'yōgana* script used to write Old Japanese, and even in Yuán dynasty transcriptions of Old Mandarin in the 'Phags-pa

alphabet. There are also some corresponding distinctions in the Mǐn dialects (though it should be remembered that these separated from the other dialects before the *Qièyùn* period).[61]

A second issue is which, if either, of the *chóngniǔ* finals occurring after grave initials should be identified with the finals which occur after acute initials in the same rhymes. For example, in the 真 Zhēn (Tsyin) rhyme, along with *chóngniǔ* syllables like

(96) 貧 *pín* < *bin* (III) 'poor'

and

(97) 頻 *pín* < *bjin* (IV) 'river bank; frequently',

there are acute-initial words like

(98) 真 *zhēn* < *tsyin* 'real'.

Should the final in 真 *zhēn* < *tsyin* be identified with the final in 貧 *pín* < *bín* (III), or with the final in 頻 *pín* < *bjin* (IV)? Possible positions include the following:

1. That the words 真 *zhēn* < *tsyin* and 頻 *pín* < *bjin* (IV) had the same final, contrasting with that of 貧 *pín* < *bin* (III). This position was taken by Dǒng Tónghé (1948a [1974]) and Zhōu Fǎgāo (1948a [1968]) in their early papers on the *chóngniǔ* problem; Lǐ Róng (1956) also takes this position.
2. That the words 真 *zhēn* < *tsyin* and 貧 *pín* < *bin* (III) had the same final, contrasting with that of 頻 *pín* < *bjin* (IV). Shào Róngfēn takes this position (1982: 70–80).
3. That some acute-initial syllables had the same final as 貧 *pín* < *bin* (III), while others had the same final as 頻 *pín* < *bjin* (IV). Lù Zhìwéi took this position (1947 [1971]: 24–29): he identified the division-III *chóngniǔ* finals with the finals of the same rhymes which occur with retroflex initials and *l*-, and the division-IV *chóngniǔ* finals with the finals of the remaining acute-initial syllables. This position finds some support in *fǎnqiè* spellings.
4. That the distinction between the finals of 貧 *pín* < *bin* (III) and 頻 *pín* < *bjin* (IV) is simply neutralized after acute initials. This is the safest (and weakest) position, if one's phonological theory allows it.

For the present, I am content to adopt the last position, which at least does not conflict with the facts. In my Middle Chinese transcription, it is the

division-IV *chóngniŭ* finals which are specially marked, by being written with both *-j-* and *-i-*. But although this appears to favor the second position above, it is merely a graphic device and should not be taken as a phonological interpretation.

A third point of controversy is what part of the syllable the *chóngniŭ* contrasts should be assigned to. On this point there are two main positions:

1. that the distinction resides in the main vowel, and
2. that the distinction resides in the prevocalic medial.

The main-vowel solution, adopted by Dŏng Tónghé (1948a [1974]) and Zhōu Făgāo (1948a [1968]), is supported by the fact that the *chóngniŭ* distinctions can often be correlated with distinctions in Old Chinese rhyming. For example, division-IV 頻 *pín* < *bjin* and division-III 貧 *pín* < *bin* belong to different Old Chinese rhyme groups in the Qīng phonologists' analysis (traditionally labeled 真 Zhēn and 文 Wén respectively; see Chapter 4 below). It was correlations such as this that led Zhāng Bĭnglín to regard the distinctions as archaic and artificial in the *Qièyùn*.

But the medial solution, proposed by Kōno Rokurō (1939), Arisaka Hideyo (1937–39 [1957], 1962), Lù Zhìwéi 1947 [1971]: 24–29), and others, is supported by the fact that the *chóngniŭ* pairs are placed in the same *Qièyùn* rhymes. Both 頻 *pín* < *bjin* and 貧 *pín* < *bin* are in the *Qièyùn*'s rhyme 真 Zhēn (Tsyin), and it has been widely assumed that the *Qièyùn* authors, who drew very fine distinctions in assigning words to rhymes, would not put words with different main vowels in the same rhyme.[62] It is common, however, to have words with different medials in the same rhyme.

It is possible that both solutions are correct, but for different dialects or different time periods. The interpretation of the *chóngniŭ* distinctions will be discussed further in Chapter 7, where we will see that the *chóngniŭ* distinctions of Middle Chinese reflect Old Chinese distinctions in both the medial and the main vowel.

The *chóngniŭ* finals are listed in Table 2.28, with the *Qièyùn* rhymes in which they occur.

*Table 2.28.* The Middle Chinese *chóngniǔ* finals

| *Qièyùn* rhyme | | MC finals | Karlgren |
|---|---|---|---|
| 支 Zhī (Tsye) | III: | *-je, -jwe* | *-iɛ̨, iwɛ̨* |
| | IV: | *-jie, -jwie* | |
| 脂 Zhī (Tsyij) | III: | *-ij, -wij* | *-i, -wi* |
| | IV: | *-jij, -jwij* | |
| 祭 Jì (TsjejH) | III: | *-jejH, -jwejH* | *-i̯ɑ̈i-, i̯wɑ̈i-* |
| (*qùshēng* only) | IV: | *-jiejH, -jwiejH* | |
| 真 Zhēn (Tsyin) | III: | *-in, -win* | *-i̯ĕn, -i̯wɛ̨n* |
| | IV: | *-jin, -jwin* | *-i̯ĕn, -i̯uĕn* |
| 仙 Xiān (Sjen) | III: | *-jen, -jwen* | *-i̯ɑ̈n, -i̯wɑ̈n* |
| | IV: | *-jien, -jwien* | |
| 宵 Xiāo (Sjew) | III: | *-jew* | *-i̯ɑ̈u* |
| | IV: | *-jiew* | |
| 侵 Qīn (Tshim) | III: | *-im* | *-i̯ɘm* |
| | IV: | *-jim* | |
| 鹽 Yán (Yem) | III: | *-jem* | *-i̯ɑ̈m* |
| | IV: | *-jiem* | |
| 庚 Gēng (Kæng) | III: | *-jæng, -jwæng* | *-i̯ɒng, i̯wɒng* |
| 清 Qīng (Tshjeng) | IV: | *-jieng, -jwieng* | *-i̯ɑ̈ng, -i̯wɑ̈ng* |
| 幽 Yōu (ʔJiw) | IV: | *-jiw* | *-i̯ĕu* |

Table 2.28 includes three sets of finals which may be regarded as *chóngniǔ* finals in an extended sense:

1. The finals *-jæng* and *-jwæng* of the 庚 Gēng (Kæng) rhyme may be considered division-III *chóngniǔ* finals; the finals *-jieng* and *-jwieng* of the 清 Qīng (Tshjeng) rhyme may be considered the corresponding division-IV *chóngniǔ* finals. These finals bear the same relation to each other as the other division-III and division-IV *chóngniǔ* finals, except that they happen to have been put into separate *Qièyùn* rhymes. They are all division-III finals in the broad sense, and unlike the independent division-III finals, they did not cause labial initials to become labiodental. The finals *-jæng* and *-jwæng* are found in division III of the rhyme tables, while *-jieng* and *-jwieng* are found in division IV. To be consistent with the transcription of the other division-IV *chóngniǔ* finals, I write *-jieng* and *-jwieng* with both *-j-* and *-i-* when they occur after grave initials. The 清 Qīng (Tshjeng) rhyme