

THE HISTORICAL PHONOLOGY OF MANCHU DIALECTS

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Andrew Jonathan Joseph

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Andrew Jonathan Joseph, Ph. D.

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This dissertation investigates and compares the phonological systems of ten varieties of Manchu, covering the standard Written Manchu language and all attested major dialects, including Sibe and Jurchen. This dissertation sets out a comprehensive overview of segmental correspondences among these ten varieties, identifying the major sound changes and determining isoglosses, with the combined aims of elucidating the historical development and internal structure of the Manchu branch of the Tungusic family and deducing the key segmental phonological properties of the hypothesized common ancestor of the Manchu branch.

Chapter 1 provides background information on the Manchu language and its dialects, describing the linguistic ecology and providing a brief grammatical sketch of Written Manchu, as preliminaries to the remainder of the dissertation. Chapter 2 is devoted to consonantal phonology, presenting segmental inventories and describing all major consonantal sound changes. The primary focus is on weakening processes, but important mergers and splits are also discussed. Chapter 3 adopts a similar approach to vowel phonology, concentrating on assimilatory and reductive processes. Chapter 4 investigates the prosody of a single well-described dialect, Ilan Boo Manchu (aka Sanjiazi Manchu). After presenting the basic facts concerning the location of word stress and the related phenomena of vowel lengthening and syncope, the chapter concludes with a formal analysis in the framework of Optimality Theory. Special attention is given to the role of sonority in the assignment of stress. Chapter 5

concludes the dissertation with a discussion of the findings of the preceding chapters. This chapter interprets the principal isoglosses and proposes a cladistic classification of the internal structure of the Manchu branch. Lastly, this chapter reviews the many unresolved problems encountered in preceding chapters and suggests avenues for future research.

BIOGRAPHICAL SKETCH

Andrew Jonathan Joseph was born in San Francisco, California on June 12, 1967. He graduated from Harvard University in 1989, where he majored in East Asian Languages and Civilizations (AB *mcl*). He returned to academia in 2000 to pursue his Ph. D. at Cornell University. In 2005, he received a Fulbright scholarship to conduct research on the Manchu language in the People's Republic of China. He currently lives in New York City, New York.

For Jerry L. Norman, *Elbihe sefu* (1936-2012)

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CHAPTER ONE

INTRODUCTION

1.1. Preliminaries

The broad objective of this dissertation is to describe and analyze the phonological history of the Manchu language across the full range of its dialect diversity. It examines in detail the content and distribution of the most important sound changes that have taken place in Manchu and given rise to the diachronic diversification of a hypothetical common ancestor into the attested daughter dialects, past and present. This study aims to clarify the internal relations among the dialects and to reconstruct the key phonological characteristics of their immediate common ancestor, thereby shedding new light on the evolution of Manchu from its higher-order ancestor, proto-Tungusic. This introductory chapter is structured as follows: §1.2 presents a brief overview of the Manchu language. §1.3 describes the linguistic geography and ecology of varieties of Manchu. §1.4 introduces schemes for the classification of Manchu. §1.5 provides a sketch of Manchu grammar (phonology, morphology, and syntax). §1.6 lays out in more concrete terms the goals and methodology of this dissertation.

1.2 Overview: What is Manchu?

In the context of this dissertation, Manchu refers to a language group--that is, a clade of several distinct linguistic varieties or dialects, currently or formerly spoken in parts

of northwestern and northeastern China, including adjacent parts of Russia (see Table 5 for a list of Manchu dialects, including comparison of terminology encountered in the literature). This Manchu language group is uncontroversially recognized as a branch of the Tungusic family, although it goes by different names in different works, such as “(Jurchen-)Manchu” (Georg 2004), “Southern Tungusic” (Doerfer 1978), “Southwestern Tungusic” (Lewis 2009), or other similar names.¹ The Manchu group as a whole is severely endangered but still alive. Across all known extant varieties or dialects in the group, the number of speakers is not more than 30,000: there are roughly 27,000 speakers of a single variety, Sibe, and fewer than 100 speakers for all other varieties combined (*UNESCO Atlas of the World’s Languages in Danger*). Most historically attested or documented varieties--including Jurchen, Bala, and Alcuka--are extinct. In fact, the best-known and most studied member of the whole group, Written Manchu (WM; equivalently called “Classical Manchu”, “Literary Manchu”, and so on) is generally considered extinct, although there has been debate about whether any surviving varieties are descended from it.

WM, as the name suggests, is known through--and defined by--a body of texts written in the Manchu script.² WM served as a chancery language for the 清 Qīng state, which governed China from 1644 to 1912. In addition to the official documents

¹ The Tungusic family, also called Manchu-Tungus, is often grouped with the Turkic and Mongolic families into an Altaic phylum, though the genetic status of the latter entity is disputed.

² This script, formally promulgated in 1599 AD, is a slightly modified version of the Mongolian script, i.e., the so-called “Uyghur script” of Written Mongolian (WMong), based on the Uyghur alphabet, the latter itself a descendant of the Syriac script, a Semitic abjad.

of the imperial court, the Manchus also produced a massive literature, spanning numerous genres from poetry to erotica to travelogues. Of particular value for linguistic research are the many grammatical treatises and dictionaries of WM produced in and around the Qīng period. (For more details on the composition of the WM corpus, see especially Chase 1979; Crossley & Rawski 1993; and Norman 2003).

The status of other varieties of Manchu and the nature of their relationships among themselves and to WM are debated. Varieties such as Alcuka, Beijing, and Aigun are customarily regarded as “dialects” of a single Manchu “language” that includes WM. On the other hand, Jurchen and Sibe are each frequently described as distinct languages; there is also a proposal to treat the Bala variety, to take one example, either as a separate language or as a dialect of the Jurchen “language” rather than of the Manchu “language” (Ikegami 1993). In this dissertation, I will nevertheless refer to this variety as “Bala Manchu”, since I extend the name “Manchu” to the entire Jurchen-Manchu complex of linguistic varieties.³

1.2.1. Typological summary

All linguistic varieties in the Manchu group are typologically similar, particularly at higher levels of grammatical organization. In the phonology, the best-known characteristic of WM is its productive, clearly defined system of vowel harmony. The WM type seems to be the most conservative in the Manchu group; other varieties show divergences from the original system; in some, there is no longer any clear trace

³ On distinguishing Jurchen from Manchu, see Doerfer (1978). On the status of Sibe, see below and the sources cited there. For the proposal classifying Bala as a kind of Jurchen, see Mu 1987b, 1988a; and Ikegami 1993 [1999: 321-343].

of vowel harmony. Furthermore, the syllable structure of the Manchu group as a whole shows a strong tendency to avoid complex margins, particularly onsets. For example, no member of the Manchu group allows consonant clusters in word-initial position, whereas some varieties such as Sibe have been analyzed as allowing some word-final clusters as a result of historical vowel deletions.

The morphological profile of the Manchu group is typically agglutinative: relying on chains of affixes--here, suffixes--for nominal and verbal morphological processes; tending toward a one-to-one correspondence between suffixes and morphosyntactic categories (little or no syncretism or multiple exponence); and exhibiting relatively little modification of morpheme shapes. In syntax, the basic sentential word order across the Manchu group is SOV. Noun phrases may be re-ordered quite freely (though with different focus effects); their grammatical roles are typically indicated by the attachment of case suffixes. In the verbal domain, suffixes mark a wide range of categories of voice, mood, tense, and aspect. While WM has the richest inventory overall, and many of these suffixes are not documented for other varieties, there are also examples of more recently innovated suffixes outside of WM. Clauses are often linked by a class of verbal suffixes--markers of various non-finite forms in coordination and subordination structures--that traditional specialists have termed converbs (CONV).

1.3. Geography and ecology of Manchu

(See Map 1. Distribution of Manchu dialects and Table 5. Terms for varieties of Manchu)

1.3.1. Living varieties in the Manchu group

1.3.1.1. Sibe

The largest community of speakers of any extant linguistic variety in the Manchu group is the Sibe (Ch 錫伯 Xībó), who live primarily in the Ili river (Ch 伊犁河 Yīlí hé) area of the 新疆維吾爾自治區 Xīnjiāng Uyghur Autonomous Region, especially in the 察布查爾錫伯自治縣 Qapqal (WM Cabcal) Sibe Autonomous County, but also in adjacent parts of 伊犁哈薩克自治州 Ili Kazakh Autonomous Prefecture and surrounding prefectures, counties, and cities. The community is primarily descended from a Qīng military garrison that was dispatched from Manchuria in 1764 (Qiánlóng 28). The original migrants numbered several thousand troops and their households (Elliott 2001: 408n175).

According to recent estimates the roughly 27,000 speakers constitute less than one sixth of the official ethnic Sibe population of approximately 190,000. (By contrast, in 1987, Sibe speakers made up almost one third of the ethnic population.) Sibe is nevertheless described as “vigorous” particularly in rural areas, where transmission to children is still robust. Sibe has a written form based on the WM orthography with slight modifications. As of 2015 some publishing activity was still taking place, including a semi-weekly newspaper. However, there are reportedly very few monolingual speakers, and Sibe’s long-term prospects are unlikely to improve; it is currently classified as “severely endangered” by UNESCO. Despite this gloomy outlook, Sibe has been relatively healthy compared to other varieties in the Manchu

group, and may even be the best preserved of all the Tungusic languages and dialects. No doubt this is because of its former geographical isolation from Chinese. Currently, the lexicon and phonology are heavily influenced by Mandarin, and to a lesser extent by local Turkic and Mongolic languages, especially Kazakh.

1.3.1.2. “Amur Manchu” and “Nonni Manchu”

In the Manchurian homeland, the last remaining Manchu speakers live in small villages along the Amur (Ch 黑龍江 Hēilóngjiāng) and Nonni (Ch 嫩江 Nènjiāng) rivers in Hēilóngjiāng province. UNESCO recognizes “Amur Manchu” with an estimated 10 speakers (equivalent to Aigun Manchu in the terminology of this dissertation, and to “northern Manchu” in Doerfer [1978]’s terminology) and “Nonni Manchu”, also with an estimated 10 speakers (equivalent to Ilan Boo Manchu and Ibuci Manchu), both classified as “critically endangered”.

“Amur Manchu” refers to a variety of Manchu spoken along the south bank of the upper Amur, between modern-day 黑河 Hēihé in the west and 嘉蔭 Jiāyìn in the east. Historically, the center of this area was the Qīng garrison town of Aigun (WM Aigûn ~ Aihûn), known in Chinese as 瓊瑋 Àihún or 愛輝 Àihūi (now a district of Hēihé city). The last living speakers are from small village settlements including: 大五家子 Dàwǔjiāzi, 藍旗溝 Lánqígōu, 下馬廠 Xiàmǎchǎng, 小泡子沿 Xiǎopāoziyàn, 小五家子 Xiǎowǔjiāzi, (all in Àihūi district, Hēihé city); 四季屯 Sìjìtún and 霍爾莫津 Huò’ěrmòjīn (in Sūnwú county, Hēihé city); 宏圖村 Hóngtúcūn (in 遜克 Xùnkè county, Hēihé city); and in neighboring 嘉蔭 Jiāyìn county (under the administration

of 伊春 Yīchūn city). Published descriptions are based on the speech of Dàwǔjiāzi, taken as representative of “Amur Manchu” as a whole. In this dissertation, I use the term Aigun because it is marginally more familiar to western readers than its Chinese equivalents, and is derived from the Manchu placename.

“Nonni Manchu” refers to varieties of Manchu spoken along the lower Nonni river (Ch 嫩江 Nènjiāng ‘Nèn river’) in the environs of 齊齊哈爾 Qiqihar city (WM Cicigar hoton). There are two main communities: 三家子村 Sānjiāzi village (in 友誼 達斡爾族滿族柯爾克孜族鄉 Yǒuyì Daur Manchu Kirgiz township, 富裕 Fùyù county, Qiqihar city; WM *Ilan Boo*) and 依布气村 Yībùqì village (in 大興鎮 Dàxìng town, 泰來 Tàilái county, Qiqihar city). The varieties of Manchu spoken in these two communities differ from each other systematically; in this dissertation, they are treated as distinct types, termed *Ilan Boo Manchu* and *Ibuci Manchu*, respectively.

1.3.1. Extinct varieties in the Manchu group

1.3.1.1. Alcuka Manchu

Alcuka Manchu was formerly spoken across a broad swath of northern Manchuria, along the middle reaches of the Sunggari river⁴ (Ch 松花江 Sōnghuājiāng ‘Sōnghuā river’) and its local tributaries (see Map 2). This variety is named for one such tributary, the Alcuka river (Ch 阿什河 Āshíhé ‘Āshí river’), which also gave its name

⁴ The usual English spelling is “Sunggari”, but I have opted to use the romanized spelling of WM *Sunggari*.

to the principal settlement, modern-day 阿城 Āchéng, currently a county-level suburban district of the city of 哈爾濱 Harbin. The range of Alcuka Manchu originally stretched from Bedune (aka Petuna, Ch 伯都訥 Bódūnè, near modern-day 松原 Sōngyuán in 吉林 Jílín province) in the west to Ningguta (near modern-day 寧安 Níng'ān in Hēilóngjiāng province) in the east, and from the 呼蘭 Hūlán-慶安 Qìng'ān area in the north to the 通化 Tōnghuà area in the south (in southern Jílín province). Inside this region--bounded roughly by the upper Sunggari and two of its tributaries, the 呼蘭 Hūlán and 牡丹 Mǔdān rivers--were pockets of other varieties, namely Lalin (the speech of Beijing Manchus re-settled in the Alcuka region sometime after 1744 [Qiánlóng 9]) and Bala (the speech of Manchus living in the hilly terrain of the 張廣才嶺 Zhāngguǎngcái Range), on which see below. Alcuka Manchu reportedly became extinct in the 1960s or 1970s. Its last speakers lived in small villages in the vicinity of Harbin, including 疙疸木屯 Gēdamù village in 亞溝鎮 Yàgōu town, Āchéng district of Harbin.

1.3.1.2. Bala Manchu

Bala Manchu became extinct in the 1970s or 1980s. Its last speakers lived in the vicinity of Harbin in Hēilóngjiāng province: in Āchéng (district of Harbin); in 双城 Shuāngchéng, 尚志 Shàngzhì, and 五常 Wǔcháng (currently county-level satellite cities under the administration of Harbin); in 賓 Bīn, 巴彥 Bāyàn, 木蘭 Mùlán, 通河 Tōnghé, and 延壽 Yánshòu (rural counties under the administration of Harbin); and in

大羅勒密 Dàluólèmi village (in 方正 Fāngzhèng county, Harbin) and 方臺 Fāngtái village (in 呼蘭 Hūlán, currently a county-level suburban district of Harbin). These speakers had been resettled to the above communities as part of the collectivization policies of the People's Republic of China following the Communist revolution, from their earlier home in the upland forested regions of the 張廣才嶺 Zhāngguǎngcái Range, near the headwaters of the 莫尼 Mòní⁵ and 牡丹 Mǔdān (WM Hûrha) rivers. According to genealogical documents and oral traditions, the Bala Manchus had heterogeneous origins. Some were indigenous to the Zhāngguǎngcái region; others were descended from Qīng soldiers attached to the post station at 尚堅城 Shàngjiānchéng (in modern-day 白城 Báichéng, a prefecture-level city in northwestern Jílín province); and others were hunters and fishermen from the middle Sungari river in the region of its right tributaries, the Lalin, Alcuka, and Hûrha (= 牡丹 Mǔdān) rivers. The latter groups apparently deserted from--or fled to avoid conscription into--the military organization of the rising Qīng state.

1.3.1.3. Beijing and Lalin Manchu

In 1644, the Qīng occupied the former Míng capital of Beijing. Manchus have been living there ever since. The variety of Manchu that they spoke reportedly became extinct in Beijing in the 1920s or 1930s.

A group of Beijing Manchus was resettled to the region around Lalin (near modern-day 拉林滿族鎮 Lālín Manchu town, in Wŭcháng city, Harbin, just north of

⁵ Exact identity unknown.

the Lalin river, which forms part of the modern border between Hēilóngjiāng province and Jílín province, in the heart of the Alcuka Manchu area) sometime after 1744 (Qiánlóng 9), a century after the conquest of Beijing. The purpose of this move was to increase the grain supply by funneling inactive military personnel from Beijing into the agricultural work force. These soldiers-turned-farmers were placed into state-sponsored military farms on uncultivated land surrounding a regional granary at Lalin.

There is some disagreement as to the actual date that Beijing Manchus arrived in this region. According to R. Lee (1970: 39), the imperial decree establishing the military farms did not come until 1812 (Jiāqing 16), and the first Beijing Manchus did not arrive until 1824 (Dàoguāng 3). In any event, the endeavor appears to have been unsuccessful. The resettled Beijing Manchus had long since become thoroughly urbanized and were unaccustomed to the agricultural lifestyle. Most of the land (and the labor) was transferred to Han Chinese immigrants, even though their presence in the region was technically illegal until 1860 (R. Lee 1970: 103). Some of the resettled Manchus returned to Beijing (Elliott 2001: 313).⁶

As the Qīng policy of excluding Han Chinese from the Manchurian frontier was gradually relaxed as a way to counter Russian expansion in the region, Mandarin replaced Manchu as the language of daily communication among the Lalin Manchus. The crucial turning point, however, was the construction of the Jilin-Harbin rail connection in the early 1930s (Y. Mu 1986b: 2). This line, running right through the middle of the Lalin Manchu zone, brought huge numbers of Han Chinese worker-

⁶ This is significant because it might explain the presence of occasional “northern” dialect features in Beijing (and Lalin) Manchu.

settlers into the area (L. Young 1998 *passim*). Lalin Manchu survived until the 1960s but is now assumed to be extinct.

Published descriptions (Y. Mu 1986b, 1987a) are based on the speech of townships in the environs of 拉林滿族鎮 Lālin Manchu town (in Wūcháng city, Harbin); townships around 料甸滿族鄉 Liàodiàn Manchu village (in Āchéng district, Harbin, about 50 km northeast of Lalin); villages of Shuāngchéng district (in Harbin, about 40 km west of Lalin); and other villages in the southern suburban areas of Harbin.

The two subdialects are extremely similar to each other, and are therefore often treated by linguists in China as a single 京·拉 Jīng-Lā ‘Beijing-Lalin’ dialect. According to Y. Aisin-Gioro, the Beijing(-Lalin) dialect was also recognized by traditional scholars of Manchu, who referred to it as “Western Manchu” on the basis of Beijing’s approximate geographical position relative to the Manchu heartland lying to the east (and north) in the 遼東 Liáodōng region of Manchuria.

1.3.1.4. Written Manchu (WM)

As discussed above, the variety of Manchu of greatest historical importance is WM. This language is generally understood to be based on the speech of a region of southern Manchuria extending from the 遼東 Liáodōng peninsula in modern-day 遼寧 Liáoníng province into Jílín province, as spoken around the time of Nurhaci (1559-1626), the founder of the 後金 “Latter Jīn dynasty”, subsequently renamed the Qīng dynasty in 1636. On the basis of its southern locus with respect to the overall range of

Manchu, the variety underlying the WM standard is often called “southern Manchu”. During the Míng period (1369-1644), roughly the same region was known as 建州 Jiànzhōu, giving rise to the equivalent term, “Jiànzhōu Manchu”. Before the Qīng conquest of Beijing in 1644, the Latter Jīn/Qīng polity established a string of early headquarters and capitals at several locations in Liáoníng province: Fe Ala (WM for ‘old hill’ = Ch 佛阿拉 Fó Ālā) and Hetu Ala (‘broad hill’ = Ch 赫圖阿拉 Hètú Ālā; later renamed Yenden ‘ascent’ = Ch 興京 Xīngjīng) in modern-day 新賓滿族自治縣 Xīnbīn Manchu Autonomous County in 撫順市 Fǔshùn city; Dergi Hecen (‘upper capital’ = Ch 上京 Shàngjīng) at modern-day 遼陽 Liáoyáng; and Mukden (‘flourishing’ = Ch 盛京 Shèngjīng) at 瀋陽 Shěnyáng. On the assumption that this area forms the geographical core of WM’s underlying dialect, some scholars refer to the corresponding spoken language as “Yenden-Mukden Manchu”.

Southern Manchu is often informally conflated with WM. However, other sources for southern Manchu speech are also available, such as Korean transcriptions (in the alphabetic Hangŭl script) found in dictionaries and pedagogical manuals, as well as early European descriptions. The language in these sources differs only slightly from the WM standard. For the purposes of the current study, the primary value of this material lies in disambiguating certain phonetic and phonological distinctions that are not recorded consistently in the WM orthography. (For example, the WM spelling io can be ambiguous between /io/ [iɔ] and /iu/ [iu]; in some Korean sources, these diphthongs are distinguished systematically. See J. Ikegami 1950, 1954; 1963; 1990 [1999] and H. Lie 1972.)

1.3.1.5. Jurchen

The Jurchens were a Tungusic people of Manchuria who established the 金 Jīn dynasty (1115-1271 AD) in the twelfth century and ruled most of northern China until they were defeated by the expanding Mongol empire in East Asia, under the Chinese dynastic name 元 Yuán (1271-1368 AD). The Jurchens left behind several different kinds of written linguistic data, to be described briefly here, on the basis of more complete discussions in Kane (1989) and Sun (2004).

Before the rise of the Jīn state, elite Jurchens wrote in the Khitan language, in the Khitan script (Kane 1989: 2). There is mounting evidence that Khitan was related to the Mongolic language family (Janhunen 2003). A new script based on Khitan was officially created to write the Jurchen language in 1120 AD, with a further modification or expansion of the official script in the period 1138-1145 AD; as Kane points out (1989: x), Jurchen is thus the earliest Tungusic language attested in a native script. (The Khitan language continued to be used as a written language by some Jurchens at least until the 1140s, and was not officially abolished until 1191 AD.)

This “Early Jurchen” language--that is, the language of Jīn-dynasty inscriptions in the Jurchen script, as well as vocabulary items collected in Chinese historical sources pertaining to that period--presents many difficulties and has not yet been fully elucidated.

After the fall of the Jīn state in 1271 AD, the Jurchens in Manchuria continued to use the Jurchen script throughout the following Yuán dynasty and into the Míng period. (The most recent extant inscription in the Jurchen script is the 奴兒干永寧寺碑 Nurgan Yongning Temple Stele inscription, dated 1413 AD; the Qīng officially

abolished the Jurchen script in 1658 AD.) The Jurchen language and script were studied throughout the Míng period for the purposes of diplomatic communications, at the Bureau of Translators and the Bureau of Interpreters. Sometime around 1400 AD, the Bureau of Translators produced a Sino-Jurchen vocabulary of approximately 900 entries in the Jurchen script with Chinese-character phonetic transcriptions. This “Middle Jurchen” language exhibits obvious similarities to WM (See Kiyose 1977).

The Míng dynasty Bureau of Interpreters produced a similar Sino-Jurchen vocabulary with Chinese phonetic transcriptions, but without Jurchen script. According to Kane (1989: x), this material reflects the “Late Jurchen” spoken language of the 16th century. Even more than “Middle Jurchen”, this variety is very close to WM.

In my view, only the “Late Jurchen” (LJ) materials are of sufficient phonetic detail to allow plausible reconstructions that may be compared--cautiously--with WM and other varieties of the Manchu group.

1.3.1.5.1. Jurchen and Manchu

The vexing problem of the relationship between Jurchen and Manchu deserves some additional explanation. (For a more detailed discussion, see Elliott 2001, esp. 47-52.) In part, the problem is a terminological one. As Elliott notes, “...in the beginning, there was no Manchu nation, only Jurchen tribes” (47). It is generally accepted that the Jurchens of the Míng period were descended from the Jurchens of the Jīn period. By around 1400, the Jurchen tribes were divided into three main groups, known to their Chinese and Korean neighbors as the 建州 Jiànzhōu, the 海西 Hǎixī, and the 野人

Yě rén. The Jiànzhōu Jurchens were settled in southern Manchuria, near Liáodōng, before 1600, but historical records suggest that they had migrated there from the lower Sunggari basin, farther east and north, after 1400. The Hǎixī Jurchens seem to have inhabited the upper Sunggari, upper Hūrha (= 牡丹 Mǔdān), and upper Usuri⁷ (Ch 烏蘇里江 Wūsūljīāng ‘Wūsūlǐ river’) basins, north of the Jiànzhōu Jurchens. The Yě rén or “東海 Dōnghǎi” Jurchens were located farther to the north and east of the Jiànzhōu and Hǎixī groups, along the lower Hūrha and lower Usuri rivers.

In the late 16th century, there was a power struggle among the Jurchen elite. Nurhaci, a member of the Gioro clan, embarked on a military unification, first of the Jiànzhōu Jurchen tribes, later gradually incorporating or destroying clans of the Hǎixī and Yě rén groups. By around 1620, he had succeeded in creating a “pan-Jurchen confederation” dominated by the Jiànzhōu group, but Nurhaci died in 1626, before the conquest of China. He was succeeded by his eighth son, Hong Taiji (1592-1643). In 1635, as part of his consolidation of power, Hong Taiji officially established “Manchu” (WM *Manju*) as the name for all of the Jurchens in the new confederation, and in 1636 discontinued the “Latter Jīn” dynastic name in favor of 大清 “Great Qīng” (WM *Daicing*).

It is worth emphasizing here that the change from “Jurchen” to “Manchu” was, at the time, linguistically arbitrary. For example, the so-called “Manchu” script was, strictly speaking, a writing system for “Jurchen” when it was devised in 1599. In part because of this continuity, one commonly encounters statements that Manchu is

⁷ The usual English spelling is “Ussuri” based on the Russian spelling, but I have opted to use the romanized spelling of WM *Usuri*.

descended from Jurchen, or that Late Jurchen is equivalent to early Manchu. In fact, as a linguistic matter, it remains to be demonstrated that WM (or the southern Manchu spoken language) is a lineal descendant of, say, a particular form of Míng-era Jurchen, just as it remains to be demonstrated that Míng-era Jurchen is a lineal descendant of Jīn-era Jurchen. Similarly, it is by no means clear that “Jurchen”, understood as the total set of linguistic specimens named “Jurchen” or written in the “Jurchen” script, meaningfully constitutes a single language opposed to “Manchu”. It may be that all of these linguistic varieties constitute a single language; or there may be two (or more) languages that nevertheless do not coincide with the terms “Jurchen” and “Manchu”.

1.4. Classification

(See Fig 1. Family tree of Tungusic⁸)

1.4.1 Manchu within Tungusic

The Manchu language group is a branch of the Tungusic family of languages. The problems of the exact number of languages in the family and their phylogenetic arrangement have not yet been fully resolved, although a prevailing view of the broad

⁸ For the name of the language family and of its member languages (though not the classification), I have opted to follow the standard spellings in *Ethnologue*, with the exception of Sibe, which is spelled “Xibe” there. Each language is known by a frustrating array of variant names and spellings. For example, Ulch is also known as Olch, Ulchi, Olchi, Ulcha, Olcha, etc. NB: The representation of the Manchu group in Fig. 1 is *not* the one argued for later in this dissertation but rather a typical treatment found in classifications of the family. Here, the focus is on the place of the Manchu group, as a group, within Tungusic.

outlines has emerged. In all proposals for Tungusic classification that include Jurchen, it is grouped with Manchu in what is here called the Manchu group. In some treatments, Jurchen is handled as a distinct language that is the parent of Manchu. Sibe, if it is mentioned at all, is grouped with Manchu, though sometimes as a daughter. In most proposals including the currently dominant view, Manchu, Sibe, and Jurchen belong to a wider primary Southern Tungusic branch that includes the Nanai group (i.e., at least Nanai, Ulch, Oroch).⁹ The other primary branch is Northern Tungusic, which includes Evenki and Even, at a minimum.¹⁰ The Udihe group (consisting of two closely related languages, Oroch¹¹ and Udihe) is described as transitional between Northern and Southern Tungusic. Although there have been proposals to place the Udihe group with the Nanai group in a “Southeastern” or “Eastern” branch, the prevailing view has recently returned to a traditional scheme in which the Udihe group is assigned to Northern Tungusic.

⁹ Certain Tungusic varieties that have traditionally been treated as dialects of Nanai such as Kur-Urmi, Kili, or Hezhe(n)--possibly all one language, distinct from Nanai--are sometimes considered distinct languages, either within the Nanai group or within Southern Tungusic. The main counterproposal (Kazama #####) has the Manchu group and the Nanai group as separate higher-order clades under proto-Tungusic.

¹⁰ Again, there are problematic varieties such as Oroqen, usually considered a separate language extremely close to Evenki; Negidal, sometimes treated like Oroqen as a separate language close to Evenki, but sometimes considered a primary Northern language (a sister of Evenki and Even); and Ewenke or Solon, sometimes treated like Oroqen as a separate language close to Evenki, sometimes treated as a dialect of Evenki.

¹¹ A Tungusic variety known as Kiakar, Kjakar, Kyakala, Qiahala, etc., is sometimes identified as a distinct primary unit of the Udihe group, but more often considered a dialect of Oroch.

1.4.2. Internal structure of the Manchu group

Other linguistic varieties in the Manchu group have typically been subsumed under a generic Manchu label. The internal structure of the Manchu group is not clearly established; on the contrary, one of the goals of this dissertation is to elucidate that structure. Subgrouping will be discussed more thoroughly in Chapter 5, below. Here, I summarize the geographically-oriented scheme that has been put forward in linguistic work on Manchu dialects, mostly by scholars in China. According to the view of Y. Mu (1985, 1986a, 1986b, 1987a, 1987b, 1988a, 1988b), adopted and refined by Y. Aisin-gioro (1986, 1987, 1993) and discussed in B. Li (1996: 37-8), Manchu had four main dialect groups: northern Manchu (Alcuka, Bala); eastern Manchu (aka Ningguta Manchu, from which sprang Aigun, Ilan Boo, and Ibuci); southern Manchu (aka “Jiànzhōu” Manchu, the dialect spoken in Liáoníng and Jílín upon which WM was based); and western Manchu (the dialect of Manchus in Beijing after 1644, which later gave rise to Lalin Manchu when some speakers were resettled to Lalin in the 18th or 19th century).¹² As far as I am aware, Y. Mu did not include Sibe in his comments on classification. Y. Aisin-gioro, following Anggiyûn 1985, proposed that Sibe is a direct descendant of southern Manchu.

This overall grouping scheme must be considered informal and essentially descriptive; nowhere is it claimed or implied to be a cladistic hypothesis. Although linguistic similarity is invoked to support the classification, there is little or no attempt to distinguish between innovations and retentions, or between inherited and contact-induced features. Rather, the scheme appears to reflect a received pre-modern tradition

¹² For the locations of these groupings, consult Map 1.

based on native speakers' intuitions about dialect differences. Nevertheless, certain groupings such as “western Manchu” unite dialects that are phonologically so overwhelmingly similar that it is difficult to imagine any formal scenario that would split them.

As for the hypothesis that Sibe is a descendant of southern Manchu (i.e., the language standardized as WM), Anggiyûn 1985 offers some linguistic arguments, but he does not always clearly distinguish between southern Manchu (or WM) and other varieties in the Manchu group. So, for example, in arguing against the view that Sibe is a separate language from Manchu, he points out that some supposedly unique features of Sibe (such as the comitative/instrumental suffix [-maq]) are actually shared with “Manchu”; but in this case and several others, it turns out that the feature in question is shared with Ilan Boo Manchu specifically (i.e., an “eastern Manchu” variety), and not with southern Manchu or WM. (On the status of Sibe and its relationship to WM, see also S. Li 1983, J. Zhao 1988, and Y. Aisin-gioro 1989, 1990, 1992.)

Furthermore, J. Ikegami (1993 [1999: 321-343]) has pointed out connections among Alcuka, Bala, and Jurchen, especially between Bala and “Middle Jurchen”, the variety recorded around the middle of the 明 Míng period (1368-1644) in the glossary of the Bureau of Translators, which he calls 乙種本 “Type B” Jurchen. That is, he has elaborated certain phonological and lexical similarities within the dialect grouping called “northern Manchu” in the Mu/Aisin-gioro scheme. Although the similarities are striking, they clearly involve archaic features, i.e. retentions. Furthermore, the sound

correspondences in the relevant lexical items often seem to be exceptions to the regularly occurring sound correspondences.

As this overview suggests, there are many unanswered questions regarding the internal structure of the Manchu group. One of the goals of this dissertation is thus to elucidate that internal structure, with a specific focus on phonological processes.

1.5. Grammar

In this survey of Manchu grammar, the variety treated is WM, mostly out of necessity. As noted above, WM is the best-studied variety, and the one that preserves the richest morphological apparatus. As a practical matter, it is usually easy to identify the WM correlate of a phenomenon from another variety, whereas conversely, finding the reflex of a given WM morpheme, construction, or lexical item in another variety of Manchu may be difficult or impossible within the limits of available data. In its details, this description is valid only for WM and, by assumption, the southern Manchu speech around 1600 on which it was based.

1.5.1. Phonology

1.5.1.1. Consonants

In this section, I describe the consonant inventory and comment on important distributional facts and allophonic processes.

Table 1. Consonant phonemes of WM

	labial	alveodental	alveopalatal	dorsal
--	--------	-------------	--------------	--------

stops	p b	t d		k g
affricates			tʃ dʒ	
fricatives	f	s	ʃ	x
nasals	m	n		ŋ
liquids		r l		
glides	(w) ¹³		j	

The phoneme /p/ is marginal in the sense that it does not contrast robustly with /b/ and /f/, as follows: In the core native vocabulary (excluding loans and sound-symbolic words), [p] is essentially restricted to word-medial (post-consonantal) onsets such as [-mp-], where [f] either does not occur or is attested only as a rare variant of [p]. Similarly, although both [-rp-] and [-rf-] occur, each is attested only in very small numbers of native-looking words, with no minimal pairs. In other words, [p] is in near-perfect complementary distribution with [f], where [f] is the default realization occurring in the wider range of environments, thus phonologically /f/.

In codas, only the WM letter is found, never <p> or <f>. There is a tendency in the literature to treat this segment as a phonological /b/, but as I will discuss in greater detail below, this coda can be analyzed as a generic labial obstruent /P/ resulting from neutralization of laryngeal features in codas. Thus, the three-way surface distinction represented by <p, b, f> can be reduced to two phonemic segments, /b/ and /f/, for the core native lexicon. However, with the inclusion of loanwords and sound-symbolic words, minimal triplets, though infrequent, are attested, e.g.:

¹³ Many analyses assume a labial glide phoneme /w/ in words with WM initial *w*-[w-].

pile- ‘to comment on, to criticize’ (< Ch 批 pī ‘id.’)

bile- ‘to lay eggs’

file- ‘to warm oneself by a fire’

Therefore, a synchronic treatment over the entire WM lexicon requires /p, b, f/.

The dorsal obstruents /k, g, x/ have uvular allophones [q, ɢ, χ] conditioned by the tongue root position of following vowels. Before [rtr] vowels /a, ɔ, u/, only uvular [q, ɢ, χ] are found; elsewhere, only velar [k, g, x] are found. Similar to the labial obstruents, the WM orthography allows only <k> in codas, but there is no contrast among /k, g, x/ in that position, such that an analysis as a generic dorsal obstruent /K/ is possible.

The alveopalatal fricative /ʃ/ is often described as allophonically fronted to alveolar [ç] before the front vowel /i/.¹⁴

WM <n> is never followed by a heterorganic consonant, due to a productive synchronic process whereby /n/ assimilates to the place of articulation of a following consonant. Thus, while heterorganic [mk], [ŋt], etc. are permitted, **[nk], **[np], etc. are not.¹⁵

1.5.1.1.1 Laryngeal features

¹⁴ In some treatments, the affricates /tʃ, dʒ/ have alveolar allophones [tç, dʒ] in the same environment.

¹⁵ There are a few exceptional spellings that appear to show /-n.k-/, such as *nin̄ki-* ‘to search for a doe (said of buck deer)’ and perhaps *cankir* /ʃan.kir/(?) ‘myna (bird)’, though the latter is also attested as *cangkir* /ʃan.kir/, and is most likely a loanword in any case.

In the field of Tungusic phonology, one may speak of a “Russian” school and a “Chinese” school. According to the Russian school, most Tungusic languages have a single laryngeal contrast of [voiceless] vs [voiced] among plosives (oral stops and affricates). According to the Chinese school, most Tungusic languages spoken in China--including most varieties of Manchu--have a single laryngeal contrast of [aspirated] vs [unaspirated] (or [+spread glottis] vs [–spread glottis]). On the abstract phonological level, both schools agree that there is a single laryngeal contrast, and the segmental membership of the contrasting sets is not a major problem. Therefore, some scholars have chosen more abstract labels like [fortis] vs [lenis]. This approach is taken, for example, by Norman (1974: ###) in his description of Sibe plosives.

On the subject of Manchu, Zakharov (1875: 59) proposed that the contrast was originally one of [voiceless] vs [voiced], like all the other Tungusic languages in the analysis of the Russian school. Due to contact with Chinese--in this instance, northern Mandarin--the original voicing distinction was re-implemented as an aspiration contrast after the classical period of WM in the first half of the 17th century. This view, more or less, was also adopted by Möllendorff (1892: 1), and can also be found in modern descriptive grammars of WM such as Kawachi & Kiyose (2002: 16). Y. Aisin-gioro (198#: ##, 2004: ##) also champions this view, insisting that even in Beijing Manchu, the contrast originally involved voicing, but was later re-implemented as an aspiration contrast among less fluent speakers whose primary language was Mandarin. Note that neighboring Mongolic languages and Korean also lack contrastive voicing in plosives, so it may be more accurate to think in terms of a larger, Northeast Asian areal development.

In careful analyses of modern dialects, it is clear that phonetically, the [fortis] vs [lenis] distinction is implemented by both aspiration and voicing, depending on position. The following table, based on Norman 1974, presents the situation in Sibe. This description, with slight modifications, also applies to the system of Ilan Boo Manchu.¹⁶

Table 2. Implementation of [fortis] and [lenis] in Sibe

	#_	V_V	R_V	V_Q	V_G	Q_V	G_V	_ə#
[fortis] /t/	[t ^h]	[t ^h]	[t ^h]	[t]	---	[t ^h]	[t ^h]	[t ^h]
[lenis] /d/	[t]	[d]	[d]			[d]	[d]	[d]
[fortis] /k/	[k ^h]	[k ^h]	[k ^h]	[k]	[g]	[k ^h]	[k ^h]	[k ^h]
[lenis] /g/	[k]	[g]	[g]			[g]	[g]	[k]

(V=vowel, R=sonorant, Q=fortis plosive or voiceless fricative, G=lenis plosive)

Thus, aspiration is absent from the [fortis] series only in codas, where the [fortis] vs [lenis] contrast is neutralized; and voicing is absent from the [lenis] series only in word-initial position and before word-final /ə/. In obstruent-obstruent clusters, the voicing of the first obstruent assimilates to the voicing of the second obstruent.¹⁷

¹⁶ Radchenko (1987) carried out instrumental analysis on Udihe and Nanai, where he found that [FORTIS] and [LENIS] were distinguished by aspiration in word-initial position but by voicing in intervocalic position, consistent with Norman's description of Sibe. On the other hand, a recent study of standard (Najxin) Nanai provides spectrographic data that clearly show a voicing contrast in all relevant positions, and Nikolaeva & Tolskaya (2001) describe (southern) Udihe plosives solely in terms of a voicing contrast, on the basis of phonetic data that is not presented.

¹⁷ In Norman's terms, obstruent-obstruent clusters must have uniform voicing. In my view, this is carried out by a process of voicing assimilation.

I cautiously follow the Russian school and assume that originally Tungusic [fortis] plosives contrasted with [lenis] plosives in terms of voicing. I follow Zakharov and assume that at an earlier stage (before the breakup of the Manchu group), Manchu had the same contrast, and that the shift to an aspiration contrast in modern dialects is a later development, perhaps due to contact with one or more of several neighboring languages that lack a voicing contrast.

For ease of exposition and comparison, I generally use IPA symbols for plain voiceless plosives to represent the [fortis] plosives, and symbols for plain voiced plosives to represent the [lenis] plosives. However, where noted in individual varieties, [fortis] plosives should be interpreted (phonologically and phonetically) as [aspirated].

1.5.1.1. Vowels

Table 3. Vowel phonemes of WM

		[front]	non-[front]	
			non-[round]	[round]
[high]	non-[rtr]	i		u
	[rtr]			ɯ
non-[high]	non-[rtr]		ə	
	[rtr]		a	ɔ

(In keeping with a widely used informal convention, the IPA symbols for the lax vowels [ɯ] and [ɔ] are used to represent the retracted tongue root ([rtr]) counterparts of [u] and [o], perhaps rendered more precisely as [ɯ̠] and [ɔ̠].) The following diphthongs are also found: /ui, ɯi, əi, əi, ai; ia, iə, iɔ, iɯ; au, əu, ua, ɯa, uə/. Several phonetic triphthongs--[ɯai], [uai], [iaɯ], [iua]--are inferred from WM spellings, but their

distribution suggests they may be conditioned allophones of underlying diphthongs /ɔi, ɔi, iɔ/, etc.

WM vowels do not contrast for length as such. Although the WM digraph romanized <oo> has sometimes been interpreted phonologically as /ɔɔ/ [ɔ:] (e.g., Zhang 1996), most sources treat it as /au/ or monophthongal /ɔ/. In some modern spoken dialects, non-contrastive lengthened vowels such as [V̄] or [V:] are also reported.

1.5.1.1.1. WM Vowel harmony

The best-known, most thoroughly studied feature of WM vowel phonology is the system of vowel harmony (see especially B. Li 1996; X. Zhang 1996; R. Walker 2001; and Ko 2012). This is a complex harmony system, meaning that the phonological process involves two different features of vowels (namely, [rtr] and [round]). These two components of the system can be analyzed separately. (On the choice of [rtr] and non-[rtr] in the analysis, see Section 4.1.2.2 below.)

1.5.1.1.1.1. Tongue root harmony

In [rtr] harmony, the vowels are divided into two main classes, plus a neutral category.

Table 4. Vowel classes in WM [rtr] harmony

non-[rtr]	neutral	[rtr]
(= “front”, yin, soft)		(= “back”, yang, hard)
ə	i, u	a, ɔ, ʊ

Based on assumptions about the historical evolution of this system, the main classes have traditionally been called “front” and “back”. Phonologically abstract terms like

yin and *yang* are commonly used by linguists in China. Modern theoretical work assumes that tongue root position is the relevant phonetic and phonological opposition.

In any word (stem plus any suffixes) that is neither a compound nor a loanword, the two main classes of vowels (as delimited in Table 4) cannot be mixed; thus, ordinarily, the non-[rtr] vowel /ə/ may not co-occur with any [rtr] vowel. So, e.g.:

/ərə/ ‘this’	/ara/ ‘chaff’	**/əra/
	/axoŋ/ ‘older brother’	**/əxoŋ/
	/nə-ta/ ‘younger sisters’	**/nə-tə/

The system may be regarded as stem-driven, in that stem vowels are non-alternating, whereas suffix vowels typically must harmonize with the vocalism of the stem.

There are two so-called neutral vowels that, like /ə/, are phonetically non-[rtr]: /i/ and /u/. The first, WM /i/, may co-occur with either the non-[rtr] set or the [rtr] set.

E.g.:

/əʃixə/ ‘fish scale’	/aʃixan/ ‘young (person)’
----------------------	---------------------------

Because the surface realization of /i/ is always non-[rtr], it predictably fails to condition uvular allophones of dorsal obstruents (see Section 1.5.1.1 above), regardless of the prevailing vocalism of the word.

Some stems contain only /i/ (hereafter, “/i/-stems”). Depending on the lexical item, /i/-stems either regularly select non-[rtr] suffixes, or regularly select [rtr]

suffixes. There is an unexpected pattern: disyllabic /i/-stems select suffixes with vowels from the [rtr] class. E.g.:

/ili-/ ‘to stand’	: /ili-xa/ ‘stood’ (PERF.PART)
/giri-/ ‘to trim with a knife’	: /giri-ko/ ‘trimming knife’ (INSTR.N)
/fiʃin/ ‘dense, thick’	: /fiʃi-kan/ ‘rather dense, rather thick’ (DIM)
/ʃilxi/ ‘gall bladder’	: /ʃilxi-ŋga/ ‘jealous’ (ADJ)

But monosyllabic /i/-stems select suffixes with vowels from the non-[rtr] class.¹⁸ E.g.:

/bi-/ ‘to be, to exist’	: /bi-xə/ ‘there was, existed’ (PERF.PART)
/dʒi-/ ‘to come’	: /dʒi-xə/ ‘came’ (PERF.PART)
/ʃi-/ ‘to stop up, to plug up’	: /ʃi-xə/ ‘plugged up’ (PERF.PART)

The received account of the neutrality of /i/ rests on the hypothesis of a diachronic merger of an earlier [rtr] vowel */i/ > [i], proposed by Benzing (1956: ##) and others, and adopted in much subsequent work on Manchu vowel harmony (e.g., B. Li 1996: 162). The merger itself is amply corroborated by cognates in Tungusic languages or dialects that did not undergo the merger and thus preserve /i/, such as Ola Ewen (Lamut); Baiyinna and Gankui Oroqen; Ewenke (Solon); Ulch; Orok (Uilta); and Nanai.

¹⁸ Proto-Tungusic roots are almost always disyllabic, so WM monosyllabic words of any shape are comparatively rare; although nominal monosyllabic /i/-stems are also found, there are not enough examples of harmonic suffixation to confirm that the stem-shape generalization also holds for these words.

The idea is that [rtr] harmony was formerly exceptionless, and all instances of WM /i/ in [rtr]-harmonic words--including /i/-stems--derive historically from */i/. In WM, the /i/-stems that were formerly */i/-stems have retained their [rtr] specification; even though no stem vowels show the feature, [rtr] appears in suffix vowels. However, this hypothesis does not explain why WM /i/-stems longer than one syllable almost always select suffixes with [rtr] vowels, while monosyllabic stems almost always select suffixes with non-[rtr] vowels.¹⁹ Note, in particular, that some Tungusic languages that also undergo such a merger nevertheless show phonological outcomes different from WM. For example, in Ewenki /i/ co-occurs with both harmony classes as in WM, but all /i/-stems unambiguously select non-[rtr] suffixes.

The neutrality of the second vowel, WM /u/, is contextual in the sense that the segmental environment determines whether /u/ contrasts with [rtr] /ʊ/. Consider the set of permissible (C)V syllables with /u/ and /ʊ/ in WM core native words:

¹⁹ It is not entirely clear that the WM pattern can be attributed to simple inheritance of a similar pattern in Proto-Tungusic. Missing cognates for crucial forms and harmony mismatches within Tungusic cognate sets (not only among /i/- and /i/-stems but across the entire lexicon) pose significant obstacles to a unified historical treatment. At this point, it is not possible to say definitively that Proto-Tungusic had the same stem-shape pattern. See Joseph & Whitman 2012 and Ko et al. 2014 for further discussion of the Tungusic facts.

no [dorsal] onset: (/u/ is neutral)

/#u/ **/#ʊ/

/pu/ **/pʊ/ /tu/ **/tʊ/ /ʃu/ **/ʃʊ/

[qʊ]

/bu/ **/bʊ/ /du/ **/dʊ/ /dʒu/ **/dʒʊ/

[gʊ]

/fu/ **/fʊ/ /su/ **/sʊ/ /ʃu/ **/ʃʊ/ /xu/ [xu] ≠ /xʊ/

[χʊ]

/mu/ **/mʊ/ /nu/ **/nʊ/

/ru/ **/rʊ/

/lu/ **/lʊ/

/ju/ **/jʊ/

[dorsal] onset:

/ku/ [ku] ≠ /kʊ/

/gu/ [gu] ≠ /gʊ/

As shown here, in most environments /u/ is neutral, meaning that it does not contrast with /ʊ/ and freely co-occurs with either non-[rtr] vowels or [rtr] vowels. E.g.:

/udʒən/ ‘heavy’

/udʒan/ ‘boundary of a field’

/səʃu/ ‘yellowcheek (fish)’

/saʃu/ ‘grains of buckwheat’

/butən/ ‘foot of a mountain’

/butan/ ‘(hunting) game, quarry’

/ədun/ ‘wind’

/adun/ ‘herd, flock’

/dʒulən/ ‘story, tale’

/dʒulan/ ‘place (in a river) with a fast current’

/əmu/ ‘one’

/amu/ ‘aunt (father’s older brother’s wife)’

/jəru/ ‘hole, pit, den’

/jaru/ ‘brook char (fish)’

However, following dorsal obstruents (/k, g, x/), /u/ is contrastively non-[rtr]; thus, if /u/ is preceded by a dorsal obstruent in some word, then the dorsal must be velar [k, g, x], and that word will not also contain [rtr] vowels. E.g.:

/fəku-/ ‘to jump’	**/faku-/
/gujə/ ‘heel’	**/guja/
/xutxə/ ‘scab’	**/xutxa/

In other words, dorsal obstruents may be said to license the contrast between /u/ and /ʊ/. Furthermore, stems that contain only “neutral” /u/ (that is, where it is not preceded by a dorsal obstruent) are of two types. One type systematically selects suffixes with vowels from the [rtr] class. E.g.:

/mutu-/ ‘to grow, to mature’	: /mutu-xa/ ‘grew, matured’ (perf.part)
/mutu-bu-/ ‘to raise, to rear’	: /mutu-bu-xa/ ‘raised, reared’ (perf.part)
/umbu-/ ‘to bury’	: /umbu-xa/ ‘buried’ (perf.part)
/furu ₁ / ‘mouth ulcer, sore’	: /furu-na-/ ‘to get a mouth ulcer’ (v)
	: /furu-na-xa/ ‘got a mouth ulcer’ (perf.part)
/furu ₂ / ‘brutal’	: /furu-da-/ ‘to be ruthless, bullying, tyrannical’

(v)

/usun/ ‘loathsome, odious’	: /usu-kan/ ‘rather loathsome, quite odious’ (dim)
/susu/ ‘ruins, wilds’,	
/susu-/ ‘to be desolate’	: /susu-ŋgia-/ ‘to ruin, to ravage, to devastate’ (v)
/susu-bu-/ ‘to destroy’	: /susu-bu-xa/ ‘destroyed’ (perf.part)

The other type systematically selects suffixes with vowels from the non-[rtr] class.

E.g.:

/tusu-/ ‘to get married’	: /tusu-xə/ ‘married’ (perf.part)
/lusu-/ ‘to be tired’	: /lusu-kə/ ‘(got) tired’ (perf.part)
/dʒuru/ ‘pair’	: /dʒuru-kən/ ‘in a pair, as a pair’ (dim)
	: /dʒuru-lə-/ ‘to form a pair’ (v)
/juju-/ ‘to starve’	: /juju-xə/ ‘starved’ (perf.part)
/suru-/ ‘to ease’	: /suru-kə/ ‘eased’ (perf.part)
/suru-mbu-/ ‘to console’	: /suru-mbu-xə/ ‘consoled’ (perf.part)

The situation is therefore different from that of neutral /i/, given that disyllabic /u/-stems can belong to either harmony class.²⁰ However, monosyllabic stems with neutral /u/ show the same pattern as /i/, overwhelmingly selecting non-[rtr]-vocalic suffixes. E.g.:

/bu-/ ‘to give’	: /bu-xə/ ‘gave’ (perf.part)
/fu-/ ‘to become numb’	: /fu-ŋkə/ ‘became numb’ (perf.part)
/dʒu-/ ‘to clench one’s teeth’	: /dʒu-ŋkə/ ‘clenched one’s teeth’ (perf.part)
/dʒun/ ‘vein’	: /dʒu-ŋgə/ ‘veined’ (adj)
/su-/ ‘to take off, to remove’	: /su-xə/ ‘took off’ (perf.part)

²⁰ Another difference is that individual neutral /u/-stems exhibit inconsistent harmonic behavior--selecting some non-[RTR] and some [RTR] suffixes--more frequently than /i/-stems.

The neutrality of /u/ in WM has also been attributed to a (partial) merger, similar to the */ɪ/ > /i/ merger. In this case, it is assumed that earlier */ʊ/ > [u] took place everywhere except following dorsal obstruents. This accounts for why /u/ is contrastively non-[rtr] in that one environment, where it stands in opposition to [rtr] /ʊ/, but is neutral elsewhere (see especially B. Li 1996: 153-8). Again, there is strong evidence for the merger from Tungusic cognates. However, as in the case of the */ɪ/ > /i/ merger, the received account leaves the predominantly non-[rtr] harmonism of monosyllabic /u/-stems unexplained.²¹

1.5.1.1.1.2. Roundness harmony

Roundness harmony in WM governs an alternation between the non-high [rtr] vowels /a/ and /ɔ/. The descriptive facts may be summarized as follows:

(1) /ɔ/ can only be present in a post-initial syllable if it is also present in the initial syllable. Words shaped like /...ɔ...V.../ are well-formed (provided they obey [rtr] harmony), but the shapes /...a...ɔ.../, /...i...ɔ.../, /...u...ɔ.../, /...ʊ...ɔ.../ do not occur (even though these sequences all obey [rtr] harmony).

(2) If the initial syllable contains the round vowel /ɔ/, the second syllable may contain the non-round vowel /a/, as in:

/jɔʃa-/ ‘to itch’

/dɔxa/ ‘dog tick (insect)’

²¹ There are also neutral /i...u/-stems and /u...i/-stems. Their harmonic behavior is like neutral /u/-stems, with some items regularly selecting [RTR]-vocalic suffixes and some selecting non-[RTR]-vocalic suffixes.

/sɔsa-/ ‘to loot, to take captive’

/dʒɔrda-/ ‘to pace, to trot’

/jɔŋgan/ ‘sand’

/dɔ-/ ‘to alight, to land’ : /dɔ-xa/ ‘alighted, landed’ (perf.part)

: /dɔ-na-/ ‘to perch’ (allative)

(3) If both the first and second syllables contain /ɔ/, subsequent syllables may not contain /a/; the only non-high vowel allowed is /ɔ/:

/jɔtʃa-/ ‘to itch’ : /jɔtʃa-ra/ ‘itching’ (impf.part)

but: /ɔdʒɔ-/ ‘to kiss’ : /ɔdʒɔ-rɔ/ ‘kissing’ (impf.part)

/dʒɔrda-/ ‘to pace, to trot’ : /dʒɔrda-ra/ ‘pacing’ (impf.part)

but: /bɔrdɔ-/ ‘to fatten’ : /bɔrdɔ-rɔ/ ‘fattening’ (impf.part)

/sɔsa-/ ‘to loot’ : /sɔsa-ra/ ‘looting’ (impf.part)

but /fɔsɔ-/ ‘to shine’ : /fɔsɔ-rɔ/ ‘shining’ (impf.part)

This “disyllabic trigger” pattern has been extensively investigated by Walker (#####, #####).

1.5.1.1.1.3. Exceptions to harmony

Loanwords and compounds (including blends) are exempt from both tongue root and roundness harmony. Furthermore, many common derivational and inflectional suffixes in the nominal and verbal domains either are non-alternating, or have defective alternations, or have exceptional alternation patterns. Notably, the nominal case

markers genitive (gen) /i/, dative (dat) /də/, accusative (acc) /bə/, and ablative (abl) /ʃi/ are all non-alternating, as are the imperfect converb (impf.conv) /-mə/, perfect converb (perf.conv) /-fi/, conditional converb (cond.conv) /-ʃi/, concessive converb (conc.conv) /-ʃibə/, desiderative finite suffix (desid) /-ki/, and interrogative marker (q) /-ni/.

1.5.1.1.4. Distinctive features of tongue root harmony

Virtually all recent phonological work (approximately since J. Ard 1981) on vowel harmony in Manchu (and Tungusic generally) agrees that tongue root position is the salient phonological feature that differentiates the harmony sets. This view has superseded earlier attempts to analyze Tungusic vowel harmony as “backness”, “palatal”, or “height” harmony.

However, there is some debate about which feature, [rtr] or [atr], is the phonologically active one in WM. Zhang (1996), Zhang & Dresher (1996), Dresher & Zhang (2004) and Zhang & Dresher (2004) have argued that the active feature is [atr]. The evidence comes primarily from the behavior of stems containing only neutral /i/. Zhang (1996: 56, 77-79) and Zhang & Dresher (2004: 179-181) claim that these stems systematically select suffixes with /a/ and /ʊ/. (As discussed in the preceding section, the data are somewhat more complicated.) Under their view, in the absence of [atr] vowels /ə, u/ there is no [atr] feature to propagate onto suffixes, and the “default vowels” /a/ and /ʊ/ appear. The assumption is that the neutral vowel /i/ has no harmony feature, and that the class of suffix vowels that does not occur with /i/-stems-

--namely, /ə, u/--is analyzed as the marked class, bearing the active harmonic feature [atr].

B. Li (1996: 162), Naeher (2004: 130), and others have pointed out that, in fact, a number of WM stems containing only the neutral vowel /i/ nevertheless select /ə/ in suffixes, in particular the monosyllabic /i/-stems mentioned above. Some other forms with /ə/ in suffixes that have been adduced against the [atr] hypothesis turn out to be lexical ghosts, with the result that the strong generalization about the shape of /i/-stems (disyllabic \approx [rtr], monosyllabic \approx non-[rtr]) has gone unnoticed.

In addition, B. Li (1996: 96-97) proposes that the articulation of vowels bearing the active phonological feature can be distinguished phonetically from the unmarked vowels in terms of “salient muscular tension” in the tongue root and pharyngeal wall.²² He observes that, in the Tungusic family as a whole--represented by Baiyinna Oroqen, Ola Ewen (Lamut), and Ewenke (Solon)--salient muscular tension in the tongue root and pharyngeal wall accompanies retraction of the tongue root away from a neutral position. In other words, by this criterion [rtr] is the active phonological feature across the family as a whole. By assumption, WM is expected to resemble the rest of the family in this matter.

Furthermore, B. Li (1996: 119-120) proposes that within Tungusic, the contrast between [rtr] /i/ and non-[rtr] /i/ is historically the first opposition to be neutralized in any language, and the contrast between [rtr] /a/ and non-[rtr] /ə/ is the

²² In some analyses, a language can have two active features, [RTR] and [ATR], as has been argued for Akan (Niger-Congo), Dinka-Nuer (Nilo-Saharan), Hre (Mon-Khmer), Rengao (Mon-Khmer), and Brou (Mon-Khmer).

last. These facts are also said to be consistent with [rtr] as the active phonological feature, but inconsistent with [atr] as the active feature (1996: ###).

There are at least two other phonological arguments worth mentioning. First, as briefly referred to above, a large number of inflectional and derivational suffixes in WM are non-alternating. Of these, the vast majority contain only /i, ə, u/. Examples include all of the nominal case suffixes: /i/ gen, /də/ dat, /bə/ acc, /ʃi/ abl; the most frequent converbs: /-mə/ impf.conv, /-fi/ perf.conv, /-ʃi/ cond.conv, /-ʃibə/ conc.conv; the desid suffix /-ki/; the optative finite suffix (opt) /-kini/; the ordinal numeral suffix (ord) /-ʃi/; the iterative numeral suffix /-(ŋ)gəri/; the denominal adverb suffix /-ri/; the deverbal agent suffixes /-ʃi/ and /-ʃi/; the adventive verbal suffix (advn) /-ndʒi-/; the passive/causative suffix /-bu-/ (pass/caus), the cooperative or reciprocal voice suffix /-ndu-/ (coop or recip), the deverbal adjective suffixes /-tu/ and /-ʃun/, and the deverbal nominalizing suffix /-tun/. However, according to the explanation of neutral vowels presented above, all of the examples involving /i, u/ here are potentially instances of neutralization. The gist of these facts is that /ə/ (along with /i, u/) appears to be the unmarked vowel when the operation of harmony is restricted. Along the same lines, it is noteworthy that the personal pronouns, a closed class of arguably functional morphemes, also draw only from the set /i, ə, u/. Crosslinguistically, when the set of vowels allowed in functional morphemes is limited, it is generally marked vowels that are banned, not unmarked vowels. Hence, /i, ə, u/ are the unmarked vowels, and [rtr] is active.

The second argument comes from velar-uvular allophonic alternation. This phenomenon is found not only in the Manchu group but also widely in Tungusic. For

example, Lamut (Even), Nanai, Ulch, Negidal, Udihe, and Oroch are all described as undergoing the uvular alternation in at least some environments. At a minimum, /k/ → [q] before the [rtr] vowel /a/; at a maximum, all dorsal obstruents → [uvular] before all [rtr] vowels. (This is the case in WM.) Otherwise, dorsals are [velar]. Since uvulars are crosslinguistically more marked than velars, it is preferable to derive them allophonically from underlying velars (or perhaps from underspecified generic dorsals) by means of an active [rtr] feature, rather than deriving velars from uvulars by means of [atr]. (This problem, stated differently, is briefly addressed by Zhang & Dresher [2004: ##], but left unresolved.)

To summarize, the bulk of phonetic and phonological evidence suggests that [rtr] is the active feature in the WM harmony system. The data offered as evidence for active [atr] are problematic from a diachronic perspective, but the hypothesis of active [atr] in any case does not provide a solution.

4.1.3 Syllable structure and phonotactics

The maximal syllable in WM is CVVC. In the core native vocabulary--excluding loanwords, sound-symbolic words, and rare spelling variants--all clusters are heterosyllabic. The [dorsal] nasal /ŋ/ is restricted to codas. The lone glide /j/ is restricted to onsets and excluded from (heterosyllabic) clusters. WM /r/ (corresponding to a phonetic tap or flap [ɾ] in extant varieties) must be preceded by a vowel, and therefore cannot begin a word, or be the second member of a word-internal consonant cluster. Word-finally, the only consonant allowed is /n/. In codas generally, the contrast between [fortis] and [lenis] stops is neutralized. The traditional

romanization of WM follows the orthography, transcribing the neutralized coda stops respectively as <b, t, k>, giving the misleading impression that the labial stop can be identified with the [lenis] series, while the others can be identified with the [fortis] series. It is phonologically more accurate--if less precise--to treat them as underspecified or archiphonemic /P, T, K/. (In phonemic transcriptions of WM I have resorted to /b, t, k/ for ease of identification of lexical items.) Of the affricates and fricatives, only /s/ is permitted in codas.²³

In addition, WM shows the cross-linguistically well-known preference to avoid coda-onset sequences with an increasing degree of sonority, a pattern known as the Syllable Contact Law (Vennemann 1988). For WM syllable contacts, three degrees of sonority must be recognized (from most sonorous to least): liquids (L), nasals (N), and obstruents (O). The possible patterns are:

(L.L) L.N L.O
 *N.L (N.N) N.O
 *O.L *O.N O.O

Furthermore, in core native words, [dorsal].[labial] consonant sequences are not allowed, independent of relative sonority:

*K.p *K.b *K.f *K.m
 *ŋ.p *ŋ.b *ŋ.f *ŋ.m

²³ WM spelling also allows <š> [ʃ] in codas, but only when followed by /f/, suggesting that underlying /...sʃ.../ → [...ʃf...].

As with many other grammatical generalizations, most of these restrictions are relaxed in loanwords and sound-symbolic words.

4.2 Morphology

line 1 Möllendorff romanization

line 2 IPA /phonemic transcription/

line 3 morphemic transcription: lexical morphemes, functional morphemes

line 4 ‘idiomatic English’

WM is an agglutinating, exclusively suffixing language. Most suffixes consist of a single morpheme. Strings of suffixes can be added to stems to create more complex words. For example:

(1) tuwašatabuhanggebe

tua-ʃa-ta-bu-xa-ŋgə-bə

look-intens-dur-caus-perf.part-n-acc

‘...(the fact) that (someone) had (someone) look after (someone/something)...’

(direct

object)

is built up as follows:

(2) tua- ‘to look (at)’ + -ʃa- (intens) >

tua-ʃa- ‘to look after, to take care of’ + -ta- (dur) >

tua-ʃa-ta- ‘to keep looking after; to supervise’ + -bu- (caus) >

tua-ʃa-ta-bu- ‘to have (s.o.) look after, oversee, supervise’ + -xa (perf.part) >

tua-ʃa-ta-bu-xa ‘had (s.o.) look after, oversee, supervise’ + -ŋgə- (n) >
 tua-ʃa-ta-bu-xa-ŋgə ‘(the fact) that (s.o.) had (s.o.) look after’ + -bə (acc) >
 tua-ʃa-ta-bu-xa-ŋgə-bə

Certain derivational morphemes in the verbal domain are extremely productive, such as the suffix of reciprocal or cooperative voice /-ndu-/ (recip or coop), as in:

- (3) karʃa- ‘to run into’ : karʃa-ndu- ‘to run into each other’
 ula- ‘to pass on’ : ula-ndu- ‘to pass on to each other; to gossip’
 bəʃə- ‘to quarrel, to argue’ : bəʃə-ndu- ‘to argue together/with each other’

Verbal inflection

Verbal inflectional suffixes derive words mainly of two descriptive types. Some derive verbal nouns or participles (e.g., the impf.part -ra/-rə/-rə or perf.part -xa/-xə/-xə). These can be used either clause-finally (here, in declarative position) or in an attributive position:

- (4) bi bithe araha
 bi bitxə ara-xa
 I book write-perf.part
 ‘I wrote a book.’
- (5) mini araha bithe
 min-i ara-xa bitxə
 I-gen write-perf.part book

‘the book that I wrote’

Other suffixes derive what are traditionally called converbs: non-finite, non-final forms that link clauses in various relationships including coordination and subordination, or can link verbs in adverbial or modal constructions (e.g., the impf.conv /-mə/, the perf.conv /-fi/, the cond.conv /-ʃi/). For example: (all examples here and in syntax section are from real texts)

(6) tuweri dosime erin beikuwen oho

tuəri dɔʃi-mə ərin bæikuən ɔ-xə

winter enter-impf.conv weather cold become-perf.part

‘It is winter, and the weather has gotten cold.’

(7) geli juwan funcere ba yabufi beye inu šadame cukuhe

gəli dʒuan funʃərə ba jabu-fi, bəjə inu ʃada-mə ʃuku-xə

again 10 more.than li go-perf.conv, self also tired-impf.conv weary-perf.part

‘Having walked more than 10 li further, (I my-)self also became tired and weary.’

(8) bi ini gisun i mudan be donjici...

bi in-i gisun i mudan bə dɔndʒi-ʃi...

I he-gen speech gen sound acc listen-cond.conv

‘If/when I listen to the sound of his speech...

...sinde aika jaka baiki sere gese
...[ɪn-də aika dʒaka bai-ki sə-rə gəsə
you.sg-dat some thing seek-desid aux-impf.part like
...it seems like (he) wants to ask you for something.’

(9) ailime genehe

aili-mə gənə-xə
avoid-impf.conv go-perf.part
‘(they) went avoiding [the main road]’

(10) jugûn i andala hanggabufi, julesi geneme muterakû

dʒugun i andala xaŋgabufi, dʒuləʃi gənə-mə mutə-rakʊ
road gen middle block-perf.conv, forward go-impf.conv can-impf.neg
‘Since the road is blocked along the way, (we) cannot go forward.’

Nominal inflection

Grammatical roles are indicated by cases and postpositions. WM has five cases. The zero-marked or unmarked case is usually called nominative (nom), but indefinite or unspecific direct objects are also generally unmarked--for example, /bitxə/ ‘book’ in (4) and /aika dʒaka/ ‘something’ in (8), above. The marked cases are genitive (gen), dative (dat), accusative (acc), and ablative (abl). (These terms are convenient simplifications; each covers a wider range of thematic functions; e.g., gen

marks possessors and instruments; dat marks recipients, locations, and agents of passive verbs; and abl marks sources and standards of comparisons [‘than’].)

In addition, there are numerous postpositions that govern one or another of the marked cases. E.g.:

- (11) ini amha hoton i wargi dukai dolo tehe
in-i amxa xətən i uargi duka-i dolo tə-xə
he-gen father.in.law city gen west gate-gen inside live-perf.part
‘His father-in-law lived inside the west gate of the city.’
- (12) sini baru miosiri miosirilame emu niyalma bihe
ʃin-i baru miɔʃiri miɔʃirila-mə əmu nialma bi-xə
you.sg-gen toward smile smile-impf.conv one person exist-perf.part
‘There was a person smiling at you.’
- (13) musei manju gisun nikan bithe de adali akû
musə-i mandʒu gisun nikan bitxə də adali ako
we.incl-gen Manchu speech Chinese writing dat like neg.exi
‘Our Manchu language is not like Chinese writing.’
- (14) jiha ci tulgiyen ufa dabsun bumbi
dʒixa ʃi tulgiən ufa dabsun bu-mbi
money abl besides flour salt give-nonp
‘Besides money, (they also) give flour and salt.’

Certain nouns--especially kinship terms, but also other nouns denoting humans--can be inflected for plural number through the attachment of suffixes. Most other kinds of nouns cannot be inflected for number, and even nouns referring to humans are often unmarked for plural. Nouns directly quantified by numerals also usually do not select a plural suffix. E.g.:

(15) ahûn axon ‘older brother’ : ahûta axo-ta ‘older brothers’
 eyun əjun ‘older sister’ : eyute əju-tə ‘older sisters’

(16) šabi ʃabi ‘student’ : šabisa ʃabi-sa ‘students’
 solon sɔlɔn ‘Solon, Ewenke’: solon sa sɔlɔn sa ‘Solons, Ewenkes’
 jui dʒui ‘child’ : juse dʒu-sə ‘children’

(17) ere duin hoise
 əɾə duin xɔisə
 this four Muslim
 ‘these four Muslims’

(18) haha hehe dehi jakûn niyalma
 xaxa xəxə dəxi dʒakɔn nialma
 male female forty eight person
 ‘forty-eight men and women’

Other word classes

There are primary personal pronouns for 1st person singular and plural, 2nd person singular and plural, and 3rd person singular and plural. In addition, the deictic pronouns /əɾə/ ‘this’ and /təɾə/ ‘that’ also function as 3rd person singular pronouns, with plural forms /əsə/ and /təsə/ (‘they’) when referring to people. Furthermore, the 1st person plural pronoun has an opposition between exclusive (excl) /bə/ (~ /mən-/) and inclusive (incl) /musə/. Other classes of words include interrogative pronouns and spatial or locative words.

Negation

Negation of verbs usually involves attachment of a form of the negative existential verb /akʊ/ ‘there is not, does not exist, is not present’ to one of the participle forms. These have undergone phonological simplifications eliminating vowel hiatus, /-rV+akʊ/ > /-rakʊ/ and /-xV+akʊ/ > /-xVkʊ/ or /-xakʊ/ (and /-kV+akʊ/ > /-kVkʊ/ or /-kakʊ/). Synchronically, these appear to be opaque synthetic suffixes, here labelled *impf.neg* and *perf.neg*. E.g.:

- (19) emu majige andan i jili de mende akdarakû
əmu maɖʒigə andan i ɖʒili də mən-də akda-rakʊ
one small moment gen anger dat we.incl-dat trust-impf.neg
‘Because of one brief moment of anger, (they) do not trust us.’
- (20) sargan jui...gorokon ilifi emu gisun tucikekû
sargan ɖʒui...gɔɾə-kən ili-fi əmu gisun tuʃi-kəkʊ

female child...far-dim stand-perf.conv one word emerge-perf.neg

‘The girl stood quite far away and not one word came out.’

(21) sikse emu gucu be ucaraha turgunde...

ʃiksə əmu guʃu bə uʃfara-xa turgundə...

yesterday one friend acc meet-perf.part because

‘Because (he) met a friend yesterday...

...bahafi ubade jihəkû

...baxa-fi uba-də dʒi-xəko

be.able-perf.conv here-dat come-perf.neg

...(he) was unable to come here.’

For nouns, there is a defective negative copula, /uaka/. E.g.:

(22) bi bušuhûn niyalma waka

bi buʃuxon nialma uaka

I stingy person neg.cop

‘I am not a stingy person.’

Adjectives can be negated directly with the negative existential verb /ako/. E.g:

(23) bohon umai getuken akû

bəxon umai gətukən ako

dingy.color at.all bright neg.exi

‘[The color] is dingy, not bright at all.’

4.3 Syntax

4.3.1 Phrase structure

Noun phrases

Noun phrases have the order: [pronoun][deictic][numeral][adjective][noun].

Attributive clauses modifying the head noun precede the noun phrase. E.g.:

(24) mini ere ubiyada nimeku (daifu i dasame muterengge waka)

min-i ərə ubiada niməku (daifu i dasa-mə mutə-rə-ŋgə uaka)

I-gen this horrible illness (doctor gen cure-impf.conv can-impf.part-n neg.cop)

‘This horrible illness of mine (is not one that a doctor can cure).’

(25) mini emu hukšen ayan silmen (debsire sain jafara mergen)

min-i əmu xukʃən ajan ʃilmən (dəbʃi-rə sain dʒafa-ra mərgən)

I-gen one tame fine falcon (fly-impf.part good catch-impf.part skilled)

‘One of my house falcons (is good at flying and skilled at hunting).’

(26) fusi hecen be gaiha fonde gajihā bihe...

fufi xəʃən bə gai-xa fən-də gadʒi-xa bi-xə...

Fūshùn castle acc attack-perf.part time-dat take-perf.part aux-perf.part...

‘([We] released and sent away) those five people...

...tere sunja niyalma be (sindafi unggihe)

...tərə sundza nialma bə (finda-fi uŋgi-xə)

...that five person acc (release-perf.conv send-perf.part)

...whom (we) had captured when (we) attacked Fūshùn castle.'

Verb phrases

In verb phrases, all arguments, complements, and adjuncts ordinarily precede the predicate (underlined>, which is typically a verb. E.g.:

(27) bi sinde emu sain arga tacibure...

bi fīn-də əmu sain arga taŋi-bu-rə

I you.sg-dat one good method learn-caus-impf.part

'I'll teach you a good method.'

(28) sikse mini deo jihe

fīksə min-i dəu dʒi-xə

yesterday I-gen younger.brother come-perf.part

'Yesterday my younger brother came.'

(29) tubade emu feniyeŋ i sufan dedume bimbi

tuba-də əmu fəniəŋ i sufan dədu-mə bi-mbi

there-dat one herd gen elephant lie-impf.conv exist-nonp

'A herd of elephants is lying there.'

Modal particles, conveying certain moods or attitudes of the speaker (certainty, conjecture, emphasis, exhaustiveness, etc.), may follow the verb; in that case the verb is either in the form of a participle or some other finite form. E.g.:

- (30) ...yargiyan obume akdaha dabala
 ...jargian ə-bu-mə akda-xa dabala
 ...true be-caus-impf.conv trust-perf.part modal
 ‘...(I) considered (it) true and simply believed (it)’
- (31) enenggi duin niyalma jakûn tanggû cooha be gidahangge inu...
 ənəŋgi duin nialma dʒakɔn taŋgɔ ʃfauxa bə gida-xa-ŋgə inu
 today four person eight hundred troop acc defeat-perf.part-n too
 ‘(When) four people defeated eight hundred troops today...’
- ...abka aisilafi etehe dere
 ...abka aɪʃila-fi ətə-xə dəɾə
 ...heaven help-perf.conv win-perf.part modal
 ...surely (they) won because heaven helped.’
- (32) bi ejen de habšame alaha inu
 bi ədʒən də xabʃa-mə ala-xa inu
 I master dat report-impf.conv tell-perf.conv modal
 ‘I certainly did report it to my master.’

(33) gise hehe serengge damu ulin be buyere dabala kai
 gisə xəxə sərəŋgə damu ulin bə bujə-rə dabala kai
 courtesan female top only possession acc desire-impf.part modal modal
 ‘Indeed, courtesans only desire possessions.’

(34) ere šurdeme golo golo niyalma alin holo de...
 ərə šurdəmə gələ gələ-i nialma alin xələ də...
 this around land land-gen person mountain valley dat...
 ‘The people of the lands around here scattered into...’

...samsime ukafi gemu tutambikai
 ...samfi-mə uka-fi gəmu tuta-mpi-kai
 ...scatter-impf.conv flee-perf.conv all remain-nonp-modal
 ...the mountain valleys and fled, and they must all still be there.’

Noun and adjective phrases can also function as predicates, with or without an overt copula. E.g.:

(35) jang giyûn šui serengge mini deo
 dʒaŋ giʊn šui sə-rə-ŋgə min-i dəu
 zhang jun rui call-impf.part-n I-gen younger.brother
 ‘The one called Zhang Junrui [is] my younger brother.’

(36) antaha boigoji umesi sebjen

antaxa boigədzɪ uməfɪ səbdzən

guest host very happy

‘The guests and hosts [are] very happy.’

(37) holo i orho luku fisin, galman umesi labdu

xələ i ɔrxə luku fɪfɪn, galman uməfɪ labdu

valley gen grass dense thick, mosquito very many

‘The grass in the valley [is] dense and thick; mosquitos [are] very numerous.’

Note that modal particles can also attach to clauses with non-verbal predicates, e.g. in nominal predicate expressions:

(38) muse gemu sain gucu kai, dere acaci uthai wajiha...

musə gəmu sain guɟu kai, dərə aɟa-ɟɪ utxai uadzɪ-xa...

we.incl all good friend modal, face meet-cond.conv then finish-perf.part...

‘We are all good friends, after all. When (we’ve) seen each other, then it’s

done;...

...urunakû untuhun doro be wesihulefi ainambi

...urunakʊ untuxun dərə bə uəɟixulə-fi aina-mbi

...must empty courtesy acc esteem-perf.conv why-nonp

...why must (we) esteem (each other) with empty courtesies?’

(39) tere gisun gemu tašan kai

tərə gisun gəmu tɒʃan kai

that word all incorrect modal

‘Those words are all incorrect, I assure you.’

(40) aici doɒtɒn i dolo uthai hehei funiyehə inu kai

aɪʃi dɒbtɒn i dɒlɒ utxai xəxə-i funiəxə inu kai

probably container gen inside then woman-gen hair modal modal

‘No doubt it is a woman’s hair inside the container.’

Auxiliary constructions

Several verbs that follow converb forms of main verbs are described as auxiliaries. All of these can also act as full lexical verbs, with meanings such as ‘to go, to begin, to be able, to meet or fit, to exist, to be, to become, to get’, and so on. In auxiliary constructions, they have somewhat grammaticalized meanings expressing motion or direction, purpose, result, certain tense/mood/aspect categories, and so on.

E.g.:

(41) ilha ganame genehe

ilxa gana-mə gənə-xə

flower get-impf.conv go-perf.part

‘(I) went to pick flowers.’

(42) jing geneki serede agame deribuhe

dʒiŋ gənə-ki sə-rə-də aga-mə dəribu-xə

just go-desid aux-impf.part-dat rain-impf.conv begin-perf.part

‘Just when (I) wanted to go, it began to rain.’

(43=10) jugûn i andala hanggabufi, julesi geneme muterakû

džugon i andala xaŋgabufi, džuləfi gənə-mə mutə-rakʊ

road gen middle block-perf.conv, forward go-impf.conv be.able-impf.neg

‘Since the road is blocked along the way, (we) cannot go forward.’

(44) ...donjimbihə bici, urgun i doroi...

...dɔndʒi-mbi-xə bi-tʃi urgun i dɔrɔ-i...

...hear-nonp-perf.part aux-cond.conv joy-gen ritual-gen...

‘...if (I) had heard...

...acaname geneci acambihe

...aʃana-mə gənə-tʃi aʃa-mbi-xə

...go.meet-impf.conv go-cond.conv fit-nonp-perf.part

...it would have been fitting (for me) to go to congratulate (you).’

(45) dukai dalbade emu tasha dodome bi

duka-i dalba-də əmu tasxa dɔdɔ-mə bi

gate-gen side-dat one tiger squat-impf.conv exi

‘A tiger is squatting beside the gate.’

- (46) taka funcehe ulin jafafi...
 taka funʃə-xə ulin dʒafa-fi...
 temporarily remain-perf.part wealth take-perf.conv...
 ‘(I) have temporarily taken the remaining wealth...

...ini gisurehe songkoi emu dulin udahabi
 ...in-i gisurə-xə sɔŋkɔi əmu dulin uda-xa-bi
 ... she-gen say-perf.part according.to one half buy-perf.part-exi
 ...and bought one half, in accordance with what she said.’

- (47) ini arbun be tuwaci hono akdaci ombi
 in-i arbun bə tua-ʃi xɔnɔ akda-ʃi ɔ-mbi
 he-gen appearance acc look-cond.conv still trust-cond.conv be-nonp
 ‘When one looks at his appearance, still one may trust (him).

4.3.2 Clauses

Word order and discursive organization

As mentioned above, the unmarked order in clauses is subject-object-verb (SOV). Verbs (or predicate adjectives and nouns) typically stay in final position, although other phrases can be re-ordered or elided. Topics tend to appear in initial position, and can be overtly marked by serengge, a nominalized form of the verb ‘to say, to call’ which could be translated ‘the (one) called...’, ‘that which is called...’, or ‘saying...’ in other contexts, as in (35) above. E.g.:

(48) bi serengge buya fusihûn niyalma...

bi sərəŋgə buja fuʃixon nialma...

I top small low person...

‘I am an insignificant, base person...’

(49=33) gise hehe serengge damu ulin be buyere dabala kai

gisə xəxə sərəŋgə damu ulin bə bujə-rə dabala kai

courtesan female top only possession acc desire-impf.part modal modal

‘Indeed, courtesans only desire possessions.’

In addition, *oci* (formally the cond.conv form of the verb *o-* ‘to be, to become’) has been analyzed as a topic marker (e.g., Gorelova 2002: 410-411***), appearing for example in contexts of contrastive focus:

(50) aisin menggun oci guise de tebumbi...

aiʃin məŋgun ɔʃi guise də təbu-mbi...

gold silver top chest dat put.in-nonp...

‘Gold and silver (we) put in a chest...’

...bele jeku oci tsang de asarambi

...bələ dʒəku ɔʃi tsəŋ də asara-mbi

...rice grain top granary dat store-nonp

...rice and grain (we) store in a granary.’

Additive focus can be marked by *inu* ‘even, also, too’ (the source of the modal suffix *inu*, exemplified above). E.g.:

- (51) *tere gucu ubade dariha de...*
tərə guʃu uba-də dari-xa də...
that friend here-dat pass-perf.part dat...
‘When that friend passed by here...

...*si emu erin i buda inu ulebuhekû*
...*ʃi əmu ərin i buda inu uləbu-xəkɔ*
...you.sg one time gen food even feed-perf.neg
...you didn’t feed (him) even a single meal.’

Clauses are frequently marked in the same way:

- (52) *udu bucecibe inu kororakû*
udu buʃə-ʃibə inu kərɔ-rakɔ
though die-conc.conv even regret-impf.neg
‘Even though (I) might die, (I) will not regret it.’

Restrictive focus is most commonly indicated by adverbial elements such as *damu* ‘only’, but the postposition *teile* is also found, sometimes in combination with *damu*:

(53) *sini beye teile waka, mini beye inu asuru cihakû*
ʃin-i bəjə təilə uaka, min-i bəjə inu asuru ʃfixako
 you.sg-gen body only neg.cop, I-gen body even very uncomfortable
 ‘It isn’t only your body; my body is also very uncomfortable.’

(54) *tere morin damu turi be teile sonjome jefi...*
tərə mərɪn damu turi bə təilə sɔndʒo-mə dʒə-fi...
 that horse only bean acc only choose-impf.conv eat-perf.conv...
 ‘That horse chooses to eat only the beans...’

Grammatical voices

In WM, active voice involves no special morphological marking. Passive voice is marked by the verbal suffix *-bu-*, considered derivational (e.g., in Kawachi and Kiyose 2002: 108) in the sense that it joins the verb stem, and is therefore included in any further derivational or inflectional extensions of the verb. In passive sentences, the agent is in the dat case:

(55) *šen yang be dailanaha mudan de dain de gaibuha*
ʃən jaŋ bə dailana-xa mudan də dain də gai-bu-xa
 Shenyang acc war-perf.part time dat enemy.troops dat defeat-pass-perf.part
 ‘The time (he) made war on Shenyang (he) was defeated by the enemy troops.’

- (56) ...wede hûlhame gamabuha be inu sarkû
 ...uə-də xɔlxa-mə gama-bu-xa bə inu sa-rkɔ
 ...who-dat steal-impf.conv take.away-pass-perf.part acc even know-impf.neg
 ‘...(I) don’t even know who it was stolen by.’

A formally identical suffix, -bu-, also marks causative voice. In causative constructions, the causer is in the (unmarked) nom case, and the causee--if definite--is in acc case:

- (57) sang mama sejen ci ebufi sejen jafara niyalma be...
 saŋ mama sədʒən ʃi əbu-fi sədʒən dʒafa-ra nialma bə...
 Sang old.woman cart abl descend-perf.conv cart drive-impf.part person acc...
 ‘Old Woman Sang got down from the cart and had the cart driver...’

...ilinjafi jugûn de aliyabuha
 ...ilindʒa-fi dʒugon də alia-bu-xa
 ...stand.around-perf.conv road dat wait-caus-perf.part
 ...stand around and wait in the road.’

Several additional verbal suffixes denoting various forms of association are also traditionally treated as voice markers, such as -n(d)u- (reciprocal or cooperative), -ca-/-ce-/-co- (cooperative):

(58) donjici gašan i coko emgeri...
dɔndʒi-tʃi gaʃan i tʃɔkɔ əmgəri...
listen-cond.conv village gen chicken already...
‘When (he) listened, the village roosters were already

...jɔr seme hũlanduhabi
...dʒɔr sə-mə xɔla-ndu-xa-bi
...jɔr aux-impf.conv call- recip-perf.part-exi
...crowing loudly to each other.’

(58) hũi liyan tob seme amargi de ioi siyoo i emgi wehe terkin de...
xɔi lian tɔb sə-mə amargi də iui ʃiəu i əmgi uəxə tərkin də...
Huilian right aux-impf.conv behind dat Yuxiao gen together stone step dat...
‘Right in back, Huilian and Yuxiao are sitting together on the stone steps and...

...tecefi dungga use durime efiçembi
...tə-tʃə-fi dɔŋga usə duri-mə əfi-tʃə-mbi
...sit-coop-perf.conv watermelon seed grab-impf.conv play-coop-nonp
...playing together with watermelon seeds.’

5. Goals and methodology

As described above, the linguistic record of the Manchu language group spans at least five centuries and no fewer than ten distinct varieties. The goal of this dissertation is to elucidate the historical phonological processes that have given rise to the diversity of Manchu varieties identified in this chapter, with special attention to the (phonological) cladistic classification of these varieties.

The methodology is essentially the standard comparative method of historical linguistics: The first task is to identify and collect sets of cognates. Fortunately, this is generally unproblematic, since it is usually not difficult to recognize the WM cognate of any individual dialect form due to the relative homogeneity of the Manchu group. (Published descriptions of the dialects sometimes identify the WM cognates assumed by their authors, but also frequently forgo this step because of the transparency of the correspondences.) The second task is to examine the cognate sets, analyzing the variation observed into phonological processes, and to identify the innovations. (Chapter 2 presents innovations in the consonant system; chapter 3 presents innovations in the vowel system.) The third task is to extract the isoglosses evinced by the innovations and construct a cladistic classification, simultaneously characterizing the proto-language as it can be inferred from the analysis of innovations. (Chapter 5 discusses the resulting phonological classification and the characteristics of the Manchu proto-language.)

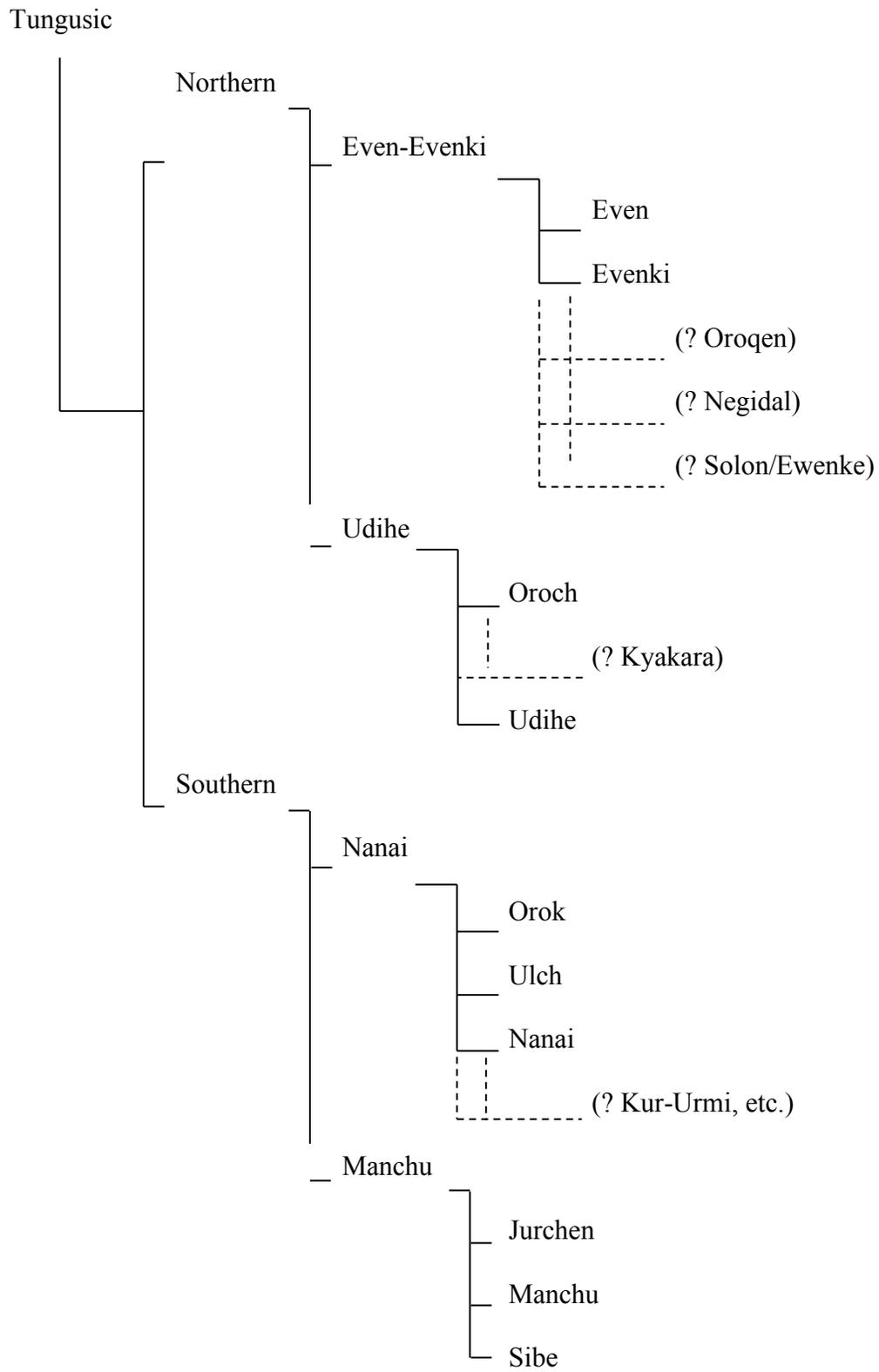
Certain aspects of the phonological grammar of Manchu have been less thoroughly described and analyzed in the literature to date--particularly the accentual system. As a result, it is not yet possible to apply comparative/reconstructive methodology to the available data on Manchu stress in a convincing way. However, in

the hope that it will facilitate further research on this dimension of Manchu phonology, I present a synchronic description and analysis of stress in one well-described variety, Ilan Boo Manchu, and compare the results to the more fragmentary descriptions of stress in other varieties (chapter 4).

Table 5. Terms for varieties of Manchu

terms used in this work	variants in other sources		Chinese terms	endangerment status	
Written Manchu (WM)	Literary Manchu, Classical Manchu, Standard Manchu; southern Manchu; Jiànzhōu Manchu		滿語規範語, 滿語書面語 ; 建州滿語	extinct	
Aigun	Aigûn, Aihûn, Àihún, Àihūi (district); Amur (river), Hēihé (city); Dàwǔjiāzi; Lánqígōu; Jiāyìn (county); Xùnkè (county); Sūnwú (county)		瓊瑋, 愛輝 ; 黑河 ; 大五家子 ; 藍旗溝 ; 嘉蔭 ; 遜克 ; 孫吳	critically endangered	
Alcuka	Alchuka, Ālèchǔkā, Āchéng (district)		阿勒楚喀, 阿城	extinct c. 1970	
Bala	Bālā		巴拉	extinct c. 1980	
Beijing	Běijīng		滿語京語	extinct c. 1930	
Ibuci	Ibuchī, Yībùqì; Tàilái (county)	Nonni (river), Nènjiāng; Qiqihar	依布气 ; 泰來	嫩江; 齊齊哈爾	critically endangered
Ilan Boo	Sānjiāzi; Fùyù (county)		三家子 ; 富裕		critically endangered
Lalin	Lālín (township)		拉林	extinct c. 1970	
Late Jurchen (LJ)	Jurči, Jušen, Juchen, Joutchen, Nǚzhēn, Nǚzhí		女真, 女直, 汝真	extinct	
Sibe	Xibe, Xībó, Shibo, Sibin; Ili, Yīlí (prefecture); Cabcal, Qapqal, Chapchal, Chábùchá'ěr (county)		錫伯 ; 伊犁 ; 察布查爾	severely endangered	

Fig 1. Family tree of Tungusic



CHAPTER TWO

CONSONANT DEVELOPMENTS

2.1. Introduction

In this chapter, I discuss historical developments that have affected the consonant systems of the Manchu group. The sound changes explored below--both phonemic and sub-phonemic--yield important information regarding not only Tungusic historical phonology but also general phonological theory, particularly the typology of phonological change.

Manchu has often played an outsized role in research on Tungusic historical phonology due to the relative breadth and depth of its attestation, which are unusual in the family. In previous research, specifically Written Manchu (WM) has often stood--out of necessity--as the only representative of the entire Manchu group, leading to a number of oversimplifications in the handling of certain sound changes. Dialect comparison holds out the possibility of improving and elaborating our understanding of the sequence of phonological events leading from proto-Tungusic (pTg) to WM and the other varieties of the Manchu group, and consequently also of the history of the wider Tungusic family.

The roster of sound changes deducible on the basis of Manchu dialect comparison provides many fresh examples of cross-linguistically common changes already familiar from the histories of other languages; any addition of examples directly expands the empirical foundations for the uniformitarianist claims of historical linguistic theory. This roster also contains seemingly unusual sound changes that, at a minimum, call for further research on Manchu dialects, but also suggest promising directions for further comparative and cross-linguistic inquiry.

Consonantal developments in the Manchu group also show signs of a great deal of linguistic contact, both internally within the Manchu group or within the Tungusic family, and externally, especially with Mongolic and Mandarin. These contacts often seem to give rise to correspondences among the dialects that are problematic for a phylogenetic (cladistic, taxonomic) analysis of Manchu diversity. These contact phenomena therefore also offer material for further research on language contact and classification theory.

The rest of this chapter is organized as follows:

In §2.2 I present an overview of selected consonant inventories of the Manchu group as a preliminary to the subsequent discussion of sound changes.

In §2.3 the focus is on weakening. As a general process, this is the most widespread type of consonantal change in the Manchu group, exemplified by a large number of similar but arguably distinct rules. For convenience, I have treated weakening of stops (§2.3.1) separately from weakening of fricatives (§2.3.2).

In §2.4 I explore several developments related to consonantal place distinctions, including: the loss of formerly allophonic place alternations and the emergence of new allophonic place alternations (§2.4.1); the phonologization (phonemic split) of formerly allophonic alternations (§2.4.2); and sub-phonological changes in the realization of consonants--i.e., changes to earlier allophonic processes and emergence of new allophonic place alternations (§2.4.3). The section concludes with a brief discussion of the status of sub-phonemic changes (§2.4.4).

2.2. Overview of consonant inventories

In this section, I discuss variation in the overall configuration of the consonant inventories of Manchu varieties. The processes that gave rise to this variation are treated in detail in the subsequent sections of this chapter.

2.2.1. WM and pTg

The inventory of consonant phonemes of WM (presented and discussed above in Chapter 1) is repeated here:

(1) Consonant inventory of WM

(p)	t	ʧ	k
b	d	ɟʒ	g
f	s	ʃ	x
m	n		ŋ
	l		
	r		
		j	

Anticipating the findings to be presented in the current chapter and the discussion in Chapter 5, this inventory is nearly identical to that which I assume for the ancestor of the Manchu group as a whole, as well as to the pTg inventory as reconstructed by Benzing (1956), the latter given here for comparison:

(2) Consonant inventory of pTg²⁴

²⁴ I write *ʧ, *ɟʒ for Benzing's *č, *ʒ for ease of comparison. Hereafter, pTg reconstructions are from Benzing (1956) unless otherwise noted, but similar conversions to IPA-style notation have been applied to facilitate comparison with the Manchu dialect data. These conversions are described as the need arises.

*p	*t	*ʃ	*k
*b	*d	*dʒ	*g
	*s		*x
*m	*n		*ŋ
	*l		
	*r		
(*w?)		*j	

Benzing reconstructed pTg *w in only one lexical item: pTg *wa:- ‘to kill’. For exactly the same distributional reasons as stated in Chapter 1 for rejecting /w/ for WM, I assume that “pTg *w” should in fact be reanalyzed as a positional allophone of the high back round RTR vowel *ʊ, thus *ʊa:- ‘to kill’. (The pTg diphthong *ʊa(:) is separately reconstructed by Benzing for other positions.²⁵)

The absence of *f in pTg and its emergence in WM was also summarized in Chapter 1: WM acquired [f] as a result of regularly conditioned weakening (spirantization) of *p; later changes to some of the conditioning environments led to unpredictable minimal pairs, giving rise to a phonological split, whereby WM /p/ ≠ WM /f/. WM /f/ is far more frequent than /p/ (see below, §2.3.1.1).

Benzing does not reconstruct pTg *f. In his system, WM /f/ arose at least in part through a phonemic split of pTg *s. In some competing Tungusic reconstructions such as that of Starostin et al. 2003, pTg *f is reconstructed as an additional source of WM /f/.

²⁵ Here, again, I have substituted *ʊ for Benzing’s “dark” *u.

In general, all other Manchu varieties have similar inventories. However, the sources vary considerably in terms of phonological analysis. (No explicit analysis is offered for: Beijing, Lalin, Alcuka, and Bala.)

2.2.2 Aigun, Ilan Boo, Ibuci, and Sibe

The inventories of Aigun, Ilan Boo, Ibuci, and Sibe are extremely similar to each other, raising the same basic issues of analysis, and have received similar treatments in the literature. Consider the inventory of Aigun Manchu:

(3) Consonant inventory of Aigun Manchu (following Q. Wang 1984)²⁶

p	t	tɕ	tɕʰ	k	q	(voiceless aspirated)
b	d	dʒ	dʒʰ	g	ŋ	(voiceless unaspirated)
f	s	ɕ	ɕʰ	x	χ	
v		j	ʒ			
m	n			ŋ		
	l					
	r					

In Q. Wang's analysis, the consonant inventory of Aigun Manchu is conspicuously enlarged by the putative diachronic split of two earlier places of articulation into four phonemic places. The single (alveo)palatal series of pTg and WM corresponds to separate alveolar and retroflex series in Aigun under this analysis; and the single dorsal series of pTg and WM corresponds to separate velar and uvular series in Aigun.

²⁶ This inventory excludes consonants found only in loanwords, such as /ts/. Some other phones such as [dʒ] occur in both native words and loanwords but are phonemic only in the loanwords; [dʒ] is an intervocalic or intersonorant allophone of /s/ in the native words.

With respect to the dorsal consonants, the claim is that an originally allophonic velar ~ uvular alternation (as found in WM and several other dialects) was rendered unpredictable--and therefore phonemic--by vowel developments that obscured the original conditioning of the alternation (tongue root position of the following vowel). In Q. Wang's data, the evidence for a split lies in the fact that a particular vowel can be preceded by either velars or uvulars (in different lexical items), allowing the possibility of a minimal contrast. For example, Aigun Manchu /a/ is generally preceded by uvulars, as in more conservative dialects including WM and Ilan Boo Manchu; in some lexical items, Aigun /a/ may be preceded by velars. However, the only examples are obvious loanwords or words of obscure origin, such as “/gaidzasi/” [gaidzadzi] ‘(finger) ring’, with a velar preceding /a/.

The split of the (alveo)palatal series also depends upon the supposed phonologization of an allophonic alternation (alveolar before front vowels, retroflex elsewhere), except that the assumption of any such allophonic alternation is at best controversial for WM, and might only have applied to /ʃ/ ([ɕ] before /i/ alternating with [ʃ] elsewhere?) but not to the affricates /tʃ, dʒ/. I am skeptical of the proposal that the alveolar ~ retroflex distinction is phonologically contrastive in Aigun. An examination of the forms in Q. Wang 1984 reveals that the co-occurrence of alveolars with following non-front vowels is again narrowly restricted to a handful of loans from Mandarin or items of obscure origin.²⁷ Meanwhile, the co-occurrence of retroflex consonants with front vowels is restricted to combinations with the vowel /i/, where this vowel is obligatorily pronounced as a non-front [ɨ]. In my view, this phone--transcribed elsewhere

²⁷ For example, Aigun /suaicən/ < Mandarin 甩線 *shuǎixiàn* ‘drop-line (for fishing)’. In this and the remaining items, it is possible to analyze such sequences as involving complex nuclei like /ia/, /iau/, etc., thus: /suaɿɕian/. Cf. also /gaidzasi/ [gaidzadzi] ‘(finger) ring’, mentioned above, which could be reanalyzed as /gaidziasə/.

in this dissertation as centralized [ĩ]--should be analyzed as an allophone of the non-front vowel /ə/, *not* as an allophone of the front vowel /i/.²⁸ (See Chapter 3 for more detailed discussion of this and other issues of vowel analysis.) This weakens the argument for assuming a phonological split of the old (alveo)palatal series into an alveolar and a retroflex series. I assume that the distinction is allophonic, with alveolar place conditioned by following front vowels.

As for the emergence of retroflex as the default realization of coronal affricates and fricatives, it is undoubtedly an influence from Mandarin, and is not assumed for WM or pTg.²⁹

The voiced fricative /v/ is also clearly diachronically secondary. The phoneme /v/ emerged as a result of three independent changes: in initial position, the [w-] of WM (which I have argued should be treated as an allophone of /u, ʊ/) was strengthened to [v-]; meanwhile, /f/ in intervocalic and some other intersonorant environments was voiced to [v]; furthermore, /b/ in intervocalic and some other intersonorant environments was spirantized to [v] (partial phonemic merger).

Now consider the inventory of Ilan Boo Manchu:

(4) Consonant inventory of Ilan Boo Manchu (following Čenggeltei 1998)³⁰

²⁸ For example, in my view Aigun /ʂoŋt̪siχo/ [ʂoŋt̪ʂʰʅχo] ‘pigtail, braid’ would be better analyzed as /ʂoŋt̪səχo/ (cf. WM *soncoho* ‘id.’). The analysis of [ʅ] (and [ɺ]) as belonging to the phoneme /i/ is widespread in descriptions of Manchu dialects by linguists in China; it seems to be influenced by the history and standard treatment of similar sounds in Mandarin phonology.

²⁹ Retroflex consonants are also found widely in Mongolic languages of China, and in that sense can be considered an areal feature.

³⁰ In one table (1998: 242), Čenggeltei gives [ɣ] as a phoneme, but the discussion makes clear this is an intervocalic or intersonorant allophone of /x/. He also omitted /z̪/, which contrasts with /ʂ/ in intervocalic position: although /ʂ/ is predictably voiced to [z̪] in intervocalic position, certain original clusters have been simplified to voiceless intervocalic [ʂ], giving rise to the contrast.

p	t	tc	tɕ	k	(voiceless aspirated)
b	d	dz	dzɿ	g	(voiceless unaspirated)
f	s	ɕ	ɕ	x	
v		j	zɿ		
m	n			ŋ	
	l				
	r				

In Čenggeltei’s analysis, Ilan Boo Manchu has not undergone the phonemic split of dorsals into contrastive velar and uvular series claimed for Aigun, but is otherwise identical. Note that in both varieties, /j/ has been described as a voiced lamino-alveopalatal or lamino-palatal fricative (舌面中濁擦音), where the use of /j/ would appear to be a substitution of convenience for IPA /j/ (palatal fricative). For Aigun, the sound is specifically identified as the voiced counterpart of /ɕ/, suggesting alveolo-palatal [z]. In my own fieldwork on Ilan Boo Manchu, /j/ had the value of a palatal approximant [j]. The voiced fricative /v/ has the same source as in Aigun Manchu.

As in the case of Aigun Manchu, the evidence for a phonological contrast between alveolar and retroflex places in Ilan Boo Manchu is weak at best. Across the entire attested vocabulary, there are no proper minimal pairs as long as retroflex+front vowel sequences like “/tɕi, dzi, ɕi/” [tɕɿ, dzɿ, ɕɿ]=[tɕi, dzi, ɕi] are reanalyzed as /tɕu, dzu, ɕu/.³¹ The only other support for a contrast comes from cases where the vowel that *would* condition the alternation has been deleted via syncope. This results in superficially opaque (unpredictable) alveolar or retroflex codas, stranded in surface forms without a following vowel to condition the alternation. Thus, for example, we find Ilan Boo

³¹ Ilan Boo Manchu /u/ corresponds to the vowel /ə/ in most descriptions of other Manchu varieties.

[uʂ. 'ɣa:] : WM [u.ʃi.ɣa] ‘star’ and Ilan Boo [muɪdʒ. 'bu-] : WM [məi.dʒə.bu-] ‘to break, to destroy’. I assume that the syncopated vowels are still underlyingly present in Ilan Boo, and are non-front and front, respectively (i.e., the opposite of WM in this case). (For the role of word stress on syncope in Ilan Boo Manchu, see Chapter 4.)

Now consider the inventory of Ibuci Manchu:

(5) Consonant inventory of Ibuci Manchu (following J. Zhao 1989)³²

p	t	ʈ	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>ʈ</td><td>ʈʂ</td></tr></table>	ʈ	ʈʂ	k	(voiceless aspirated)
ʈ	ʈʂ						
b	d	ɖ	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>ɖ</td><td>ɖʂ</td></tr></table>	ɖ	ɖʂ	g	(voiceless unaspirated)
ɖ	ɖʂ						
f	s		<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>ɣ</td><td>ɣʂ</td></tr></table>	ɣ	ɣʂ	x	
ɣ	ɣʂ						
v				ɣ			
m	n			ŋ			
	l						
(w?)			j				

According to J. Zhao’s analysis, Ibuci Manchu is like Ilan Boo Manchu in retaining the allophonic distribution of velars and uvulars and in undergoing the supposed split of the (alveo)palatal series into an anterior alveolar series contrasting with a posterior retroflex series. Dental affricates /ʈ, ɖ/ have emerged as phonemes due to partly irregular (and therefore unpredictable) loss of retroflex articulation of /ʈʂ, ɖʂ/ in combination with the irregular change of initial /s-/ to [ʈ-]. Note that this analysis also has no phonemic /r/, as

³² Here and throughout this dissertation, I have modified J. Zhao’s original transcription of Ibuci Manchu consonants to facilitate comparison with other dialect materials, as follows: Zhao’s voiceless aspirated obstruents <p^ʰ, t^ʰ, ʈ^ʰ, ʈ^ʰʂ, k^ʰ, q^ʰ> are re-transcribed with the “plain” voiceless symbols: [p, t, ʈ, ʈʂ, k, q]; his voiceless unaspirated obstruents <p, t, ʈ, ʈʂ, k, q> are re-transcribed with the voiced symbols: [b, d, ɖ, ɖʂ, g, ɣ].

J. Zhao treats [r] (~ [ɾ]) as an allophone of /l/ due to merger. He also sets up /w/ for Ibuci Manchu contrasting with /v/, but the two phones [w, v] are in apparently free variation.

Now consider the inventory of Sibe:

(6) Consonant inventory of Sibe (following S. Li et al. 1984)

p	t	tɕ	tɕʰ	k	q	(voiceless aspirated)
b	d	dʒ	dʒʰ	g	g	(voiceless unaspirated)
f	s	ɕ	ɕʰ	x	χ	
v						
m	n			ŋ		
	l					
	r					
		j				

According to this analysis, Sibe shares with Aigun, Ilan Boo, and Ibuci Manchu the supposed split of the (alveo)palatal series into an alveolar series and a retroflex series; and Sibe is like Aigun in that velar ~ uvular alternation has been phonologized due to vowel developments. The emergence of the voiced labial fricative /v/ is identical to the other varieties above.

In the case of Sibe, the evidence for the dorsal series split is robust even within core native vocabulary. The vowel contrast that originally conditioned the allophonic velar ~ uvular alternation--namely, the tongue root position of following vowels--was systematically lost for the high back round vowels /u/ (non-RTR) and /ʊ/ (RTR) due to a neutralization by which /ʊ/ went to [u]. Crucially, in this process in Sibe, the formerly allophonic uvulars preceding the merged vowels *did not* lose their uvular articulation; as a result Sibe has synchronically unpredictable oppositions between [qu] /qu/ and [ku]

/ku/; [gu] /gu/ and [gu] /gu/; etc. (There is a similar partial neutralization whereby /a/ merges in only some positions with /ə/, giving rise to oppositions between [qə] /qə/ and [kə] /kə/, etc.)

The supposed (alveo)palatal series split is identical to the other dialects discussed above. In the analysis of S. Li et al., Sibe has {alveolar + back-vowel} sequences such as /tɕa, dʒa, ɕa/ that contrast with {retroflex + back-vowel} sequences /tʂa, dʒa, ʂa/. However, comparison with transcriptions of Sibe by other authors such as Yamamoto (1969) and Norman (p. c.), as well as cognates in other Manchu varieties, suggests that the former can be reanalyzed as /tʂɛ, dʒɛ, ʂɛ/ (or /tʂia, dʒia, ʂia/, or a combination of both). Sequences of retroflex obstruents with the front vowel /i/ (“/tʂi, dʒi, ʂi/”), where the vowel is always non-front [ɿ] ([i]) in surface forms, are better analyzed as /tʂə, dʒə, ʂə/.

In summary, the main developments in this subset of Manchu varieties are: (1) the split of the original single series of dorsal obstruents into contrasting velar and uvular series (only Sibe and perhaps Aigun); (2) the split of the original single series of (alveo)palatals into contrasting alveolar and retroflex series (claimed for all four varieties, but doubtful in all cases); and (3) the split of the original single series of fricatives into contrasting voiceless and voiced series (labial /f/ ≠ /v/ is robust in all four varieties; circumstances vary by dialect for other places of articulation). It is worth emphasizing that although the hypothesis of a *phonemic* split of the original (alveo)palatal series is not adopted here, a systematic allophonic alternation is recognized. The default realization of this single phonological series is retroflex in all four dialects; alveolar allophones are conditioned by following front vowels.

2.2.3 Beijing and Lalin

These two varieties are extremely close to each other and their consonant inventories are very similar to WM. The sources do not carry out phonemic analysis, but the inventories can be deduced from the data. For both Beijing and Lalin Manchu, I assume the inventory below:

(7) Consonant inventory of Beijing and Lalin Manchu (following Y. Aisin-gioro 1987-2004 and Y. Mu 1986b, 1987a)³³

(p)	t	(ts)	tʃ	k	(voiceless)
b	d	(ɟ)	ɟʃ	g	(voiced)
f	s		ʃ	x	
(v)					
m	n		ŋ		
	l				
	r				
w			j		

Beijing and Lalin Manchu show neither the (alveo)palatal series split nor the dorsal series split. (In fact, Beijing and Lalin lack retroflex and uvular phones altogether.) Lalin [ts] and [ɟʃ] are infrequent, and both regularly correspond to /s/ in other dialects. Although they occur only in intersonorant position in Y. Mu's forms, his /s/ [s] also occurs in that environment. It seems unlikely that they truly contrast with /s/, but their distribution is

³³ Y. Aisin-gioro mostly employs a transcription based on the standard Möllendorff romanization of WM, with explanatory IPA annotations only in some situations where the phones differ from corresponding WM phones. Y. Mu employs an IPA-based transcription for Lalin Manchu, but his usage is idiosyncratic and sometimes haphazard. Here and throughout the dissertation, Y. Mu's <b', d', ɟʃ', g'> are converted to [p, t, tʃ, k]; his <h> is converted to [x]; his <p', t', ts', tʃ', k'> are converted to [p, t, ts, tʃ, k]; his <ts> is converted to [ɟʃ].

unpredictable in the available materials on Lalin Manchu, so I include them here in parentheses.³⁴

2.2.4 Late Jurchen (LJ)

Late Jurchen is reconstructed by Kane (1989) on the basis of materials transcribed using Chinese characters sometime in the 15th or 16th centuries by the Ming dynasty Bureau of Interpreters, together with extensive comparison to cognates in other Manchu varieties, including earlier Jurchen materials. These sources only allow guesses about phonetic details, but the abstract phonological system can be established:

(8) Consonant inventory of Late Jurchen (following Kane 1989)³⁵

(*p)	*t	(*ts)	*ʧ	*k
*b	*d	(*dʒ)	*dʒ	*g
*f	*s		*ʃ	*x
			(*ʒ)	
*m	*n			(*ŋ)
	*l			
	*r			

³⁴ Y. Mu's use of <f, v, w> in transcriptions is also problematic. I assume that <f> is [f], and <w> is [w]; <v> seems to be equivalent to <f> in some forms, but equivalent to <w> in others--i.e., there are apparently only two phonemes at most, but possibly only /f/. Hereafter, wherever this particular transcription issue arises, I have provided explanatory comments or notes about how I have interpreted the original transcriptions.

³⁵ Kane 1989 uses a transcription that is close to the Möllendorff romanization of WM and to the standard Classical Mongolian romanization found, e.g., in Poppe 1955. In citing Late Jurchen forms elsewhere in the dissertation, I generally follow Kane's original transcription, with IPA explanations where necessary. Here, I provide an approximate IPA conversion of the reconstructed inventory to facilitate comparison with the other inventories. Kane's <*č, *j, *š, *ž> are given here as *ʧ, *dʒ, *ʃ, *ʒ; his <*h> is converted to *x; <*ng> is converted to *ŋ; <*y> is converted to *j.

*w?

*j

Following Kane's reconstruction, the inventory of Late Jurchen consonants is again more or less identical to that of WM. Consonants in parentheses are those deemed too infrequent in the transcription materials to establish clear contrast relationships with other segments.

In my view, Kane's LJ (*p) can be analyzed as an allophone of *f, appearing only in positions where it is adjacent to another consonant in LJ cognates (the only examples are with a preceding *m or following *x).³⁶

Kane's (*ts) occurs in a few items, corresponding either to WM *-bs-* (where WM coda *b* should be understood as a neutralized labial stop of non-specific laryngeal setting /P/) or to WM *-ks-* (where WM coda *k* should likewise be understood as a neutralized velar stop of non-specific laryngeal setting /K/). Therefore in these cases LJ (*ts) most likely represents a heterosyllabic cluster, *-C.s- and not a true affricate. However, in a couple of other items, the same transcriptional phone corresponds to WM *c* /tʃ/ or *š* /ʃ/. Kane speculates that the latter case might simply reflect an inadequate transcription of LJ *tʃ or *ʃ (1989: 115).

Kane's LJ (*dʒ) invariably corresponds to WM /s/ in intervocalic position, suggesting an allophone of *s, but since LJ *s also occurs in this environment, this unpredictable (*dʒ) must be provisionally accepted as a phoneme. Kane also reconstructs a LJ (*z) for the same transcriptional phone, but there is no clear basis for a distinction between (*dʒ) and (*z). (Some other dialects also have [dʒ] ~ [z] as interchangeable allophones of /s/ in intervocalic position.)

³⁶ This interpretation is due to somewhat modified analysis of certain entries in the Vocabulary. See section [###](#) below.

LJ (*ʒ) corresponds both to WM /dʒ/ and to WM /ʃ/, but only in intersonorant positions. The same transcriptional phone occurs in at least three of the same lexical items in the earlier Bureau of Translators' Jurchen materials, so transcriptional error is not a likely explanation. However, since LJ *dʒ and *ʃ also occur in that environment, the distribution of (*ʒ) is unpredictable, and must be provisionally accepted as a phoneme for the same reasons as in the case of (*ɕ).

Kane reconstructed LJ (*ŋ) as a low-frequency tentative phoneme. In Late Jurchen as in WM, this phone occurs only in codas, and is most frequent before dorsal obstruents, where it can be treated as a product of assimilation of *n. The LJ materials do not include any cognates of the WM words in which it is clearly *not* a product of place assimilation--i.e., where it is followed by a heterorganic consonant--so this tentative contrastive status is accepted.

Strictly speaking, the Chinese-character transcription of Late Jurchen does not distinguish between *r and *l; exactly the same set of transcriptional phones are employed for both phonemes in all possible positions. The distinction between *r and *l in the reconstruction must be inferred from cognates in other Manchu varieties. The LJ data show clearly that the phonemes contrasted at an earlier point in time, since there are identifiable phonological processes unique to *l (e.g., deletion before *m). Thus, although I adopt Kane's reconstruction of this contrast, it should be emphasized that the possibility of partial or total neutralization *after* the aforementioned processes took place and *prior* to the production of the Vocabulary cannot be excluded. (As mentioned in §2.2.2 above, neutralizing merger of earlier /r/ and /l/ is claimed for Ibuci Manchu.)

Kane also reconstructs a LJ *w. In initial position, I would argue that it is an allophone of LJ *u- in diphthongs like *ua-, along the lines of the argument presented for WM and applicable also to pTg. In a few items, *w may be an intervocalic allophone or

unsystematic variant of LJ *b. However, *w also occurs in other positions in a few words of obscure origin lacking secure cognates in other Manchu varieties, where neither of these analyses is obviously correct; for such cases, LJ *w is tentatively accepted as a phoneme. Unfortunately, the scarcity or outright lack of cognates means that the earlier history and the nature of this segment remain obscure.

2.3. Weakening

Weakening plays a broad role in the development of Manchu from pTg. In most cases, the targets of weakening are obstruents, but sonorants can also be affected.

2.3.1 Weakening of stops

All of the earlier grave stops (*p, *k, *b, *g) undergo weakening in varying environments in at least some varieties of Manchu. The coronal plosives (*t, *ʈ, *d, *ɟ) generally do not participate in weakening, with minor exceptions.

2.3.1.1. Weakening of pTg *p

According to the standard reconstructions of pTg (Tsintsius 1949; Benzing 1956), *p was weakened in intervocalic and word-initial positions in the course of the development to WM. These changes can be formalized as follows:

- $$\underline{\text{pTg}} > \text{WM}$$
- (9) *p > f / V_V
- (10) *p > f / #_

There were also word-medial (heterosyllabic) clusters containing *p in pTg, namely *-r.p-, *-l.p- and *-p.t-, *-p.ʃ-, *-p.k-, *-p.s-, reconstructed with differing degrees of confidence. The main developments of these clusters can be formalized as follows:

- pTg > WM
- (11) *p > f / {*r, *l}_V
- (12) *p > Ø / _{*t, *ʃ, *k}
- (13) *p > p / _*s (NB: transcribed *-bs-* for WM)

The result of all of these changes, briefly described in Chapter 1 §4.1.1, is that [p] has a restricted distribution in WM, and only rarely contrasts with [f]. Note that in spite of the changes in (9) and (11), whereby pTg *p regularly gave WM [f] in particular intersonorant positions, WM nevertheless has *-mp-* [-m.p-] and *-rp-* [-r.p-]. Furthermore, numerous loanwords contain word-initial or intersonorant [p]; and sound-symbolic words frequently escaped the application of the change in (10) and thus retain word-initial [p-]. The result of these developments is a weak synchronic contrast between /p/ and /f/.

Across the Manchu group, the change in (12) deleting *p before the fortis stops {*t, *k} is apparently exceptionless. Thus, for example, while other Tungusic languages have [pk, kp, pp, kk], etc. reflecting pTg *-pk-, the Manchu group alone seems to regularly develop to /-k-/. In other words, the change in (12) appears to have been completed before the breakup of the Manchu group. E.g.:

- | | | |
|--------------------------------|----------|--------------------------|
| (14) pTg *dʒapkon ‘eight’ > WM | [dʒaʁon] | (/dʒakon/ <i>jakûn</i>) |
| | Sibe | [dʒaʁon] |
| | Aigun | [dʒɔʁon] |
| | Ilan Boo | [dʒa'ʁon] |

Ibuci dzʌχon ~ dzʌxon
 Alcuka [dʒiak(u)] ~ [dʒiak(u)] ~ [dʒia'ə]
 Late Jurchen *jakun(g)

(Ilan Boo [-ʌχ-] and Ibuci [-χ-] ~ [-x-] are the regular reflexes of /-k-/ [-q-] in RTR-harmonic words such as pTg *dʒapkon ‘eight’.)

By contrast, (9) weakening (spirantization) of intervocalic *-p- > -f- also took place regularly in most varieties (WM, Beijing, Lalin, Sibe, Aigun, Ilan Boo, Ibuci, Bala, and Late Jurchen), but apparently not in Alcuka. (In many varieties, -f- was secondarily voiced to [-v-] or further weakened to [-w-]). Thus, e.g.:

(15) Table 1. Weakening of *-p- (except Alcuka)

pTg	*dʒapa-	*xəpi:-	³⁷	³⁸	*dɔːldɪ-pɪː
gloss	‘to grab, to grasp, to hold’	‘to play’	‘cake, pastry’	‘nose’	‘to hear, to listen’ (PERF.CONV)
WM	[dʒafa-]	[əfi-]	[əfən]	[ɔfɔɔ]	[dɔndʒi-fi] (PERF.CONV)
orthographic	<i>jafa-</i>	<i>efi-</i>	<i>efen</i>	<i>oforo</i>	<i>donjifi</i>
Beijing ³⁹	[dʒafa-fi] → [dʒawa-fi] (PERF.CONV)	[əifi-mi] ~ [əiwi-m(i)] → [əiwi-m] (NONP)			
Lalin	[dʒava-vi]? [dʒava-fi]? (PERF.CONV)	[əivi-mei] (NONP)	[ɔvɔ]? [ɔfɔ]?		[dɔndʒi-vi]? [dɔndʒi-fi]? (PERF.CONV)
Sibe	[dʒavə-m] (NONP)	[ivi-m] (NONP)		[ɔvur] (~ [ɔvuru-])	[dɔendʒi-fi] (PERF.CONV)
Aigun					
Ilan Boo	[dʒaː'vɣ-me] (NONP)	[e'viː-me] (NONP)	[ʉ'vʉn]	[ɔ'vurɔ] ~ [ɔ'vuro]	
Ibuci	dʒavu-mi (NONP)	em-mi ~	ə'vən	ɔ'vulə ~ o'vul(ə)	

³⁷ Starostin et al. (2003) reconstruct *epe. Cf. *TMS* II: 436.

³⁸ Starostin et al. (2003) reconstruct *opora. Cf. *TMS* II: 22.

³⁹ The arrow → in transcriptions of Beijing Manchu separates slower, more careful speech (on the left) from faster speech (on the right).

		inm-mi (NONP) ⁴⁰			
Alcuka		[əpi-r] (IMPF.PART)	[əpə]	([ɔfəilɔ] ⁴¹)	[dɔndi-pi] (PERF.CONV)
Bala					
Late Jurchen		*efi-bi (NONP)			

In a few varieties, modifications to the shape of stems by vowel deletion (syncope) have resulted in elimination of the intervocalic environment. In Ilan Boo and Late Jurchen, the reflex of earlier *p in this context is a stop. In Sibe, similar modifications of stem shape are attested, but spirantization is still observed, apparently due to a distinct process of coda spirantization (see §x.x.x below):

(16) Table 2. No weakening in Ilan Boo and Late Jurchen under syncope

pTg	†lipa-, †tipa- ⁴²				†xəpu- ⁴³	
gloss	‘mud, dirt, clay’	‘pedestrian’	‘to hand over to, to entrust to’	‘(large) butterfly’	‘to be ruined, to be defeated’	‘hairpin’
WM	[lifaxan], [ʃifaxan]	[jafaxan]	[afabu-]	[gəfəxə]	[əfudʒə-]	[ʃifiqʊ]
orthographic	<i>lifahan,</i> <i>cifahan</i>	<i>yafahan</i>	<i>afabu-</i>	<i>gefəhe</i>	<i>efuje-</i>	<i>sifikū</i>
Beijing				[gəwuə] ~ [gəwəi]		
Lalin						
Sibe	[tɕifxan]	[jafxən]	[avəvə-m] (NONP)		[əvədʒi-m] (NONP)	[ɕəfqʊ]
Aigun						

⁴⁰ In Ibuci, deletion of the stem-final vowel has triggered assimilation to the nasal quality of the following /m/ of the NONP suffix.

⁴¹ This and a few other forms exceptionally show spirantization in Alcuka, perhaps due to contact with a regularly spirantizing dialect. The vowel of the second syllable is also mysterious, and a transcriptional or typographical error cannot be excluded.

⁴² The dagger <†> indicates a hypothetical pTg form in the system of Benzing that he did not reconstruct. Starostin et al. (2003) reconstruct *lipa- ‘to smear, to poach in mud’ and *tipa- ‘dirt; smear with dirt, clay’.

⁴³ Starostin et al. (2003) reconstruct *xepe-/*xepu-

Ilan Boo	[lib ⁴ ʰɣan]	[ja:b'kuun]	[ap ⁴ 'pu-me] (NONP)	[gubku]	[ub ⁴ 'dzi:-me] (NONP)	[eiɔbku]
Ibuci		jabukən ⁴⁴				
Alcuka			[ap ⁴ 'u-m] (IMPF.CONV)			
Bala						
Late Jurchen	*tip[h]a			*gep[h]e		

(Recall that “[b]” in Ilan Boo transcribes a plain voiceless stop, IPA [p].)

Similarly, (10) weakening (spirantization) of word-initial *p- > f- also took place regularly in most varieties (WM, Beijing, Lalin, Sibe, Aigun, Ilan Boo, Ibuci, and Late Jurchen), but apparently not in Alcuka or Bala. E.g.:

(17) Table 3. Weakening of *p- (except Alcuka and Bala)

pTg	†pata/n, †pata-ka ⁴⁵	46	47	48
gloss	‘sole; hoof, paw, claw	‘to cough’	‘hair’	‘willow (tree)’
WM	[fatan], [fatɣa]	[fuʰɣia-]	[funiəxə]	[fɔdɔ], [fɔdɔɣɔ]
orthographic	<i>fatan</i> ‘sole’, <i>fatha</i> ‘hoof, paw’	<i>fucihiya-</i>	<i>funiyehe</i>	<i>fodo</i> ‘willow branch’, <i>fodoho</i> ‘willow’
Beijing				
Lalin				
Sibe	[fatɣ] (~ [fatɣə-])	[fəɣsa-m] (NONP)	[fənix] (~	[fɔdɔɣ ^w]

⁴⁴ Similar transcriptions of other Ibuci lexical items suggest that [u] is non-phonemic in this word, and may simply reflect release of the labial stop.

⁴⁵ Starostin et al. (2003) reconstruct pTg *pata ~ *pataka ‘sole (of foot); pads (of paw); paw, hoof; fetlock’, etc.

⁴⁶ No accepted pTg etymology. Presumably mimetic/onomatopoeic in origin.

⁴⁷ Starostin et al. (2003) reconstruct pTg *puñe- ‘hair’, which could be revised to †puniə- in the Benzing system; this is a plausible source for Manchu reflexes, but this etymon is barely attested beyond the Manchu group, and is not obviously reconstructable to the pTg level.

⁴⁸ Starostin et al. (2003) reconstruct pTg *pode- ‘willow; elm’. There is some evidence (TMS II: 45, 360) to suggest a doublet, pTg †pɔda- ~ †pɔdə-, where the latter non-RTR-harmonic variant might explain the unexpected [ə] vocalism of Alcuka and Bala forms.

			[fəniyə-] ⁴⁹	
Aigun				[fɔdɔɔŋ] 'tree'
Ilan Boo		[fite'ke-me] (NONP)	[fe'ni:gu] ~ [fe'ni:ɣu]	[fɔ:dɔ'ʊn]
Ibuci		fetei'gie-nmi (NONP)	'finiŋə ~ fəniŋə ~ funiyə	fodyō
Alcuka	[patigə]	[putia-mei] (NONP)	[piniəgə] ~ [finijegə] ⁵⁰	[pədɔxɔ] ~ [fədəxə] ~ [fədə'ə]
Bala	[pati] 'foot'	[putixia-ŋmi] (NONP)	[piniərgə]	[pədxə]
Late Jurchen	*fat[h]a	*fuc[h]a-bi (NONP)	*funhe	

In Beijing and Lalin, initial /p-/ (~ /b-/?) is found in a small number of words where it precedes a diphthong of the shape /iV/. E.g.:

(18) Table 4. Beijing and Lalin initial /p-/

pTg		51	52
gloss	'eczema, ringworm, tinea'	'winnowing fan'	'kudzu vine'
WM	[fiələn]	[fiəu]? [fiɔ]?	[fiə]
orthographic	<i>fiyelen</i>	<i>fiyoo</i> (~ <i>fiyo</i>)	<i>fiye</i>
Beijing	[filən]	[biuɔ]	
Lalin	[piələn]	[piuɔ]	[piə]
Sibe	[filin]	[fi]	
Aigun			
Ilan Boo	[fi:'lin]	[fiɔu]	

⁴⁹ Cf. B. Li's transcriptions /finix/ ([funix]?) (194) ~ /finix/ ([finix]?) (205) 'id.'.

⁵⁰ Several lexical items have [f-] initial variants in Alcuka and Bala, and some items are attested only with initial [f-]. I assume such [f-] initial forms are due to contact with one of the regularly spirantizing dialects.

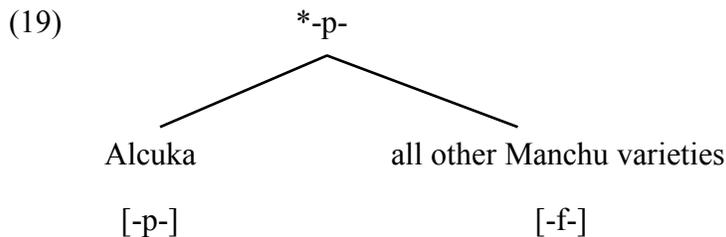
⁵¹ No accepted pTg etymology, but forms in the *TMS* (II: 36, 300) suggest an approximate source like †praxɔ-.

⁵² Starostin et al. (2003) reconstruct *pig- 'nettle; hemp' etc., but the cognates collected in the *TMS* (II: 322) suggest pTg †pi:-/†pigi- or †pi(g)ə-.

Ibuci			
Alcuka			
Bala			
Late Jurchen			

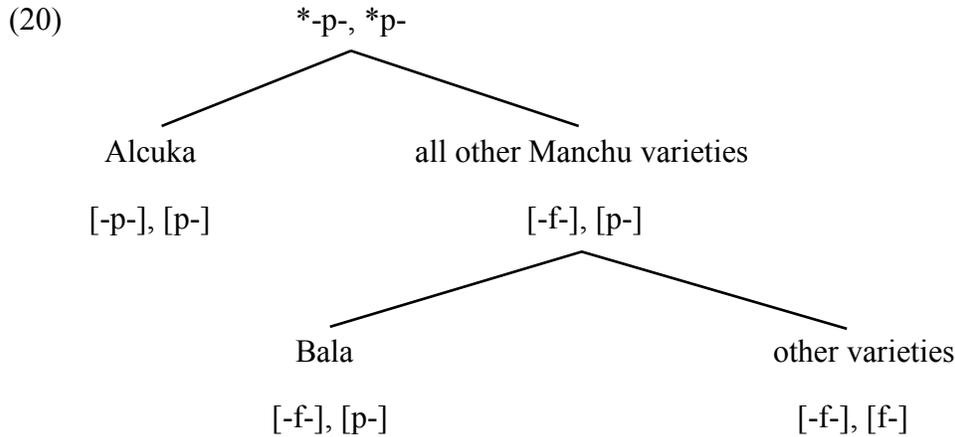
There are two basic possibilities: (1) the stop /p-/ (~ /b-/ in Beijing?) in such items is a retention of *p-, where spirantization was blocked before diphthongs of the shape /iV/; or (2) the stop [p-] (~ [b-]?) is a Beijing-Lalin innovation, /f/ > [p] / #_iV, which gives the appearance of reversing the earlier sound change in the affected words. I tentatively proceed on the assumption of the second possibility, a Beijing-Lalin innovation.

The pattern of weakening of pTg *p in the Manchu group suggests the following idealized scenario. First, *-p- between vowels (and probably between any two sonorants) was weakened to [-f-] in all dialects except Alcuka. Thus:



At this stage, all varieties of Manchu had a phoneme /p/, but in most dialects, /p/ had the conditioned allophone [-f-]. It seems possible that occasional instances of [-f-] in Alcuka resulted from ongoing contact between these two early branches.

Second, word-initial *p- underwent the same spirantization process by extension of the intervocalic/intersonorant environment from the word level to the phrase level. (Note, in connection with this idea, that pTg did not allow any word-final obstruents or tautosyllabic clusters, so word-initial consonants were always in intersonorant position at the phrase level.) Neither Alcuka nor Bala participated in this development, thus:



At this stage, Alcuka and Bala have /p/; in Bala, [-f-] is a conditioned allophone. The innovating branch--comprising all other known dialects and excluding Alcuka and Bala--has phonemic /f/, since [f] has become the default realization. However, [p] survived in some environments, namely clusters; if its distribution was still predictable, it would have been an allophone of /f/ under this idealized scenario, but it seems more realistic to assume that loans and sound-symbolic words with unweakened [p] would already have given rise to a weak contrast, /f/ ≠ /p/.

This tentative scenario exclusively addresses the diachronic fate of a single pTg segment *p, and is naturally insufficient to reveal the full internal structure of the Manchu group. However, the example illustrates the approach to Manchu dialect diversity adopted in this dissertation, which is essentially to treat the Manchu group as its own phylogenetic taxon, and to carry out an analysis under the standard assumptions of the comparative method. This example also yields a preliminary hypothesis about the higher-order branching within the Manchu group, whereby Alcuka and Bala are phonologically conservative with respect to other known varieties. In discussing other sound changes below, particular attention will be paid to this and related isogloss patterns in an attempt to flesh out the internal structure of the Manchu group.

2.3.1.2. Weakening of pTg *k

2.3.1.2.1. Weakening of word-initial /k-/ [q-]

In the standard reconstruction of pTg (see §2.2.1 above), there are two voiceless velar obstruents, *k and *x. In word-initial position at least, pTg *x- was lost in WM (apart from one important exception, on which see §###.### below). Benzing assumed that pTg initial *k- was the source of both WM /k-/ and /x-/ (1956: 27-29), but he did not provide an explanation for the distinction, apart from noting two general possibilities: (1) internal developments on the Manchu side (leading to a phonemic split); and (2) merger in all other branches (with Manchu alone preserving an older contrast). Thus, the origin of the WM contrast between initial /k-/ and /x-/ has been a longstanding problem.

Vovin 1997 examined the entire distribution of voiceless dorsals in WM. He found that, in initial position, WM /x-/ is strongly correlated with loanwords, particularly from Mongolic. On the other hand, initial /k-/ is the regular reflex of pTg *k- in native words, but simultaneously also occurs in Mongolic loanwords. According to Vovin (1997: 278), the borrowings that have WM initial /k-/ reflect an earlier loanword stratum, while those in initial /x-/ reflect a later stratum, and the Manchu contrast has been “reinforced” by these two loan strata.⁵³

Data from Manchu dialects shed some additional light on this matter, though they

⁵³ This is a simplification of Vovin’s argument, and properly applies only to non-verbs. Note that Rozycki (1994: 227-228) also recognized two layers of Mongolic loans, but assumed that /x-/ reflected the earlier stratum, and /k-/ the later stratum. Doerfer (1985: 188) also considered the correspondence Mongolic /k-/ : Manchu /k-/ a feature of a late stratum of borrowings from Mongolic, but Mongolic /k-/ : Manchu /x-/ words could be either relatively early or relatively late loans, potentially distinguishable on the basis of other features.

do not offer a definitive solution. In general, a considerable amount of unexplained variation between dorsal stop and fricative reflexes is observed, particularly in RTR-vocalic words, where WM had uvular [q-] or [χ-]. That is, where WM had a stop [q-], other Manchu varieties often show a fricative [χ-] (or, where uvular allophony was lost, velar [x-]). And where WM had a fricative [χ-], other varieties often show a stop [q-] (or, where uvular allophony was lost, [k-]). For convenience of presentation, the data is organized by the WM reflexes [q-] vs [χ-], but it is not at all clear that WM reflects the ancestral distribution for the Manchu group as a whole.

(21) Table 5a. Irregular dorsal stop ~ fricative alternations in initial position (: WM [q-])

pTg					
gloss	‘to be thirsty’	‘few’	‘damage, harm, injury’	‘crupper’	‘barracks’
WM	[qanqa-]	[qomsɔ]	[qɔkiran]	[qɔdargan] ~ [qɔdarχan]	[quaran]
orthographic	<i>kangka-</i>	<i>komso</i>	<i>kokiran</i>	<i>kūdargan</i> ~ <i>kūdarhan</i> ⁵⁴	<i>kūwaran</i>
Beijing		[komsɔ]→ [koms(ɔ)]			
Lalin		[komsɔ]			
Sibe	[qanqə-m] (NONP)	[qomzu]	[χɔkiran]	[χɔdɔrɕun]	[χuarən]***
Aigun		[qɔmdzɔ]			
Ilan Boo	/χanqi-/ [χanqi-] (L) [qan ^h χa-βa] (Ĉ) (PERF.PART)	[‘χɔmzɔ]			[χua:’rɕn] ~ [χua:’rɕn]
Ibuci	qankə-γə (PERF.PART)	‘kɔmdzo ~ ‘kɔmdzə			xuar
Alcuka				[kɔdɔxai]	
Bala					

⁵⁴ *Mongolo-Tungusica* no. 297 (Doerfer 1985: 100) lists WM *hūdargan* as a variant.

Late Jurchen				*hudar[h]a	
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In (21), we observe that Sibe, Ilan Boo, Ibuci, and Late Jurchen have a fricative corresponding to the WM stop [q-] in certain words.

(22) Table 5b. Irregular dorsal stop ~ fricative alternations in initial position (: WM [χ-])

pTg	†kakti-			
gloss	‘quick-tempered, rash, brusque’	‘venom (esp. of insects)’	‘well (water source)’	‘(wild) walnut’
WM	[χaktʃin]	[χorɔn]	[χotʃin]	[χotʃiχa]
orthographic	<i>hakcin</i>	<i>horon</i>	<i>hûcin</i>	<i>hûsiha</i>
Beijing				
Lalin				
Sibe	[qaxtein] ‘harsh, fierce (when talking)’	[qor]	[qotein]	[qusχa]
Aigun				
Ilan Boo			[qo'tein] ~ [χo'tein]	
Ibuci				
Alcuka				
Bala				
Late Jurchen			*huti	*huš[h]u

In (22), we observe that Sibe and Ilan Boo, at least, have stops corresponding to WM [χ-] in certain words.

In light of Doerfer’s and Vovin’s observations, it is significant that many of these lexical items have obvious Mongolic counterparts, and appear to be of Mongolic origin. Compare: WMong *qomsa* ‘little; lowly’ : Khalkha *χомс* ‘little, rare, few, scarce, sparse; short, low’, WMong *qokiral* : Khalkha *χохирол* ‘damage’, WMong *qudury-a* : Khalkha *χудрага* ‘crupper’, WMong *qour-a* ~ *qoor-a* : Khalkha *χор* ‘poison, venom’, WMong *qud(d)uy* : Khalkha *χыдаг* ‘well (water source)’, WMong *qusiγ-a* : Khalkha *χыуза* ‘nut,

walnut'.⁵⁵

Across the Manchu group as a whole, the distribution of stop- vs fricative-initial reflexes for these and similar examples is quite unpredictable. No single variety shows an obvious strong tendency toward [q-] or [χ-], with the exception of Late Jurchen, which attests only a handful of *k-initial items. Tellingly, those few words are either borrowings (from Chinese or Mongolic) or are unetymologized. It also seems doubtful that, say, a form such as the Ilan Boo outlier [ʰχəmzə] 'few' can be analyzed as a late-stratum loanword from Mongolic while the same etymon is an early-stratum loanword in other Manchu varieties. Similarly, if 'well (water source)' is really a Mongolic loan, it seems unlikely that it would fall into a later loan stratum in WM and LJ but an earlier stratum in Sibe and Ilan Boo. Meanwhile, the Khalkha cognates reveal that stop ~ fricative variation is also present on the Mongolic side. It seems likely that Mongolic loans in the Manchu group reflect multiple separate points of contact between diverse Mongolic languages or dialects and diverse Manchu varieties.

2.3.1.2.2. Weakening of intervocalic /k/

In the standard reconstruction, pTg intervocalic *-k- underwent spirantization to give WM /-x-/ [x, χ]. The canonical examples include:

- (23) pTg *-k- > WM -h- /-x-/
 pTg *baka- 'to get, to obtain' > WM *baha-* /baxa-/ 'id.'
 *pa:-kɔn 'liver' > *fahûn* /faxɔn/ 'id.'
 *dʒukə 'ice' > *juhe* /dʒuxə/ 'id.'

⁵⁵ WMong *quvaran* : Khalkha *xyapan(ɜ)* 'barracks' follows the same pattern, but WMong <v> seems to indicate that the word is a loan in Mongolic. Doerfer 1985 specifically cites WM *komso*, *kokiran*, and *kûdargan* ~ *kûdarhan* ~ *hûdargan* as late-stratum loanwords from Mongolic into Manchu.

*tuki- ‘to fall’ > *tuhe* /tuxə-/ ‘id.’

The entire Manchu group appears to have undergone this change. Some varieties underwent further weakenings, treated below in section §2.3.2 under weakening of fricatives. However, WM also has intervocalic /-k-/ from other sources, in particular from pTg clusters *-pk- and *-ŋk-. The corresponding segment undergoes weakening (voicing, affrication, spirantization, or deletion) under various conditions in Beijing, Alcuka, Late Jurchen, Ilan Boo, and Ibuci. Weakening is not observed in intervocalic position in WM, Lalin, Bala, Sibe, or Aigun.

In Ilan Boo and Ibuci, weakening is essentially regular preceding earlier [RTR] vowels /a, ə, u/, giving an affricate (transcribed [-⁹χ-]) in Ilan Boo, and usually a voiceless fricative [-χ-] ~ [-x-] in Ibuci:

(24) Table 6. Weakening of *-k- [-q-] in Ilan Boo and Ibuci

pTg			
gloss	‘thing’	‘is not, are not’ (NEG.COP)	‘hoe’
WM	[dʒaqa]	[waqa]	[saŋʲiqʊ]
orthographic	<i>jaka</i>	<i>waka</i>	<i>sacikū</i>
Beijing	[dʒak]	[wak(a)]	
Lalin			
Sibe	[dʒaɢ] (~ [dʒaɢə-])	[vaɢ]	
Aigun	[dʒaqa]		
Ilan Boo	[⁹ dʒa:χa]	[⁹ va:χa]	[⁹ sa:tʃi ⁹ χʊ]
Ibuci	dʒ _ɿ ʌχa ~ dʒ _ɿ ʌχa ~ dʒa'χa ~ dʒaxa ~ dʒ _ɿ ʌχa ⁵⁶	vaxə	tʃAdz̄ixʊ
Alcuka			

⁵⁶ In Ibuci, voiced fricatives [β], [v] have also been recorded for a few lexical items, generally as variants of the regular reflexes [χ ~ x], as here. In particular, [v] is found in the vicinity of round vowels.

Bala			
Late Jurchen		*oKa	

An additional example is ‘eight’ (WM *jakûn*) in (14), above.

A complication in Ilan Boo and Ibuci is that in many lexical items, irregular reductive processes⁵⁷ in post-initial syllables have changed earlier [RTR] vowels to non-[RTR] vowels [u, ʏ, o, u(ɔ)], etc., which condition velar allophones of the dorsal obstruents rather than the historical uvulars; in those lexical items--which differ between the two varieties--weakening is usually not observed, and both dialects show [-k-]:

(25) Table 7. Weakening of *-k- [-q-] in Ilan Boo and Ibuci blocked by vowel reduction

pTg	† <i>ʃapka</i> ⁵⁸		† <i>sopko</i> ? ⁵⁹			
gloss	‘fishing spear’	‘chicken’	‘skin; bark’	‘pants’	‘to bake; to heat, to dry by a fire, to dry in the sun’	‘pretty’
WM	[ʃaqa]	[ʃɔqɔ]	[suqɔ]	[faqori]	[fiaqɔ-]	[saiqan]
orthographic	<i>šaka</i>	<i>coko</i>	<i>sukû</i>	<i>fakûri</i>	<i>fiyakû-</i>	<i>saikan</i>
Beijing		[ʃɔkɔ] → [ʃɔxɔ] ~ [ʃɔk(ɔ)] → [ʃɔx]				
Lalin						
Sibe	[saq]	[tʃɔqɔ]	[sɔqu]	[faqar]	[fiaqə-m]	[saiqan]
Aigun		[tʃɔqɔ]				[sɛkəŋ] ‘somewhat good’
Ilan Boo	[ʃa:kui]	[ˈtʃɔ:˩χɔ] ~ [ˈtʃɔ:kɔ]	[sɔ:˩χɔ]	[fa:ˈkure] ~ [fa:ˈkuri]	[fiɔˈku-me] (NONP)	[saiˈkɪn] ~ [sæ:ˈkum]

⁵⁷ These vowel processes are not limited to Ilan Boo and Ibuci: in Aigun and Sibe, as well, vowel reduction may trigger loss of uvular articulation; however, in the latter two varieties, weakening does not typically affect intervocalic *-k-. For the vowel developments, see Chapter 3.

⁵⁸ The relevant *TMS* entry **ʃapka** <ЧАПКА> (II: 384) omits the WM cognate, which is instead placed in entry **siwaki**: <СИВАКӢ> (II: 75)--incorrectly, in my view.

⁵⁹ Starostin et al. reconstruct **sugbu* ‘fish skin; skin, bark’.

Ibuci		tʂoku ~ tʂoko	'tsovo ~ 'tsoko ~ 'tsoku ~ 'tsoχʊ ~ 'tsokuʔ ⁶⁰	fɔvulə ~ fɔxul ~ fɔxulə	fɔxu-mi (NONP)	
Alcuka		[tiɔkɔ] ~ [tiɔxɔ]				
Bala		[tixə]				
Late Jurchen		*tiko				

Weakening of intervocalic /-k-/ in Alcuka and Late Jurchen is more restricted. In Alcuka, /-k-/ is generally weakened (spirantized or deleted⁶¹) in the cognate of the defective NEG.EXI verb (WM *akû*) and in the synthetic suffixes of negation (: WM *-rakû* IMPF.NEG, *-hAkû* PERF.NEG) built on it:

(26) Table 8. Weakening of intervocalic /-k-/ in Alcuka negative morphemes

pTg				
gloss	'there is not, there are not' (NEG.EXI)	'to meet; to be fitting' (IMPF.NEG)	'to be(come); to be okay' (IMPF.NEG)	'to think' (PERF.NEG)
WM	[aʧʊ]	[aʧʌ-raʧʊ]	[ɔ.dʒɔ-raʧʊ]	[gɔni-χaʧʊ]
orthographic	<i>akû</i>	<i>acarakû</i>	<i>ojorakû</i>	<i>gûnihakû</i>
Beijing	[akʊ] ? ~ [aku]			
Lalin				
Sibe	[aqu]		[ɔdzurqu]	
Aigun	[ɔkɔ-tɛɛ] (COND.CONV)		[ɔdzɔrkɔ]	
Ilan Boo	['a:ʑχʊ] ~ [a: 'ʑχʊ]		[ɔ 'dʒyrʑχʊ]	
Ibuci	'Aχʊʊ ~ 'aχʊʊ ~ 'axʊʊ		o' dʒirxʊʊ	
Alcuka	[aku] ~ [a'ɔ] ~ [ə'ɔ]	[(g)aʧʌ-ra'ɔ]	[(g)ɔdi-ra'ɔ] ~ [ɔdʒi-raxɔ] ~ [ɔdʒi-ra'ɔ]	[gɔni-xa'ɔ]
Bala				

⁶⁰ In Ibuci, irregular reduction gives rise to variants with and without weakening.

⁶¹ Y. Mu's transcription uses an apostrophe < ' > to mark the weakest variant, but its value is not entirely clear. I tentatively interpret it as a mark of deletion.

Late Jurchen	*akua			
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In this development, Alcuka weakening resembles weakening in Ilan Boo and Ibuci insofar as it applies specifically before an earlier [RTR] vowel /ʊ/. There are, however, several exceptions in Alcuka in which no weakening is observed.⁶²

In Late Jurchen, intervocalic /-k-/ is generally weakened in the deverbal instrumental noun suffix (: WM *-ku/-kû* [-ku/-qʊ]):

(27) Table 9. Weakening of /-k-/ in Late Jurchen, instrumental noun suffix

pTg	†prabo-la- + *- ŋkU (TMS II: 319)	†ali- + *- ŋkU (TMS I: 26-7)	†tiru-/†tirə-? + *- ŋkU (TMS II: 187-8)	
gloss	‘lantern rack’	‘tray’	‘pillow’	‘iron (for clothes)’
WM	[xiabula-qʊ]	[ali-qʊ]	[ʧir(u)-ku]	[xuəʃə-ku] (~ [xuəʃi-ku])
orthographic	<i>hiyabulakû</i>	<i>alikû</i>	<i>cirku</i> (~ <i>ciruku</i>)	<i>huwešeku</i> (~ <i>huwesiku</i>)
Beijing				
Lalin				
Sibe			[ʧsunuŋku]	
Aigun				[xuʃiko]
Ilan Boo			[ʔʧurko]	[ʔkuʃko]
Ibuci				
Alcuka		[araliku]	[tirgu]? [tirku]? ⁶³	
Bala		[anlikuʊ]		
Late Jurchen	*fiʔulagu ‘lampstand’	*aligu	*tirgu	*hušigu

⁶² E.g., the cognates of WM *icakû* (< *ici+akû*) ‘unpleasant’, *hami-rakû* ‘unbearable, insufficient’, *oyombu-rakû* ‘unimportant, not urgent’, all of which historically contain the NEG.EXI verb, do not undergo weakening in Alcuka. There are also examples that attest at least variants with weakening to <ʔ> unrelated to the negative morpheme, as in ‘eight’ in (14) and ‘water’ in (29).

⁶³ The original transcription (in Y. Mu 1985) has “[k]”. In that work, Y. Mu generally uses “[g]” for the lenis stop /g/ and “[kʰ]” for the fortis stop /k/. In my view, some plain “[k]”s are to be interpreted as fortis /k/, but others as lenis /g/. Here, [tirku] may have been intended.

Benzing (1956) reconstructed the pTg source of the Manchu deverbal instrumental noun suffix as *-ŋku/*-ŋkU (abbreviated *-ŋkU). It is just barely conceivable that the Chinese transcription of Late Jurchen *gu is erroneous, with the character for *gu <古> accidentally substituted for the graphically related and phonetically similar character for *ku <苦>. However, given the large number of attested examples--essentially every LJ word containing this suffix--scribal error seems less likely than a morphophonological rule that applied specifically to the deverbal instrumental noun suffix, taking pTg *-ŋkU (> -kU?) > Late Jurchen *-gu.

A complication in Alcuka is that in several lexical items, earlier /-k-/ appears to be weakened (voiced) unpredictably, apparently merging with earlier /-g-/, unless this is simply my misunderstanding of Y. Mu's transcriptions:

(28) Table 10. Irregular voicing of earlier /-k-/ > Alcuka /-g-/:

pTg					
gloss	'probably, seemingly'	'swing' (N)	'(small) bird'	'gentle'	'to become tired'
WM	[aimaqa]	[ʧəku]	[ʧəʧikə]	[nəsukən]	[ʧuku-]
orthographic	<i>aimaka</i>	<i>ceku</i>	<i>cecike</i>	<i>nesuken</i>	<i>cuku-</i>
Beijing			[ʧiʧikə] → [ʧiʧik]		
Lalin			[ʧiʧikə]		[ʧuku-mei] (NONP)
Sibe	[aimaq]		[teiteikə] ~ [teitekə] ~ [teiteik]		[ʧuku-m] (NONP)
Aigun			[teiteikə]		
Ilan Boo			['tei(:)teiku]		
Ibuci			teiteikə ~ teiskə		
Alcuka	[əiməgə]	[ʧuɡu]	[ʧiʧigə] ~ [ʧitixə]	[nəsigə]	[ʧigu-mei] (NONP)
Bala		[ʧiku]	[titigə] ⁶⁴		

⁶⁴ This form is a rare example of weakening of /-k-/ in Bala; I assume it reflects contact with Alcuka.

Late Jurchen			*šeč[h]e *(guili) šeč(e)he 'golden oriole'		
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Furthermore, weakening (spirantization) to /-x-/ is also observed in Alcuka, especially following a reduced reflex [i] of earlier /u/:

(29) Table 11. Irregular spirantization of earlier /-k-/ > Alcuka /-x-/:

pTg	†altʃō-ka:/n (TMS I: 34)	*mo:- + ? (TMS I: 548-9)		
gloss	'Alcuka' (placename)	'water'	'painful; strong (of liquor)'	'fox-sprite'
WM	[altʃuqa]	[mukə]	[niməʃʉkə]	[buʃuku]
orthographic	<i>alcuka</i>	<i>muke</i>	<i>nimecuke</i>	<i>buʃuku</i>
Beijing		[mukə] ~ [muk]	[niməʃʉkə] → [niməʃʉk(ə)]	
Lalin			[niməʃʉkə]	
Sibe		[muku]	[niməʃʉiku] 'harsh, severe, strict'	[busku]
Aigun		[mukə]		
Ilan Boo		[mu'kuo(:)] ~ [mu'ko(:)]		
Ibuci		muku		
Alcuka	[aʃʉxa]	[mukə] ~ [muxə] ~ [mu'uə]	[imʃʉxa]	[buʃʉxuŋ]
Bala		[murə] ⁶⁵	[niəmʃʉkə] ~ [imʃʉkə]	[buɕiu]
Late Jurchen		*muke		

Additional examples include the cognate of WM *coko* 'chicken' in (25), above.

Clearly, these unpredictable Alcuka developments require further investigation. As previously mentioned, there is reason to believe that the Alcuka dialect material is heterogeneous, so one possibility is that unpredictable variation with respect to weakening is due to the mixture of subdialects that were originally regularly weakening or regularly non-weakening.

⁶⁵ The Bala form appears to be either a loan from Mongolic (cf. WMong *müren* 'river') or a derivation involving a different suffix from other Manchu varieties.

2.3.1.2.3. Weakening of coda /k/

In codas, earlier /k/ is weakened (spirantized or deleted) under varying conditions in Beijing, Sibe, Ilan Boo, Ibuci, Alcuka, and Late Jurchen. In WM, the laryngeal and manner contrasts among dorsal obstruents /k, g, x/ are systematically neutralized in codas; the resulting segment is a stop, traditionally identified with the fortis (voiceless) stop /k/. Lalin, Aigun, and Bala similarly do not exhibit weakening of coda /k/.

In Beijing, [-k] and [-x] are in free variation in codas when they were preceded by an earlier [RTR] vowel /a, ə, u/.⁶⁶

In Ibuci, coda /-k/ is generally spirantized to /-x/ in the same environment.

In Ilan Boo, a stop is retained in this context (as in WM, Lalin, Aigun, and Bala) but it is generally transcribed [-g] in Čenggeltei 1998--that is, as a voiceless *unaspirated uvular* stop (IPA [-q], pronounced similarly to the *lenis* stop /g-/ [q-] when in initial position). On the other hand, earlier coda /-k/ following *non*-[RTR] vowels /i, ə, u/ is transcribed [-k]--that is, as a voiceless *aspirated velar* stop (IPA [-k^h], pronounced similarly to the *fortis* stop /k-/ when in initial position). Thus, while no phonological distinction is indicated since the distribution is predictable, it appears that, phonetically, coda /-k/ undergoes weakening along the laryngeal dimension following [RTR] vowels in Ilan Boo.

In Sibe and Alcuka, earlier coda /-k/ is weakened (spirantized) to /-x/ (~ /-χ/) following vowels of any quality. In Sibe, uvular /-χ/ (which contrasts with velar /-x/ due to vowel changes) is regular following the earlier [RTR] vowels /a, ə/; velar /-x/ is regular following the earlier *non*-[RTR] vowels /i, ə/; following earlier /u, u/, which generally

⁶⁶ The same variation is attested following earlier *non*-[RTR] vowels /i, ə, u/, but with much lower frequency. There is evidence that in the latter environment, spirantization is dependent on faster speech rate.

merged in Sibe, /-χ/ and /-x/ vary unpredictably. Note, however, that in both dialects, a stop [-k] (~ [-q]) may be retained. Furthermore, in Alcuka, full deletion of earlier /-k/ is also attested in some items. (As suggested above in connection with intervocalic /-k-, variation with respect to weakening in Alcuka might be due to subdialect mixture.)

In Late Jurchen, the segment corresponding to earlier coda /-k/ is nearly always absent in the Chinese transcription of the Bureau of Interpreters' glossary. Kane 1989 reconstructed *- [k] in such words, where the square brackets signify that the value is inferred on the basis of Manchu cognates, and not found in the glossary's Chinese transcription itself. In my view, the omission of the segment in the Chinese transcription is more consistent with the assumption of regular weakening to a fricative /-x/ (Kane's LJ *h), which is also very frequently omitted in the Chinese transcription in other environments. I have therefore modified the reconstruction of this segment to LJ *- [h].

These developments are exemplified by the following items:

(30) Table 12. Weakening of earlier /-k/

pTg	†žɑ:gda- (TMS I: 242)					
gloss	'pine (tree)'	'dance'	'step, pace'	'village'	'(tree) trunk, stalk'	'armor'
WM	[dʒakdan]	[makʃin]	[ɔksən]	[tɔksɔ]	[ʃiktən]	[ukʃin]
orthographic	<i>jakdan</i>	<i>maksin</i>	<i>okson</i>	<i>tokso</i>	<i>cikten</i>	<i>uksin</i>
Beijing	[dʒaxdan]		[ɔksən] ~ [ɔxsən] → [ɔxsɔ̃n]		[ʃiktən] → [ʃixtən] → [ʃixtə(n)]	[uxʃin]
Lalin			[ɔksən]			
Sibe	[dʒaxd] ~ [dʒaxda:] (Y)	[maxein]	[ɔχsun]	[tɔχsu]	[tɛixtən]	[uxein]
Aigun			[ɔqsən]			

Ilan Boo	['dʒɑɡɔΛ]	[maɡ 'ʂin] ⁶⁷	[ɔɡ 'sɔn]	['tɔ(:)ɡsɔ]	[tɛig 'tuun] ⁶⁸	[uk 'ʂun]
Ibuci				tokso ~ toksə ~ toxso ⁶⁹		
Alcuka			[ɔktɔn] ~ [əkʃin]		[titən]	[uxʒə]
Bala			[ɔksɔn]			
Late Jurchen		70				*u[h]ʂi

In a small number of items, Sibe has a vowel [u]--rather than the uvular fricative [-χ] expected after earlier /a, ɔ/--when the following consonant was an earlier voiced coronal obstruent /d, dʒ/:

(31) Table 13. Special weakening of earlier /-k/ > ([-χ] >) Sibe [u]

pTg	†agda- (TMS I: 12)	†agda- (TMS I: 12)		†agdɪa-? (TMS I: 12)	
gloss	‘trust, confidence’	‘sturdy, strong’	‘to meet, to greet’	‘thunder’	‘to thrash (as punishment); to chastise’
WM	[akdaʃun]	[akdun]	[ɔkdɔ]	[akdʒan]	[dʒɔkdʒa-]
orthographic	<i>akdacun</i>	<i>akdun</i>	<i>okdo-</i>	<i>akjan</i>	<i>jokja-</i>
Beijing	71			[akdʒan] ~ [axdʒan]	
Lalin					
Sibe	[audətʂun]	[audun]	[ɔudu-m] (NONP)	[audʒun]	[dʒəudʒa-m] ‘to exploit; to take advantage of’ (NONP)
Aigun					

⁶⁷ Činggeltei’s original transcription reads “maɡ 'ʂɪm” (1997: 303), with “-m” apparently an error for “-n”.

⁶⁸ Ilan Boo [-g] here is irregular.

⁶⁹ The Ibuci variants with [-k] are irregular.

⁷⁰ Compare the related verb stem, WM *maksi-* [maʃi-] : Late Jurchen *ma[h]ʂi- ‘to dance’.

⁷¹ Compare the related word WM *akdacuka* : Beijing [axdaʃuka] ~ [axdaʃika] → [aədaʃika] : Lalin [aədaʃika] ‘trustworthy’, with irregular weakening of earlier /-k/ to a vowel [ə] in the same environment as the Sibe process, apparently in faster speech only.

Ilan Boo		[aG'dun]	[ɔG'dɔ-me] (NONP)	[aG'dzɯn]	
Ibuci		,ɔvu'don		axɔzɯn	
Alcuka				[akdian] ~ [adian]	
Bala	⁷²			[akdin]	
Late Jurchen			*o[h]do-	*a[h]dien	

Although [u] is also infrequently attested as a reflex of earlier coda /-k/ in Alcuka (e.g., in WM *nakcu* : Alcuka [na'ufu] 'uncle; mother's brother'), in such words it appears to be an unpredictable variant of [x], and there is no association with voiced coronal obstruents.

2.3.1.2.4. Weakening of onset /k/

In the onset position of word-medial clusters (/C.k-/), earlier /k/ is weakened (affricated) in Ilan Boo preceding earlier [RTR] vowels /a, ɔ, u/. The resulting segment is transcribed [ʔχ], just like the reflex of intervocalic /-k-/. In Alcuka, weakening (spirantization or deaspiration) is also found in this environment:

(32) Table 14. Weakening of earlier /-C.k-/ in Ilan Boo and Alcuka

pTg	(Cf. <i>TMS</i> I : 8)	(Cf. <i>TMS</i> II : 67)			ʔɯŋka? (<i>TMS</i> II : 21)		
gloss	'sky, heaven'	'chopsticks'	'sand dune'	'low, short'	'pasture'	'trace, track, footprint'	'log, block of wood'
WM	[abqa]	[sabqa]	[maŋqan]	[faŋqala]	[ɔŋqɔ]	[sɔŋqɔ]	[fuŋqɔ]
orthographic	<i>abka</i>	<i>sabka</i>	<i>mangkan</i>	<i>fangkala</i>	<i>ongko</i>	<i>songko</i>	<i>fungku</i>
Beijing	[awka] ~ [afka]	[sawka]			[ʔɯŋkuə] ~ [ɯŋkɔ]	⁷³	
Lalin	[avka]	[savka]			[ɯŋkuə]		

⁷² Compare the related word, WM *akdacuka* : Bala [əkɔɔʃika] 'trustworthy'.

⁷³ Compare the derived verb, WM *songkolo-* : Beijing [sɯŋkɔlə-] 'to follow (in) the tracks of'.

Sibe	[avqa]	[savq]	[maŋqan] 'hill, slope'	[fiaŋqalən]	[ɔŋqu]	[sɔŋqu]	
Aigun	['abqa] ⁷⁴						
Ilan Boo	['a:b ⁹ χa] ~ ['aφ ⁹ χa] (Č) /avqa/? ['avqa]? (L)	['sa:p ⁹ χa]	[maŋ ⁹ χan]	[faŋ'kuɮe]	['ɔŋ ⁹ χɔ]		
Ibuci	Abqa ~ ab'qa	tsabkə	'maŋkə ~ 'maŋkə 'mound'				
Alcuka	[avka] ~ [auka] ~ [auxa]	[sa'uxa]		[faŋgə]			[fuŋgu]
Bala	[apka]			[paŋka] ~ [paŋgə] ⁷⁵			[fuŋkɔ]
Late Jurchen	*agua	*sap[h]a					

Additional examples include 'to be thirsty' (: WM *kangka-*) in (21), above. As in the case of intervocalic weakening, irregular reductive processes in post-initial syllables in certain Manchu varieties (including Ilan Boo) give rise to non-[RTR] vowel reflexes [u, ɤ, o, u(ɔ)] etc., which condition velar allophones of the dorsal obstruents rather than the historical uvulars; in those lexical items, weakening does not apply, leaving [k], as in 'low, short' (: WM *fangkala*), listed above.

2.3.1.3. Weakening of /b/

2.3.1.3.1. Weakening of intervocalic /-b-/

Manchu intervocalic /-b-/ has several pTg sources. In addition to pTg intervocalic *-b-, the cluster *-rb- also regularly yielded WM /-b-/, and *-lb- likewise gave /-b-/ in at least a few robust Tungusic comparisons (Benzing 1956: 46-49). It is possible that Alcuka and

⁷⁴ Aigun [g] (i.e., an unaspirated voiceless stop) is irregular here, but might reflect a sporadic weakening (de-aspiration) process.

⁷⁵ The [g] of the Bala variant [paŋgə] is irregular.

Bala did not participate in the cluster reductions {*-rb-, *-lb-} > /-b-/, in view of the following items:

(33) Table 15. Retention of pTg *-rb- and *-lb- in Bala (and Alcuka)?

pTg	*gərbu	*dɔlba-
gloss	‘name’	‘night’
WM	[gəbu]	[dɔbɔn], [dɔbɔri]
orthographic	<i>gebu</i>	<i>dobon, dobori</i>
Alcuka	[gəbu], [gərbi], [əɔwɔ]	[bɔdɔri], [dɔbɔli]
Bala	[gərbi]	[dɔlɔbɔ]

However, there are several reasons for skepticism. The Bala form (and Alcuka variant) [gərbi] ‘name’ looks suspiciously like (northern Tungusic) Solon or Ewenki [gərbi:] ‘id.’ (*TMS* I: 180-1; Boldyrev 2000 I: 134); the other Alcuka variants for ‘name’ do not show retention of *-rb-; and the Alcuka forms for ‘night’ do not show retention of *-lb-. I leave this problem for future investigation, noting only that the hypothesis of retentions in just these two varieties would nevertheless tally with the preliminary branching of the Manchu group proposed on the basis of the development of pTg *p discussed above in §2.3.1.1. In the remainder of this section, I focus on developments involving /-b-/ from pTg *-b-.

Earlier /-b-/ is regularly weakened (spirantized or deleted) in intervocalic position under varying conditions in Beijing, Aigun, Ilan Boo, Ibuci, and Sibe. Alcuka and Late Jurchen exhibit irregular, unpredictable weakening in certain lexical items. No weakening is observed in WM, Lalin, or Bala. In Aigun, Ilan Boo, Ibuci, and Sibe, weakening of /-b-/ ordinarily involves spirantization to /-v-/. In Beijing, the outcome of this process is described as an approximant /-w-/ or zero (full deletion).⁷⁶ In both cases, the consequences of weakening include the conditioned partial merger of earlier /b/ with /p/,

⁷⁶ A small number of exceptions in Beijing also attest [-f-].

or of /b/ with /u, ʊ/, and the emergence of new phonemes /v/ (in Aigun, Ilan Boo, Ibuci, and Sibe) or /w/ (in Beijing).

The precise environments for weakening vary according to dialect. In Beijing, weakening is regularly restricted to positions in which the following vowel is /u/, including causative or passive verbs that incorporate the CAUS/PASS suffix /-bu-/.⁷⁷ In Aigun, Ilan Boo, and Ibuci, weakening is generally blocked in the CAUS/PASS suffix /-bu-/, but otherwise applies regardless of the identity of the following vowel.⁷⁸ In Sibe, intervocalic weakening applies regardless of the identity of the following vowel, including in the CAUS/PASS suffix /-bu-/. In view of these differences, it is convenient to examine the environments separately.

The table in (34) exemplifies weakening of /-b-/ in the CAUS/PASS suffix (in Beijing and Sibe only):

(34) Table 16a. Weakening of earlier /-b-/ in the CAUS/PASS suffix /-bu-/

pTg						
gloss	‘to postpone’	‘to join, to match, to mix’	‘to hand over’	‘to feed; to be eaten’	‘to erect, to stand’ (V _t)	‘to ferry (across a river)’
WM	[tauqabu-]? [təuqabu-]?	[aʃabu-]	[afabu-]	[uləbu-]	[ilibu-]	[daubu-]? [dəubu-]?
orthographic	<i>tookabu-</i>	<i>acabu-</i>	<i>afabu-</i>	<i>ulebu-</i>	<i>ilibu-</i>	<i>doobu-</i>
Beijing	[tuɔkəwumi] → [tuɔkəwum] (NONP)	[aʃiwumi] (NONP)	[afawum] (NONP)		[iliwumi] → [iliwəmi] (NONP)	[duɔwu-xa] → [duɔwə-xa] → [duɔu-xa] (PERF.PART)

⁷⁷ In faster speech only, weakening also occasionally applies before /i, ə/. In a few exceptional cases, intervocalic /-b-/ in the CAUS/PASS suffix may be un-weakened, as in Aigun, Ilan Boo, and Ibuci. In a small number of verbs such as WM *ebu-* ‘to dismount, to get down’, in which the sequence /-bu-/ is part of the verb stem and not the CAUS/PASS suffix, intervocalic /-b-/ may similarly fail to undergo weakening.

⁷⁸ However, as in Beijing, certain verb stems that contain the sequence /-bu-/--where it does not reflect the CAUS/PASS suffix--also fail to undergo the expected weakening, perhaps as a result of analogy.

Lalin	[tuəkabu- mei] (NONP)					[duɔbu-xɑ] (PERF.PART)
Sibe		[atʂəvə-m] (NONP)	[avəvə- m] (NONP)	[uluvu-m] (NONP)		
Aigun				[ubu-]		
Ilan Boo		[atʂ'bu- me] (NONP)	[ap'pu- me] (NONP)	[ul'bu- me] (NONP)		
Ibuci				ulubu-mi (NONP)		
Alcuka			[apa'u- m] (NONP)			
Bala						
Late Jurchen						

The table in (35) exemplifies weakening of /-b-/ when followed by /u/ apart from the CAUS/PASS suffix (in Beijing, Aigun, Ilan Boo, Ibuci, and Sibe). Note the sporadic failure of weakening before /u/ in individual items of Beijing, Aigun, and Ilan Boo, as well as sporadic weakening in Alcuka and Late Jurchen:

(35) Table 16b. Weakening of earlier /-b-/ before /u/ (elsewhere)

pTg						
gloss	'shoes'	'name'	'portion, share'	'to see'	'to dismount, to get down'	'beginning, start, origin'
WM	[sabu]	[gəbu]	[ubu]	[sabu-]	[əbu-]	[dəribun]
orthographic	<i>sabu</i>	<i>gebu</i>	<i>ubu</i>	<i>sabu-</i>	<i>ebu-</i>	<i>deribun</i>
Beijing		[gəbu] → [gəfu] → [gəf]	[ubə-i] (GEN)	[sawə-fi] (PERF.CONV)	[əbu-m(i)] (NONP)	⁷⁹
Lalin	[sabu] ~ [sawu]	[gəbu]			[əbu-mei] (NONP)	
Sibe	[sav]	[gəv] ~ [gəf] (~ [gəvə-])	[uv] (~ [uvu-])	[savə-m] (NONP)	[uvu-m] (NONP)	[dərivun]
Aigun		[gəvu]	[ubɔ]	[səvu-ɬɑ]		

⁷⁹ Compare the verb stem, WM *deribu-*: Beijing [dərɪwu-mi] ~ [dərɪbu-mi] 'to start' (NONP), in which the regular weakening is blocked in the variant with vowel deletion.

				(PERF.PART), [sav-kaqɔ] (PERF.NEG)		
Ilan Boo	[ˈsa:vʌ]	[ˈguvʌ]	[ˈu:vo]	[sa:ˈbu-me] ~ [sa:ˈvu-me] (NONP) ⁸⁰	[uˈbu-me] (NONP)	81
Ibuci	ʦɔvo ~ ʦovo	govə		ʦavu-mi (NONP)		
Alcuka	[sawə]	[gərbi] ~ [gəbu] ~ [əwə]	[ubə]	[saˈɔ-pi] (PERF.CONV) ⁸²		
Bala		[gərbi]				
Late Jurchen	*sau	*gebu				

Note that in Beijing, weakening of /-b-/ applies even if the following /u/ is deleted (in casual or faster speech), viz. WM *yabukina* [jabu-kina] : Beijing [jaɸ(u)-kina] ‘please go’ (‘to go, to walk, to leave’ + OPT.FIN suffix). In Sibe, deletion of a word-final vowel following earlier intervocalic /-b-/ likewise has no blocking effect on spirantization in this environment (viz. ‘shoes’, ‘name’, and ‘portion, share’ in (35), above).

Finally, the table in (36) exemplifies intervocalic weakening of /-b-/ when followed by vowels other than /u/ (in Aigun, Ilan Boo, Ibuci, and Sibe):

(36) Table 16c. Weakening of earlier /-b-/ before other vowels

pTg					
gloss	‘monster, apparition, phantom’	‘here’	‘offspring, young (of animals)’	‘tendon’	‘detestable, hateful’
WM	[ibagan] ~ [ibaxan]	[uba]	[dəbərən]	[subə]	[ibiada] ~ [ubiada]
orthographic	<i>ibagan</i> (~ <i>ibahan</i>)	<i>uba</i>	<i>deberen</i>	<i>sube</i>	<i>ibiyada</i> ~ <i>ubiyada</i>
Beijing					
Lalin					
Sibe	[ivaxən]	[əva]		[suvu]	[uviad]

⁸⁰ Note the variation with respect to weakening before an original /u/.

⁸¹ Compare the verb stem, Ilan Boo [deriˈbu-nbe] ‘to start’ (NONP), with sporadic failure of weakening before /u/.

⁸² An example of sporadic weakening (deletion) in Alcuka.

Aigun		[əva]	[dəvərən]		
Ilan Boo	[iva: 'ʋan]	[ʍ'vʉ-dʉ] ~ [ʍ'vu-dʉ] (DAT)	[dʉ'vʉ]	['su:vo]	
Ibuci		əva-də (DAT)	dəvʉlə ~ dəvələ		
Alcuka	[ibə'an] ~ [ivəxan]				[ibiada] ~ [ibidə] ~ [ubiadə]
Bala					[ubiadə] ~ [ibiədə]
Late Jurchen					

There are several complications in addition to the aforementioned sporadic weakening and failure of weakening. In Ilan Boo, deletion of the vowel following earlier intervocalic /-b-/ blocks weakening wherever this eliminates the intervocalic environment, leaving [b], in rare cases giving rise to doublets:⁸³

(37) Table 16d. Weakening of /-b-/ blocked by vowel deletion in Ilan Boo

pTg						
gloss	'to hold or carry in the arms'	'to spin thread in the fingers'	'to joke'	'to discuss'	'to cause to dismount'	'to cause to wash'
WM	[təbəlɪə-]	[ʃibərə-]	[jəbədɔ-]	[xəbəʃə-]	[əbubu-]	[ɔbɔbu-]
orthographic	<i>tebeliye-</i>	<i>sibere-</i>	<i>yobodo-</i>	<i>hebeše-</i>	<i>ebubu-</i>	<i>obobu-</i>
Beijing	[təbəlɪə-m(i)] → [təfəlɪ(ə)-m(i)] → [təfəlɪ-m] ⁸⁴ (NONP)					
Lalin	[təbəlɪjə-mei] (NONP)					
Sibe	[tivələ-m] (NONP)		[jəvʉdu-m] (NONP)	[xəvʉsə-m] (NONP)		
Aigun						

⁸³ The same does not seem to be the case in Aigun, in view of WM *sabuhakū* [sabu-ʃaɣu] : Aigun [sav-ʋaɣɔ] 'to see' (PERF.NEG) in (35), above, and WM *yabumbi* [jabu-mbi] : Aigun [jəv-me] 'to go, to walk, to leave' (NONP) in (38), below.

⁸⁴ Beijing faster-speech weakening of intervocalic /-b-/ to [-f-] is irregular.

Ilan Boo	[tib'ru-me] (NONP)	[eib'ru-me] ~ [ei'vur-me] (NONP)	[job'du-me] (NONP)	[xub'zu-me] (NONP)	[ub'bu-me] (NONP)	[ɔp'pu-m(b)e] (NONP)
Ibuci	tivulie-γə (PERF.PART)					
Alcuka						
Bala						
Late Jurchen						

Additional examples include ‘to go, to walk, to leave’ (: WM *yabu-*) in (38), below. Note that although vowel deletion is also attested in some Sibe forms, it does not result in blocking of spirantization in that variety.

In Ibuci, deletion of the vowel following earlier intervocalic /-b-/ before /m/-initial suffixes triggers assimilation to nasal /m/:

(38) Table 16e. Assimilation of /-b-/ > /m/ before /m/ in Ibuci

pTg			
gloss	‘to go, to walk, to leave’ (NONP)	‘id.’ (IMPF.CONV)	‘to wash’ (NONP)
WM	[jabu-mbi]	[jabu-mə]	[ɔbɔ-mbi]
orthographic	<i>yabumbi</i>	<i>yabume</i>	<i>obombi</i>
Beijing	[jawu-mi] → [jawu-m(i)] → [jau-m]		
Lalin			
Sibe			
Aigun	[jɔv-me]		
Ilan Boo	[ja'vu-me] ~ [ja:b-me]		[ɔ'vu-me]
Ibuci	jA'bu-m(b)i ~ jAm(o)-mi ~ jAm-mi ~ jiAm-mi ~ jam-mi	jam-mə	om-mi
Alcuka			
Bala			

Late Jurchen			*au- (BARE STEM) ⁸⁵
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2.3.1.3.2. Weakening of /b/ in other intersonorant positions

Earlier /b/ occurs in the onset of word-medial clusters following sonorant codas:

/-mb-, -rb-, -lb-/. In Sibe, /b/ is retained in /-mb-/, but regularly spirantized to /v/

following liquids. In general, no other Manchu varieties clearly exhibit this development, although relevant data is mostly lacking for Aigun, Ibuci, Alcuka, Bala, and Late Jurchen.

In Beijing, earlier /b/ is sporadically weakened to /w/ following any sonorant and before any vowel:

(39) Table 17. Intersonorant weakening of /b/ in Sibe (and Beijing)

pTg						
gloss	‘wet, damp’	‘appearance, condition’	‘side’	‘covering, thatch’	‘possessing keen hearing’	‘marriage’
WM	[dərbəxun]	[arbun]	[dalba]	[əlbən]	[galbi]	[χəlbən]
orthographic	<i>derbehun</i>	<i>arbun</i>	<i>dalba</i>	<i>elben</i>	<i>galbi</i>	<i>holbon</i>
Beijing	[dərɥəxun] → [dəlɥəxu(n)]	[arwun]		⁸⁶		
Lalin				⁸⁷		
Sibe	[dərɥəyʊn]	[arvun]	[darvə]	[ərvən] ‘(thatched) roof’	[gɛrviə]	[χərvun]
Aigun			[dave] (GEN) ⁸⁸			

⁸⁵ This is apparently another case of irregular weakening of intervocalic /-b-/ in LJ.

⁸⁶ Compare the related verb, WM *elbe-* ‘to thatch (a roof)’ : Beijing [əlwə-m(i)] → [əlwə-m] ‘id.’, with weakening.

⁸⁷ Compare Lalin [əlbə-mei] ‘to thatch (a roof)’, without weakening.

⁸⁸ This item (: WM *dalba-i* ‘side’ (GEN)) is the only example of weakening in this environment in Aigun, though note the deletion of earlier coda /l/, which may be a precondition; i.e., this may simply reflect intervocalic spirantization.

Ilan Boo	[durbu'ɣun]	[ar'bun]	[dal'ba:]	[ul'bun]		89
Ibuci						
Alcuka	[dəlwən]					
Bala						
Late Jurchen			90			

In Sibe, final vowel deletion has no blocking effect on spirantization (e.g., in WM *halba* [χalba] : Sibe [χarv] ‘shoulder blade, scapula’).

2.3.1.3.3. Weakening of coda /b/

As briefly mentioned in Chapter 1, in coda position there is no contrast in Manchu among the labial obstruents /p, b, f/ so it would be more accurate to refer to an undifferentiated segment /P/, but here and elsewhere in the dissertation, I continue to use /b/ in keeping with traditional treatments of the grammar.

Earlier coda /b/ undergoes weakening (spirantization, vocalization, deletion) under varying conditions in Beijing, Lalin, Sibe, Alcuka, and Late Jurchen. In Aigun, Ilan Boo, Ibuci, and Bala, there are a few examples of weakening (spirantization) to [v], [ϕ], etc. in individual words, but these are irregular. In Beijing and Lalin, weakening of coda /b/ appears to be regular only before /k/, and even then only in [RTR]-vocalic words, primarily following /a/. In Lalin, the weakened reflex is described as a voiced fricative [v]; the Beijing reflex is /w/ [w] in careful speech, but devoicing in faster speech yields a labiodental fricative [f].⁹¹ In Sibe, earlier coda /b/ is regularly weakened (spirantized) to

⁸⁹ Compare the related verb, WM *holbo-* : Ilan Boo [χɔl'bo:-me] ‘to get married’; as expected, no weakening.

⁹⁰ Compare the related word, WM *dalbaki* : Late Jurchen *dabaki ‘on the side’, without weakening.

⁹¹ Furthermore, in faster Beijing speech, weakening of coda /b/ applies sporadically in other contexts as well.

/v/. Alcuka is similar, with regular weakening of coda /b/; the weakened reflex is also generally a fricative [v], but a vowel [u] is found in some items. In Late Jurchen, weakening of coda /b/ is regular only following /ə/ (and thus, only in earlier non-[RTR]-vocalic words). The table in (40) shows weakening of /b/ before /k/ in Beijing, Lalin, Sibe, and Alcuka (examples repeated from (32), above):

(40) Table 18a. Weakening of /-b/ before /k/

pTg	(Cf. <i>TMS I</i> : 8)	(Cf. <i>TMS II</i> : 67)
gloss	‘sky, heaven’	‘chopsticks’
WM	[abqa]	[sabqa]
orthographic	<i>abka</i>	<i>sabka</i>
Beijing	[awka] ~ [afka]	[sawka]
Lalin	[avka]	[savka]
Sibe	[avqa]	[savq]
Aigun	[‘abqa]	
Ilan Boo	[‘a:b ^q χa] ~ [‘aφ ^q χa] (Ĉ); /avqa/ [‘avqa] (L)	[‘sa:p ^q χa]
Ibuci	Abqa ~ ab'qa	ʈabkə
Alcuka	[avka] ~ [auka] ~ [auxa]	[sa'uxa]
Bala	[apka]	
Late Jurchen	*agua	*sap[h]a

Note the sporadic weakening of /-b/ in Ilan Boo in ‘sky, heaven’ (: WM *abka*).

The table in (41) shows weakening of /-b/ following /ə/ in Late Jurchen (and Sibe); Alcuka is also expected to exhibit weakening, but the relevant cognates are mostly unattested:

(41) Table 18b. Weakening of /-b/ after /ə/

pTg					
gloss	‘belt strap; girth strap’	‘rib’	‘to discuss, to consult with’	‘joy, gladness’	‘to hurry, to hasten’

WM	[xəbtə]	[əbʃi]	[xəbdə-]	[səbdzən]	[əbʃə-]
orthographic	<i>hebte</i>	<i>ebci</i>	<i>hebde-</i>	<i>sebjen</i>	<i>ebše-</i>
Beijing					
Lalin					
Sibe		[əvtei]		[səvdzən]	
Aigun					
Ilan Boo		['uɔbtʃu]		[suɔb' dzuɔn]	
Ibuci					
Alcuka				[tsəvdzən]	
Bala					
Late Jurchen	*he'ute 'saddle-flap'	*e' uči	*he'ude-		*euši-mbi (NONP)

The table in (42) shows weakening of coda /-b/ in additional environments in Sibe and Alcuka:

(42) Table 18c. Weakening of coda /-b/ elsewhere

pTg					
gloss	'to shoot (arrows)'	'frugality'	'drop (of liquid)'	'to yawn'	'how? where to?'
WM	[gabta-]	[xibʃan]	[sabdan]	[χabgiə-]	[abʃi]
orthographic	<i>gabta-</i>	<i>hibcan</i>	<i>sabdan</i>	<i>habgiya-</i>	<i>absi</i>
Beijing					[abʃi] ~ [afʃi]
Lalin					[abʃi]
Sibe	[gavtə-m] (NONP)	[kivʃan]	[səvdən]	[χɛvxə-m] (NONP)	[avei]
Aigun					[ɛvɛɛ]
Ilan Boo	[gab' tu-me] (NONP)	⁹²	['sabda]		['abʃi]
Ibuci					
Alcuka					

⁹² Compare the related verb, WM *hibcara-* : Ilan Boo [kivʃara-me] 'to be frugal, to act frugally' (NONP) (Č: 349), with irregular weakening.

Bala					
Late Jurchen					

In Sibe, the fricative /v/ (from any source) is reportedly in free variation with /f/ in codas (S. Li et al. 1984: 9). Thus, some instances of weakening of earlier intervocalic or coda /b/ give Sibe /f/ [f] as a variant of /v/ [v]:

(43) Table 18d. Sibe /-v/ ~ /-f/ variation

pTg				
gloss	‘fox’	‘to leak, to drip, to trickle’	‘salt’	‘honey’
WM	[dɔbi]	[sabda-]	[dabsun]	[xibsu]
orthographic	<i>dobi</i>	<i>sabda-</i>	<i>dabsun</i>	<i>hibsu</i>
Beijing			[dawsun] ~ [dafsun] → [dafsū ⁿ] ⁹³	
Lalin			[dabsun]	
Sibe	[dœv] ~ [dœf] (~ [dœvu-])	[savdə-m] ~ [safdə-m]	[davsun] ~ [dafsun]	[kivsu]; [kifsu] (Y)
Aigun				
Ilan Boo	[^h dɔ:vɔ] ~ [^h duuɤve]		[dab'sun]	
Ibuci	diɔve		dɔbɔn	
Alcuka	[dɔrbi(ə)] ~ [dɔbi]			
Bala	[dɔrbi(ə)]			
Late Jurchen	*dobi		*datsu	*hitsu

Additional examples include ‘name’ (: WM *gebu*) in (33, 35), above.

2.3.1.4. Weakening of /g/

2.3.1.4.1. Weakening of word-initial /g-/?

⁹³ This is an example of sporadic weakening in Beijing, with devoicing to [f] in faster speech.

Manchu word-initial /g-/ has two sources: pTg *g- and pTg *ŋ-. In Beijing, Lalin, Alcuka, and Bala, a small number of lexical items with /g-/ in all other varieties are zero-initial (i.e., vowel-initial), or have zero-initial variants. In Beijing and Lalin, such forms are essentially limited to the cognates of WM *gene-* ‘to go’ and *gele-* ‘to fear’. These examples of zero in Beijing and Lalin are of particular interest because they derive specifically from proto-Tungusic initial *ŋ-:

- (44) pTg *ŋənə- > WM *gene-* : Beijing/Lalin [gənə-] ~ [ənə-] ‘to go’
 pTg *ŋə:lə- > WM *gele-* : Beijing/Lalin [gələ-] ~ [ələ-] ‘to
 fear’

Some pTg *ŋ-initial words also give zero in WM (rather than the more frequent /g-/), but unpredictably.⁹⁴ However, Beijing and Lalin more often agree with WM (and other varieties), with /g-/ corresponding to WM /g-/, and zero corresponding to zero:

- (45) pTg *ŋa:la > WM *gala* : Beijing/Lalin [gala] ‘hand’
 pTg *ŋə:ri- > WM *gere-* : Beijing/Lalin [gərə-] ‘to become
 light’
 pTg *ŋɔ:l(ɪ)mɪ > WM *golmin* : Beijing/Lalin [gɔlmin] ‘long’
 pTg *ŋui > WM *we* : Beijing [wə] ‘who?’

This suggests that the examples of Beijing and Lalin [g-] ~ zero corresponding to WM initial /g-/ reflect mixture with another dialect or, perhaps, another Tungusic language in

⁹⁴ Starostin et al. (2003: 160) propose that pTg *ŋ- gave “WM [w-]”--i.e., initial zero in my analysis--before diphthongs, but they provide very few examples, and there are exceptions. The problem remains unsolved.

the region in which pTg *ŋ- systematically gave zero in these lexical items (cf. Naixin Nanai and Kili (Hezhen) [ənə-] < pTg *ŋənə- ‘to go’).⁹⁵

In Alcuka, the same lexical items plus a few others also attest zero-initial forms:

(46) Table 19a. Zero reflexes of initial /g-/ in Alcuka

pTg	*ŋənə-	*ŋə:lə-	(Cf. <i>TMS</i> I: 182)
gloss	‘to go’	‘to fear’	‘crowd, group; everyone’
WM	[gənə-]	[gələ-]	[gərən]
orthographic	<i>gene-</i>	<i>gele-</i>	<i>geren</i>
Beijing	[gənə-mi] (NONP), [gənə-xə] ~ [ənə-xə] (PERF.PART), [ənə-fi] (PERF.CONV)	[gələ-mi] ~ [ələ-mi] (NONP)	
Lalin	[ənə-xə] (PERF.PART)		
Sibe	[gənə-m] (NONP), [gən-fi] (PERF.CONV)		
Aigun			
Ilan Boo			
Ibuci	gənə-kie (DESID)		
Alcuka	[ənə-mei] (NONP)	[ələ-ra’ɔ] (IMPF.NEG)	[gər(ə)] ~ [ərən]
Bala	[ənə-xi] (DESID) ⁹⁶		
Late Jurchen	*genie-	*gele-bi (NONP)	

Additional examples include ‘name’ (: WM *gebu*) in (33, 35), above. A complication is that some of the zero-initial items in Alcuka do not clearly go back to pTg *ŋ-.

Meanwhile, according to Y. Mu’s description, there is a separate process reported in

⁹⁵ This interpretation is tentative, and difficulties remain. For example, there are also a few words with initial [g-] ~ zero that cannot be traced back to pTg *ŋ-. Furthermore, there is a separate process in Beijing and Lalin that regularly deleted /g/ before /ia, iə/ in all positions, including word-initial position.

⁹⁶ This is a rare example of Bala initial zero in the same context. I assume this form reflects contact with Alcuka.

Alcuka with something like the opposite effect: under conditions that remain to be clarified, /g-/ may be epenthesized before vowel-initial words in the flow of speech. As a result, a number of lexical items appear in his data in variant forms, with and without the epenthetic /g-/:⁹⁷

(47) Table 19b. Epenthetic initial /g-/ in Alcuka

pTg	†arʃa-? (TMS I: 52-3)	*əri, *ərə: (TMS II: 460-2)	*ɔ:- (TMS II: 3-4)	*xa-du? (TMS I: 14-5)
gloss	‘to meet; to be fitting’	‘this’	‘to be, to become, to be okay’	‘how many? several’
WM	[aʃa-]	[ərə]	[ɔ-]	[udu]
orthographic	<i>aca-</i>	<i>ere</i>	<i>o-</i>	<i>udu</i>
Beijing	[aʃa-m(i)] → [aʃa-m] ~ [aʃə-m] (NONP)			
Lalin	[aʃa-r] (IMPF.PART)	[ər]	[ɔ-mei] (NONP)	
Sibe	[atʃə-m] (NONP)	[ərə] ~ [ər]	[ɔ-m] (NONP)	[ud ^w]
Aigun				[udɔ]
Ilan Boo	[a: tʃa-me] (NONP)			[‘udu]
Ibuci	a tʃə-mi (NONP)			
Alcuka	[aʃa-mei] ~ [gaʃa-mei] (NONP)	[ərə] ~ [gər(ə)]	[ɔ-mei] ~ [gɔ-mei] (NONP)	[udu] ~ [gudu] ~ [udə]
Bala	[xaʃa-mi] (NONP)	[ər]		
Late Jurchen	*ača- ⁹⁸	*ere		⁹⁹

⁹⁷ According to Y. Mu’s description (1988b: 16-18), the phonetic quality of the epenthetic /g-/ is distinct from underlying initial /g-/, the former being weaker than the latter; however, this distinction is not marked in his transcription.

⁹⁸ The Bureau of Translators’ glossary has Jurchen *hača- (Grube no. 352, as reconstructed by Kiyose) ‘id.’. Initial (*h- =) /x-/ in that form and the Bala cognate are unexplained, but may be related to the epenthesis process in Alcuka.

⁹⁹ The Late Jurchen lexical item with this meaning, reconstructed *uhiahu?, is a mystery.

Perhaps some instances of an inherited initial /g-/ (in items such as those in (46) above) have been reanalyzed as instances of the epenthetic [g-], with concomitant resegmentation of the underlying forms into vowel-initial shapes.

2.3.1.4.2. Weakening of intervocalic /g/

In WM, it is debatable whether /-g-/ truly contrasts with /-x-/ in intervocalic position.¹⁰⁰

On the one hand, free variation between intervocalic -g- and -h- in WM spelling is attested for a large number of words, including basic vocabulary items such as:

- (48) WM *cihe* ~ *cige* ‘louse’
aga ~ *aha* ‘rain’ (but cf. *aha* ‘slave’)
tugi ~ *tuhi* ‘cloud’
ajige(n) ~ *ajihe(n)* ‘small, young’
dogo ~ *doho* ‘blind person’ (but cf. *doho* ‘lime; alkaline compound’)

On the other hand, a large number of items are invariant in the standard lexicographical sources, with -h- far more frequent than -g-:

- (49) WM *jugûn* ‘road’ (no ****juhûn** in *XMDC*, *CMEL*, *HdM2*)
nimaha ‘fish’ (no ****nimaga** in *XMDC*, *CMEL*, *HdM2*)
hehe ‘woman, female’ (no ****hege** in *XMDC*, *CMEL*, *HdM2*)
indahûn ‘dog’ (no ****indagûn** in *XMDC*, *CMEL*, *HdM2*)
abdaha ‘leaf’ (no ****abdaga** in *XMDC*, *CMEL*, *HdM2*)
fulehe ‘root’ (no ****fulege** in *XMDC*, *CMEL*, *HdM2*)

¹⁰⁰ The contrast seems to be weakest in intersonorant positions *other* than intervocalic--namely, between a sonorant consonant and a vowel.

<i>weihe</i> (~ <i>uihe</i>) ‘tooth, horn’	(no ** <i>weige</i> , ** <i>uige</i> in XMDC, CMEL, HdM2)
<i>uncehen</i> ‘tail’	(no ** <i>uncegen</i> in XMDC, CMEL, HdM2)
<i>funiyehe</i> ‘hair’	(no ** <i>funiyege</i> in XMDC, CMEL, HdM2)
<i>wasiha</i> ~ <i>ošoho</i> ‘claw’	(no ** <i>wasiga</i> , ** <i>ošogo</i> in XMDC, CMEL, HdM2)
<i>huhun</i> ‘breasts’	(no ** <i>hugun</i> in XMDC, CMEL, HdM2)
<i>fahûn</i> ‘liver’	(no ** <i>fagûn</i> in XMDC, CMEL, HdM2)
<i>usiha</i> ‘star’	(no ** <i>usiga</i> in XMDC, CMEL, HdM2)
<i>wehe</i> ‘stone’	(no ** <i>wege</i> in XMDC, CMEL, HdM2)
<i>sahaliyan</i> ‘black’	(no ** <i>sagaliyan</i> in XMDC, CMEL, HdM2)
<i>šahûrun</i> ‘cold’	(no ** <i>šagûrun</i> in XMDC, CMEL, HdM2)
<i>muhaliyan</i> ‘round’	(no ** <i>mugaliyan</i> in XMDC, CMEL, HdM2)

Furthermore, there are some apparent minimal pairs:

- (50) WM *haha* ‘man, male’ ≠ *haga* ‘fish bone’
 boihon ‘earth’ ≠ *boigon* ‘household, property’

A possible explanation is that, in this environment (intervocalic position), earlier /-g-/ and /-x-/ were phonetically neutralized in WM as a voiced fricative [ɣ ~ ʁ], and that in most cases, these phonologically ambiguous allophones were assigned to the fricative /x/ in the orthography. Under this view, apparent minimal pairs would simply reflect a sporadically applied method of disambiguating homophones in spelling, whereby the choice of -g- vs -h- in this environment is unpredictable and ahistorical.

However, as a heuristic for the exploration of the correspondences in the Manchu group, I provisionally assume that invariant WM -g- vs invariant WM -h- reflect a real

phonological contrast /g/ ≠ /x/. In this section, as far as the data will allow, I deal with the dialect reflexes of invariant WM intervocalic -g-, analyzed as /-g-/. The reflexes of invariant WM intervocalic -h- /-x-/ are treated in §1.2.4, below. I leave the question of the phonological contrastiveness of intervocalic /-g-/ and /-x-/ for further study in the future.

In Beijing and Lalin, WM intervocalic /-g-/ generally corresponds to a voiceless fricative /-x-/ when followed by an earlier non-[RTR] vowel. (That is, WM intervocalic *velar* [-g-] : Beijing and Lalin [-x-] before earlier /i, ə, u/.) On the other hand, WM intervocalic /-g-/ generally corresponds to a stop [-g-] in Beijing and Lalin when followed by an [RTR] vowel. (That is, WM intervocalic *uvular* [-g-] : Beijing and Lalin [-g-] before earlier /a, ɔ, o/.) In Sibe, WM intervocalic /-g-/ generally corresponds to a voiced fricative: Sibe velar [-ɣ-] occurs before earlier non-[RTR] vowels, while uvular [-ʁ-] occurs before [RTR] vowels. However, in some words where [-ɣ-] is expected (i.e., before earlier non-[RTR] vowels), Sibe [-g-] is found instead. The Sibe pattern closely resembles that of Aigun, Ilan Boo, and Ibuci, where WM intervocalic /-g-/ corresponds to a voiced uvular fricative [-ʁ-] before earlier [RTR] vowels, but a stop [-g-] before non-[RTR] vowels.¹⁰¹ In Alcuka, Bala, and Late Jurchen, the reflex of WM intervocalic /-g-/ is generally a stop [-g-] before earlier non-[RTR] vowels, but a (voiceless) fricative [-x-] or zero before [RTR] vowels.¹⁰² The basic correspondences are tabulated in (51):

(51) Table 20. Correspondences of WM intervocalic /-g-/

WM	[-g-] (_V _{non-[RTR]})	[-g-] (_V _[RTR])
orthographic	-g-	-g-

¹⁰¹ Note that vowel reduction or neutralization of earlier [RTR] vowels to non-[RTR]-type reflexes like [ə, ʊ, ɤ, o, u] etc. generally conditions a voiced velar fricative [-ɣ-] in this context in Aigun, Ilan Boo, and Ibuci, not a stop [-g-].

¹⁰² In Bala and Late Jurchen, there are several exceptions to this pattern, with a fricative or zero before non-[RTR] vowels, or with a stop before [RTR] vowels.

Beijing	[-x-]	[-g-]
Lalin	[-x-]	[-g-]
Sibe	[-ɣ-] (~ [-g-])	[-ʁ-]
Aigun	[-g-]	[-ʁ-] (~ [-ɣ-])
Ilan Boo	[-g-]	[-ʁ-] (~ [-ɣ-])
Ibuci	[-g-]	[-ʁ-] (~ [-ɣ-])
Alcuka	[-g-]	[-x-] ~ -Ø-
Bala	[-g-]	[-x-] ~ -Ø-
Late Jurchen	[-g-]	[-x-] ~ -Ø-

These basic correspondences are exemplified in (52):

(52) Table 21. Reflexes of WM intervocalic /-g-/

pTg						(Cf. TMS I: 269)
gloss	‘older sister’	‘husband’	‘to prepare, to set out wine or food’	‘rain’	‘blind person’	‘road’
WM	[gəgə]	[əigən]	[dagila-]	[aca]? [axa]?	[dɔgɔ]? [dɔχɔ]?	[dʒugɔn]
orthographic	<i>gege</i>	<i>eigen</i>	<i>dagila-</i>	<i>aga</i> (~ <i>aha</i>)	<i>dogo</i> (~ <i>doho</i>)	<i>jugūn</i>
Beijing	[gəg(ə)]	[əigən]	[daigila-mi] ~ [daxila-mi] → [daila-]	[aga]		[dʒuxun]
Lalin				[aga]		
Sibe	[gəɣə]	[iɣin]	[dayilə-m] (NONP) ‘to host, to entertain’	[axa]	[dɔχ ^w]103	[dʒɔʁun]
Aigun		[əigən]		[axa]		[dʒɔʁɔŋ]
Ilan Boo	[ˈgu:gu]	[uiɣien] ~ [uiɣien]	104	[ˈa:xa]	[ˈdɔ:ɔ]	[dʒɔ:ˈʁɔn] ~ [dʒɔ:ˈgɔn]
Ibuci	ˈgɣgə ~ ˈgɣɣə ~ ˈgəɣə105	eɣin		axa ~ ˈaɣə	dovuo	

¹⁰³ Cf. Yamamoto’s transcription, /dɔχə/ [dɔχ] ~ [dɔʁ] ‘id.’ (no. 22).

¹⁰⁴ Cf. Ilan Boo [da:ˈɣulu-me] (NONP) ‘to prepare [a feast]’. Čenggeltai (1998: 324) did not identify this form as a cognate of WM *dagila-* ‘id.’, but it looks like a correct match.

¹⁰⁵ J. Zhao (1989: 11) also reported ‘guɣə (with an intervocalic stop) as an “older-generation” pronunciation in Ibuci.

Alcuka		[eigə]		[axɑ]		[dʒu'un]
Bala						
Late Jurchen	*gege	*e'i'e		*agu	*do	*ju

The Beijing and Lalin pattern--weaker consonant reflexes in non-[RTR] contexts and stronger consonant reflexes in [RTR] contexts--is an outlier within the Manchu group. There are numerous exceptions to the “basic” correspondences: in fact, the Beijing reflexes of ‘older sister’, ‘husband’, and ‘road’ are exceptional here. Furthermore, the Ibuci reflex of ‘husband’, the Ilan Boo reflex of ‘road’, and the Late Jurchen reflexes of ‘husband’ and ‘rain’ are also exceptional, though note that ‘rain’ exhibits *-g- ~ -h-* spelling variation in WM.

Apart from the individual exceptions mentioned above, there are also certain complications in Sibe arising from vowel deletions. First, the desegmentalization or deletion (apocope) of word-final vowels following the reflex of WM intervocalic /-g-/ yields a fricative [χ] (~ [ʁ]) in Sibe when the affected vowel was an earlier [RTR] vowel /a, ə, u/ (e.g., in ‘blind person’ in (52), above), but a stop [g] when the affected vowel was an earlier non-[RTR] vowel /i, ə, u/:

(53) Table 22. Reflexes of WM intervocalic /-g-/ in Sibe word-final position

pTg				*səlgi? (TMS II: 103)
gloss	‘fish bone’	‘small, young’	‘news, information’	‘vegetable’
WM	[χaga]	[adʒigə(n)]? [adʒixə(n)]?	[mədʒigə]	[səgi]
orthographic	<i>haga</i>	<i>ajige(n) ~ ajihe(n)</i>	<i>mejige</i>	<i>sogi</i>
Beijing		[adʒigə] → [adʒig] ‘small’, [adʒigən] ‘young, youth’		
Lalin		[adʒigə] ‘small’, [adʒigən] ‘young, youth’		
Sibe	[χax]	[adʒig],	[mədʒig]	[çœg]

		[adzi] ¹⁰⁶		(~ [ɛœgə-]) ¹⁰⁷
Aigun		[ɛdʒi]		[səge]
Ilan Boo		[ai'dʒig], [ai'dʒi:]		['sə:gie]
Ibuci		ɛdʒigə ⁿ , ɛdʒi		'tsogu ~ 'sogo ~ 'sogu
Alcuka	[kaka] ¹⁰⁸		[mædigə]	
Bala			[mæidi'ə] ¹⁰⁹	
Late Jurchen				*sugi

Second, deletion of word-medial vowels (syncope) preceding the reflex of WM intervocalic /-g-/ similarly yields a fricative [χ] in Sibe when the deleted following vowel was an earlier [RTR] vowel /a, ə, u/, as in WM *madagan* [madagan] : Beijing [madxan] : Sibe [matχən] : Aigun [madəʁən] : Ilan Boo [ma:d'ʁən] 'swelling; (bank) interest'. Note that the deletion in this example is also attested in Beijing and Ilan Boo, where it also yields fricatives.

2.3.1.4.3. Weakening of /g/ in other intersonorant positions

As discussed in the preceding section, the contrast between /g/ and /x/ has an unclear status in intervocalic position in WM. In other intersonorant positions--namely, in word-

¹⁰⁶ The short form is used in adnominal contexts, the long form for the adjectival predicate.

¹⁰⁷ Cf. B. Li's transcription /ɛögu/ ([ɛœg^w]?) (p. 196) 'id.'.

¹⁰⁸ The form of the Alcuka reflex is unexplained. This item may be a loan from Mongolic: cf. WMong *qayadasu(n)* : Khalkha *xagadac* 'id.'; see §1.1.2.1, above, on initial /x-/ ~ /k-/ variation, particularly in Mongolic loans.

¹⁰⁹ Bala zero is unexpected in this position.

medial clusters following sonorant consonants /m, r, l/--evidence for the contrast is even weaker.¹¹⁰ Spelling variation between *g* and *h* is widespread in this context, for example:

- (54) WM *umhan* (~ *umgan*) ‘egg’ (but cf. *umgan* ‘bone marrow’)
amga- (~ *amha-*) ‘to sleep’
forgon (~ *forhon*) ‘season’
turga (~ *turha*) ‘thin (of livestock)’
olhon (~ *olgon*) ‘dry’
ilha (~ *ilga*) ‘flower’

On the other hand, several other words seem to be invariant in standard lexicographical sources:

- (55) WM *emgeri* ‘once; already’ (not ***emheri*)
nomhon ‘docile, quiet’ (not ***nomgon*)
ergi ‘side, direction’ (not ***erhi*)
orho ‘grass’ (not ***orgo*)
halhûn ‘warm’ (not ***halgûn*)
ulhi ‘sleeve’ (not ***ulgi*)

It is not immediately obvious how to handle these facts. Note that--in the basic vocabulary items that exhibit spelling variation--the consonant in question is always followed by an earlier [RTR] vowel. I tentatively assume that no phonological contrast of

¹¹⁰ WM *g* also occurs following the sonorant consonant *ng* /ŋ/. That cluster, which undergoes special developments in several Manchu varieties, is treated separately in §2.3.1.4.4, below.

/g/ vs /x/ was present in that position. (The relevant configuration is infrequent before non-[RTR] vowels in the basic vocabulary.) In this section, only lexical items exclusively or predominantly spelled with WM *g* are considered.

In Beijing, the reflex of WM *g* following a sonorant consonant is generally [x], although [x] varies with [g] in some items. There is no clear correlation with WM spelling variation *g* ~ *h*, but harmony class of the following vowel may play a role. For example, the Beijing reflex of WM *-mg-* generally has [g] in careful speech, but some items have [x] when followed by an earlier [RTR] vowel. On the other hand, the reflex of WM *-lg-* overwhelmingly has [x] regardless of the identity of the following vowel. The situation is further complicated by unpredictable spirantization of [g] > [x] in faster speech. The closely related Lalin variety, by contrast, generally has [g] in all cases, though a small number of items also unpredictably show [x].

In Sibe, the basic reflex of WM *g* following a sonorant consonant /m, r, l/ is a voiced velar fricative [ɣ] before the earlier non-[RTR] vowels /i, ə, u/, and a voiced uvular fricative [ʁ] before earlier [RTR] vowels /a, ɔ, ʊ/. However, in a few exceptional cases, [g] is found before non-[RTR] vowels rather than the expected [ɣ]. Furthermore, in cases where the following vowel has been deleted word-finally, Sibe has a velar stop [g] before deleted non-[RTR] vowels, but a (voiceless) uvular fricative [χ] before deleted [RTR] vowels.

In Aigun, Ilan Boo, and Ibuci, the reflex of WM *-mg-* generally has a velar stop [g] before earlier non-[RTR] vowels, and a uvular stop [G] before earlier [RTR] vowels. The reflex of WM *-rg-* generally has a voiced uvular fricative [ʁ] before earlier [RTR] vowels /a, ɔ, ʊ/. In Aigun, a voiced velar fricative [ɣ] occurs before non-[RTR] vowels as well; Ibuci generally has a stop [g] in that environment; in Ilan Boo, a stop [g] is attested for most forms, but a number of words--especially directional terms built on the cognate

of WM *ergi* ‘side, direction’--have spirantized variants, and a small number of items attest only the (voiced velar) fricative [ɣ]. The reflex of WM *-lg-* generally has a velar stop [g] before earlier non-[RTR] vowels. Before the [RTR] vowel /a/, Ilan Boo and Ibuci have a voiced uvular fricative [ɣ]; before the [RTR] vowel /ɔ/, Ilan Boo also has [ɣ], but Ibuci has a stop [g].¹¹¹

In Alcuka and Bala, the reflex of WM *-mg-* generally has [g]. (Unfortunately, the only relevant Late Jurchen transcriptions are ambiguous with respect to *g vs *h.) Following /r/ and /l/, the Bala reflex of WM g is generally a stop [g], but a (voiceless) fricative [x] is also observed before earlier [RTR] vowels in some words; Alcuka also generally has a stop [g] in this environment, but [x] (~ zero) is also observed in some items, apparently irrespective of the harmony class of the following vowel; in Late Jurchen, only *h [x] or zero is found in this context, never *g [g].

The basic correspondences described above are tabulated in (56):

(56) Table 23. Basic reflexes of WM g following sonorant consonants

WM	[-mg-]	[-mg-]	[-rg-]	[-rg-]	[-lg-]	[-lg-]
orthographic	<i>-mg-</i>	<i>-mg-</i>	<i>-rg-</i>	<i>-rg-</i>	<i>-lg-</i>	<i>-lg-</i>
Beijing	$\begin{matrix} [mg] \\ [mx] \end{matrix} \sim$	[mg]	$\begin{matrix} [rg] \\ [rx] \end{matrix} \sim$	$\begin{matrix} [rg] \\ [rx] \end{matrix} \sim$	[lx]	[lx]
Lalin	[mg]	[mg]	[rg]	[rg]	[lg]	[lg]
Sibe	[mɣ]	$\begin{matrix} [mɣ] \\ (\sim [mg]) \end{matrix}$	[rɣ]	$\begin{matrix} [rɣ] \\ (\sim [rg]) \end{matrix}$	[ɣ]	$\begin{matrix} [ɣ] \\ (\sim [lg]) \end{matrix}$
Aigun	[mɣ]	[mg]	[rɣ]	[rɣ]	([ɣ]?)	[lg]
Ilan Boo	[mɣ]	[mg]	[rɣ]	$\begin{matrix} [rg] \\ [rɣ] \end{matrix} \sim$	[ɣ]	[lg]
Ibuci	[mɣ]	[mg]	[rɣ]	[rg]	$\begin{matrix} [ɣ] \\ [g] \end{matrix} \begin{matrix} \text{a} \\ \text{ɔ} \end{matrix}$	[lg]
Alcuka	[mg]	[mg]	$\begin{matrix} [rg] \\ (\sim [rx]) \\ \sim [r\emptyset] \end{matrix}$	$\begin{matrix} [rg] \\ (\sim [rx]) \\ \sim [r\emptyset] \end{matrix}$	$\begin{matrix} [lg] \\ (\sim [lx]) \\ \sim [l\emptyset] \end{matrix}$	$\begin{matrix} [lg] \\ (\sim [lx]) \\ \sim [l\emptyset] \end{matrix}$
Bala	[mg]	[mg]	$\begin{matrix} [rg] \\ (\sim [rx]) \end{matrix}$	[rg]	$\begin{matrix} [lg] \\ (\sim [lx]) \end{matrix}$	[lg]

¹¹¹ Before the remaining [RTR] vowel /ɔ/, the WM cluster *-lg-* occurs only as a variant of *-lh-*.

Late Jurchen	*mK	*mK	*rh ~ *rØ	*rh ~ *rØ	*lh ~ *lØ	*lh ~ *lØ
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(In this table, variation in the reflexes of the sonorants preceding WM *g* is suppressed since it is apparently irrelevant for the distribution of the reflexes of *g*.)

These correspondences are exemplified in (57):

(57) Table 24. Reflexes of WM intersonorant *g* in cognate vocabulary

pTg						
gloss	‘to sleep’	‘once; already’	‘wife, female’	‘people’	‘voice’	‘dream’
WM	[amga-]?	[əmgəri]	[sargan]	[irgən]	[dʒilgan]	[təlgin]?
orthographic	<i>amga-</i> (~ <i>amha-</i>)	<i>emgeri</i>	<i>sargan</i>	<i>irgen</i>	<i>jilgan</i>	<i>tolgin</i> (~ <i>tolhin</i>)
Beijing	[amxa-ʃi] (COND.CONV)	[əŋgili] ~ [əmgə(r)i] → [əmxəri] → [əm(x)əri]	[sarxan] → [sa(r)xan]		[dʒilgan] ~ [dʒilxan]	
Lalin		[əŋgili]	[sarxan]		[dʒilgan] ¹¹²	
Sibe	[amkə-m] (NONP)	[əmgər] ¹¹³	[sarxən]	[irgən] ¹¹⁴	[dʒilʁan]	[tœɽyin] ¹¹⁵
Aigun	¹¹⁶					
Ilan Boo	[am'GA-me] (NONP)		[sar'ʁan]	[ir'gʊn]	[dʒil'ʁan]	[təl'gien]
Ibuci	amgə-mi (NONP)	əmgəlin	ʂa'ʁan	i'rgʏn ~ irgʏn ~ irgən	dʒilʁan ~ dʒirʁan	tulgien ~ turgien
Alcuka	[amga-ʃi] (COND.CONV)		[ʂaga(n)] ¹¹⁷			
Bala			[ʂaxan]			
Late Jurchen			*sar[h]a			*tol(i)hi(-)

¹¹² A variant transcription has Lalin [dʒilʁan] (Y. Mu 1986b: 26).

¹¹³ Compare Yamamoto's [ʔəmyərʃ] 'id.' (no. 2962), with the expected fricative [ɣ].

¹¹⁴ Compare Yamamoto's [jɽɽɽn] 'id.' (no. 1061), with the expected fricative [ɣ].

¹¹⁵ Cf. N. Jin's [tœɽyun] 'id.' (1991: 162).

¹¹⁶ Compare the derived CAUS verb, WM *amgabu-* : Aigun [amgabu-] 'to put to sleep, to let sleep'.

¹¹⁷ A variant transcription, Alcuka [sarxan], seems to reflect contact with another dialect; the most likely source is Lalin Manchu [sarxan] 'id.'.

2.3.1.4.4. The special case of /-ŋg-/

In several varieties of Manchu, /g/ undergoes special developments following earlier /ŋ/. In Beijing and Sibe, /g/ is regularly lost in this position, such that the older cluster was reduced to a single consonant /-ŋ-/. Lalin is identical apart from one exceptional environment: /g/ is deleted except when the original cluster was simultaneously preceded and followed by /u/, in which case the older cluster /-ŋg-/ is preserved as [-ŋg-]. In Aigun and Ilan Boo, earlier /g/ assimilates the nasality of the preceding /ŋ/, giving /-ŋŋ-/, however, a number of lexical items unpredictably retain a stop, [-ŋg-] or [-ŋg-], often as a variant of the more usual [-ŋŋ-]. In Ibuci, /g/ is generally lost as in Beijing and Sibe giving /-ŋ-/, but several items either have an assimilated cluster [-ŋŋ-] like Aigun and Ilan Boo, or show spirantization of the stop to [-ŋɣ-]. In Alcuka, /g/ is lost unpredictably. In Bala and Late Jurchen, /g/ is generally retained in the basic reflex [-ŋg-]. These correspondences are exemplified in (58):

(58) Table 25. Reflexes of /-ŋg-/

pTg						
gloss	‘mouth’	‘chest, breast’	‘forehead’	‘to cry’	‘navel’	‘hundred’
WM	[aŋga]	[tuŋgən]	[ʃəŋgin]	[səŋgɔ-]	[ʃuŋguru]	[taŋgɔ]
orthographic	<i>angga</i>	<i>tunggen</i>	<i>šenggin</i>	<i>songgo-</i>	<i>cungguru</i>	<i>tanggû</i>
Beijing			[ʃəŋjin] ~ [səŋjin] → [səŋin]		[ʃuŋuru]	[taŋu]
Lalin			[səŋjin]		[ʃuŋguru]	[taŋu]
Sibe	[aŋ]	[tuŋun]	[ɕiŋə]	[səŋu-m] (NONP)		[taŋ] (~ [taŋə-])
Aigun	[aŋŋa]					[taŋŋəŋ]
Ilan Boo	[‘aŋŋʌ]	[təŋ‘ŋəŋ]	[ɕiŋ‘ŋuŋ]	[səŋ‘ŋu-me] (NONP)		[‘taŋŋɣ] ~ [taŋ]
Ibuci	aŋa ~ ‘ANa ~ ‘aNa ~		ɕiŋə	soŋo-mi (NONP)		taŋŋə ~ taŋŋə ~ taŋ

	'aŋə					
Alcuka	[aŋ]				[ʃiŋguru]	[taŋgu] ~ [taŋ'u] ~ [ta'u]
Bala					[ʃiŋguru]	
Late Jurchen	*angKa	*tungge		*sunggu-bi (NONP)		*tangu

2.3.1.4.5. Deletion of /g/ before /ia/, /iə/

In Beijing, Lalin, Alcuka, and Bala, earlier /g/ is regularly deleted in post-initial positions before the earlier diphthongs /ia/, /iə/. Other varieties of Manchu do not participate in this development, although the environment sometimes coincides with a separately defined environment in which /g/ is deleted, such as following earlier /ŋ/, as described in the preceding section. Deletion of /g/ is exemplified in (59):

(59) Table 26a. Post-initial deletion of /g/ before /ia/, /iə/

pTg					
gloss	'knee (cap), patella'	'to waste'	'graceful, gentle'	'true'	'red'
WM	[tɔbgia]	[mamgia-]	[nəmgjən]	[jargian]	[fulgian]
orthographic	<i>tobgiya</i>	<i>mamgiya-</i>	<i>nemgiyen</i>	<i>yargiyan</i>	<i>fulgiyan</i>
Beijing		[maŋja-mi] (NONP)	[nəmjən] → [nəmjə(n)] ~ [nəmiən]	[jarjin]	[fulian] → [fulia] ~ [wulian]
Lalin			[nəmjən]		[vulijan]
Sibe	[timɕɔ] ¹¹⁸	[mamgia-m] (NONP)		[jarjin]	[fərgian]
Aigun					[fərgian]
Ilan Boo	[tɔm'gien]			[jær'gien]	[ful'gien]
Ibuci					furgien ~ fir'gien
Alcuka	[təujia]				[fulian]
Bala					[puljian] ~ [fəilijan]

¹¹⁸ Sibe [timɕɔ] 'knee (cap), patella' apparently resulted from metathesis of **/tɔmxi/. Note that Yamamoto (1969) recorded [tʰiɕv'ɣia] ~ [tʰiɕvgia] 'id.' (no. 136).

Late Jurchen					*ful[h]ian(g)
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Furthermore, in Beijing and Lalin only, word-initial /g-/ is also deleted before /ia/, /iə/. The development is regular in the available materials, but there are very few examples, and most cognates have not been documented:

(60) Table 26b. Initial deletion of /g/ before /ia/, /iə/

pTg			
gloss	‘to pare, to whittle’	‘reason, principle’	‘indigo’
WM	[gia-]	[gian]	[giən]
orthographic	<i>giya-</i>	<i>giyan</i>	<i>giyen</i>
Beijing		[jan]	
Lalin	[ja-mei] (NONP)	[jan]	[jen]
Sibe		[gian]	
Aigun			
Ilan Boo		[giæn]	
Ibuci			
Alcuka			
Bala			
Late Jurchen			

2.3.2. Weakening of fricatives

The Manchu coronal fricatives /s/ and /ʃ/ generally go back to the pTg fricatives *s and *ʃ, whereas the grave fricatives /f/ and /x/ were derived from pTg stops *p and *k via weakening (spirantization) as described above in §2.2.1. In several varieties of Manchu, fricatives are further weakened (voiced or deleted) under varying conditions, especially in intervocalic position. In some of these varieties, the resulting voiced fricatives [v, (d)z, z_l, ɣ, ɤ] are found in complementary distribution with their voiceless counterparts [f, s, ʃ, x, χ]--at least in certain environments. However, in a few cases, other sound changes have

obscured or eliminated the conditioning environment, and yet other changes have created secondary voiced or voiceless fricatives, rendering the distinction phonologically contrastive at certain places of articulation.

2.3.2.1. Weakening of /f/

As discussed above in §2.3.1.1, pTg *p was spirantized in most varieties of Manchu in intervocalic and certain other intersonorant positions, giving rise to a new phoneme /f/.

In Beijing and Lalin, /f/ shows a tendency to be voiced to [v] or [w] in intervocalic position.¹¹⁹ In Beijing, the basic reflex is voiceless [f], but voicing to [w] is observed in faster or more casual speech. In Lalin, the basic reflex seems to be [v], but the transcription is problematic, and in some cases [f] is a possible interpretation. Perhaps Lalin was like Beijing, with voicing limited to faster or more casual speech. In Sibe, Aigun, Ilan Boo, and Ibuci, /f/ is regularly voiced to [v] in intervocalic position.¹²⁰ In Alcuka, pTg *p was not regularly spirantized in intervocalic position, and consequently did not regularly undergo the voicing change described here. However, several exceptional lexical items nevertheless have voiceless [f] or voiced [v] ~ [w]. I assume that these reflect contact with regularly spirantizing and voicing dialects.¹²¹ In Bala, pTg *p was regularly spirantized to /f/ in intervocalic position, but not voiced; still, a few

¹¹⁹ In other intersonorant positions, i.e. between sonorant consonants and vowels, /f/ remains unvoiced in the available materials, but very few relevant lexical items are attested.

¹²⁰ This process is regular in the Sibe materials of S. Li et al. (1984), but apparently irregular in the somewhat earlier materials of Yamamoto (1969). One possible explanation is that Yamamoto's unweakened [-f-] forms reflect more careful speech or perhaps contamination from the WM standard, but subdialectal variation within Sibe is also plausible.

¹²¹ In cases of spirantization without voicing--[-f]--the Alcuka forms might be loans from another Northern Manchu dialect or WM; in cases of spirantization with voicing--[-v] ~ [-w]--I assume contact with Lalin or Eastern Manchu.

exceptional items have voiced [v] ~ [w], but only in cases where Alcuka Manchu also exhibits both spirantization and voicing, suggesting that Alcuka may be the proximate source, but ultimately these forms are also probably loans from regularly spirantizing and voicing dialects. In Late Jurchen, pTg *p was regularly spirantized to /f/ in intervocalic position, but voicing is not clearly attested. These correspondences are exemplified in

(61):

(61) Table 27. Weakening (voicing) of intervocalic /-f-/

pTg					
gloss	‘pressed, thin; in dire straits’	‘neck’	‘spittle, saliva’	‘stomach’	‘to stitch, to sew’
WM	[χafiraxun]	[məifən]	[ʃifəŋgu]	[xəfəli]	[ufi-] ~ [ifi-]
orthographic	<i>hafirahûn</i>	<i>meifen</i>	<i>cifenggu</i>	<i>hefeli</i>	<i>ufi-</i> ~ <i>ifi-</i>
Beijing					
Lalin	[χaivulaxun]? [χaifulaxun]?				
Sibe	[χavirɣun] ~ [χevɣun]	[mivɪn]	[tɕivəŋ]	[kəvəɪ]	[ivi-m] (NONP)
Aigun			[tɕivɪŋɣe]		
Ilan Boo	[χævir'gɔn] ~ [xæ(:)vir'gɔn]		[tɕi'viŋɣe]	[ku'vul(ɯ)]	[i'vi-me] (NONP)
Ibuci		mivɪn		xəvulə	em-bi (NONP) ¹²²
Alcuka					
Bala					
Late Jurchen				*heuli ¹²³	

For additional examples see (15), above.

In those dialects with regular voicing (Sibe, Aigun, Ilan Boo, Ibuci), vowel deletions may destroy the intervocalic environment, with diverse effects on the voicing

¹²² In Ibuci, deletion of the stem-final vowel results in assimilation to the nasal of the NONP suffix (: WM *-mbi*), as described in §1.1.1, above. The transcription here seems to be equivalent to “em-m(b)i”.

¹²³ This form is an exception, as weakening is unexpected in Late Jurchen.

process. In Sibe, widespread final-vowel deletion yields voiceless [-f]; on the other hand, when deletion is blocked (for example, by the attachment of suffixes), voicing goes through. Where syncope of a vowel adjacent to /f/ destroys the intervocalic environment, stranding /f/ in a pre-consonantal coda, voicing is blocked.

As for other intersonorant positions, recall from §x.x.x.x that WM /f/ is rare in clusters, since in that position pTg *p generally escaped spirantization and survived as [p]. Most dialects do not attest any cognates of WM words spelled *mf*, *nf*, *lf*, and only a few words with *rf*.¹²⁴ WM *rf* [rf] (/rf/?) corresponds to Sibe [-rv-] in WM *yarfun* : Sibe [jarvən] ‘(bridle) tether’; I tentatively conclude that /f/ (< *p) undergoes voicing in this particular intersonorant environment in Sibe.

2.2.2 Weakening of /s/

In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /s/ is regularly weakened (voiced) to [z] (~ [ɟz]) in intervocalic position.¹²⁵ In Alcuka, the basic reflex is un-weakened [s], but several exceptional items attest [ɟz], sometimes as a variant of a voiceless pronunciation [s] (~ [ts]). Perhaps these items in Alcuka reflect mixture with a neighboring dialect of the Eastern type such as Ibuci, where the affricate [ɟz] is regular. (On the process of affrication itself, see §x.x.x.x, below.) WM, Beijing, Lalin, Bala, and Late Jurchen do not

¹²⁴ WM *mf* seems to be a rare, non-contrastive variant of *mp*. WM *nf* occurs in a few loans, or as a rare, irregular syncopated spelling of *-nVf-*. WM *lf* is attested in native-looking words (approximately twenty items in standard sources), but very few are attested in dialects. (Cf. WM *sulfa* ‘at leisure, free’ : Sibe [suɿfan] ‘freedom’, without voicing, but *tulfa-* ‘to ricochet, to bounce off’ : Sibe [tuɿva-m] ‘分娩 fen1mian3 [to be in labor?]’, with voicing.) WM *rf* is attested in a few native-looking words, but so is *rp*; neither is well attested in dialects. This is an area requiring further study.

¹²⁵ As in the case of /f/, voicing of intervocalic /s/ is regular only in the Sibe materials of S. Li et al. (1984). In the earlier materials in Yamamoto (1969), the reflexes of earlier /s/ systematically remain voiceless.

exhibit weakening of /s/ in intervocalic position. These developments are exemplified in

(62):

(62) Table 28a. Weakening (voicing) of intervocalic /-s-/

pTg	*pisa				
gloss	‘back (of the body)’	‘fifty’	‘seed’	‘to back up, to retreat’	‘speech, language’
WM	[fisa]	[susai]	[usə]	[sɔsɔrɔ-]	[gisun]
orthographic	<i>fisa</i>	<i>susai</i>	<i>use</i>	<i>sosoro-</i>	<i>gisun</i>
Beijing		[susai] → [susəi]			[giuəsun] → [giuəsũ ⁿ] ~ [gysun] → [gysu(n)] 1998:2
Lalin					[giuəsun]
Sibe	[fiza]	[suzai]	[uzɔ]	[sɔzuru-m] (NONP)	[gizun]
Aigun		[sudʒɛ]			
Ilan Boo	[fi'za:]	[suzai]	[u:zi]	[sɔ:'zu, lɔ-me] (NONP)	[gi(:)'zun]
Ibuci		sudʒɛ	udʒə		gidʒən
Alcuka		[tsutsei] ~ [tsutsa] ~ [tsutsi] ~ [tsus] ~ [tsudzi] (1986a: 5)			[gisun] ~ [gidʒun] ~ [gidʒin]
Bala					
Late Jurchen	*fisa	*susai			

In other intersonorant positions--namely, between a sonorant consonant /m, ŋ, r/ and a vowel--weakening (voicing) of earlier /s/ depends on the identity of the sonorant consonant. In those dialects with regular intervocalic voicing (Sibe, Aigun, Ilan Boo, and Ibuci), preceding nasals /m, ŋ/ allow voicing, but /r/ does not. These developments are exemplified in (63):

(63) Table 28b. Reflexes of /s/ in other intersonorant positions

pTg					
-----	--	--	--	--	--

gloss	‘few’	‘to weed’	‘ugly’	‘to regret; to miss’	‘radish’
WM	[qəmsə]	[jaŋsa-]	[ərsun]	[qərsə-]	[mursa]
orthographic	<i>komsə</i>	<i>yangsa-</i>	<i>ersun</i>	<i>korso-</i>	<i>mursa</i>
Beijing	[kəmsə] → [kəms(ə)]				
Lalin	[kəmsə]				
Sibe	[qəmzu]	[jaŋzi-m] (NONP)	[ərsun]	[qərsu-m]	[mərsa]
Aigun	[qəmdzə]				
Ilan Boo	[‘χəmsə]	[jaŋ’zi-me] (NONP)	[ur’sun]	[qəlsu-] (B. Li) [qər’ʂə-me] (NONP; Ć)	
Ibuci	‘kəmdzo ~ ‘kəmdzə				mur(u)tsa ~ məłtsa
Alcuka					
Bala					
Late Jurchen			*eusun(g)		

2.2.3 Weakening of /f/

In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /f/ is regularly weakened (voiced) in intervocalic position. The exact outcomes in each of these dialects differ slightly due to unique developments. In Aigun and Ilan Boo, voicing yields [z] before non-front vowels. In Ibuci, earlier /s/ and /f/ generally merged as /s/ in post-initial positions, so voicing yields [dz] before non-front vowels (see §2.2.2). The situation before front vowels is rather murky, due to the fact that earlier /i/ was generally centralized to [i̯] in Eastern dialects in this environment,¹²⁶ so that it is rare to find the reflex of /f/ before a front vowel. In Aigun and Ibuci, weakening seems to have proceeded further than in Ilan Boo, to [j].

¹²⁶ In many cases, [i̯] appears to be an intermediate stage, probably an allophone of /ə/ and subject to further developments such as rounding assimilation to [u] (~ [o]).

In Sibe, a merger similar to that in Ibuci has taken earlier /s/ and /ʃ/ to /s/, with the similar result that voicing yields [z] before non-front vowels. Before front vowels, the reflex of voicing of the merged category is [z]. Note, however, that both the merger and the voicing development are subject to unusually widespread variation within Sibe, possibly due to interference from the WM standard. In the materials of S. Li et al. (1984), the merger is mostly regular, but in cases where it does not go through, intervocalic voicing may also be suppressed. In the materials of Yamamoto (1969), the merger appears to be a matter of subdialectal variation, but intervocalic voicing of earlier /ʃ/ (and /s/) is not found in any case.

In Alcuka, earlier /ʃ/ was generally voiced to [z] in intervocalic position except where the following vowel was /i/. (WM, Beijing, Lalin, Bala, and Late Jurchen do not exhibit weakening of /ʃ/ in intervocalic position.) These correspondences are exemplified in (64):

(64) Table 29a. Weakening (voicing) of intervocalic /ʃ/

pTg					
gloss	‘sister-in-law (older brother’s wife)’	‘paper’	‘cord, belt, thong, strap’	‘field’	‘corner’
WM	[aʃa]	[χauʃan]? [χɔuʃan]?	[uʃə]	[uʃin]	[χɔʃɔ]
orthographic	<i>aša</i>	<i>hoošan</i>	<i>uše</i>	<i>usin</i>	<i>hošo</i>
Beijing				[uʃin] ~ [uʃən] → [uʃə(n)]	
Lalin				[uʃin]	
Sibe	[as] ¹²⁷	[χɔzin]	[uzi]	[uzin]	[χɔs ^w] ~ [χɔzu-]
Aigun	[aʃa] ¹²⁸	[χuaʒən]		[ujin]	
Ilan Boo	[‘a:zɤ]	[χɔa:‘zɤn] ~ [χɔa:‘zun]	[u:zɤ]	[‘u(ː)zɤn] ~ [u:‘zun]	[‘χɔ(ː)zɤ]

¹²⁷ Final-vowel deletion in Sibe blocks voicing in this form.

¹²⁸ The failure of voicing in this form is unexplained.

Ibuci	ɑdzə ~ ædzə	xuAɖzən ~ xuAZən		u' dʒin ~ uɖzən ~ uɖzō	
Alcuka		[xuɑzɑ(ŋ)]		[uzʲin] ~ [uzə(n)] ¹²⁹	
Bala					
Late Jurchen	*aʒe ¹³⁰	*hauša		*uši	

There is limited data on the behavior of /ʃ/ in other intersonorant positions--i.e., between a sonorant consonant /m, ŋ, r/ and a vowel--but weakening (voicing) seems to depend on the identity of the sonorant consonant. As in the case of /s/, in those dialects with regular intervocalic voicing (Sibe, Aigun, Ilan Boo, and Ibuci), preceding nasals /m, ŋ/ allow voicing, but /r/ does not. (Alcuka apparently does not voice earlier /ʃ/ following /m/, at least.) These developments are exemplified in (65):

(65) Table 29b. Voicing of /ʃ/ between nasals and vowels

pTg					
gloss	‘to compete; to quarrel’	‘eleven(th) [month]’	‘to disperse, to scatter’	‘noisy, talkative’	‘burnt, scorched’
WM	[təmʃə-]	[ɔmʃɔn]	[samʃi-]	[jaŋʃan]	[kuŋʃun]
orthographic	<i>temše-</i>	<i>omšon</i>	<i>samsi-</i>	<i>yangšan</i>	<i>kungšun</i>
Beijing		[ɔmʃɔn] ~ [ɔmʃɔŋ]	[sanʃi-mi] (NONP)		
Lalin			[samʃi-ka] (PERF.PART)		
Sibe	[təmzi-m] (NONP)	[ɔmzun]	[samzi-m] (NONP)	[jaŋzən]	[kuŋzun] ‘smell of burning’
Aigun					
Ilan Boo	[tuum'zʷu-me] (NONP)	[ɔm'zʷun]			
Ibuci		omɖzun			
Alcuka		[ənsɔ] ~ [ɔnsɔ] ~ [əns(i)]			

¹²⁹ Voicing is unexpected in this form, since the following vowel was /i/.

¹³⁰ A rare--possibly unique--example of voicing of /ʃ/ in Late Jurchen; note that vowel reduction as seen here is also very rare, suggesting the whole form may be an intrusion from another dialect.

Bala					
Late Jurchen					

In contrast, earlier /-rʃ-/ does not exhibit voicing, but undergoes special developments in several dialects. In Aigun, /r/ appears to be lost from the cluster, but not before blocking the voicing of /ʃ/, resulting in voiceless [-ʃ-]. In Sibe, a preceding /r/ is strongly correlated with the failure of the merger of /ʃ/ > /s/. In other words, there seems to be a contrast between /-rs-/ and /-rʃ-/; but S. Li et al. (1984) are not very clear about the realization of the latter cluster; Yamamoto (1969), as previously mentioned, did not find voicing of /s/ or /ʃ/ in any intersonorant positions in Sibe. Alcuka is similar to Aigun, in that /r/ appears to be lost, but the voicing of /ʃ/ that would be expected in intervocalic position has been blocked.

(66) Table 29c. No voicing of /ʃ/ between /r/ and vowels

pTg	*parsı (TMS II: 305-306)	†gılta-/giltə-? (TMS I: 151)
gloss	‘piece, lump, fragment’	‘to shine brightly’
WM	[farʃi]	[giltarʃa-]
orthographic	<i>farsi</i>	<i>giltarʃa-</i>
Beijing	[farʃi]	
Lalin		
Sibe	[farei]	[girtərʃi-m] (NONP)
Aigun	[faʃa]	
Ilan Boo		
Ibuci		
Alcuka		[gintuʃi-mei] (NONP)
Bala		
Late Jurchen	*faši	

2.2.4 Weakening of /x/

As mentioned above (§§2.1.4.2, 2.1.4.3), it is debatable whether /g/ and /x/ contrast in intersonorant positions in WM. However, based on the relatively large number of invariant spellings (exclusively *g* or exclusively *h*), as well as a small number of apparent minimal pairs, I have treated these segments as contrastive. In this section, I investigate the dialect reflexes of the WM invariant *h*, analyzed as /x/. (The developments of intersonorant /g/ are described in §§2.1.4.2 and 2.1.4.3, above. Dialectal evidence for the status of the contrast between /g/ and /x/ is discussed in §x.x.x.x, below.)

In several dialects, intervocalic /-x-/ is weakened (voiced or deleted) under various conditions. In Beijing and Lalin, deletion of /x/ (in both intervocalic and other post-initial positions) is irregular and appears to be limited to faster speech. In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /x/ is regularly weakened (voiced) to [ɣ] before earlier [RTR] vowels and to [ʏ] before non-[RTR] vowels. However, in Ilan Boo and Ibuci, changes to following [RTR] vowels often result in velar [ɣ] rather than uvular [ɣ̠]; furthermore, a small number of exceptions have a stop [ɕ] or [g] in one or another of the Eastern dialects. The situation in Alcuka, Bala, and Late Jurchen is less clear. In the majority of cognates, intervocalic /-x-/ is generally retained as a voiceless fricative [-x-]. However, in Alcuka, a number of exceptional items have [k], [g], or zero (i.e. hiatus, transcribed by Y. Mu as < ' >). In Bala, a small number of exceptions have [k] or [g]; in Late Jurchen, several items have zero in the transcription (sometimes represented as a hiatus < ' >), but it is possible that LJ *h [x] was actually present in such forms but untranscribed. The basic correspondences are shown in (67):

(67) Table 30. Correspondences of WM intervocalic /-x-/

WM	[-x-] (_V _{non-[RTR]})	[-χ-] (_V _[RTR])
orthographic	-h-	-h-
Beijing	[-x-] (→ -Ø-)	[-x-] (→ -Ø-)
Lalin	[-x-] (→ -Ø-)	[-x-] (→ -Ø-)

Sibe	[-ɣ-]	[-ʁ-]
Aigun	[-ɣ-]	[-ʁ-] (~ [-ɣ-])
Ilan Boo	[-ɣ-]	[-ʁ-] (~ [-ɣ-])
Ibuci	[-ɣ-]	[-ʁ-] (~ [-ɣ-])
Alcuka	[-x-] (~ [-k-], [-g-], -Ø-)	[-x-] (~ [-k-], [-g-], -Ø-)
Bala	[-x-] (~ [-k-], [-g-])	[-x-] (~ [-k-], [-g-])
Late Jurchen	[-x-] (~ -Ø-)	[-x-] (~ -Ø-)

These basic correspondences are exemplified in (50):

(68) Table 31. Reflexes of WM intervocalic /-x-/

pTg	(Cf. <i>TMS</i> I: 480)	*mui-ktə (<i>TMS</i> I: 537-8)		*baka- (<i>TMS</i> I: 66-7)		*pa:-kun (<i>TMS</i> II: 310)
gloss	‘woman, female’	‘snake’	‘father’s younger brother’s wife (aunt)’	‘to get, to obtain; to be able’	‘intestines’	‘liver’
WM	[xəxə]	[məixə]	[uxumə]	[baɣa-]	[duɣa]	[faɣon]
orthographi c	<i>hehe</i>	<i>meihe</i>	<i>uhume</i>	<i>baha-</i>	<i>duha</i>	<i>fahûn</i>
Beijing	[xəx(ə)]	[məixə] → [məix(ə)]				[fəxu(n)] 1996:12
Lalin						
Sibe	[xəx] (~ [xəɣə-])	[məix]	[uɣumə]	[baɣə-m] (NONP)	[duɣa]	[faɣun]
Aigun	[xəɣə]			[baɣa-me] (NONP)		
Ilan Boo	[‘xu(:)ɣu]	[‘mwiɣu]	[u‘ɣu:mɯ] (297)	[ba: ‘ka-me] (NONP)	[du‘ka:] ~ [do‘ka:]	[fa: ‘ɣon]
Ibuci	‘xɣɣ(ə) ~ ‘xəɣ(ə)	miɣə	uɣumə	baɣə ~ baɣə (IRR PERF.PART)		fəɣon
Alcuka			[ugumə]	[baka-pi] (PERF.CONV)		
Bala						
Late Jurchen	*hehe	*meihe	*uheme	*baKa-	*duKa	*fahun(g)

There are a few systematic exceptions to the regular voicing observed in Sibe, Aigun, Ilan Boo, and Ibuci. In Sibe, deletion of a word-final vowel following /-x-/ may

destroy the intervocalic environment, blocking voicing (cf. ‘woman, female’ and ‘snake’, above). Similarly, syncope of a vowel preceding /-x-/ may destroy the intervocalic environment, blocking voicing in Sibe. In Aigun, Ilan Boo, and Ibuci, final deletion is rare following /x/, but syncope before /x/ is frequent. In the latter case, Ilan Boo and Ibuci frequently show a stop [k ~ q], although voiced fricatives also occur. These blocking effects are exemplified in (69):

(69) Table 32a. Vowel deletion blocks intervocalic voicing of /x/

pTg	*xial- (TMS I: 289-290)	¹³¹	(Cf. TMS I: 362)	†xətə-? (TMS II: 470)	
gloss	‘charcoal’	‘brain’	‘scissors’	‘strong, powerful’	‘salty’
WM	[jaχa]	[fəxi]	[χasaχa]	[ətuxun]	[χatuχon]
orthographic	<i>yaha</i>	<i>fehī</i> (~ <i>feihe</i>)	<i>hasaha</i>	<i>etuhun</i>	<i>hatuhûn</i>
Beijing	[jɑx]				
Lalin					
Sibe	[jaχ]	[fix]	[χasχə]	[ətχun]	[χatχun]
Aigun		[feγə]			
Ilan Boo	[ˈja(:)βɑ] ‘fire’	[ˈfuiγu]	[χɑ:skw]	[utˈkun]	[χatˈβon]
Ibuci	jAYə ~ jAXə ‘fire’				χatkon
Alcuka					
Bala					[χantixun]
Late Jurchen	*yaKa		*Kadz[h]a?		*Kat[h]u

Furthermore, in Sibe, voicing is blocked in particular consonant sequences. According to S. Li et al. (1984), intervocalic /-x-/ is not voiced if the preceding consonant is any of the earlier voiceless coronal affricates or fricatives /tʃ, s, ʃ/, and earlier

¹³¹ Starostin et al. reconstruct pTg *pējKe ‘brain; forehead; top of head’ assuming a relationship between the Manchu word and the cognate set at TMS II: 361.

intervocalic /s/ and /ʃ/ (usually merged in Sibe as /s/) are not voiced if the following consonant is earlier /x/. Thus, in the following configurations, earlier intervocalic fricatives /s, ʃ, x/ (underlined) do not undergo voicing in Sibe even when the intervocalic environment has been preserved:¹³²

- (70) /...VʃVxV.../
 /...VsVxV.../
 /...VʃVxV.../

Aigun, Ilan Boo, and Ibuci exhibit a range of different reflexes in this context, though note that in those dialects, syncope is very frequent in this position. Voicing of the preceding /s, ʃ/ is regularly blocked; earlier /x/ may develop to a voiceless stop [k ~ q], but both voiceless fricatives [χ, x] and voiced fricatives [ʁ, ɣ] are also found. This type of blocking of intervocalic voicing in Sibe is exemplified in (71):

(71) Table 32b. Blocking of intervocalic voicing in Sibe

pTg			*xɔːsɪ- kta	*gɔʃi-? (Cf. <i>TMS</i> I: 182-3)		*xɔsɪ:- kta	(Cf. <i>TMS</i> I: 254)
gloss	‘tail’	‘load, burden’	‘star’	‘bitter’	‘downward; low, humble’	‘claw, talon’	‘sour’
WM	[untʃəxən]	[atʃiχa]	[uʃiχa]	[ɔʃiχən]	[fuʃiχən]	[ɔʃɔχɔ]	[dʒuʃuxun] (~ [dʒuʃixun])
orthographic	<i>uncehen</i>	<i>aciha</i>	<i>usiha</i>	<i>gosihon</i>	<i>fusihûn</i>	<i>oŝoho</i>	<i>jušuhun</i> (~ <i>jusihun</i>)
Beijing		[atʃiχa] → [atʃix(a)]	[uʃiχa]		133		
Lalin		[atʃiχa]	[uʃiχa]				
Sibe	[unteixin]	[atʃiχa]	[uciχa]	[ɔɔciχun]	[fɔsχun] ‘downward’	[ɔsɔχʷ]	[dzyeixun]

¹³² Note that earlier *word-initial* /ʃ, s, ʃ/ do not block voicing of a following intervocalic /x/. In addition, a few lexical exceptions to voicing are reported.***

¹³³ Compare the derived form, WM *fusihûla-* : Beijing [fuʃiχɔla-mi] (NONP) ‘to despise’.

					[fəiχun] 'low(ly), humble'		
Aigun				[cəʃqəŋ] 'spicy'			
Ilan Boo	[untei'kien]		[uʃ'ka:]	[cəʃkəŋ]			[dzuʃ'γun]
Ibuci			usīχa ~ usīka	gosī'kon ~ gosī'kon 'spicy'			dzyeixun ~ dzusi'kon
Alcuka			[uʃ'ixa]		134		
Bala			[uʃ'ixa]	[gəʃ'ixən] ~ [gəʃ'ixun] ~ [guʃ'ixun]			[diəʃ'ixun]
Late Jurchen	*uč[h]e		*ušiKa	*goš[h]o 'bitter' *gos[h]u 'sad, miserable'			*juš[h]u

In other intersonorant positions--namely, between a sonorant consonant /m, r, l/ and a vowel--weakening (voicing or deletion) of earlier /x/ is found in several dialects. Recall from §x.x.x.x, above, that /x/ and /g/ are not robustly contrasted in WM in this environment. In this section, I treat lexical items that are spelled exclusively or predominantly with WM *h* as reflecting /x/. In Beijing and Lalin, a small number of cognates exhibit deletion of /x/ following /m/ or /r/ and before earlier [RTR] vowels, but the process appears to be restricted to faster speech; the majority of cognates retain [x].¹³⁵

In Sibe, earlier /x/ is generally voiced following any sonorant consonant and followed by any vowel. As in intervocalic position, Sibe has uvular [ɣ] before earlier [RTR] vowels, and velar [ɣ] before non-[RTR] vowels.

¹³⁴ Compare the derived form, WM *fusihûla-* : Alcuka [fuɛixula-mei] (NONP) 'to despise'.

¹³⁵ In addition, less frequently /x/ may be deleted adjacent to an obstruent (i.e., in a non-intersonorant context), as in WM *uthai* [utχai] : Beijing [utai] : Lalin [utai] 'then, thereupon', perhaps also only in faster speech.

In Ilan Boo and Ibuci, both the harmony class of the following vowel and the identity of the preceding sonorant consonant play roles in conditioning the developments of /x/. Before earlier [RTR] vowels, /x/ is voiced in both dialects. Following /m/, Ilan Boo generally has a voiced fricative [ɣ], while Ibuci has a voiced stop [g]. Following /r/, the voiced uvular fricative [ʁ] and voiced uvular stop [ɣ] appear to be in free variation in Ilan Boo; in Ibuci, velar [ɣ] and [g] are in similarly free variation.¹³⁶ Following /l/, all three Eastern Manchu dialects generally have a voiced uvular fricative [ʁ], although a small number of items have a voiced stop [g] in Ilan Boo.

Preceding earlier non-[RTR] vowels, the reflex of earlier /x/ is voiced in Eastern Manchu dialects following /m, r, l/. Following /m/, the voiced velar fricative [ɣ] appears to be in free variation with the voiced velar stop [g] in Ilan Boo ([-mɣ-] ~ [-mg-]), while only [-mg-] is attested in Ibuci. Following /r/, Ilan Boo generally has a voiced stop [g], although the voiced velar fricative [ɣ] is also attested.¹³⁷ Following /l/, Ilan Boo generally has a voiced velar fricative [ɣ], although the voiced stop [g] is also attested; Ibuci regularly has a stop [g].

In Alcuka, Bala, and Late Jurchen, earlier /x/ generally remains a voiceless fricative [x] between a sonorant consonant and a vowel, as in intervocalic position. However, in Alcuka, some items have [g] or < ' > (~ zero), often as a variant of [x].¹³⁸ In the Late Jurchen transcription, earlier /x/ frequently corresponds to a hiatus or zero following liquids, especially following earlier /l/, as in WM *halhûn* : LJ *hal[h]u [36] ~

¹³⁶ In Ibuci, [ɣ] also occurs before /a/ if the latter is unreduced (generally, leftmost).

¹³⁷ In Ibuci, the only documented example of earlier /-rx-/ (: WM [-rx-]) in a non-[RTR]-vocalic context has fortis (“voiceless aspirated”) [k], viz. WM *derhuwe* : Ibuci *duluḳoo* (J. Zhao 1989: 103) ‘fly (N)’. Compare Ilan Boo [‘durgo ~ ‘dulgo] (Č: 316) ‘id.’, with regular [g].

¹³⁸ Bala Manchu also attests [g] and < ' > (~ zero) in a few items, viz. WM *erhe* ‘green frog’ : Bala [ɔrgəri] ‘tree frog’ (containing an additional suffix /-ri/); *umhan* (~ *umgan*) : Bala [uma’an] ~ [ɔmu’an] ‘egg’; and *ilha* (~ *ilga*) : Bala [ilxɑ] ~ [ila] ~ [ira] ‘flower’.

*hal(u)ʼu [276] ‘hot, warm’, listed here. In my view, *h /x/ may be present but left unexpressed in the transcription. Thus, both variant transcriptions could record LJ /*xalxu/.) The basic correspondences described above are tabulated in (72):

(72) Table 33. Basic reflexes of WM *h* following sonorant consonants

WM	[-mχ-]	[-mx-]	[-rχ-]	[-rx-]	[-lχ-]	[-lx-]
orthographic	-mh-	-mh-	-rh-	-rh-	-lh-	-lh-
Beijing	$\begin{bmatrix} \text{mx} \\ \rightarrow [\text{m}\emptyset] \end{bmatrix}$	[mx]	$\begin{bmatrix} \text{rx} \\ \rightarrow [\text{r}\emptyset] \end{bmatrix}$	[rx]	[lx]	[lx]
Lalin	[mx]	[mx]	$\begin{bmatrix} \text{rx} \\ \rightarrow [\text{r}\emptyset] \end{bmatrix}$	$\begin{bmatrix} \text{rx} \\ \rightarrow [\text{r}\emptyset] \end{bmatrix}$	[lx]	[lx]
Sibe	[mɤ]	[mɤ]	[rɤ]	[rɤ]	[lɤ]	[rɤ]
Aigun	?	?	$\begin{bmatrix} \text{rɤ} \\ \text{rg} \end{bmatrix} \sim$?	[lɤ]	?
Ilan Boo	[mɤ]	$\begin{bmatrix} \text{mɤ} \\ \text{mg} \end{bmatrix} \sim$	$\begin{bmatrix} \text{rɤ} \\ \text{rg} \end{bmatrix} \sim$	[rg] (~ [rɤ])	[lɤ] (~ [lg])	[lɤ] (~ [lg])
Ibuci	[mg]	[mg]	$\begin{bmatrix} \text{rɤ} \\ \text{rg} \end{bmatrix} \sim$	[rk]?	[lɤ]	[lg]
Alcuka	[mx]	$\begin{bmatrix} \text{mx} \\ \sim [\text{mg}] \end{bmatrix}$	$\begin{bmatrix} \text{rx} \\ \sim [\text{rg}] \\ \sim [\text{r}\emptyset] \end{bmatrix}$	[rx]	[lx] (~ [l∅])	[lx] (~ [l∅])
Bala	[mx]	[mx]	[rx]	$\begin{bmatrix} \text{rx} \\ \sim [\text{rg}] \end{bmatrix}$	[lx] (~ [l∅])	[lx]
Late Jurchen	*m(V)h	*m(V)h	*rh ~ *r∅	*rh ~ *r(V)h ~ *r∅	*lh ~ *l(V)h ~ *l∅	*lh ~ *l(V)h ~ *l∅

(In this table, variation in the reflexes of the sonorants preceding WM *h* is suppressed since it is apparently irrelevant for the distribution of the reflexes of *h*; see §2.x.x, below.) These correspondences are exemplified in (73):

(73) Table 34. Reflexes of WM intersonorant *h* in cognate vocabulary

pTg	(Cf. <i>TMS</i> I: 604)	(Cf. <i>TMS</i> II: 395) ¹³⁹	(Cf. <i>TMS</i> II: 310-311)	(Cf. <i>TMS</i> I: 207) ¹⁴⁰	*xɪlaga	
gloss	‘docile, quiet’	‘finger’	‘dark’	‘fly (N)’	‘flower’	‘to understand’
WM	[nɔmχɔn]	$\begin{bmatrix} \text{ʃimxun} \\ \sim [\text{ʃumxun}] \end{bmatrix}$	[farχɔn]	[dərxuə]	$\begin{bmatrix} \text{ilχa} \\ \text{ilga} \end{bmatrix}?$	[ulxi-]
orthographic	<i>nomhon</i>	<i>simhun</i> (~ <i>šumhun</i>)	<i>farhûn</i>	<i>derhuwe</i>	<i>ilha</i> (~ <i>ilga</i>)	<i>ulhi-</i>

¹³⁹ Starostin et al. reconstruct pTg *šimučken ‘small finger’.

¹⁴⁰ Starostin et al. reconstruct pTg *dilu-kē ‘fly (N)’.

Beijing		[ʃumxun] → [ʃumxũ ⁿ]				
Lalin		[ʃumxun]				
Sibe	[nɔm'kɔn]	[ɕimɣun]	[farʁun]	[durvɔ]***	[ilʁa]	[uɣi-m] (NONP)
Aigun			[fɔrcɔŋ]		[ilʁa]	
Ilan Boo	[nɔm'kɔn]	[ʃum'ɣun] ~ [ʃum'ɣun]	[far'ʁon] ~ [fal'ʁon]	['durgo] ~ ['dulgo]	[il'ʁa(:)]	[ul'ɣi(:)-me] ~ [ul'gi-me] (NONP)
Ibuci	nom'gon ~ nɔm'gon ~ noŋɔ		fɔrgɔ	dulukou	(j)il'ʁa ~ jir'ʁa	u(r)'gi-
Alcuka						
Bala					[ilʁa] ~ [ila] ~ [ira]	
Late Jurchen	*nom(u)ho	*ʃi(n)m(u)hun(g)	*farhun(g)	*derhue	*il[h]a	*ulhi-he (PERF.PART)

2.4. Developments related to consonantal place distinctions

2.4.1. The velar ~ uvular allophonic alternation

Several varieties of Manchu including WM, Aigun, Ilan Boo, and Ibuci have a predictable allophonic alternation between velar and uvular obstruents conditioned by the identity of adjacent tautosyllabic vowels.¹⁴¹ In Beijing, Lalin, Alcuka, Bala, and Late Jurchen, uvular phones are not observed in any position; in those varieties, I assume that the older alternation was lost as an active phonological process.¹⁴² In Sibe, on the other

¹⁴¹ Coda position is problematic with respect to velar ~ uvular alternation. **DISCUSS*****

¹⁴² In these dialects, the reflexes of WM velar and uvular allophones occasionally develop along distinct paths, indicating that some sound changes preceded the loss of uvular allophones, or the loss of the environments that formerly conditioned them. *****which processes? refer to weakening section**

hand, the older allophonic pattern has been phonologized due to partial neutralization of the vowel contrast that formerly conditioned the alternation.¹⁴³

In WM, the single phonological series of velar obstruents /k, g, x/ has systematic uvular allophones [q, ɢ, χ] preceding the [RTR] vowels /a, ɔ, ʊ/ (including the diphthongs /aV, ɔV, ʊV/). This distinction is well preserved in cognates in Sibe, Aigun, and Ilan Boo, especially in word-initial position, as exemplified in (74):

(74) Table 35a. Word-initial uvulars

pTg		†ga:ki? (TMS I: 137)	(Cf. TMS I: 149)	*gɔra	(Cf. TMS I: 418-9)		
gloss	‘to be thirsty’	‘crow’	‘male’	‘far’	‘city’	‘confused’	‘courtyard, garden’
WM	[qɑŋqɑ-]	[gɑχɑ]	[χɑχɑ]	[gɔrɔ]	[χɔtɔn]	[χɔlxi]? [χɔlgi]?	[χʊɑ]
orthographic	<i>kangka-</i>	<i>gaha</i>	<i>haha</i>	<i>goro</i>	<i>hoton</i>	<i>hūlhi</i> ~ <i>hūlgi</i>	<i>hūwa</i>
Beijing			[xɑx(a)]	[gɔrɔ] → [gɔr]			
Lalin				[gɔrɔ]			
Sibe	[qɑŋqə-m] (NONP)	[gɑχ]	[χɑχ]	[gɔr]	[χɔtun]	[χʊɣʏn]	[χʊɑ]
Aigun		[gɑβɑ]	[χɑβɑ]	[gɔrɔ]			
Ilan Boo	[qɑŋ ^h χɑ-βɑ] (PERF.PART)	[^h gɑ:βɑ]	[^h χɑ:βɑ]	[gɔ:rɔ:] ~ [gɔ:lɔ]	[χɔ'tɔn]	[χɔl'ɣʏn]	[χʊɑ:]
Ibuci ¹⁴⁴	qɑnkə-γə (PERF.PART)	gɑγə	'χɑβ(a) ~ 'χɑγ(ə)	golo ~ go'lo	χɔton ~ χɔ'ɔton ~ xoton	χurgin ~ xurgin	χʊɑ ~ xʊɑ
Alcuka			[xɑg(a)]				
Bala							
Late Jurchen		*KaKa	*KaKa	*goro			

¹⁴³ Some treatments of Aigun and Ilan Boo also assume that uvulars have become phonemic, as is argued for Sibe. See §1.2 above.

¹⁴⁴ According to the description of J. Zhao (1989: ###), Ibuci retains uvulars only before earlier /a/, but not before /ɔ, ʊ/. However, this does not quite match the data he presents in that work; some examples of uvulars before /ɔ, ʊ/ are included here, though note that there are variants with velars.

The distribution of uvular obstruents in Sibe is mostly identical to the historical distribution found in WM, as in all of the examples in (55), above. However, because of vowel changes (reduction, raising, tongue root advancement, deletion), particularly in post-initial syllables, this inherited distribution is often described as synchronically unpredictable, in the limited sense that both velar and uvular obstruents may be found preceding the Sibe vowels /ə/ and /u/ (or at the end of a word, if a final vowel has been deleted), since these vowels may result from changes to earlier /a, ɔ, ʊ/. In fact, there are exceedingly few minimal pairs in the native vocabulary. Because of restrictions on the operation of the relevant vowel changes, earlier [RTR]-harmonic words generally have at least one [a] or [ɔ] in Sibe; as a result, the velar ~ uvular alternation generally remains predictable, although it is no longer predictable *solely on the basis of the adjacent vowel*.

In Aigun, Ilan Boo, and Ibuci, similar or identical sound changes have affected the quality of vowels, but with different results. Although these changes have likewise altered the quality of earlier [RTR] vowels /a, ɔ, ʊ/ to [ə, ɤ, i, ʉ, i, o, u], etc., in these dialects, the innovative vowel qualities pattern with the original non-[RTR] vowels in systematically conditioning velars. So, for example, in the cognates of WM *kangka-* [qɑŋqɑ-] ‘to be thirsty’, reduction of /a/ in the post-initial syllable is attested in both Sibe and Ibuci. However, while Sibe retains the preceding uvular [q] as such, in Ibuci the reduced vowel [ə] must take a velar. (The cognates for ‘crow’ and ‘male’ show the identical pattern.) Aigun and Ilan Boo are like Ibuci, except that the relevant vowel changes (reduction, raising, tongue root advancement) apply less frequently and with less regularity.¹⁴⁵ (On the vowel developments, see Chapter 3 §x.x.x.x.)

¹⁴⁵ This account of uvulars in Ilan Boo is based on Čenggeltei (1998)’s materials. B. Li (1996)’s data is slightly different, in that “raising” of /a/ > /i/ may or may not require an earlier preceding uvular to become velar. For example, he transcribed ‘to be thirsty’ as /χɑŋqi-/ [χɑŋqi-], with the uvular retained in spite of the vowel change.

Furthermore, in Sibe, Aigun, Ilan Boo, and Ibuci, special developments affecting earlier diphthongs--e.g., coalescence to front monophthongs--have resulted in additional discrepancies with the WM distribution of uvulars. The original diphthong /ai/--which conditions uvulars in WM and in Ilan Boo--coalesced into a front monophthong /ɛ/ in Aigun. In some lexical items, /ɛ/ is found with a preceding velar, but in other items uvulars are retained. In Sibe, there are similar examples involving coalescence of earlier /ai/ > /ɛ/ (particularly in initial syllables) and /ɔi/ > /œ/ (essentially everywhere), where the innovated front monophthongs /ɛ, œ/ are likewise preceded by velars rather than the historical uvulars, but there is disagreement among the different sources on Sibe. Ilan Boo does not usually exhibit coalescence in this environment, so historical uvulars are generally retained.¹⁴⁶ Ibuci also regularly undergoes coalescence of /ai/ > /ɛ/ as in Aigun, but velars and uvulars seem to be in free variation. These developments are exemplified in (75):

(75) Table 35b. Velar ~ Uvular discrepancies with WM

pTg		*ga- (TMS I: 133-4)		(Cf. TMS I: 362)	(Cf. TMS I: 362)	(Cf. TMS I: 369)	†gɔja-? (TMS I: 158)
gloss	'to shout, to yell'	'to take'	'suddenly'	'to love tenderly'	'elm'	'otter'	'to strike (the target)'
WM	[qaiʃa-]	[gai-]	[gaitai]	[χaira-]	[χailan]	[χailun]	[ɣɔi-]
orthographic	<i>kaica-</i>	<i>gai-</i>	<i>gaitai</i>	<i>haira-</i>	<i>hailan</i>	<i>hailun</i>	<i>goi-</i>
Beijing		?				[xailun]	[guai-mi] (NONP)
Lalin		[gai-]					[guai-xa] (PERF.PART)

¹⁴⁶ In B. Li (1996)'s materials, original /ai/ in fact regularly corresponds to a monophthong [æ], but uvulars are systematically*** retained.

Sibe	[qaitɛi-m] (Jin), [qartɛi-m] (Y) (NONP) ¹⁴⁷	[gia-m] (NONP) ¹⁴⁸	[gaiti]	[χairə-m] ‘to adore’ ~ [χɛri-m] ‘to protect’	[χɛlin] ‘tree’	[χailun]	[gœ-m] (NONP) ¹⁴⁹
Aigun		[gɛ-ɤɑ] (PERF.PART)	[gɛti]				
Ilan Boo	[qaitɛi- me] (NONP)	[‘gai-me] (NONP) (Č), [gæ-] (B. Li)	[gai’ti:]	[χai’li-me] (NONP)	[χai’lien] ‘(elm) tree’		
Ibuci		gɛ-mi ~ ‘gɛ-mi ~ gɑ-mi (NONP)	gɛti ~ gati		χɛlin ~ xɛlin ‘tree’		
Alcuka						[χairuji]	[gɔi-fɪ] (COND.CONV)
Bala				[χɔilə-rə] ‘to pity’*** (IMPF.PART)		[χarui]	
Late Jurchen		*gai-ra (IMPF.PART)			*haila		

Velar ~ uvular alternation is yet another example of the close relationship among Sibe and “Eastern” Manchu dialects (Aigun, Ilan Boo, Ibuci). However, since the alternation is also found throughout the Tungusic family (e.g., **standard Naikhin Nanai**), it should be projected back to pTg and the immediate ancestor of the Manchu group. Therefore, the main innovation is *loss* of the allophonic process in Beijing, Lalin, Alcuka, Bala, and Late Jurchen. This is somewhat counterintuitive, since Alcuka, Bala, and Late Jurchen in particular are clearly conservative with respect to several other important sound changes. In this connection, it bears repeating that Late Jurchen is known only through an Early Mandarin Chinese-character transcription, and it is not obvious how that transcription could have handled uvular allophones even if they had been present. Nevertheless, the unavoidable conclusion is that loss of uvular allophones must be a

¹⁴⁷ S. Li et al. (1984: 306) give [qatɛi-m] ‘id.’. B. Li (1996: ##)’s form /qɛtɛi-/ indicates coalescence, but also preserves the uvular.

¹⁴⁸ S. Li et al. (1984: 156) analyze this Sibe word as /gia-/ [gia-], suggesting metathesis of the earlier diphthong. According to Yamamoto (1969), the word is pronounced with an initial uvular and a front monophthong: [gæ-m] (NONP) ‘id.’ (no. 1402).

¹⁴⁹ As in the case of ‘to take’, the Yamamoto (1969) transcription has an initial uvular and a front monophthong: [gœ-m] (NONP) ‘id.’ (no. 2332).

fairly natural and frequent change, not only within Manchu but also in other branches of Tungusic.

2.4.2. Phonologization of allophonic place alternations

2.4.2.1. Alveolar ~ Retroflex alternation

In the WM orthography, a single set of letters transcribed *c, j, š*--analyzed as alveopalatal /tʃ, dʒ, ʃ/--is found preceding vowels of any quality, with no indication of any conditioned subphonemic variation.¹⁵⁰ Cognates in Beijing, Lalin, Alcuka, Bala, and Late Jurchen also give no indication of any allophonic alternation.¹⁵¹ On the other hand, in Sibe, Aigun, Ilan Boo, and Ibuci, the reflexes of WM /tʃ, dʒ, ʃ/ have systematically more anterior alveolar allophones [tɕ, dʒ, ɕ, (z)] when they precede front vowels in these dialects.¹⁵² Elsewhere, they have more posterior retroflex values [tʂ, dʒʂ, ʂ, (z)].¹⁵³ I assume that this allophonic alternation is innovative in Sibe, Aigun, Ilan Boo, and Ibuci. Alveolars conditioned by front vowels are exemplified in (76):

(76) Table 36a. Alveolar place preceding front vowels

pTg							
-----	--	--	--	--	--	--	--

¹⁵⁰ When followed by *i* /i/, the WM phoneme /ʃ/ is spelled with the letter *s*, an orthographic simplification made possible by the absence of a contrast between ***/si/* and */ʃi/*.

¹⁵¹ In Alcuka, the intervocalic allophone of alveopalatal /ʃ/ [ʃ] is transcribed by Y. Mu as a (voiced) retroflex fricative [-ẓ].

¹⁵² Aigun has [j] corresponding to [z] in other dialects in intervocalic position.

¹⁵³ In Sibe and Ibuci, earlier /ʃ/ merges with /s/ in certain positions; before non-front vowels, [s] (~ [(d)z]) is found corresponding to [ʂ] (~ [z]) in other dialects. Note that in Yamamoto (1969)'s Sibe materials, the allophonic opposition is treated as *alveopalatal* [tʃ, dʒ] versus retroflex [tʂ, dʒʂ]; here, Yamamoto's alveopalatals have been modified to alveolars [tɕ, dʒ] for ease of comparison with other sources.

gloss	‘spittle, saliva’	‘to come’	‘slip (worn under a gown)’	‘purpose’	‘(small) bird’	‘rank, level, category’	‘to point’
WM	[ʃiʃəŋgu]	[dʒi-]	[ʃamʃi]	[dʒalin]	[ʃəʃikə]	[dʒərgi]	[dʒəri-]
orthographic	<i>cifəŋgu</i>	<i>ji-</i>	<i>camci</i>	<i>jalin</i>	<i>cecike</i>	<i>jergi</i>	<i>jori-</i>
Beijing					[ʃiʃikə] → [ʃiʃik]		
Lalin					[ʃiʃikə]		
Sibe	[teivəŋ]	[dʒi-m] (NONP)	[teəmtə] ‘shirt’ (Y)	[dʒəlin] (Y)	[teiteikə] ~ [teitekə] ~ [teiteik]	[dʒirxʰ]	[dʒəri-m] (NONP)
Aigun	[teivɿŋɕe]	[dʒi-yə] (PERF.PART)			[teiteikə]	[dʒirye]	
Ilan Boo	[teiˈviŋɕe]	[ˈdʒiː-me] (NONP)	[ˈteəmtə] ‘gown’	[dʒəlin]	[ˈtei(:)teiku]		
Ibuci		dʒi-mi (NONP)		dʒielin	teiteikə ~ teiskə		
Alcuka					[ʃiʃigə] ~ [ʃitixə]		
Bala					[titigə]		
Late Jurchen					*šeč[h]e? ‘(small) bird’ *(guili) šeč(e)he ‘golden oriole’		

Note that Sibe, Aigun, Ilan Boo, and Ibuci front vowels frequently result from a historical process of umlaut, discussed in [Chapter 3 §x.x.x.x](#). Retroflex obstruents conditioned by non-front vowels are exemplified in (77):

(77) Table 36b. Retroflex place preceding non-front vowels

pTg				
gloss	‘to meet; to be fitting’	‘city wall’	‘chicken’	‘to sing’
WM	[aʃa-]	[xəʃən]	[ʃəqə]	[uʃulu-]
orthographic	<i>aca-</i>	<i>hecen</i>	<i>coko</i>	<i>ucule-</i>
Beijing	[aʃa-m(i)] → [aʃa-m] ~ [aʃə-m] (NONP)		[ʃəqə] → [ʃəxə] ~ [ʃək(ə)] → [ʃəx]	
Lalin	[aʃa-r] (IMPF.PART)			
Sibe	[atʃə-m] (NONP)	[kətʃən]	[tʃəqə]	[utʃulu-m] (NONP)
Aigun			[tʃəqə]	

Ilan Boo	[ɑ: 'tʂʌ-me] (NONP)		['tʂo:χɔ] ~ ['tʂo:kɔ]	[u 'tʂu, lu-me] (NONP)
Ibuci	ɑ 'tʂə-mi (NONP)	xətʂən	tʂokɔ ~ tʂoko	utʂər-mi (NONP)
Alcuka	[ɑʃɑ-meɪ] ~ [gɑʃɑ-meɪ] (NONP)		[tiɔkɔ] ~ [tiɔxɔ]	
Bala	[xɑʃɑ-mi] (NONP)		[tixə]	
Late Jurchen	*ača-	*heče	*tiko	*učulo-

On standard phonological assumptions, the phonemes should be identified as the retroflex consonants /tʂ, dz, ʂ/, since [tʂ, dz, ʂ, (z)] are the “elsewhere” phones, while alveolar [tɕ, dʒ, ɕ, (z, j)] are the conditioned allophones. (Most analyses of these dialects by linguists in China--S. Li et al. 1984 for Sibe; Q. Wang 1984 for Aigun; B. Li 1996 for Ilan Boo; J. Zhao 1989 and X. Zhang 1991 for Ibuci--assume phonemic status for both series, allowing some simplification in the treatment of vowel inventories.)

CHAPTER THREE

VOWEL DEVELOPMENTS

3.1. Introduction

In this chapter, I explore the major historical developments that have affected the vowel systems of the Manchu group. Historical comparison of Manchu dialects reveals many phonological and subphonemic innovations that are not present in Written Manchu (WM). As in the case of the consonant systems discussed in Chapter 2, these changes have resulted in restructuring and expansion or contraction of phonemic vowel inventories. Certain sets of dialects that were shown to share important innovations in their consonantal phonology are also seen to share innovations in their vowel systems, providing strong evidence for subgrouping. On the other hand, there are developments that appear to have spread beyond and across plausible subgroup boundaries. On close inspection, superficially very similar innovations sometimes show fine-grained differences in the conditions under which they arise. The rest of this chapter investigates these developments, according to the following structure:

In §3.2 I introduce the vowel inventories and describe my treatment of the different transcriptions found in the primary sources on individual Manchu varieties as necessary background for the discussion and analysis in following sections.

In §3.3 I investigate assimilatory vowel fronting. As a general process, fronting has had the most profound phonological effect on the vowel systems in the sense that it has led to splits that introduced new phonemes in several varieties.

In §3.4 I explore assimilatory vowel rounding.

In §3.5 I discuss a range of processes that can be considered species of vowel reduction or structural simplification. Taken together, reductive processes undoubtedly

constitute the most widespread class of changes, although they can be grouped into several distinct subcategories, including: centralization of /i/; weakening of word-final high vowels; and loss of tongue root retraction.

In §3.6 I discuss the historical developments of original diphthongs, including the outcomes of coalescent processes and problems related to phonological analysis, particularly with respect to fronting and rounding.

3.2. Overview of vowel inventories

In this section, I describe the vowel phoneme inventories of the dialects, showing the range of variation in the overall configuration of vowel systems in the Manchu group, and simultaneously commenting on issues of transcription and analysis that arise in comparing dialect data from diverse primary sources.

3.2.1. WM and Proto-Tungusic (pTg)

The inventory of WM vowel phonemes, repeated in simplified form from the brief discussion in Chapter 1, is given here:

(1) Vowel inventory of WM (monophthongs)

i	u
	ʊ
ə	
a	ɔ

This inventory is somewhat smaller than that of pTg as reconstructed by Benzing (1956), offered for comparison in (2):

(2) Vowel inventory of pTg (monophthongs; following Benzing 1956)¹⁵⁴

*i(:)	*u(:)
*ɪ(:)	*ʊ(:)
*ə(:)	*o(:)
*a(:)	*ɔ(:)

In the development of WM from pTg, *ɪ and *o were lost as phonemic vowel qualities, and the distinction between short and long vowel quantities was lost as a phonological feature.

These sound changes were not entirely straightforward. For example, although [RTR] /ɪ/ certainly does not occur as a surface segment in any attested variety of Manchu, the underlying contrast with its non-[RTR] counterpart /i/ has been preserved as a stem-level feature. Words that historically contained *ɪ now have /i/, but they condition [RTR] harmony in relevant suffixes in WM and several other Manchu varieties. Similar neutralizations are also attested in other Tungusic languages. (On the other hand, pTg non-[RTR] *o was lost by merger with the non-[RTR] vowels *ə and *u.) As for vowel length, in some cases the pTg quantity contrast seems to have been lost without any trace in WM; in other cases, original long vowels apparently gave rise to WM diphthongs.¹⁵⁵

For the purpose of this dissertation, what is most important is that the sound changes described above apparently predate the breakup of the Manchu group: I have not found any evidence in any variety that would point to a “proto-Manchu” vowel inventory that differs from that in (1).

¹⁵⁴ Here and throughout this dissertation I have modified Benzing’s original transcription, primarily for ease of comparison with more modern sources on Manchu dialects. Benzing’s */i ɪ ü u ä a ö o/ are revised to */i ɪ u ʊ ə a o ɔ/, respectively.

¹⁵⁵ Actually, this is a very unsettled aspect of pTg reconstruction that merits further study.

3.2.2. Aigun, Ilan Boo, Ibuci, and Sibe

As in the case of the consonants, Aigun, Ilan Boo, Ibuci, and Sibe have extremely similar vowel inventories, with similar treatments in the literature, and posing similar problems of analysis. Consider the inventory of Aigun:

(3) Vowel inventory of Aigun Manchu (following Q. Wang 1984)¹⁵⁶

i	y		u
e		ə	ɔ
ɛ			ɑ

In Q. Wang's analysis, Aigun has three new front monophthongs /y, e, ɛ/, mostly derived by a diachronic process of fronting from /u, ə, a/ when the latter were followed in the word by /i/, or by the coalescence of diphthongs /ui, əi, ai/. Because the conditioning environment is often obscured by other sound changes, the new front vowels /y, e, ɛ/ have phonemic status. Comparison of cognate vocabulary reveals that earlier /ɔ/ was lost primarily by merger with /ə/.

Now consider the inventory of Ilan Boo Manchu:

(4) Vowel inventory of Ilan Boo Manchu (following Čenggeltei 1998)

i	y	u	u
			ɔ

¹⁵⁶ I have substituted /ɔ/ for Q. Wang's original /o/, which he described phonetically as [ɔ] (1984: 55). I suspect that "o" in his transcriptions often actually meant [o], but I would analyze the latter as belonging to /u/. Nevertheless, I defer to his analysis in presenting his data unless otherwise noted. I also retain his /ə/, described phonetically as falling between [u] and [ə].

e	ɔ
æ	ɑ

In Čenggeltei's analysis, Ilan Boo also has three new front monophthongs /y, e, æ/, with essentially the same sources as the corresponding Aigun vowels. Ilan Boo /u/ is analyzed as a high vowel, but it has a frequently-occurring lower allophone [ɤ], and it corresponds directly to the Aigun vowel /ə/. B. Li (1996) also analyzed this Ilan Boo vowel as high, but treated it as underlyingly central /i/. Unlike Aigun, Ilan Boo retains the vowel /ʊ/ as a phoneme, although in many cases it also merged into /ɔ/ as in Aigun.

Now consider the inventory of Sibe:

(6) Vowel inventory of Sibe (following S. Li et al. 1984)

i	y		u
e	æ	ə	ɔ
ɛ		a	

Under the analysis of S. Li et al., Sibe also has new front monophthongs /y, e, ɛ/ with the same sources as in Aigun and Ilan Boo, but there is an additional new front monophthong /æ/ with a parallel derivation from fronted /ɔ/ and coalescence of /ɔi, iɔ/. As in Aigun, the older vowel /ʊ/ has been lost; comparison of cognates reveals that it has primarily merged with /u/, but there are also many cases of merger with /ɔ/.

In the treatment of J. Zhao 1989, Ibuci is largely similar to Aigun, Ilan Boo, and Sibe. However, although J. Zhao provided a phonological analysis and a set of allophonic rules, these disagree with his actual data in many respects. Unfortunately, beyond the presentation of the inventory (/i y e ɛ a ɤ o u/) and the allophonic rules he posits, he does

not distinguish clearly between phonetic and phonological transcription. Throughout this dissertation, I have simply reproduced his vowel transcriptions without attempting to improve the phonological analysis. As it turns out, this is often sufficient to determine whether or not Ibuci participates in a given process. Thus, for example, J. Zhao’s Ibuci forms clearly show the front vowels “y, e, ε” where they might be expected on the basis of fronting in Aigun, Ilan Boo, and Sibe. Nevertheless, in order to emphasize my own uncertainty in interpreting the Ibuci material, I have opted to cite the data with neither phonetic nor phonemic brackets, enclosing his IPA-based transcriptions in quotation marks for clarity where necessary.

3.2.3. Late Jurchen (LJ)

Kane 1989 analyzes the LJ vowel inventory as having five monophthongal qualities, */i e a o u/, transcribed like the standard Möllendorff romanization system for WM. I cite Kane’s LJ reconstructions in his original notation except where noted. Here, I present the inventory using approximate IPA equivalents for the sake of comparison, although the precise phonetic values are unknown:

(7) Vowel inventory of Late Jurchen (based on Kane 1989)

*i	*u
*ə	
*a	*ɔ

The main difference between this inventory and that of WM is the absence of *ɔ. In nearly every relevant cognate, WM /ɔ/ and /u/ both correspond to LJ *u, suggesting that earlier /ɔ/ was lost by merger with /u/ in LJ, as also generally happened in Sibe.

However, as with certain consonantal distinctions, it is difficult to decide, with any confidence, between an authentic vowel merger in LJ and a defect of the Chinese-character transcription. I have tentatively assumed that the apparent merger is real, mostly because the process is attested in well-described living dialects like Sibe.

3.2.4. Other dialects and special transcription symbols

The authors of the sources on Beijing (Y. Aisin-gioro) and Lalin, Alcuka, and Bala (Y. Mu) do not provide phonological inventories, as such. Examination of the lexical materials shows that all four dialects have essentially the same basic surface inventory:

(8) Basic vowel inventory of Beijing, Lalin, Alcuka, and Bala

i	u
	ə
a	ɔ

In addition, all four varieties have a high centralized phone [i̯]. A similar phone is also attested in Sibe, Aigun, Ilan Boo, and Ibuci. In those dialects, [i̯] has been treated as an allophone of /i/, but such an analysis relies on the assumption of a phonemic contrast between the retroflex consonants [tʂ, dz, ʂ, z] and the alveolar consonants [tɛ, dz, ɛ, z]. On the contrary, I treat the alveolars as allophones of the retroflex series, and I analyze [i̯] as an allophone or free variant of /ə/ (or of the equivalent vowels /u, ɤ, i/, depending on the particular variety or data source). The same approach holds for Beijing, Lalin, Alcuka, and Bala [i̯]. That is, I take [i̯] in these four dialects as an allophone or free variant of /ə/.

Certain other phones appear very infrequently. Beijing has [y] as a variant of the complex nuclei [iu, iuə, ui]; all are infrequent, and appear to reflect underlying

diphthongs /iu, ui/. Lalin and Alcuka have [e], but only as a component of the diphthongs [ei, ie], which reflect underlying /əi, iə/.

The vowel /ʊ/ is absent in this set of dialects; the phone [ʊ] does not occur apart from a handful of lexical items in Beijing and Bala. It is conceivable that these few instances of Beijing or Bala [ʊ] are authentic, perhaps reflecting contamination from WM. I think it is more likely that Beijing [ʊ] is an artifact of Y. Aisin-gioro's transcription practice, which is based on the Möllendorff romanization system for WM. One telling fact is that nearly all items with [ʊ] seem to have been revised to [u] in later publications by the same author. Bala [ʊ] appears only in closed word-final syllables, and may be interpreted as an allophone of /u/.

3.2.4.1. Special transcription symbols for vowels

Linguists in China use certain specialized or non-standard symbols in cases where the IPA does not provide a convenient transcription. In J. Zhao's Ibuci materials, the symbol [A] is used for a low central unrounded vowel. This is equivalent to IPA [ä] or [ǎ]. Although Q. Wang (1984) uses /ɑ/ for the corresponding Aigun vowel, he gives its phonetic value as between [A] and [ɑ]; in other words, Aigun /ɑ/ is slightly centralized. In any case, no variety of Manchu makes a phonemic distinction among [a ~ A ~ ɑ].

As mentioned above, most varieties of Manchu have a high central phone [i̥]. In Sibe, Aigun, Ilan Boo, and Ibuci, this sound has been analyzed as belonging to the phoneme /i/, but in the sources for these dialects, its value is specified as [ɿ] following (alveo)dentals and [ʅ] following retroflex consonants. These two symbols for “non-open central or back unrounded apical” vowels are widely used in China to represent the sounds found in Mandarin and other dialects rendered by the Pinyin sequences *ci, zi, si* and *chi, zhi, shi, ri*, respectively. For all Manchu varieties, I assign these phones to /ə/ (or

to equivalent phonemes in other dialects, depending on the source), and I revise both [ɿ] and [ʮ] to [i̯].

3.3. Fronting

Several varieties of Manchu attest some form of fronting. In spite of superficial similarities, distinct processes must be recognized, in view of the variation in fine-grained conditions between and within dialects. Several parameters of variation can be identified: (1) TARGET: Dialects differ as to which (non-front) vowel phonemes undergo fronting; dialects differ as to which syllables (initial only, or post-initial as well) undergo fronting; (2) TRIGGER: dialects differ as to whether earlier diphthongs of the shape /iV/ also trigger fronting, or only monophthongal /i/; dialects also differ as to whether the trigger must be in an adjacent, immediately following syllable, or if it may exert its influence over or through an intervening syllable; dialects differ as to whether certain coronal consonants (specifically, the earlier alveopalatal continuants /j/ and /ʃ/) may be triggers of fronting; (3) MECHANISM: dialects differ as to whether fronting operates by breaking (creating diphthongs phonologically equivalent to certain inherited diphthongs) or umlaut (creating new front monophthongs); individual vowel phonemes also seem to differ along this dimension; in some cases, the distinction may not exist, or it may be collapsing; (4) RANGE: dialects impose varying restrictions on the quality or quantity of consonants that may intervene between target and trigger; moreover, in certain dialects, consonants preceding the target vowel may also play a role in conditioning fronting. On the basis of these parameters, two main categories of fronting may be distinguished descriptively,

breaking (§3.1.1) and umlaut (§3.1.2); the latter category is further divisible into a number of subcategories.¹⁵⁷

3.3.1. Fronting as breaking

In Beijing and Lalin, earlier initial-syllable /a/ and /ə/ are regularly broken to /ai/ [ai] and /əi/ [əi], respectively, when the immediately following syllable contains monophthongal /i/. There is little evidence that diphthongs /iV, Vi/ can trigger breaking, or that fronting may operate over or through intervening syllables. In these dialects, the consonant(s) intervening between the target and the trigger must be grave--in other words, intervening coronal consonants appear to block the process.¹⁵⁸ Breaking of earlier initial-syllable /u/ > /ui/ under the same conditions is also attested, but only in a few items, and possibly only as an optional variant of unbroken /u/. Earlier /ɔ/ and /ʊ/ never undergo breaking in these dialects. These developments are exemplified in (9):

(9) Table 1. Breaking of /a, ə, u/ followed by /i/

pTg					
gloss	‘eagle, vulture’	‘to approach, to be near’	‘to be full (after eating)’	‘to play’	‘cloud’
WM	[damin] (~ [daimin])	[χami-]	[əbi-]	[əfi-]	[tugi] (~ [tuxi]?)
orthographic	<i>damin</i> (~ <i>daimin</i>)	<i>hami-</i>	<i>ebi-</i>	<i>efi-</i>	<i>tugi</i> (~ <i>tuhi</i>)

¹⁵⁷ Some other processes can be described superficially as involving fronting, such as the change of earlier /ə/ > [i] following alveopalatal affricates /tʃ, dʒ/. In this dissertation, that process is treated as a type of reduction (see §3.3.3.1, below).

¹⁵⁸ There are no clear examples of fronting over earlier clusters, including the grave-only clusters /-bk-, -bg-, -mp-, -mb-, -mk-, -mg-, -mx-/. One other earlier grave cluster /-ŋg-/ is unclear. Words like WM *canggi* ‘only, scarcely’ and *šenggin* ‘forehead’, without breaking in Beijing and Lalin, seem to represent the regular, native development. In other words, breaking did not apply in earlier closed syllables. By comparison, Sibe and “eastern” Manchu show umlaut in WM [namki] *namki* : Sibe [liamk(ə-)] : Ilan Boo [næ:mke] ‘saddle blanket’***.

Beijing	[daimin] → [daimi(n)]	[xaimi-mi] → [xaimi-m] (NONP)	[əibi-xə] (PERF.PART)	[əifi-mi] ~ [əiwi-m(i)] → [əiwi-m] (NONP)	[tuxi] ~ [tuixi]
Lalin	[daimin]	[xaimi-mə] (IMPF.CONV)	[əibi-xə] (PERF.PART)	[əivi-mei] (NONP)	[tuixi]
Sibe	[diəmin] ¹⁵⁹	[χami-m] (NONP)	[ivi-m] (NONP)	[ivi-m] (NONP)	160
Aigun					
Ilan Boo			[e'vi:-γu] (PERF.PART)	[e'vi:-me] (NONP)	[tuiγu]
Ibuci			ji-γə (PERF.PART)	em-mi ~ inm-mi (NONP)	tygu ~ tuigə
Alcuka		[xaimi-mei] (NONP) ¹⁶¹	[ubi-l] (IMPF.PART)	[əpi-r] (IMPF.PART)	[tuigi] ~ [tuigə]
Bala					[tuigi]
Late Jurchen			*ewi-me (IMPF.CONV)	*efi-bi (NONP)	*tugi

Additional examples include ‘forty’ in (12), below.

Note that other dialects also attest breaking of /a/ > [ai] in reflexes of ‘eagle, vulture’ and ‘to approach, to be near’. In WM, doublets like *damin* ~ *daimin* ‘eagle, vulture’ are infrequent, and also include examples of breaking of /ə/, as in [fəxi] *fehī* ~ [fəixə] *fehīe* ‘brain’ and [əmpi] *empe* ‘type of *Artemisia* (mugwort, wormwood) or *Chenopodium* (goosefoot)’ ~ [əimpe] *eimpe* ‘edible wormwood (*Artemisia*)’ (see (17), below). Such doublets characteristically have intervening grave consonants as in these examples, and thus appear to share the restriction found in Beijing and Lalin. In my view,

¹⁵⁹ Compare Yamamoto’s transcription [dæmin] ‘id.’ (no. 2235, 1969: 108).

¹⁶⁰ Sibe [tuxsu] ‘cloud’ appears to be a loan from another Tungusic language. Compare Kilen (Hezhen) [tuxsu] (An 1986: 87) ~ [tuksu] (Y. Zhang et al. 1989: 124) ‘id.’. Yamamoto (1969: 99) recorded a corresponding form for Sibe, [tuk^ws^w], but also [tīyγⁱ] ‘id.’, a more native-looking form that closely resembles “Eastern” Manchu reflexes.

¹⁶¹ Breaking is not expected in Alcuka. In view of the related word, WM [χamiraqʊ] *hamirakū*: Alcuka [xəmiraku] ‘insufficient; unbearable’ (the IMPF.NEG of the verb), without breaking, I suspect the broken form here reflects contact with the neighboring Lalin dialect.

these isolated examples most likely reflect mixture of WM and the early Beijing dialect. That is, they reflect borrowing of Beijing forms into the standard written language.

In Alcuka and Bala, fronting of earlier initial-syllable /a, ə, u/ triggered by following /i/ is attested in some items, and at first glance appears to operate by breaking of the type described above for Beijing and Lalin, yielding diphthongal /ai/ [ai] (~ [əi] ~ [ei]), /əi/ [əi] (~ [ei] ~ [ai] ~ [ie]), /ui/ [ui]. However, the process is infrequent and unpredictable, and Alcuka and Bala often disagree as to whether or not fronting applies, suggesting that fronting is not a native development of either dialect.¹⁶² Significantly, fronting is observed over intervening coronal consonants, and may be triggered by earlier diphthongs /iV/. On these criteria, the fronted forms in Alcuka and Bala are comparable to the umlauted forms of other dialects, described in §3.3.2, below. In Alcuka, breaking unexpectedly appears in ‘to approach, to be near’. In view of the related word, WM [χamiraqʊ] *hamirakû* : Alcuka [xəmiraku] ‘insufficient; unbearable’ (the IMPF.NEG of the verb), without breaking, I suspect the broken form here reflects contact with the neighboring Lalin dialect. The same may be true of ‘cloud’. Bala also attests a small handful of broken forms.

3.3.2. Fronting as umlaut

Umlaut--as a distinct mechanism of fronting that produces monophthongs--is pervasive but nevertheless irregular in Sibe, Aigun, Ilan Boo, and Ibuci. Since this process affects different vowels in different ways, it is useful to organize the discussion by the target of umlaut.

¹⁶² Cf. also WM *halhûn* [χalχʊn] : Alcuka [xalwʊn] ~ [xalʷun] : Bala [xailixun] ~ [xailixʊ(n)] (1988: 19) : LJ *hal[h]u [36] ~ *hal(u)ʷu [276] ‘hot, warm’, in which fronting (breaking) in Bala appears to be triggered by an /i/ of unknown origin.

3.3.2.1. Earlier /a/

In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /a/ is generally umlauted to a front monophthong when the following syllable contains /i/. In Sibe, Aigun, and Ibuci, umlauted /a/ is treated as /ɛ/ in most words collected in most sources; in Ilan Boo it is treated as /æ/. However, there are a number of deviations from this general picture.

In Sibe, where umlaut of /a/ is expected to yield /ɛ/, S. Li et al. (1984) occasionally give /iə/. Since the authors do not specify any special allophonic phonetic value for /iə/, I treat their data as indicating [iə] and cite their forms accordingly. However, this is unlikely to be the intended phonetic value. Comparison with Yamamoto (1969)'s Sibe transcriptions reveals that this “/iə/” is phonetically [i̯ɛ] ~ [ɛ] ~ [æ] in the cognates of *tari-*, *dargiya-*, *damin*, *bargiya-*, *dari-*, *lakiya-*, etc., in his materials. As a reflex of umlauted /a/, S. Li et al.'s “/iə/” is found primarily following alveodental consonants /t, d, l/, but even in that position, the more usual outcome is monophthongal /ɛ/, and they give occasional doublets such as WM [dargia-] *dargiya-* : Sibe [di̯ɛɾyi-] (1984: 125) ~ [dɛɾyi-] (1984: 130) ‘to hold up (the fists), to brandish (a weapon)’. On the other hand, following /b-/, Sibe /ɛ/ is never found in S. Li et al.'s materials, only “/iə/”. A handful of words also treat umlauted /a/ as /ia/. In my view, the diphthongal transcriptions in this context reflect varying degrees of non-contrastive palatalization of preceding consonants by following front vowels. It would seem that labials like /b/ are most strongly affected in Sibe, followed by alveodentals.

In Čenggeltei (1998)'s Ilan Boo materials, while monophthongal [æ(:)] is the most frequent outcome of fronting of /a/, “broken” (diphthongal) transcriptions [æi] or [ai] also appear. A few words in Ilan Boo are also treated as /ia/ (or /iæ/), as in WM [ʃalgi-] *calgi-* : Ilan Boo [tɛiɬ' yi-] ‘to splash, spill, gush out’ and WM [tamiʃa-] *tamiša-* : Ilan Boo [ti̯ɛmzɯ-] ‘to taste with the lips’. Compare Sibe [tɛɾyi-nə-] ‘to splash, spill,

gush out’ and [temzi-] ‘to taste’. I assume that Ilan Boo “[ia]” in this context reflects stronger (non-contrastive) palatalization, as in Sibe.

In Ibuci, “æ” occasionally appears where /ɛ/ is expected, although J. Zhao (1989: 8) assigned that phone to Ibuci /a/ rather than to /ɛ/.

Unlike breaking in Beijing and Lalin, umlaut can be triggered by diphthongs of the shape /iV/, and can operate over coronal consonants and over clusters, though some restrictions apply (see below). The basic correspondences are exemplified in (10):

(10) Table 2a. Umlaut of /a/

pTg			
gloss	‘mountain’	‘to farm, to cultivate’	‘lightning’
WM	[alin]	[tari-]	[talkian]
orthographic	<i>alin</i>	<i>tari-</i>	<i>talkiyan</i>
Beijing			[talian]
Lalin			
Sibe	[ɛlin]	[tiəri-m] (NONP)	[tɛlɛŋk] ¹⁶³
Aigun	[ɛlin]	[təri-r] (IMPF.PART)	
Ilan Boo	[ailin] ~ [æilin] (Č), /ælin/ (Li)	[tæ:’ri-me] (NONP)	[tæl’kien]
Ibuci	ɛ’lin	tər-mi (NONP)	tɛlgin
Alcuka	[ailin] ~ [əilin]		
Bala	[alin]		
Late Jurchen	*ali	*tari-mbi (NONP)	*talkia

Note that in Aigun and Ibuci, /ɛ/ is also the regular reflex of the earlier diphthong /ai/ as a result of coalescence (§3.6); in Sibe and Ilan Boo, earlier /ai/ is mostly retained as a

¹⁶³ N. Jin (1991) gives [tiɛluŋqə] ‘id.’, while Yamamoto (no. 2018, 1969: 99) has [tal’ɣiɛn], without fronting.

diphthong (Sibe /ai/; Ilan Boo /ai/), but coalescence to [ɛ] or [æ] is also attested, particularly in initial syllables.¹⁶⁴

Following the earlier alveopalatal consonants /tʃ, dʒ, j/, umlaut of /a/ frequently yields a higher allophone [e] in Aigun, Ilan Boo, and Ibuci, rather than [ɛ].¹⁶⁵ Due to differences in phonological analysis and transcriptional practice, [e] in this context often appears as “ie” in Ibuci forms, but there is no contrast between “dze” and “dzie”, or “je” and “jie”, etc. Following earlier /j-/, [e] can also appear as “ə”, rather like the use of /iə/ for /ɛ/ in Sibe, described above.

The same phenomenon--umlaut of /a/ to [e] rather than [ɛ] following earlier /tʃ, dʒ, j/--is also attested in Sibe; again, the transcriptions in S. Li et al.’s materials reflect different phonological analyses: following earlier alveopalatal consonants, [e] is treated as /ə/, while [ɛ] is treated as /a/. (Where fronting is found in Yamamoto (1969)’s Sibe forms, the higher allophone is transcribed [ɛ] and the lower allophone as [æ], but the distribution is not identical to that of [e] and [ɛ] in S. Li et al.’s materials.) I interpret Sibe “/tʃə, dʒə/” as indicating [tʃe, dʒe], and “/tʃa, dʒa/” as [tʃɛ, dʒɛ], although I retain the original transcriptions in the tables. This development is exemplified in (11):

(11) Table 2b. Umlaut of /a/ following alveopalatals

pTg					
gloss	‘over there, on that side’	‘for the sake of, because of’	‘black’	‘meat, flesh’	‘evening’
WM	[tʃargi]	[dʒalin-də]	[jaʃʃin]	[jali]	[jamdʒi]
orthographic	<i>cargi</i>	<i>jalin de</i>	<i>yacin</i>	<i>yali</i>	<i>yamji</i>
Beijing				[janli]	
Lalin				[janli]	

¹⁶⁴ In B. Li (1996)’s Ilan Boo materials, earlier /ai/ regularly corresponds to a monophthong /æ/, similar to Aigun and Ibuci.

¹⁶⁵ This development might be expected following reflexes of /f/ as well, but no examples are attested. ***really?

Sibe	[tɕərxʲ]	[dʒəlin]	[jətɕin]	[jəpʲ]	[jamdʒi]
Aigun				[jɛle]	
Ilan Boo	[tɕeyi:]	[dʒælin-du]	[je'tɕin]	['je:le]	[jemdʒi]
Ibuci	tɕiegie	dʒielin-də	jətɕin ~ jiɕɕin	jieli ~ jeli	jɛmdʒi(e) ~ 'jiɛn ^m dʒie
Alcuka		[dʒialin]		[janli] ~ [jəli]	
Bala				[jalɪ]	
Late Jurchen				*yali	*yan(g)di

Note that the relevant dialects are not unanimous with respect to the raising effect of preceding alveopalatals on umlauted /a/. These facts await further study.

As discussed in §3.1.1, above, Alcuka and Bala occasionally exhibit breaking in positions where Sibe, Aigun, Ilan Boo, or Ibuci attests umlaut. A typical example is Alcuka [aɪlin] ~ [əɪlin] ‘mountain’ in (10), above. Possibly, Alcuka [ia] in ‘for the sake of, because of’ and [jə] in ‘meat, flesh’, here, constitute additional examples. The overall pattern--a wide range of diphthongal reflexes sporadically corresponding to (mostly) monophthongal front vowels in a small number of words--suggests that “Eastern” Manchu dialects (Aigun, Ilan Boo, Ibuci) were the source of the Alcuka and Bala fronted forms.

3.3.2.2. Earlier /ə/

In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /ə/ is generally umlauted to a front monophthong when the following syllable contains /i/. In Sibe, umlauted /ə/ gives /i/ [i] (merging with earlier /i/). In Aigun, Ilan Boo, and Ibuci, the basic reflex is [e], but [i(:)] is also found in the transcriptions. The distribution of these reflexes is largely unpredictable. For example, “e” and “i” are often interchangeable in Ibuci fronting of /ə/. Nevertheless, certain tendencies are apparent: for example, earlier alveopalatal consonants /tʃ, dʒ, ʃ, j/

appear to condition following [i(:)] (rather than [e]) with near-perfect regularity.

Furthermore, in Ilan Boo, quite a large number of exceptions have a “broken” diphthongal reflex [ui] rather than a monophthongal front vowel. Again, the distribution of [ui] versus [e] ~ [i(:)] as reflexes of umlauted /ə/ is basically unpredictable.

As in the case of fronting of /a/--and unlike breaking in Beijing and Lalin--umlaut of /ə/ can be triggered by diphthongs /iV/, and can operate over coronal consonants and over clusters, though some restrictions apply (see below). These developments are exemplified in (12):

(12) Table 3a. Umlaut of /ə/

pTg							
gloss	‘time, hour’	‘just, only then, not until’	‘to steam (V)’	‘forty’	‘rank, level, category’	‘bright’	‘forehead’
WM	[ərin]	[təni]	[təliə-] (~ [təli-?])	[dəxi]	[dʒərgi]	[gəŋgiən]	[fəŋgin]
orthographic	<i>erin</i>	<i>teni</i>	<i>teliye-</i> (~ <i>teli-</i>)	<i>dehi</i>	<i>jergi</i>	<i>genggiyen</i>	<i>šenggin</i>
Beijing			[təliə-mi] (NONP)	[dəxi] → [dəix(i)]		[gəŋjən] → [gəŋjə(n)] ~ [ginjin]	[fəŋjin] ~ [səŋjin] → [səŋin]
Lalin		¹⁶⁶	¹⁶⁷	[dəxi]		[gəŋjen]	[səŋjin]
Sibe	[ərin]	[təŋʰ]	[tɪli-m] (NONP)	[dix]	[dʒirxʰ]	[ginjin]	[eiŋə (taɪ)]
Aigun	[erin]			[duiye] ¹⁶⁸	[dʒirye]	[ginŋen]	
Ilan Boo	[e'ren]	[ti'ni:]	[ti:'li-me] (NONP)	[duiyu] ~ [di:g]		[gin'ŋien]	[eiŋ'ŋuan]
Ibuci	elin ~ ilin	tini		degə ~ digə		ginŋie	eiŋə
Alcuka		[tən]		[dəxi] ~ [dəçi] ~ [də'i]	[dʒirgi]	[ginjen] ~ [gəŋjan]	

¹⁶⁶ Compare the derived word, WM [tənikən] *teniken* : Lalin [tənikən] ‘just, for the first time, only then’.

¹⁶⁷ Compare the derived word, WM [təliəkə] *teliyeku* : Lalin [təlijəkə] ‘(bamboo) steamer’.

¹⁶⁸ Aigun [ui] in ‘forty’ is irregular, possibly contaminated by the numeral ‘four’ (WM *duin* : Aigun [duin]).

Bala						[gəjən]	
Late Jurchen	*eri			*dehi		169	

Additional examples include ‘to be full (after eating)’ and ‘to play’ in (9), above.

As in the case of /a/, Alcuka and Bala occasionally attest fronted reflexes of earlier /ə/, as in ‘rank, level, category’, here. As discussed above, I assume this is a non-native development, probably due to contact with an “Eastern” Manchu dialect.

3.3.2.3. Earlier /u/

In Sibe, Ilan Boo, and Ibuci, earlier /u/ is frequently fronted when the following syllable contains /i/ or /iV/. In the case of /u/, it is debatable whether breaking and umlaut can be formally distinguished in these dialects in the case of fronting of /u/. I tentatively maintain the distinction, since monophthongal [y(:)] is reported in at least some forms in these dialects. However, diphthongal [ui] is the most frequent outcome--and for some lexical items the only attested outcome--of fronting of /u/. Moreover, [ui] seems to be the only attested reflex of fronted /u/ in Aigun, though relevant cognates are poorly attested. (In a few items, [i] is also observed.) These developments are exemplified in (13):

(13) Table 4a. Fronting of /u/

pTg					
gloss	‘to lift, to raise’	‘fruit’	‘deep’	‘bean, pea’	‘to snatch, to steal, to seize’
WM	[tukiə-]	[tubixə]	[ʃumin]	[turi]	[duri-]
orthographic	<i>tukiye-</i>	<i>tubihe</i>	<i>šumin</i>	<i>turi</i>	<i>duri-</i>
Beijing					
Lalin					

¹⁶⁹ The Bureau of Interpreters’ Glossary has *getie, perhaps for LJ *geti[h]e [29, 71, 112, 166] ‘bright’ (Kane 1989), but the Bureau of Translators’ Glossary has *gengiye[n] [gəŋgiən] (Grube no. 608, Kiyose 1977). Cf. also WM *getuken* ‘clear, lucid, understandable’.

Sibe	[tiki-m] (NONP) ¹⁷⁰	[tyvxɔ] ¹⁷¹	[ɛymin] ¹⁷²	[tyry]	[dyry-m] (NONP)
Aigun					
Ilan Boo	[ti'ki-me] (NONP)	[ty:biɣu]	[ʂu:'min]	['ty:re]	[dy:'le-me] ~ [dui'ri-me] (NONP)
Ibuci			suimin	tulu	
Alcuka					
Bala					
Late Jurchen	*tuki- [213] 'to (re)move, to carry away (soil)', [777] 'to respect'	*tuwihe	*šomi? *šuemī?	*turi	*duri-re (IMPF.PART) *dauri-Ka (PERF.PART) 'to seize, to plunder'

Note, also, 'cloud' in (9), above.

Fronting of /u/ also appears sporadically in absolute word-initial position, where the basic reflex is [vi-], apparently as a result of strengthening of a hypothetical diphthongal stage, */ui-/. The word-initial development is exemplified in (14):

(14) Table 4b. Fronting of word-initial /u/

pTg			
gloss	'true, honest'	'to send, to dispatch'	'pig'
WM	[unəŋgi]	[uŋgi-]	[ulɣian]
orthographic	<i>unenggi</i>	<i>unggi-</i>	<i>ulgiyan</i>
Beijing			[ulian] ~ [uljan] → [uŋjan] → [uŋja(n)]
Lalin			
Sibe	[uniŋ]	[uŋi-m] ~ [viŋi-m] (NONP) ¹⁷³	[vəɣian]
Aigun	[vəliŋɣe]	[uni-me] (NONP)	[viŋɣia]
Ilan Boo	[vi'niŋgu] ~		[viŋ'gie(:)]

¹⁷⁰ Compare Yamamoto's transcription [tīyki-m] 'id.'.

¹⁷¹ Compare Norman (p. c.)'s transcription, *tūxo* [tyɣo] 'id.'.

¹⁷² Compare Norman (p. c.)'s transcriptions, *sūmin* [ɛymin] ~ *siōmien* [ɕ'œm'ien] 'id.'.

¹⁷³ Compare Norman (p. c.)'s transcription, *viŋe-* [viŋə-] 'id.'.

	[vi'niŋŋu]		
Ibuci	unəŋ		vungia ~ vən'gia ~ vən'gie ~ u'gie ¹⁷⁴ ~ vn'gie ~ un'gie
Alcuka			[ungia] ~ [uŋɟia]
Bala			[uljian] ~ [ulijan]
Late Jurchen			*ugia

Note that fronting of /u/ in Sibe, Aigun, Ilan Boo, and Ibuci is attested only in absolute word-initial position or following initial coronal consonants. Earlier /u/ is not fronted after initial grave consonants.¹⁷⁵ And, as usual, there are numerous exceptions in all dialects, with unexplained failure of fronting.¹⁷⁶

3.3.2.4. Earlier /ɔ/

In Sibe, earlier /ɔ/ is frequently fronted when the following syllable contains /i/ or /iV/. The most frequent reflex is a front monophthong [œ], though the diphthong [iɔ] is also found.¹⁷⁷ As in the case of /u/, it is debatable whether breaking and umlaut can be formally distinguished here. A handful of forms with an apparently related phenomenon are reported in Ilan Boo and Ibuci; these are recorded with diphthongs like “iɔ” or [uu] rather than front monophthongs. These developments are exemplified in (15):

¹⁷⁴ Perhaps a typographical error for “un'gie”?

¹⁷⁵ Some historical /u/s are fronted following labial consonants, but only after first dissimilating to /ə/ (§3.7).

¹⁷⁶ In Yamamoto (1969)'s Sibe data, fronting of /u/ is associated with the “8th Company” subdialect, suggesting that variation may be due to subdialectal mixture.

¹⁷⁷ The Sibe phoneme /œ/ can also trigger simultaneous labialization-palatalization of a preceding consonant, giving [C^uœ-], but Norman (1974: ##) reports that the nuclear vowel is often non-round in casual speech, yielding “üe” [C^uε-]. In absolute initial position, /#œ-/ may also surface as non-round [#ε-] in casual speech.

(15) Table 5. Fronting of /ɔ/

pTg						
gloss	‘to drink’	‘dream’	‘fox’	‘to hear, to listen’	‘vegetable’	‘to add, to increase’
WM	[ɔmi-]	[tɔlgin] (~ [tɔlxin]?)	[dɔbi]	[dɔndʒi-]	[sɔgi]	[nɔŋgi-]
orthographic	<i>omi-</i>	<i>tolgin</i> (~ <i>tolhin</i>)	<i>dobi</i>	<i>donji-</i>	<i>sogi</i>	<i>nonggi-</i>
Beijing	[ɔmi-mi] (NONP)			[dɔnni-mi] (NONP), [dɔndʒi-xɑ] ~ [dɔnni-xɑ] (PERF.PART)		[nɔŋi-m] (IMPF.CONV)
Lalin				[dɔnni-xɑ] (PERF.PART)		
Sibe	[œmi-m] (NONP)	[tœɾyin]	[dœv]	[dœndʒi-m]	[œɕg]	[niɔŋu-m] (NONP) ¹⁷⁸
Aigun	[ɔm-ke] (DESID)				[sɔge]	
Ilan Boo	[ɔ:’mi-me] (NONP)	[tɔl’gien]	[’dɔ:vɔ] ~ [’duuve]	[dɔn’ɕzi-me] (NONP)	[’sɔ:gie]	[nɔŋ’ŋɔ-me] (NONP)
Ibuci	ɔm-mi ~ om-mi (NONP)	turgien ~ tulgien ¹⁷⁹	diɔve	dondʒi-mi (NONP)	’tsogu ~ ’tsogo ~ ’tsogu	noŋŋ-mi (NONP), noŋŋo-vo (PERF.PART)
Alcuka	[gɔmi-]		[dɔbi] ~ [dɔrbi(ə)]	[dɔndi-]		
Bala				[dɔrdi-rə] ~ [dɔndi-rə] (IMPF.PART)		
Late Jurchen	*umi-	*tol(i)hi(-) ¹⁸⁰	*dobi	*dondi-	*sugi	

¹⁷⁸ Compare Yamamoto’s transcription [ɲiœŋi-m] ‘id.’ (1969: ##, no. #####), and Norman’s *liöŋo-mə* [lʲœŋɔ-m] ~ *nioŋu-mə* [nʲɔŋu-m] ‘id.’ (p. c.). The sequence [nœ] does not occur at all in the Sibe materials of S. Li et al. 1984.

¹⁷⁹ The apparent raising of /ɔ/ in this word and a few similar cases is unexplained. However, the stem appears as /tɔlɣi-/ ‘id.’ in some other (northern) Tungusic languages of Manchuria, such as Oroqen, suggesting the possibility either of contact or perhaps of /ɔ/ ~ /ɔ/ variation at an earlier historical stage. Late Jurchen *umi- ‘to drink’ might be a similar case.

¹⁸⁰ The Glossary entry is not clear about the category of the word: ‘dream (N)’ or ‘to dream (V)’.

Note that in Sibe, [œ] also frequently results from coalescence (§3.6) of earlier /io/ and /oi/. It is thus conceivable that fronting of /ɔ/ originally operated by a primary breaking (to an intermediate *ɔi ?) followed by secondary coalescence (*ɔi > œ ?). In any case, there is little evidence for distinguishing in Sibe among /io/, /oi/, and /œ/ on the phonological level. No other varieties attest fronting of earlier /ɔ/.

3.3.2.5. Earlier /ɔ/

No varieties of Manchu exhibit fronting of /ɔ/ as such. An examination of the cognates of WM words in which *ɔ was retained as /ɔ/ *û* following dorsal consonants reveals no instances of fronting--whether by breaking or umlaut--in other dialects. However, according to the received understanding, earlier *ɔ merged into /u/ everywhere *except* following dorsals in WM, with the result that the merged phoneme /u/ behaves as a neutral vowel in harmony, freely co-occurring with other [RTR] vowels (when /u/ came from *ɔ) or with non-[RTR] vowels (when /u/ came from *u). This merger, discussed in more detail in §3.6, below, apparently operated slightly differently in certain dialects. Specifically, in Sibe, Aigun, Ilan Boo, and Ibuci, a significant number of words seem to have escaped the merger, with several different outcomes for *ɔ. In one outcome, *ɔ merged with /ɔ/ rather than /u/. In Sibe only, this /ɔ/ < *ɔ (along with the primary /ɔ/ < *ɔ) could undergo fronting to [œ].¹⁸¹ (Aigun, Ilan Boo, and Ibuci also attest the lowering merger to /ɔ/, but in those dialects /ɔ/ is not regularly fronted, regardless of its source.) Meanwhile, in all four of these dialects, when earlier /ɔ/ did *not* escape neutralization--that is, when it *did* merge with /u/--the resulting vowel could undergo fronting, regardless of its source. Examples of fronting of /u/ < *ɔ such as ‘deep’ and ‘pig’ have already been

¹⁸¹ Cf. the Sibe variants with un-umlauted /ɔ/ as recorded by Yamamoto (1969) for these items, *viz.* [dɔlin] ~ [dœlin] ‘middle, midpoint’; [dɔlimba] ~ [dœlimba] ‘middle, center’.

seen in (13) and (14), above. The Sibe development fronting /ɔ/ < *ʊ is exemplified in

(16):

(16) Table 6. Fronting of /ɔ/ < *ʊ

pTg	*dɔlɪ-	*dɔlɪ- + boga?	
gloss	‘half, middle’	‘middle, center’	‘to twist, to wring’
WM	[dulin]	[dulimba]	[muri-]
orthographic	<i>dulin</i>	<i>dulimba</i>	<i>muri-</i>
Beijing			
Lalin			
Sibe	[dœlin]	[dœlimba]	[mœri-m] (NONP)
Aigun			
Ilan Boo		[dy'limba(:)]	[mɔ:'ri-me]
Ibuci	duilin		
Alcuka			
Bala			
Late Jurchen		*dulimba	

The word ‘half, middle’ (the root of ‘middle, center’), is an interesting case. Although it closely resembles a Mongolic form, *viz.* WMong *düli* ‘half, middle’, the Mongolic word is clearly non-[RTR], while the Tungusic word, reconstructed by Benzing as pTg *dɔlɪ- ‘middle’, is clearly [RTR].

3.3.3. Consonantal triggers of fronting

As briefly mentioned above, in addition to the vowel /i(V)/, certain following consonants also appear to trigger irregular fronting. In Beijing and Lalin, the earlier alveopalatal continuants /j/ and /ʃ/ may trigger fronting (by breaking) of earlier /a/ and /ə/. In Ilan Boo and Ibuci as well, the same consonants may trigger fronting of earlier /a/ and /ə/; both

monophthongal outcomes ([æ ~ ε] and [e], respectively) and diphthongal outcomes ([ai] and [ui], respectively) are attested. These developments are exemplified in (17):

(17) Table 7a. Fronting by /j, ʃ/

pTg								
gloss	‘sour milk’	‘rich’	‘every, each, any’	‘body; self’	‘nest’	‘wound’	‘sister-in-law (older brother’s wife)’	‘village’
WM	[ajara]	[bajan]	[jaja]	[bəjə]	[fəjə]	[fəjə]	[aʃa]	[gaʃan]
orthographic	<i>ayara</i>	<i>bayan</i>	<i>yaya</i>	<i>beye</i>	<i>feye₁</i>	<i>feye₂</i>	<i>aša</i>	<i>gašan</i>
Beijing	[aijara] → [aijira] ~ [aijil(a)] ~ [ai(a)]	[baijan] → [baijin]	[jaiji] → [jai] → [jai]	[bəi]			[aʃi]	[gaʃan]
Lalin	[aijala] ¹⁸²	[bajan]	[jai]					[gaʃan]
Sibe	[ɛrʲ]	[bajin]		[bəi]	[fəi]	[fəi]	[as]	[gazən]
Aigun				[bəjə]	[fəjə] ‘litter (of piglets)’		[aʃa]	
Ilan Boo		[ba(:)jin]		[ˈbu:je]	[fuije]	[ˈfu:je]	[ˈa:zʏ]	[gaiˈzʊm]
Ibuci	ajili ‘milk’	bəjin ~ bəjən		‘beji ~ bəje ~ ‘bəjie ~ bejie	feji	fejie	aɖə ~ æɖə	
Alcuka						[fudʒi(jə)]		[gazə]
Bala								
Late Jurchen		*baiya		*beiye			*aže	*Kaša

There are also a number of ambiguous cases containing earlier /-ʃi-/ , where it is unclear whether fronting is triggered by /ʃ/ or by /i/, as exemplified in (18):¹⁸³

¹⁸² This is the only documented example in Lalin.

¹⁸³ There are also examples of this process in post-initial syllables, including the cognates of WM *fudasi(-hûn)* [fudafi(-χon)] ‘rebellious; irrational; reversed; etc.’, *tulesi* [tuləfi] ‘outward’, *julesi* [dʒuləfi] ‘forward’.

(18) Table 7b. Fronting by /ʃ/ or by /i/?

pTg					
gloss	‘eggplant’	‘letter (mail)’	‘to cover, to shut’	‘in that direction, over there, that way’	‘handle, grip’
WM	[χaʃi]	[dʒaʃigan] (~ [dʒaʃiχan]?)	[daʃi-]	[tʃaʃi]	[fəʃin]
orthographic	<i>hasi</i>	<i>jasigan</i> (~ <i>jasihan</i>)	<i>dasi-</i>	<i>casi</i>	<i>fesin</i>
Beijing	[xaiʃi] ~ [xaei]	[dʒaʃixan]			[fəiʃən]
Lalin					
Sibe	[χaɛi]? [χazi]?	[dzaɛiχan]		[tɛəɛi]? [tɛəzi]? ¹⁸⁴	185
Aigun		[dʒɛzʲɪχan]			
Ilan Boo	[ˈχaize] ¹⁸⁶ ~ [χaizɿ]	[dʒɛzʲɪχan]	[daiˈzʲi- me] ¹⁸⁷ (NONP)	[tɛeːz]	[fuːˈzʲin]
Ibuci	xɛdʒə	dʒiedʒɪgon ~ dʒiedʒɪgon ~ dʒiezʲiˈxən	dɛdʒi-mi (NONP)		
Alcuka					[feɪʃi]
Bala					
Late Jurchen	*Kaši				

Note that although Sibe also exhibits fronting in some of these examples, it is clear in such cases that /i/ triggers fronting, since there are no cases of putative fronting by /ʃ/ that do *not also* contain /i/.

Although Alcuka occasionally attests similar forms, as in ‘handle, grip’ in (18), their rarity suggests an external source. In Late Jurchen, only /j/ shows any sign of triggering fronting, provided that ‘rich’ and ‘body; self’ are interpreted as fronted. Kane

¹⁸⁴ Yamamoto (no. 2647, 1969: 129) gives [tɛɛɛ] ‘away’.

¹⁸⁵ Yamamoto (no. 594, 1969: 27) gives [fɜʂən ~ fɜsən] ‘handle’, without fronting.

¹⁸⁶ The original transcription (Čenggeltei 1998: 351) reads “[ˈχaize]”, apparently an error.

¹⁸⁷ The original transcription (Čenggeltei 1998: 269) reads “[daiˈzʲi-me]”, apparently an error for “[daiˈzʲi-me]”.

(1989) did not interpret them that way, reconstructing *baya and *beye, respectively, and treating the diphthongs *ai and *ei as artifacts of the transcription.

3.3.4. Fronting of diphthongs

In several varieties of Manchu, certain diphthongs are also targets of fronting by /i(V)/ in a following syllable.¹⁸⁸ In Aigun, Ilan Boo, and Ibuci, earlier /ia, oa, ua/ may be fronted in initial syllables. Fronting of earlier /ia/ produces Aigun and Ilan Boo [ie(:)]; fronting of /oa/ produces Ilan Boo [oæ]; and fronting of /ua/ produces Aigun and Ibuci [uε]¹⁸⁹ : Ilan Boo [uæ(i)]. (In absolute word-initial position, strengthening gives Aigun and Ibuci [#vε-] : Ilan Boo [#væ- ~ #vai-].)¹⁹⁰ In Sibe, fronting of /ia/ gives [(i)ε]; fronting of /ua/ < *oa gives [œ] (S. Li et al. 1984) or [yæ_] (Yamamoto 1969). (In word-initial position, strengthening gives [#v(i)ε-].) These developments are exemplified in (19):

(19) Table 8. Fronting of diphthongs

pTg						
gloss	‘mucus, pus’	‘to chew’	‘to be startled’	‘summer’	‘west; under(neath)’	‘to throw (away)’
WM	[niaki]	[nianiu-]	[goaŋʰixiala-]	[dʒuari]	[wargi]	[walia-]

¹⁸⁸ In Ilan Boo, there is also one example of fronting of /ua/ by /j/ (see §3.1.3, above), viz. WM *suwayan* [suajan] : Ilan Boo [suæ(i)'jin] (Č: 254, 326) ~ ['suæijin] (Č: 326) ‘yellow’. No other dialects attest fronting in this item; compare Ibuci *suAjin* (J. Zhao 1989: 13, 67, 106) : Sibe [sujan] ~ [suajan] ‘id.’.

¹⁸⁹ J. Zhao states (1989: 13) that Ibuci /uε/ may be pronounced [uai] in careful speech, but he regards this and other phonetically triphthongal pronunciations as a likely product of Mandarin influence.

¹⁹⁰ There are exceptions, such as WM *miyali-* : Ilan Boo [mia'lu-me] (Č: 304) ‘to measure’ *giyari-* : Ilan Boo [gia'ru-me] (Č: 346) ‘to patrol’, and *hiyari-(bu-)ha* : Ilan Boo [k'ia:'lA-ka] (Č: 242) ~ [kia'ru-yu] ~ [eia'ru-yu] (Č: 338) ‘there is a drought’ (PERF.PART), in which the failure of fronting of /ia/ may be related to the fact that earlier front /i/ has become non-front [u ~ A]; and *wangkiya-* : Ilan Boo [van'ki-me] (Č: 311) ‘to smell (vi)’, in which /i/ fails to trigger fronting of /va-/ < /ua-/ < *oa-.

orthographic	<i>niyaki</i>	<i>niyanio-</i>	<i>gūwacihiyala-</i>	<i>juwari</i>	<i>wargi</i>	<i>waliya-</i>
Beijing					[warxi] ~ [waixi]	[walia- mi] (NONP)
Lalin						
Sibe	[jaŋk]	[ɲeni-m] (NONP) (Y)	[guateixialə- m] (NONP)	[dʒœrʲ] ¹⁹¹	[vɛrxʲ] ‘east’	[viali- m] ¹⁹² (NONP)
Aigun	[nieke]	[nyeny-me] (NONP)		[dʒuere]	[vɛrye] ‘east’	
Ilan Boo	[ˈnie:ke]		[ˈgɔæʂkw, tu- ɣu] (PERF.PART) ¹⁹³	[dʒuæile]	[væɾˈgi:] ‘east’	[vaiˈli- me] ‘to spit out’ (NONP)
Ibuci				dʒuɛlie	vɛrgi ~ vɛrgə ‘east’	vɛri- nmi (NONP)
Alcuka					[waiŋgi] ‘east’	
Bala						
Late Jurchen				*ɟuan(g)ri	*wage ‘under’	194

3.4. Rounding

In various dialects, the earlier non-round vowels /a, ə, i/ may be rounded under varying conditions, either by round vowels elsewhere in the word, or by labial consonants, or by certain combinations of round vowel and labial or dorsal consonant. As in the case of

¹⁹¹ Yamamoto (no. 2727, 1969: 135) gives [dʒyæɾʲ], with fronting extending through the whole diphthong.

¹⁹² I take Sibe “/ia/” here as equivalent to /ɛ/ [jɛ]. Compare Yamamoto’s transcription, [vɛli-m] ‘id.’ (no. 1551, 1969: 70).

¹⁹³ The Ilan Boo stem contains a different stem-final suffix corresponding to WM /-ta- ~ -tə- ~ -tɔ-/ INTENSIVE.

¹⁹⁴ Compare the related expression WM *waliya-ha usin* [walia-ɣa uʃin] : Late Jurchen *uliangKa uʃi ‘fallow field’; no fronting is observed, but the original diphthong */ɔa-/ seems to have been monophthongized or simplified here to /u/ (see §3.6), which is never fronted in Late Jurchen.

fronting, there are several parameters of interdialectal variation, and these are essentially the same factors as for fronting: TARGET, TRIGGER, MECHANISM, and RANGE.

3.4.1. Rounding of earlier /a/

In Lalin, Aigun, Ilan Boo, Ibuci, Alcuka, and Bala, rounding of earlier /a/ is attested only in initial syllables (and not attested at all in WM, Beijing, Sibe, and Late Jurchen).

In Alcuka, rounding is restricted to initial-syllable /a/ when simultaneously preceded by a word-initial grave consonant (perhaps only dorsals) and followed by a labial consonant (generally /m/). The regular result is monophthongal [ɔ]. This development is exemplified in (20):

(20) Table 9a. Rounding of /a/ by labial consonants

pTg				
gloss	‘gluttonous’	‘plants resembling sagebrush (<i>Artemisia tridentata</i>) or mugwort (<i>Artemisia vulgaris</i>)’	‘unbearable; insufficient’ (IMPF.NEG of <i>hami-</i> ‘to approach, to be near’)	‘feces’
WM	[gabula]	[χamgia]	[χamiraqʊ]	[χamu]
orthographic	<i>gabula</i>	<i>hamgiya</i>	<i>hamirakû</i>	<i>hamu</i>
Beijing				
Lalin		[xɔmjɑ] ~ [xɔŋjɑ]		
Sibe	¹⁹⁵		¹⁹⁶	[χam]
Aigun				
Ilan Boo	[gɑ:ˈbʊlʷ]			[ˈχɔ:mɔ]
Ibuci				

¹⁹⁵ Yamamoto (no. 412, 1969: 18) and Norman (p. c.) give [gavəl] ‘glutton’, without rounding.

¹⁹⁶ Yamamoto (no. 1975, 1969: 96) gives [χamirqʷ] ‘unendurable’, without rounding.

Alcuka	[kɔwɔl] ¹⁹⁷		[xɔmiraku]	[xɔmu] ~ [xuɔmu] ¹⁹⁸
Bala				[xumu] ¹⁹⁹
Late Jurchen				

Lalin, Ilan Boo, and Bala also attest similar forms, though only sporadically and very infrequently. I tentatively assume that this process is native only to Alcuka, and that the lookalikes here are the result of contact.

In Aigun, Ilan Boo, and Ibuci, earlier /a/ in initial syllables may be rounded when the following syllable contains a round vowel. However, these dialects differ with respect to the details of the conditioning environment and the outcome of rounding. In Ilan Boo, rounding of earlier /a/ is almost perfectly limited to items in which the consonant intervening between the target /a/ and the triggering round vowel is /-l-/. The regular mechanism is breaking, creating diphthongs transcribed variously as [ɑo ~ ɔo ~ ɔu].²⁰⁰ In that environment, Aigun and Ibuci have [ɔ] (treated as “/o/” in J. Zhao’s Ibuci data). This development is exemplified in (21):

(21) Table 9b. Rounding of /a/ by round vowels, over intervening /-l-/

pTg				
gloss	‘full’	‘to be full’	‘beard, whiskers’	‘to ride’
WM	[dʒalu]	[dʒalu-]	[salu]	[jalu-]
orthographic	<i>jalu</i>	<i>jalu-</i>	<i>salu</i>	<i>yalu-</i>
Beijing				
Lalin				

¹⁹⁷ The voiceless (and aspirated?) initial consonant is unexplained.

¹⁹⁸ Alcuka [uɔ] is a transcriptional variant of [ɔ] following dorsal consonants, possibly indicating labialization, i.e. /xɔ-/ [x^wɔ-].

¹⁹⁹ This single Bala example has earlier /a/ > [u] rather than [ɔ].

²⁰⁰ Perhaps “[ɔɕ]” in ‘to ride’ is a typographical error for [ɔo]? There is also one apparent example of rounding to “[ɑɔ]” over intervening /s/, viz. WM *asu* : Ilan Boo [ɑɔz] (Č: 282) ‘net’.

Sibe	[dzɚalu]		[sar]	[jalə-m] (NONP)
Aigun	[dzɚalu] ²⁰¹			[jɔlə-me] (NONP), [jɔlə-rə] (IMPF.PART)
Ilan Boo	['dzɔolo] ~ ['dzɔulo]	[dzɔu'lu-ʁo] (PERF.PART)	['sɔulo] ~ ['tsɔolo]	[jɔɤ'lu-me] (NONP)
Ibuci			sol(o) ~ tsolo	jɔru-mə (IMPF.CONV), jɔro-və (PERF.PART)
Alcuka				
Bala				
Late Jurchen	*jalu	*jal(a)-Ka (PERF.PART)	*sa ²⁰²	

If the intervening consonant is not /l/, earlier /a/ is not rounded in Ilan Boo; thus, in a number of words WM /a/ corresponds to Aigun [ɔ] : Ilan Boo [a(:)] : Ibuci [ɔ] “/o?”. This correspondence is exemplified in (22):

(22) Table 9c. Rounding of /a/ by round vowels, adjacent to labials

pTg								
gloss	‘to become thin, skinny’	‘pants, trousers’	‘shoes’	‘many’	‘salt’	‘bag, pouch’	‘liver’	‘dark’
WM	[mafju-]	[faqori]	[sabu]	[labdu]	[dabsun]	[fadu]	[faɣon]	[farɣon]
orthographic	<i>macu-</i>	<i>fakūri</i>	<i>sabu</i>	<i>labdu</i>	<i>dabsun</i>	<i>fadu</i>	<i>fahūn</i>	<i>farhūn</i>
Beijing				[labdu] → [lavdu] ~ [lafdu]	[dawsun] ~ [dafsun] → [dafsū ⁿ]		[faɣu(n)]	
Lalin			[sabu] ~ [sawu]	[labdɔ]	[dabsun]			
Sibe	[matʂə-m] (NONP)	[faqar]	[sav]	[lavdʷ]	[davsun] ~ [dafsun]	[fad]	[faɣun]	[farɣun]

²⁰¹ The failure of rounding in Aigun [dzɚalu] ‘full’ is unexplained. Perhaps the standard WM form displaced a native Aigun form.

²⁰² Kane (no. 902, 1989: 319) speculated that a second transcription character might have been lost, reconstructing “*sa[]?”. There is some question about whether /-lu/ can be analyzed as a suffix or the second element of a compound in this lexical item. See the discussion in Rozycki (1981: iii).

Aigun	[mɔʂɔ-me] (NONP)			[labdu] ²⁰³		[fɔdɔ]		[fɔrgɔŋ]
Ilan Boo	[ma:ʔʂu-me] (NONP)	[fa:ʔkure] ~ [fa:ʔkuri]	[ʔsa:va]	[ʔlabdo] ~ [ʔlɔdo] ²⁰⁴	[dabʔsun]		[fa:ʔkɔn]	[fa:ʔkɔn] ~ [fa:ʔkɔn]
Ibuci	mɔʂɔ-ka (PERF.PART)	fɔvulɔ ~ fɔxulɔ ~ fɔxul	ʂɔvo ~ ʂovo	lɔvdo	dɔbson		fɔyɔn	fɔrgɔ
Alcuka			[sawə]	[lɔdɔ]				
Bala								
Late Jurchen			*sau		*datsu	²⁰⁵	*fahun(g)	*farhun(g)

Note that in all of the above items, Ibuci exhibits rounding only if earlier /a/ is adjacent to a labial consonant /b, f, m/.²⁰⁶ If earlier /a/ is not adjacent to a labial consonant, it is not rounded in Ibuci, even when followed by a round vowel; thus, in another set of words, WM /a/ corresponds to Aigun [ɔ] : Ilan Boo [ɑ(:)] : Ibuci ɑ ~ A. This correspondence is exemplified in (23):

(23) Table 9d. Rounding of /a/ by round vowels, elsewhere

pTg								
gloss	‘salty’	‘there is not, there are not, doesn’t exist, isn’t here (there)’ (NEG.EXI)	‘eight’	‘herd, flock’	‘to cut (down); to harvest’	‘scythe, sickle’	‘left (side)’	‘older brother’
WM	[χatuxɔn] (~ [χaduxɔn]?)	[aɔʋ]	[dʒaɔn]	[adun]	[χadu-]	[χadufun]	[χasɔ]	[aχɔn]
orthographic	<i>hatuhün</i> (~ <i>haduhün</i>)	<i>akü(-)</i>	<i>jakün</i>	<i>adun</i>	<i>hadu-</i>	<i>hadufun</i>	<i>hashü</i>	<i>ahün</i>
Beijing		[akɔ] (?) ~ [aku]						[axun] ~ [axun]
Lalin								

²⁰³ The failure of rounding in Aigun [labdu] ‘many’ is unexplained. Compare also WM *tanggü* [taŋɔ] : Ilan Boo [ʔtaŋɣ ~ taŋ] (Č: 318) : Ibuci taŋŋə (144, 146, 170) ~ taŋŋə (83) ~ taŋ (56, 59) : Aigun [taŋŋɔŋ] ‘hundred’, with another failure of rounding.

²⁰⁴ Rounding in this Ilan Boo variant is unexpected. Perhaps it is related to the unusual weakening of coda /b/ here (see Chapter 2 §x.x.x.x).

²⁰⁵ Kane (no. 1006, 1989: 338) compared the first word in Late Jurchen *fatu (mahila), defined in the Glossary as ‘barbarian hat’, to ‘bag, pouch’, thus ‘pouch hat’.

²⁰⁶ Nevertheless, a few items meeting this condition also fail to undergo rounding in Ibuci, such as the cognates of WM *sabu-* [sabu-] ‘to see’ and *yabu-* [jabu-] ‘to go, to walk, to leave’.

Sibe	[χatχun]	[aqu]	[dzaqun]	[adun]	[χadə-m] (NONP)	[χatχun]	[χasχu]	[aκun]
Aigun		[əkə-tɛe] (COND.CONV)	[dzəqəŋ]	[ədəŋ]	[χədə-mɛ] (NONP)	[χədəκəŋ]	[χəsqə]	[əkəŋ]
Ilan Boo	[χat'κən]	['a:ʰχʊ] ~ [a:ʰχʊ]	[dzɑ'ʰχʊn]	[a: 'dun]	[χɑ:ɰ-mɛ] (NONP)		['χasʰχʊ]	[a: 'κən]
Ibuci	χatkon	'Aχʊʊ ~ 'aχʊʊ ~ 'axʊʊ	dzAXon ~ dzAχʊn	Adon ~ adon		χadouvuʊ	χaskə	aχʊn
Alcuka		[aku] ~ [a'ɔ] ~ [ə'ɔ]	[dʒiak(u)] ~ [dʒiak(u)] ~ [dʒia'ə]					
Bala	[xantixun]							
Late Jurchen	*Kat[h]u	*akua	*jakun(g)			*Kat[h]u	*Kas[h]u	*ahun(g)

In Alcuka and Bala, a handful of similar-looking items are attested, such as Alcuka [lɔdɔ] ‘many’ in (22), above, and WM *kalju* [qaldʒu] : Bala [kəldʒu] ‘ski pole’, but the process is not regular in either dialect. I assume these forms result from contact with an “Eastern”-type dialect.

3.4.2. Rounding of earlier /ə/

Rounding of earlier /ə/ is more pervasive than rounding of /a/, both in terms of distribution among varieties of Manchu and in terms of phonological environments conducive to rounding.

In Beijing and Lalin, /ə/ is regularly rounded to [u] in initial syllables when it is preceded by a grave consonant and followed by a labial consonant. (In the available examples, the labial consonant occupies the coda in the Beijing and Lalin reflexes, and only /b/ and /m/ are attested as triggers.) This development is exemplified in (24):

(24) Table 10a. Rounding of /ə/ by labial consonants

pTg		
gloss	‘still, yet’	‘to talk in one’s sleep’
WM	[kəmuni]	[fəbgjə-]
orthographic	<i>kemuni</i>	<i>fəbgiye-</i>
Beijing	[kumni]	[wubjə-m(i)] (NONP)

Lalin	[kumni]	[vupje-mei] (NONP)
Sibe	[kəmənʲ] ~ [kəmnʲ]	
Aigun		
Ilan Boo		
Ibuci		
Alcuka		
Bala		
Late Jurchen		

There is no clear evidence for this exact process--with the requirement that a grave word-initial consonant be present--in any other dialects.²⁰⁷

In Alcuka, earlier word-initial /ə/ is rounded by following labial consonants, occasionally as a variant of unrounded [ə]. Only /b/ and /m/ are attested as triggers; rounding of /ə/ mostly yields Alcuka “[ɔ]”, but this may reflect an allophonic lowering of /u/ to a surface value closer to [o] (on which see §3.4, below). Only one similar form is attested in Bala, but there are no exceptions in this environment. This development is exemplified in (25):

(25) Table 10b. Rounding of word-initial /ə/ by following labial consonants

pTg					
gloss	‘to be full, to be sated’	‘type of <i>Artemisia</i> or <i>Chenopodium</i> ’	‘together’	‘mother- in-law’	‘one’

²⁰⁷ In Ibuci and Sibe, there are a few similar-looking examples, such as WM *gebu* : Ibuci [govə] ‘name’ and WM *gemu* : Sibe [gum] ‘all, in every case’, but rounding might be triggered by the following /u/, assuming rounding is allowed across intervening labial consonants. In the Aigun dialect, there is no separate evidence of a general process of rounding of /ə/ triggered by following /u/, so in rare examples such as WM *tebu-* : Aigun [təv-] ‘to fill, to pack, to install; to seat’ and *lefu* : Aigun [luvə] ‘bear’ rounding apparently must be attributed to the following labial consonant regardless of the presence of following /u/. Note, however, that the initial consonant need not be grave; cf. also WM [səfu] *sefu* ‘teacher’ : Ibuci təovʊ ~ təovuo ~ təovə ‘id.’ and [səbdəri] *sebderi* ‘shade’ : Bala [tsəbduxə] → [tsīdʊxə] (1988: 15) ‘id.’.

WM	[əbi-]	[əmpi] (~ [əimpə])	[əngi]	[əmxə]	[əmu]
orthographic	<i>ebi-</i>	<i>empi</i> (~ <i>eimpe</i>)	<i>emgi</i>	<i>emhe</i>	<i>emu</i>
Beijing	[əibi-xə] (PERF.PART)		[əŋgy]		[əmu] → [əm(ə)]
Lalin	[əibi-xə] (PERF.PART)		[əŋgiui]		
Sibe	[ivi-m] (NONP)	[im (eyba)] ²⁰⁸	²⁰⁹	[əmx]	[əm]
Aigun					[əm(u)]
Ilan Boo	[evi:-ɣu] (PERF.PART)			['umgɯ] ~ ['umɣu]	[um]
Ibuci	ji-ɣə (PERF.PART)			'ɤmgə ~ 'əmgə	'əm(u)
Alcuka	[ubi-l] (IMPF.PART)		[əngi]	[əmxə] ~ [əmgə]	[əm] ~ [əm]
Bala		[umpi]			
Late Jurchen	*ewi-me (IMPF.CONV) ²¹⁰			*em(u)he	*emu

In Aigun, a small handful of words exhibit rounding in the initial syllable, *viz.* WM *tebu-* [təbu-] : Aigun [təv-me] ‘to fill, to pack, to install (NONP)’ and *lefu* [ləfu] : Aigun [luvə] ‘bear’. Since Aigun does not regularly exhibit rounding of /ə/ triggered by round vowels (see below), I assume that the labial consonants are the trigger in such cases. Note that unlike the Beijing- and Lalin-type initial-syllable rounding, here the word-initial consonants are coronals. That is, they are not required to be grave. (This and “note 62” should be combined into a single discussion of lookalike processes.)

In Sibe, Aigun, Ilan Boo, and Ibuci, earlier /ə/ may be rounded to /u/ by a round vowel elsewhere in the word. A separate process of lowering (§3.4) often produces [o]; in Ibuci, transcriptions like “o” or “uo” are also frequent. The phone [o] is often analyzed as an allophone of /ɔ/ rather than /u/, but B. Li (1996) gives persuasive arguments for /u/ as

²⁰⁸ A compound of reflexes of WM *empi* ‘type of *Artemisia* or *Chenopodium*’ + *suiha* ‘type of *Artemisia*’.

²⁰⁹ Yamamoto (no. 2626, 1969: 128) gives [ʔɤmyɪ] ‘id.’, without rounding, as expected.

²¹⁰ Kane (no. 1053, 1989: 348) reconstructed *eyu-, reading the transcription character 于 (Early Mandarin [y]) as *yu. I read it as LJ *wi.

the correct phonological analysis in Ilan Boo and Sibe; I adopt this analysis for Aigun and Ibuci, as well.

In order to illustrate the range of conditioning factors in the dialects, different syllable positions are treated separately. The development is most frequent in absolute word-initial position (26):²¹¹

(26) Table 10c. Rounding of word-initial /#ə-/ by round vowels

pTg						(Cf. TMS II: 349-50)				
gloss	'to wear'	'clothes'	'strong, powerful'	'wind'	'raw, uncooked'	'different'	'deity, spirit'	'punishment'	'ugly ² '	'leek, scallion'
WM	[ətu-]	[ətuku]	[ətuxun]	[ədun]	[əsxun]	[əŋʃu]	[ənduri]	[ərun]	[ərsun]	[əlu]
orthographic	<i>etu-</i>	<i>etuku</i>	<i>etuhun</i>	<i>edun</i>	<i>eshun</i>	<i>encu</i>	<i>enduri</i>	<i>erun</i>	<i>ersun</i>	<i>elu</i>
Beijing						²¹²				
Lalin										
Sibe ²¹³	[utu-m] (NONP)	[utku]	[ətuxun]	[udun]	[usxun]	[untʃu] ²¹⁴	[əndur ^l]	[ərun]	[ərsun] ²¹⁵	[u]
Aigun										
Ilan Boo	[u'tu-mbe] (NONP)	[ʼutuko]	[ut'kun]	[u(:)dun]	[us'ɣun]	[untʃu]	[un'du(:)re]	[o(:)'run] ~ [u'run]	[ur'sun]	[u:lo]
Ibuci	oto- ~ oto-mi (NONP)	'otko ~ 'otoko ~ 'otokoo		odon						ulo
Alcuka		[ətukuə]		[ədun] ~ [əduŋ]		[gəŋʃə]				
Bala		[ətuku] 'underwear' ²¹⁶				[gəŋʃu]				[əwə]
Late Jurchen	*etu-			*edu	*es[h]u				*eusun(g)	*elu

²¹¹ I have not found any examples in the initial syllable in Aigun, but as can be seen in the tables in this section, most of the relevant cognates are lacking in Q. Wang 1984.

²¹² Compare the derived word, WM *encungge* [əŋʃuŋgə] : Beijing [əŋʃuŋə] → [əŋʃuŋ(ə)] (1996: 10) 'that which is different', without rounding.

²¹³ Yamamoto (1969)'s forms corroborate the presence or absence of rounding in all of these Sibe forms from S. Li et al. 1984.

²¹⁴ Note, however, the derived form, WM *encule-* 'to be different' : Sibe [əntʃulə-m] 'to distinguish', without rounding.

²¹⁵ Cf. B. Li's transcription /irsun/ ([ɣrsun?]) 'id.', also without rounding (1996: 201).

²¹⁶ Bala Manchu has a doublet, [ətuxuə] 'outerwear', that looks like a loan from Alcuka.

Note that intervening consonant clusters, in particular, appear to be correlated with intra- and inter-dialectal variation with respect to rounding of absolute word-initial /#ə-/. In Alcuka and Bala, a handful of cognates have “[ɔ]” in this environment (e.g., in ‘clothes’, ‘wind’, and ‘leek, scallion’). As in similar cases, it is difficult to decide whether this reflects a native process or contact with an “Eastern”-type dialect such as Ibuci.

In initial syllables with a preceding onset consonant, the identity of the consonant may play a role. In Ilan Boo, rounding is only robustly attested following initial voiced coronals, whereas in Ibuci, initial voiceless fricatives such as /s-/ and /x-/ are also compatible with the process; and in Sibe, rounding is attested following initial /g-/ (27):

(27) Table 10d. Rounding of initial-syllable /ə/ by round vowels

pTg					
gloss	‘vessel, container; coffin’	‘to lie down’	‘grain, provisions’	‘bright’	‘horizontal; peripheral’
WM	[tətun]	[dədu-]	[dʒəku]	[gəxun]	[xətu]
orthographic	<i>tetun</i>	<i>dedu-</i>	<i>jeku</i>	<i>gehun</i>	<i>hetu</i>
Beijing		²¹⁷	[dʒəku] ~ [dʒəx(u)] → [dʒiku]		
Lalin			[dʒəku]		
Sibe	[turtun] ²¹⁸	[dudu-m] (NONP)	[dʒiku]	[guyun]	[xətu]
Aigun					
Ilan Boo		[du'du-me] (NONP)	['dʒu(:)ko]		[xut] ~ [ku:t]
Ibuci	turtun		dʒuku		xudu (bo) ‘side (room)’
Alcuka					

²¹⁷ Compare the related noun, WM *dedun* [dədun] : Beijing [dədun] → [dədũⁿ] : Lalin [dədun] ‘overnight stopping-place’.

²¹⁸ Sibe also attests a WM-like pronunciation [tətun] ‘vessel, container; coffin’ (S. Li et al. 1984: 244), without rounding. The /r/ in Sibe and Ibuci forms is unexplained.

Bala					
Late Jurchen		*dedu- 'to sleep'			

Unfortunately, the scarcity of relevant cognates makes a convincing account of the role of initial consonants difficult. In Sibe in particular, there are numerous examples of rounding following an initial labial consonant, where the source of rounding is unclear

(28):

(28) Table 10e. Rounding of initial-syllable /ə/ following labials

pTg					
gloss	'quarrel, squabble'	'sister-in-law'	'to jump, to leap'	'stupid, silly'	'silver'
WM	[bəʃun]	[bərɣu] (~ [bərgu]?)	[fəku-]	[məntuxun]	[məŋgun]
orthographic	<i>becun</i>	<i>berhu</i> (~ <i>bergu</i>)	<i>feku-</i>	<i>mentuhun</i>	<i>menggun</i>
Beijing				[məntuxu(n)] → [mənt(u)xu(n)]	
Lalin					
Sibe	[butʃun]	[burx ^w]	[fuku-m] 'to leap forward (NONP)' (151) ~ [fəkə-m] 'to jump (over), to leap (up) (NONP)' (144) ²¹⁹	²²⁰	[muŋun] ²²¹
Aigun					
Ilan Boo	[bu'ʃuun] ²²²	['buɣyʉ] ²²³		[muuntu'kun] ~ [muntu'kun]	[muŋ'ɣun]

²¹⁹ Yamamoto (no. 1797, 1969: 85) recorded [fəku-m] 'id.' (NONP), with neither rounding nor de-rounding.

²²⁰ Yamamoto (no. 1985, 1969: 97) gives [mənt^wxun] 'foolish, silly', without rounding.

²²¹ Yamamoto (no. 2119, 1969: 104) also gives an unrounded variant [məŋun] 'id.'.

²²² Compare WM *becen* [bəʃən] 'reprimand, rebuke'.

²²³ This might be a case of a separate borrowing from Mongolic; cf. WMong *bergen* : Khalkha *бэрээн* 'older brother's wife--sister-in-law'.

Ibuci	224						
Alcuka							
Bala							
Late Jurchen					*met[h]u	*munggu ²²⁵	

Following initial labials, /u/ may be original in certain cases. For example, ‘silver’ has been treated as a loan from Mongolic, *viz.* WMong *mönggün* : Khalkha *мөнгө(н)* ‘id.’, with an original round vowel in the initial syllable. The round vowels in the Sibe, Ilan Boo, and Late Jurchen reflexes might simply be retentions of the original roundness of the initial-syllable vowel, possibly as a result of separate borrowing from Mongolic, while WM may have de-rounded it.

Some instances of /u/ in the dialects are derived from the earlier diphthong /uə/ (on which see §3.6, below). It is worth noting that /u/ from this source can also trigger rounding of initial-syllable /ə/ in dialects with rounding assimilation; dialects that *retain* the diphthong do *not* exhibit the rounding process; and that the apparent restrictions imposed by the identity of initial consonants also apply in this domain. These facts suggest that the change /uə/ > /u/ itself might simply be a component of the same general rounding process (29):

(29) Table 10f. Rounding of initial-syllable /ə/ by /u/ (< /uə/)

pTg								
gloss	‘drill (N)’	‘cycle; period of twelve years’	‘(fish) roe’	‘fly (N)’	‘to dread’	‘cool’	‘to cool off’	‘ant’
WM	[əruən]	[ərguən]	[ʃərguə] (~ [ʃərxuə])	[dərxuə]	[sənguə-]	[sərguən] (~ [sərxuən])	[sərguəʃə-]	[jərxuə]

²²⁴ Compare the derived word, WM *becunu-* [bəʃunu-] : Ibuci [bəʃinə-nmi] ‘to quarrel, to argue’, without rounding. The original transcription reads “pəʃɪnənmi” (J. Zhao 1989: 72, 131), apparently an error for “pəʃɪnənmi”.

²²⁵ Kane (no. 70, 1989: 275) reconstructed this entry, transcribed 猛古, as LJ *menggu, without a round vowel, but the Early Mandarin value of the first character was [mun]. I therefore assume LJ *munggu.

orthographic	<i>eruwen</i>	<i>erguwen</i>	<i>cerguwe</i> (~ <i>cerhuwe</i>)	<i>derhuwe</i>	<i>sengguwe-</i>	<i>serguwen</i> (~ <i>serkuwen</i>)	<i>serguweše-</i>	<i>yerhuwe</i>
Beijing			[ʃərxuə] → [ʃəruə]		[səŋuə-m(i)] → [səŋuə-m] (NONP)	[sərkuən] ~ [sərgun] → [sərxun] → [sə(r)xun]	[sərkuəʃə-mi] ~ [səxuəʃu-m(i)] → [səxuəʃu-m] (NONP)	
Lalin			[ʃəruə]		[səŋuə-mei] (NONP)	[sərkuən]	[səxuəʃu-mei] (NONP)	
Sibe	[urun]	[uryun]	[tʃurxʷ]	[durvə] ²²⁶	[səŋu-m] (NONP)	[səryun]	[səryuʃi-m] (NONP)	[nyr (nimax)] ²²⁷
Aigun								
Ilan Boo	[o:'run] ~ [o:'run]			['durgo] ~ ['dulgo]		[sur'kun]	[surku'ʃu-me] (NONP)	[ju:rgo]
Ibuci				dulukoo			surguq. ²²⁸	
Alcuka								
Bala								
Late Jurchen				*derhue		*serkun(g)		*irhue

Third, /ə/ contained in initial-syllable diphthongs may be rounded by /u/ following in the word. Thus, earlier /əi/ is rounded in Ilan Boo in WM *teišun* [təiʃun] : Ilan Boo [tʷi'zʷun] ~ [ty:'zʷun] 'copper' and *teifun* [təiʃun] : Ilan Boo [tʷi'bun] 'cane, staff' (: LJ *tʷifu 'walking stick'). In Sibe, the latter item is attested as [tʷiv (mə)] 'walking stick', without rounding.²²⁹ However, a similarly shaped item, WM [dəisun] *deisun* : Sibe [duizun] 'waistband', does exhibit rounding. Unfortunately, words of this shape are not well-attested in other dialects.

Furthermore, there are a few cases of rounding of /ə/ in post-initial syllables apparently triggered by /u/ in a later syllable, such as WM *ilenggu* [iləŋgu] : Ilan Boo

²²⁶ Yamamoto (no. 2256, 1969: 109) recorded [durvə:] ~ [dur^wvu:] 'id.'. Compare B. Li's transcription /durvu/ [durvə] ~ [durvu-] 'id.' (1996: 192), and N. Jin's [durvə-] (1991: 149).

²²⁷ Compare Yamamoto's transcription [jur-imaχ] (no. 109, 1969: 109).

²²⁸ The reflex of the denominal verbalizing suffix, WM -ša-/-še-/-šo-, is absent in this cognate.

²²⁹ Yamamoto (no. 676, 1969: 30) recorded a more conservative-looking [təiʃun] 'id.', without rounding.

[juˈluŋŋo] : Ibuci jyrυə ‘tongue’.²³⁰ (These examples also illustrate rounding of /i/, discussed in §3.2.3, below.)

Rightward (progressive) rounding of /ə/ triggered by a round vowel /u/ is primarily attested in Sibe, Aigun, Ilan Boo, and Ibuci. As with other rounding processes, there is considerable inter- and intra-dialectal variation with respect to the details of conditioning environments. The development is exemplified in (30):

(30) Table 10f. Progressive rounding of /ə/ following /u/

pTg										
gloss	‘to be able; can’	‘water’	‘story’	‘to tear apart’	‘seed’	‘belt, cord’	‘ice’	‘chest, breast’	‘to mature, to be ripe, to be cooked’	‘to pass (through), to cross (through)’
WM	[mutə-]	[mukə]	[ɖjubəŋ]	[fudələ-]	[usə]	[uɖə]	[ɖjuxə]	[tuŋgəŋ]	[urə-]	[dulə-]
orthographic	<i>mute-</i>	<i>muke</i>	<i>juben</i>	<i>fudele-</i>	<i>use</i>	<i>uše</i>	<i>juhe</i>	<i>tunggen</i>	<i>ure-</i>	<i>dule-</i>
Beijing		[mukə] ~ [muk]					[ɖjuxə] → [ɖjux]			[dulə-m(i)] (NONP)
Lalin							[ɖjuxə]			[dulə-mei] (NONP)

²³⁰ Compare Sibe [iliŋ] ‘id.’, without rounding.

Sibe	[mutu-m] (NONP) ²³¹	[muku] ²³²	[dzuvə] ²³³	[fudulu-m] (NONP) ²³⁴	[uzə] ²³⁵	[uzi]	[dzuyə] ²³⁶	[tuŋun] ²³⁷	[uru-m] (NONP) ²³⁸	[dulu-m] (NONP) ²³⁹
Aigun	[mutə-me] (NONP)	[mukə]					[dzuyu]		[urə-yə] (PERF.PART)	[dulə-]
Ilan Boo	[mu'tu-me] (NONP)	[mu'kuo(-)] ~ [mu'ko(-)]	[ˈdzu:və]	[fi'dul-me] (NONP)	/usu/ [uzə] (Li) [u:zi] (C)	[u:zi]	[ˈdzu:yə]	[təŋ'ŋəŋ]	[u'ru-kə] (PERF.PART)	[du'lu-me] (NONP)
Ibuci	mutu-mi (NONP)	muku			uɬə		dzuyuə ~ dzuvuə ~ dzuvuo ~ dzuvo			duru-mi ~ dulu-mi (NONP)
Alcuka		[mukə] ~ [muxə] ~ [mu'ua]					[dɣuxuə]			
Bala										
Late Jurchen	*mete-he (PERF.PART)	*muke				*uɕi: ²⁴⁰	*juhe	*tungge	*ure-he (PERF.PART)	*dule-

²³¹ Yamamoto (no. 3020, 1969: 157) recorded [mutə-m] ~ [mutu-m] ‘id.’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³² Yamamoto (no. 347, 1969: 15) recorded [mukɜː] ~ [mukuː] ‘id.’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³³ Yamamoto (no. 1305, 1969: 56) recorded [dzuyɜː] ~ [dzuyuː] ‘id.’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³⁴ Yamamoto (no. 273, 1969: 11) recorded [fudələ-m] ~ [fudulu-m] ‘to unseam’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³⁵ Compare Yamamoto (nos. 330, 1158, 2143; 1969: 14, 47, 105)’s transcription, [ʔusuː] ‘id.’, also with rounding.

²³⁶ Yamamoto (no. 2029, 1969: 100) recorded [dzuyɜː] ~ [dzuyuː] ‘id.’ (exactly like the forms for ‘story’); again, the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³⁷ Yamamoto (no. 81, 1969: 4) recorded only [tuŋən] ‘id.’, without rounding.

²³⁸ Yamamoto (nos. 391, 1823; 1969: 16, 87) recorded [ʔurə-m] ~ [ʔuru-m] ‘id.’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²³⁹ Yamamoto (nos. 1218, 2672; 1969: 51, 132) recorded [dulə-m] ~ [dulu-m] ‘id.’; the form without rounding is identified as a “6th Company” dialect form, while that with rounding is an “8th Company” form.

²⁴⁰ Kane’s reconstruction (no. 965, 1989: 330) follows the later *DYTJ* value for the transcription character 切 (modern *qiē*, *qiè*, *qi*). In the *ZYYY*, it is pronounced [tsʰjɛ, tsʰi], so we might reconstruct *utsi(e) for this item. In any case, rounding is not observed.

In Aigun, rounding is largely restricted to words with intervening /x/. In Ilan Boo and Ibuci, there are no examples of rounding over alveopalatal affricates /tʃ, dʒ/. In Sibe, apparently all alveopalatals including /ʃ/ and /j/ block rounding.²⁴¹ In Alcuka, a small number of words exhibit rounding, at least in variants, but there is little evidence for a general process of rounding. Late Jurchen is similar; although rounding is not attested in the items tabulated above, there are a few examples.

Rightward (progressive) rounding of /ə/ triggered by a labial consonant is also attested sporadically. Examples include *helme(n)* : Ilan Boo [kwul' muko] ‘shadow, shade, reflection’, *hefeli* : Ibuci xəvulə ‘stomach’, *deberen* : Ibuci dəvulə ~ dəvələ ‘offspring, young (of animals)’, *tebeliye-* : Ibuci tivulie-γə ‘to carry in the arms (PERF.PART)’, *sibere-* : Ilan Boo [ɕib'ruu-me] ~ [ɕi'vur-me] ‘to spin (thread) (NONP)’. This is most commonly observed in Ibuci, and is not reported for Sibe. Note also WM [mədəri] *mederi* : (Yamamoto’s) Sibe [mɛdɛrʲ] (6) ~ [mudurʲ] (8) ‘sea’. This appears to reflect an earlier *mudəri, with dissimilatory de-rounding in WM and Sibe (6), but progressive rounding in Sibe (8).²⁴²

²⁴¹ The blocking effect of alveopalatals seems to be due to historically earlier processes that have eliminated the target /ə/, namely by fronting of earlier /ə/ > /i/ (see §#.#.#). The alveopalatal approximant /j/ also generally blocks rounding in Ilan Boo and Ibuci, but there are exceptions such as WM *uye-* [ujə-] : Sibe ? : Ilan Boo [u:'jy-me] ‘to cure, to tan (leather)’ (NONP). (Sibe seems to have replaced this item with a loan from Mongolic: Sibe [idələ-] ‘to tan, to cure (a hide)’ (167) : Khalkha *идэллэ-* [idə:lə-] ‘id.’ : WMong *idegele-* ‘id.’) For Sibe, Yamamoto’s materials indicate that the “6th Company” dialect regularly lacks rightward rounding in all of these examples, while the “8th Company” dialect regularly exhibits rounding (except over intervening alveopalatals). That is, S. Li et al. (1984)’s materials are like the “8th Company” dialect in this respect.

²⁴² Note, however, (Yamamoto’s) Sibe /mədəri mukuu/ ‘sea water’, which on the analysis here seems to mix (6) and (8) forms.

In addition, there are some cases involving /bə(C)Cu, fə(C)Cu, mə(C)Cu/ > /bu(C)Cu, fu(C)Cu, mu(C)Cu/, where the precise trigger of rounding--preceding labial consonant, following round vowel, or both--is ambiguous. Examples include *becun* ‘quarrel’, *derbehun* ‘wet’, *eberhun* ‘weak’, *feku-* ‘to jump’, *mehu-* ‘to bow’, *mentuhun* ‘stupid, silly’. Likewise there are cases of /Cu(C)bə, Cu(C)fə, Cu(C)mə/ > /Cu(C)bu, Cu(C)fu, Cu(C)mu/, where the roles of preceding /u/ and immediately preceding labial consonants in conditioning the process are ambiguous. Examples include *sube* ‘tendon’, *dufen* ‘obscene, lewd, depraved’, *tumen* ‘ten thousand’.

(31) Table 10g. Leftward rounding of /ə/ before labial consonant and /u/

pTg		
gloss	‘weak’	‘single-layered, unpadded (clothing)’
WM	[əbərɣun] (~ [əbərəɣun]?)	[əmursu] (~ [umursu])
orthographic	<i>eberhun</i> (~ <i>eberehun</i>)	<i>emursu</i> (~ <i>umursu</i>) < <i>emu</i> ‘one’ + <i>ursu</i> ‘layer’
Beijing		
Lalin		
Sibe	?	[umursu]
Aigun		
Ilan Boo	[evir'gun]	
Ibuci		
Alcuka		
Bala		

Late Jurchen	*uburuhu? *ubur(u)hu? ²⁴³	*umusu? *um(u)su? ²⁴⁴
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3.4.3. Rounding of earlier /i/

In several dialects, earlier initial-syllable /i/ corresponds to a round monophthong—or a diphthong or triphthong containing a round component—when a round vowel follows in the word. As in the cases of rounding of earlier /a/ and /ə/, there are a number inter- and intra-dialectal variations with respect to conditioning environment.

In Beijing and Lalin only, this process is found following initial dorsal consonants /k, g/, where the outcome of rounding is generally described as a triphthong [iuə], although diphthongal and monophthongal reflexes [ui] and [y] are also reported for some items, often as variants of each other or of a triphthongal reflex.²⁴⁵ This development is exemplified in (23):

(23) Table 12a. Rounding of /i/ following dorsal consonants

²⁴³ Kane (no. 750, 1989: 285) does not offer a WM cognate for this word, which he reconstructs as *uluhu/*buluhu. (There is a disagreement between the two main manuscripts of the Glossary.) On the basis of the comparison I suggest here, I have changed LJ *l to LJ *r (in keeping with Kane’s practice of relying on WM for this distinction). Note, however, WMong *bülüken* ‘weak, thin, slender’.

²⁴⁴ The transcription has the character 木 (modern *mù*, < Early Mandarin [mu]), which often renders coda [-m]. Syncope of *u /u/ could also explain loss of *r by reduction of the impermissible three-consonant cluster **/-mrs-/.

²⁴⁵ Rounding might reasonably be expected following initial /x-/ as well, but no examples are attested. The transcriptions are quite varied, but their distribution suggests allophonic variation of a single underlying diphthong, which I analyze as Beijing-Lalin /iu/. Breaking may be possible over intervening consonant clusters, but there are very few relevant examples. Note that WM *ninggun* ‘six’ and *ninggude* ‘on top of’ have clusters in WM but not in Beijing-Lalin; in Beijing, they have breaking and non-breaking variants, whereas in Lalin they are non-breaking. Also, WM *nicuhe* ‘pearl’ seems to have an intervening cluster in Lalin and is non-breaking in that subdialect; in Beijing, breaking is absent when the cluster is present, and vice versa.

pTg						
gloss	‘banner’	‘shameful, disgraceful’	‘speech, language’	‘skeleton, physique’	‘to be ashamed’	‘attractive, handsome’
WM	[kiru]	[giʃukə]	[gisun]	[giɾu]	[giɾu-]	[giltuqan]
orthographic	<i>kiru</i>	<i>gicuke</i>	<i>gisun</i>	<i>giɾu</i>	<i>giɾu-</i>	<i>giltukan</i>
Beijing	[kyru] ~ [kylu] ~ [kuilu] → [kuili]	[gyʃukə] ~ [giuəʃikə] → [giuəʃik(ə)]	[giuəsun] → [giuəsũ ⁿ] ~ [gysun] → [gysu(n)]	[giuəɾu] → [giuəri] [gyɾu] ~ [gyɻu]	[gyɾu-mi] (NONP)	[gyɻtukan] ~ [giuəɻtukan] → [giuəɻtukan]
Lalin	[kuilu]	[giuəʃikə]	[giuəsun]	[giuəɾu]		[giuəɻtukan]
Sibe	[kir ^w] (Y)	[gitəqu]	[gizun]		[giɾi-m] (NONP) (Y)	
Aigun	[kiurə]		²⁴⁶			
Ilan Boo	[‘ki:re]	[‘gitʂko]	[gi:‘zun]		[gi‘ru-me] (NONP)	
Ibuci	‘kiru		gidzən			
Alcuka			[gisun] ~ [gidzʊŋ] ~ [gidʒin]			
Bala						
Late Jurchen		*gir(i)čuke	²⁴⁷			

Note that only coronal intervening consonants are found in these items, possibly a condition of the process.

Rounding is also observed following initial /n-/. In Beijing, Lalin, Ilan Boo, and Ibuci, diphthongal [iu] is the basic outcome, although diphthongal and monophthongal variants [iy] ~ [y] are also attested.²⁴⁸ In Sibe and Aigun, the outcome of the rounding process is monophthongal [y]. This development is exemplified in (24):

²⁴⁶ Compare the related verb, WM [gisurə-] *gisure-* : Aigun [gidzər-me] ‘to speak, to talk’ (NONP).

²⁴⁷ Compare the related verb, WM [gisurə-] *gisure-* : Late Jurchen **gisure* ‘to speak, to talk’, apparently an IMPF.PART, without rounding.

²⁴⁸ In B. Li (1996)’s Ilan Boo materials, monophthongal /ü/ [y] is the regular outcome in this environment.

(24) Table 12b. Rounding of /i/ following /n/

pTg						
gloss	‘pearl’	‘arrow’	‘to draw’	‘drawing’	‘six’	‘on top of’
WM	[niŋʃuxə] (~ [niuŋʃuxə])	[niru] (~ [niuru])	[niru-]	[nirucan] (~ [niruʃan])	[niŋgun]	[niŋgu(n)]
orthographic	<i>nicuhe</i> (~ <i>niocuhe</i>)	<i>niru</i> (~ <i>nioru</i>)	<i>niru-</i>	<i>nirugan</i> (~ <i>niruhan</i>)	<i>ninggun</i>	<i>ninggu(n)</i>
Beijing	[niŋʃuxə] → [niŋʃux(ə)] ~ [niuŋʃuxə] ~ [nyŋʃuxə]	[niuru] → [niur(u)] ~ [nyru]	[niuru-mi] (NONP)	[niur(u)xan]	[niŋun] → [niŋu] ~ [niuŋu(n)] ~ [nyŋu(n)]	[niŋu-də] → [niŋu-d] ~ [niuŋu-də] (DAT)
Lalin	[niŋʃuxə]	[niuru] ~ [niulu]			[niŋun]	[niŋu-də] (DAT)
Sibe	[niʃux]	[nyr]	[yru-m] (NONP) ²⁴⁹	[yɾkan] ²⁵⁰	[nyŋun]	[nuŋu] ²⁵¹
Aigun					[nyŋun] ~ [nyŋuŋ]	
Ilan Boo		[niu:ro] ²⁵²	[niu'ru- me] (NONP)	²⁵³	[niŋ'ŋun] ~ [niyŋ'ŋun] ~ [niuŋ'ŋun] ~ [nyŋ'ŋun] ~ [niyŋ'ɣun]	[nuŋ'ŋun]
Ibuci				nirɯkan ~ piuluɯkan	???	
Alcuka	[indʒukə]				[niŋgə] ~ [niəgə] ~ [niə'ɔ]	[jiŋgu]
Bala	[nindʒuxə]	[niəru]		[niərugan] ~ [niəru'an]		
Late Jurchen	*niču? *nič[h]u?	*nieru ²⁵⁴			*ninggu	

²⁴⁹ Compare Yamamoto's (no. 1391, 1969: 60) [juru-m] 'id.'

²⁵⁰ Compare Yamamoto's (no. 1390, 1969: 60) [juɾkan] 'id.'

²⁵¹ Compare Yamamoto's (no. 2578, 1969: 125) [niŋu] ~ [nyŋu] ~ [nuŋu] 'id.', with and without rounding.

²⁵² Cf. B. Li's transcription /nüru/ ['nyrə] 'id.' (1996: 176).

²⁵³ Cf. B. Li's transcription, Ilan Boo /nülga/ ([nylga]?) 'id.' (1996: 178).

²⁵⁴ For entry [26], Kane reconstructed *nieru, but in entries [580] and [647], he reconstructed the identical transcription as *niru, reading 捏 *nie as LJ *ni (1989: 126, 251). It is unclear why 捏 *nie would be selected for the transcription of LJ *ni when other characters with the value *ni are used elsewhere in the Glossary. A value of *nie or at least *niV is preferable, though for the same reasons, *niu (or *nio) is unlikely.

Note that WM also attests “broken” variants for some items. Perhaps these reflect mixture with the Beijing dialect. Rounding is also attested in Alcuka and Bala, but the outcome is invariably transcribed as a diphthong [iə], and is limited to open syllables. (The latter restriction arguably also applies in Beijing and Lalin.) An important complication is that the “rounded” reflexes appear to be retentions in at least one lexical item: pTg *nioŋun ‘six’.²⁵⁵ Furthermore, the Sibe and Ilan Boo reflexes of ‘on top of’ exhibit a development > [u] that is unique in this environment, although it is also attested following alveopalatal consonants (see below).

In Sibe, Ilan Boo, and Ibuci, rounding of absolute word-initial /i-/ by a following round vowel is also attested.²⁵⁶ In Sibe, this process gives initial [y-] in S. Li et al. (1984)’s materials, but the corresponding items have [ju-] in Yamamoto 1969; in Ilan Boo and Ibuci, [jy-], [ju-], and [y-] are found. This development is exemplified in (25):

(25) Table 12c. Rounding of word-initial /i/

pTg						
gloss	‘shift, turn at duty’	‘comb (N)’	‘facing, opposite’	‘tongue’	‘to sink, to drown’	‘row (of tiles, in a field, between fields)’
WM	[idu-]	[idʒifun]	[isxun]	[iləŋgu]	[iru-]	[irun] (~ [jurun])
orthographic	<i>idu</i>	<i>ijifun</i>	<i>ishun</i>	<i>ilenggu</i>	<i>iru-</i>	<i>irun</i> (~ <i>yurun</i>)
Beijing		[idʒifun] → [idʒifun] → [idʒifü ⁿ]				
Lalin		[idʒifun]				

²⁵⁵ In fact, the original reconstruction found in Benzing (1956) is pTg *ńöŋün ‘six’, although his proto-inventory excludes pTg *ń.

²⁵⁶ Very few words of the relevant shape are attested in Aigun; these (cf. ‘facing, opposite’) do not show rounding.

Sibe	²⁵⁷		[isxun]	[iliŋ] ²⁵⁸	[yru-m] (NONP) ²⁵⁹	[yrun] 'row; group'
Aigun			[isgundə] (DAT) 'mutually, each other'			
Ilan Boo	[jy:d]	[jy' dzy:yo] ~ [ji' dzi:yo]	[is' kun] ²⁶⁰	[ju' luŋŋo]		
Ibuci			yskō	jyruyə		
Alcuka						
Bala				[iləŋgu]		
Late Jurchen			*is[h]u	*ilenggi		

In Beijing, Lalin, and Sibe, rounding is also observed following earlier alveopalatal obstruents /tʃ-, dʒ-, ʃ-/ and before /u/; in general the result is [u], though [y] is also found. This process is exemplified in (26):

(26) Table 12d. Rounding of /i/ following alveopalatals

pTg						
gloss	'pillow'	'out of one's own interest; privately'	'back side of a mountain'	'to draw (lines), to write'	'(pen) stroke; line'	'lynx'
WM	[ʃirku] (~ [ʃiruku])	[ʃisu-i]	[dʒidun]	[dʒidʒu-]	[dʒidʒun]	[ʃilun] (~ [ʃulun])
orthographic	<i>cirku</i> (~ <i>ciruku</i>)	<i>cisui</i>	<i>jidun</i> ²⁶¹	<i>jiju</i> - ²⁶²	<i>jijun</i>	<i>silun</i> (~ <i>šulun</i>)

²⁵⁷ Compare the derived verb, WM [idura-] *idura-* : Sibe [idurə-m] 'to do duty in turn, to serve in turn' (NONP), without rounding.

²⁵⁸ Note, however, that Sibe [iliŋ] 'tongue' might go back to *iləŋgi (like Late Jurchen *ilenggi 'id.') rather than to *iləŋgu (like WM *ilenggu*), as Eastern Manchu does, although the source of this variation is unclear. There may be influence from northern Tungusic languages.

²⁵⁹ Compare Yamamoto's (no. 2102, 1969: 103) [juru-m] 'id.'

²⁶⁰ Cf. B. Li's transcription, Ilan Boo /üskun/ ([yskun]?) 'id.' (1996:), with rounding as in Ibuci.

²⁶¹ Cf. the WM variant *judun* 'ridge of a mountain', apparently a loan from a rounding dialect such as Beijing that has been lexicalized with a distinct, related meaning.

²⁶² Cf. WM *juju-* 'to mark out a line with a needle in sewing'. Note that in the *XMDC* (1994: 893), the only examples of *juju-* (from *Ilan gurun i bithe* [三國誌演義] and *Dailiyoo gurun i suduri bithe* [遼史]) refer to drawing lines in the dirt on the ground, and have nothing to do with sewing.

Beijing	[ʃirku]	[ʃusui]	[dʒudun] → [dʒudū ⁿ]	[dʒudʒu- m(i)] → [dʒudʒu-m] (NONP)	[dʒydʒun]	[ʃulun] ~ [ʃəlɪŋ]
Lalin		[ʃusui]	[dʒudun]	[dʒudʒu-]		[ʃulun] ~ [ʃəlɪŋ]
Sibe	[tʃununʒku] ²⁶³	[tɛrsur] (Y)		[dʒydʒy-m] (NONP)	[dʒydʒyn] ²⁶⁴	
Aigun						
Ilan Boo	[ʔtʃurko]					
Ibuci						
Alcuka	[tirgu]? [tirku] ²⁶⁵					[ʃilu] ~ [ʃilən]
Bala						[ʃilsun]
Late Jurchen	*tirgu					*ʃil(u)ʔu ‘leopard’

There are very few examples in the “Eastern”-type dialects, suggesting that the process is not native there. “Northern”-type dialects do not participate. Note that some reflexes of ‘lynx’ may reflect borrowing from Chinese (cf. Mandarin 猞猯(猞) *shēlì(sūn)* ‘id.’), though both Manchu and Chinese words appear to have Mongolic connections (cf. WMong *silügüsün* : Khalkha *uuлγγс* ‘id.’).

Following earlier alveopalatals /ʃ, dʒ, ʃ/, rounding of /i/ triggered by immediately following labial consonants /b, m, f/ is also attested. In Beijing and Lalin, rounding yields [u], but there are no clear examples following the voiced affricate /dʒ/.²⁶⁶ In Sibe, rounding yields [y], but seems to be found primarily following /dʒ/. In Ilan Boo, rounding

²⁶³ Compare Yamamoto’s (no. 520, 1969: 23) transcriptions, [tʃun^wk^w] ~ [tʃunuk^w], also with rounding.

²⁶⁴ A variant transcription without rounding, [dʒidʒun] (227), is found in some compounds, perhaps reflecting a reading pronunciation.

²⁶⁵ The original transcription (Mu 1985: 10) has “[k]”. In that work, Y. Mu generally uses “[g]” for /g/ and “[k’]” for /k/. In my view, some plain “[k]”s are to be interpreted as /k/, but others as /g/. Here, [tirku] may have been intended, though note the Late Jurchen cognate.

²⁶⁶ This pattern suggests that centralization is a pre-requisite for rounding in this environment in Beijing and Lalin. See §3.3, below.

is attested following all alveopalatal obstruents, yielding [u]. (No clear examples are found in Aigun and Ibuci.) This development is exemplified in (27):

(27) Table 12e. Rounding of /i/ following alveopalatals and before labials

pTg								
gloss	‘swallow (bird in genus <i>Hirundo</i>)’	‘tomorrow; morning’ ₁	‘tomorrow; morning’ ₂	‘tax, duty’	‘quilt’	‘short fur jacket or coat’	‘lonely, desolate’	‘finger’
WM	[ʃibin]	[ʃimari]	[ʃimay̥a]	[ʃifun]	[dʒibəxun]	[dʒibʃa]	[ʃimaʃuka]	[ʃimxun] (~ [ʃumxun])
orthographic	<i>cibin</i>	<i>cimari</i>	<i>cimaha</i>	<i>cifun</i>	<i>jibehun</i>	<i>jibca</i>	<i>simacuka</i>	<i>simhun</i> (~ <i>šumhun</i>)
Beijing	[ʃubin] → [ʃubi(n)]	[ʃumari] → [ʃumali]	[ʃumaga] → [ʃumag]	[ʃufun] ~ [ʃuwun]			[ʃumaʃuka] ~ [ʃumʃika] → [ʃumʃik(a)]	[ʃumxun] → [ʃumxū ^a]
Lalin	[ʃubin]	[ʃumali]	[ʃumaga]	[ʃufun]		[dʒibʃa]		[ʃumxun]
Sibe	²⁶⁷	[teimar]			[dzyvxun]	[dzyktea] ²⁶⁸	²⁶⁹	[eimyūn] ²⁷⁰
Aigun			[teimaʁa]					
Ilan Boo	²⁷¹		[tʃuːmaːka]		[dʒuːyūn]	[dʒibʃeia] ‘fur or fleece vest’		[ʃumˈyūn] ~ [ʃumˈgūn]
Ibuci			tʃəma:kə ~ tʃəˈmaɣ(ə) ~ tʃəʔˈmaɣ					
Alcuka		[ʃuməli]			[divxun]			
Bala					[bədixən]			
Late Jurchen		*timari			*dibehun(g) ²⁷²			*ši(n)m(u)hun(g)

Among the “northern”-type dialects, Alcuka [ʃuməli] ‘tomorrow; morning’₁ listed here is an isolated example, suggesting that the process is not native there.

²⁶⁷ Compare Sibe [teivaqən] ‘id.’.

²⁶⁸ Yamamoto (no. 225, 1969: 10) recorded [dʒivtʃaː] ~ [dʒiftʃaː] ‘fox fur coat’, without rounding.

²⁶⁹ Yamamoto (nos. 2529, 2530; 1969: 122) recorded [ˈeima, tʃuq^w] ‘lonely’ ~ [eiˈmatʃ^wq^w] ‘lonelier’, without rounding.

²⁷⁰ Yamamoto (no. 73, 1969: 4) recorded [çym^wyūn] ‘id.’, with rounding.

²⁷¹ Compare Ilan Boo [teiva:kə] ‘id.’.***

²⁷² The transcription uses 伯 (Mandarin *bǎi* ~ *bó*) for *be.

In Sibe, Ilan Boo, Ibuci, and possibly Aigun, rightward (progressive) rounding of /i/ triggered by preceding round vowels is also attested. Earlier /ɔ/ triggers rounding of /i/ to [ɔ] (~ [u], [y]²⁷³), as exemplified in (28):

(28) Table 13a. Rounding of /i/ following earlier /ɔ/ in a preceding syllable

pTg						
gloss	‘son-in-law’	‘to enter’	‘to vomit’	‘small hammer’	‘violence; violent’	‘to sob’
WM	[χɔɖʒiχɔn] (~[χɔɖʒiχɔn])	[dɔʃi-]	[ɔkʃi-]	[tɔkʃiqɔ]	[dɔkʃin]	[sɔkʃi-]
orthographic	<i>hojihon</i> (~ <i>hojigon</i>)	<i>dosi-</i>	<i>oksi-</i>	<i>toksikû</i>	<i>doksin</i>	<i>soksi-</i>
Beijing	[x(u)ɔɖʒiχɔn] → [xuɔɖʒiχɔn] ~ [xɔɖʒiχɔn]				[dɔxʃin]	
Lalin	[xuɔɖʒiχɔn]					
Sibe	[χɔʃuχun]	[dœzy-m] (NONP)	[ɔχei-m] (NONP)	²⁷⁴	[dɔχʃin] (Y)	[sɔχsu- m] ~ [sɔqsu- m] (NONP)
Aigun	[χɔɖʒuβɔn] (B. Li)	[dɔʒi-βɔ] (PERF.PART)				
Ilan Boo	[χɔɖʒ'βɔn]	[dɔ:'ʒu-me] (NONP), [dɔʒɔ:] (BARE STEM IMPERATIVE)	[ɔɣ'su- mbe] (NONP)	[tɔɣ'sɔ ⁹ χɔ]	[dɔk'sɔn]	
Ibuci	xɔɖʒɔ'gon ‘husband’ ~ xɔɖʒu'gon ‘son-in-law’	dɔɖʒi-mi ~ dɔɖʒo-mi ~ dɔɖʒow-mi (NONP), dɔɖʒo-vo (PERF.PART), dɔɖʒo (BARE STEM IMPERATIVE)	ɔxu'su- mi (NONP)			
Alcuka						

²⁷³ The occurrences of [u] rather than [ɔ] in this context seem to be derived by a separate process (see §3.5). Sibe has [y] in cases where earlier /ɔ/ underwent umlaut to [œ] and the preceding consonant is an alveolar.

²⁷⁴ Compare the related verb, WM [tɔkʃi-] *toksi-* ‘to knock, to strike, to beat’ : Sibe [tɔχei-m] (NONP) ‘id.’, without rounding.

Bala						
Late Jurchen	*hodi	*doši-mbi (NONP)				

Note that the consonants that may precede rounded /i/ in Sibe, Ilan Boo, and Ibuci are essentially limited to /dʒ/ and /f/, suggesting that rounding may be fed by centralization of earlier /i/ (§3.3). A number of exceptional(?) items also exhibit rounding over other consonants (/b, g, (ŋ)k, ŋg, rg, lg/), particularly in Sibe, as in WM [dɔbi] *dobi* ‘fox’ : Ilan Boo [dɔ:vɔ] : Sibe [dœv] ([dœvu-]) ‘id.’; WM [sɔgi] *sogi* ‘vegetable’ : Sibe [œɕg^w] ([œɕgu-]) (B. Li 1996: 196) : Ibuci ‘tsogu ~ ‘tsogo ~ ‘tsogu ‘id.’; WM [ʃɔŋki-] *congki-* ‘to peck’ : Sibe [tœku-m] (NONP) ‘id.’; WM [nɔŋgi-] *nonggi-* ‘to add, to increase’ : Sibe [niɔŋu-m] (NONP) : Ilan Boo [nɔŋ'ŋɔ-me] (NONP) : Ibuci noŋŋū-mi (NONP), noŋŋo-vo (PERF.PART) ‘id.’; WM [dɔrgi-də] *dorgi de* ‘into, inside’ : Sibe [dœryu-d] ‘id.’ (N. Jin 1991: 151, 162); and WM [tɔlgɪn] *tolgin* ‘dream’ : Sibe [tœlyun] ‘id.’ (N. Jin 1991: 162).²⁷⁵

Along the same lines, earlier /u/ triggers rounding of /i/ to [u] (~ “o”, [y]). This sub-development is most pervasive in Sibe; examples in Ilan Boo and Ibuci are generally variants of forms without rounding. This development is exemplified in (29):

(29) Table 13b. Rounding of /i/ following earlier /u/ in a preceding syllable

pTg						
gloss	‘field’	‘chisel’	‘to incite, to sow discord’	‘armor’	‘to beat (of the heart)’	‘to throb (of a wound)’

²⁷⁵ For several of these items, forms without rounding are also attested in different materials: cf. Sibe [dīœv^j] ‘fox’ (Yamamoto, no. ##), [œog] ~ [s'œg^j] ‘vegetable’ (Yamamoto, no. 303), [tīœŋkilə-m] (NONP) ‘to peck’ (Yamamoto, no. 1723), [jīœŋi-m] (NONP) ‘to add, to increase’ (Yamamoto, no. ##), without rounding. The interaction of umlaut with rounding suggests that the former change precedes the latter in Sibe. That order might complicate the notion of rounding as a process shared with Eastern Manchu dialects. In addition, there may be cases of rounding of /iV/ diphthongs, as in WM [ɔχɔliɔ-] *oholiyo-* : Sibe [ɔχɔlu-] ‘to take or hold in both hands’, assuming this is not just a substitution of verbal suffixes.

WM	[uʃin]	[ʃuʃin]	[ʃuʃixiə-]	[ukʃin]	[tukʃi-]	[lukʃi-]
orthographic	<i>usin</i>	<i>šusin</i>	<i>šusihye-</i>	<i>uksin</i>	<i>tuksi-</i>	<i>luksi-</i>
Beijing	[uʃin] ~ [uʃən] → [uʃə(n)]			[uxʃin]		
Lalin	[uʃin]					
Sibe	[uzin]	[ɛyzyn] ²⁷⁶	[ɛyeyxu-m] (NONP)	[uxein]	[tuksu-m] (NONP) ²⁷⁷	[luksu-m] (NONP)
Aigun	[ujin]					
Ilan Boo	[ʼu(:)zʃin] ~ [u:ʼzʃun]			[ukʼʃun]		
Ibuci	uʼdʒin ~ uɕon ~ uɕõ					
Alcuka	[uzʃin] ~ [uzʃə(n)]			[uxzʃə]		
Bala						
Late Jurchen	*uši			*u[h]ši		

As in the case of rounding triggered by /ɔ/, possible consonants preceding fronted /i/ are strictly limited, again suggesting a connection to centralization (§3.3). Here, as well, there are a few sporadic examples in Sibe and Ibuci of rounding over other consonants (specifically, dorsals and liquids), as in WM [tugi] *tugi* ‘cloud’ : Ibuci tygu ~ tuigə ‘id.’, WM [buxi] *buhi* ‘thigh’ : Sibe [bux^w] ‘id.’, WM [turi] *turi* ‘bean, pea’ : Sibe [tyry] : Ibuci tulu ‘id.’, and WM [duri-] *duri-* ‘to snatch, to steal, to seize’ : Sibe [dyry-m] (NONP) ‘id.’.

Earlier /ɔ/ can also trigger progressive rounding of /i/ to [u], as exemplified in (30):²⁷⁸

(30) Table 13c. Rounding of /i/ following earlier /ɔ/ in a preceding syllable

²⁷⁶ Cf. B. Li’s transcription /ɛücün/ ([ɛyzyn]) ‘id.’ (1996: 197).

²⁷⁷ Compare the derived form WM [tukʃi-ʃukə] *tuksicuke* ‘frightful, startling; dangerous’ (i.e., ‘causing the heart to race’) : Sibe [tuxeiʃuk] ‘id.’ (249), without rounding.

²⁷⁸ In Sibe, cases of earlier /ɔ/--where it seems not to have been neutralized to /u/ according to the pattern of WM (see §3.5)--are also attested as triggers of rounding, as in WM [dʒuki-(ɣa^{xmdc})] *juki-* ‘to stop up, to fill in’ : Sibe [dʒækœ-m] ‘id.’. As in other cases, variants without rounding are also attested, viz. [dʒyki-] ‘id.’ (B. Li 1996: 197).

pTg		
gloss	‘thirty’	‘to wrap (up), to envelop’
WM	[gɔʃin]	[χɔʃi-]
orthographic	<i>gûsin</i>	<i>hûsi-</i>
Beijing	[guʃən] ~ [guʃə] ~ [gɔʃin] → [gɔʃi]	
Lalin	[guʃin]	
Sibe	[gɔʒin]	[χɔzi-m] (NONP)
Aigun	[gɔʒin]	
Ilan Boo	[gɔ:ˈzʊn] ~ [ˈgɔʒin]	
Ibuci	guɔɖzʊn ~ guɔɖzʊn ~ guɔɖzin ~ gʊɖzən	xudzu-nmi ~ xuɔɖzu-nmi (NONP)
Alcuka	[gɔʃi] ~ [gɔʒi] ~ [ɔʃi]	
Bala		
Late Jurchen	*guši	

As in the case of rounding triggered by /u/, Ilan Boo and Ibuci attest rounded and unrounded variants.

3.5. Reduction, centralization, and simplification

All varieties of Manchu exhibit processes that may be broadly described as converting full vowels to reduced vowels of some kind. The processes are highly heterogeneous. The most prototypical cases involve some version of /V/ > /ə/, but I also include changes such as /V/ > /i/ following alveopalatal consonants, where originally contrastive features are neutralized. Much of the discussion here is very tentative, particularly in regard to characterizing the fundamental nature of the changes and distinguishing between

different types of process. This is another vast area of Manchu dialect phonology that is ripe for further study.

3.5.1. Centralization of earlier /i/

In all varieties of Manchu other than WM and LJ, earlier /i/ may be centralized to /ə/ (including any corresponding schwa-like vowel with the same function /u, ʌ, i/ etc., depending on the particular phonological analysis or transcription choice in the sources). This change applies following the earlier alveopalatal obstruents /tʃ, dʒ, ʃ/. For dialects in which the default articulation of earlier /tʃ, dʒ, ʃ/ became retroflex /tʂ, dʒ, ʂ/, the special symbol “[ɿ]” is often used in Chinese sources to represent the surface form of /ə/ in this environment. (I have converted “[ɿ]” to [i] when citing data with this symbol.) But there is no contrast between this “[ɿ]” and the schwa-type vowels. Other sources for the same dialects (e.g., Yamamoto 1969 for Sibe) lack it entirely. In my view, it is better understood as a raised allophone or free variant of /ə/ following /tʂ, dʒ, ʂ/.

The conditions for centralization vary among Manchu varieties depending on the identity of the original preceding alveopalatal obstruent and the position in the word; a number of lexical items attest both centralized and un-centralized variants in some dialects; overall, the development seems to involve a considerable degree of optionality. The basic distribution of the process among Manchu varieties is given in (31), and discussed in more detail below. Entries in the table mean that centralization is attested in that dialect, but not necessarily regular:

(31) Table 14. Centralization or reduction of earlier /i/

source \ position	initial σ	open medial σ ²⁷⁹	final σ
/tʃi/	Beijing ([RTR]-vocalic words only?) Lalin ([RTR]-vocalic words only?)	Beijing Lalin	(Bala?) (Ilan Boo?)

²⁷⁹ Earlier /i/ in originally closed medial syllables does not seem to undergo centralization in any variety, but too few relevant lexical items are attested in the dialects to be sure.

		Sibe Aigun Ilan Boo Ibuci Alcuka (rare) Bala (rare)	
/dʒi/	Beijing ([RTR]-vocalic words only?) Lalin ([RTR]-vocalic words only?)	Beijing Lalin Sibe Aigun Ilan Boo Ibuci	<i>none?</i>
/ʃi/	Beijing (optional?) Lalin Sibe (rare) Ilan Boo (rare) Ibuci (rare) Alcuka (optional?) Bala (optional?)	Beijing Lalin Sibe Aigun Ilan Boo Ibuci Alcuka Bala	Beijing Lalin (Sibe?) Aigun Ilan Boo Ibuci Alcuka

3.5.1.1. Centralization of /i/ in initial syllables

As tabulated above in (31), centralization of earlier /i/ in initial syllables following the affricates /ʃ, dʒ/ is restricted to the Beijing and Lalin varieties. This development is exemplified in (32):

(32) Table 15a. Centralization of /i/ in initial syllables after alveopalatal affricates

pTg			
gloss	‘desire, wish’	‘voice’	‘money’
WM	[ʃiχa-i]	[dʒilgan]	[dʒiχa]
orthographic	<i>cihai</i> (GEN)	<i>jilgan</i>	<i>jiha</i>
Beijing	[ʃuxa-i] (GEN) ²⁸⁰	[dʒilgan] ~ [dʒilxan]	[dʒix]
Lalin	[ʃiχa-i] (GEN)	[dʒilgan]	[dʒiχa]
Sibe	[tɕiβa-i] (GEN)	[dʒiβan]	[dʒiβa]
Aigun			[dʒiβa]

²⁸⁰ Beijing [u] is unexplained, but I assume an intermediate source similar to Lalin [ʃiχai], perhaps reanalyzed as /ʃuxai/ via hypercorrection on the basis of reduction of /u/. See §###, below.

Ilan Boo	[tɕi'ka]	[dʒil'kan]	[dʒi'ka:]
Ibuci	tɕika	dʒilkan ~ dʒirkan	dʒi'ka ~ dʒiɣa
Alcuka	[tixa-i] (GEN)		
Bala			
Late Jurchen	*tiha	*dil(u)'a	*jiKa

Note that ‘money’ is *not* centralized in Beijing, and in fact in both Beijing and Lalin, the more frequent development is retention of un-centralized front [i], as in WM [ʃiʃin] *cikin* : Lalin [ʃiʃin] ‘edge, border, riverbank’; WM [ʃiktən] *cikten* : Beijing [ʃiktən] → [ʃixtən] → [ʃixtə(n)] ‘(tree) trunk, stem, shaft’; WM [dʒibʃa] *jibca* : Lalin [dʒibʃa] ‘short fur jacket’; and WM [dʒiŋgia] *jinggiya* : Beijing/Lalin [dʒiŋja] ‘sty (on the eye)’.

Following word-initial /ʃ/, earlier /i/ is regularly centralized only in Lalin; in Beijing, Sibe, Alcuka, and Bala, centralization is only attested for a handful of items, with un-centralized [i] variants in Beijing, Sibe, and Alcuka for some items. These developments are exemplified in (33):

(33) Table 15b. Centralization of /i/ in initial syllables after /ʃ/

pTg							
gloss	‘hazelnut’	‘dew’	‘yesterday’	‘roe deer’	‘large pot, cauldron’	‘to put, to place, to set; to release, to fire (a weapon)’	‘mouse, rat’
WM	[ʃiʃi]	[ʃiləŋgi]	[ʃiksə]	[ʃirga]	[ʃimtu]	[ʃinda-]	[ʃiŋgəri]
orthographic	<i>sisi</i>	<i>silenggi</i>	<i>sikse</i>	<i>sirga</i>	<i>simtu</i>	<i>sinda-</i>	<i>singgeri</i>
Beijing	[ɕiʃi]	[ʃiliŋi]	[səks(ə)] → [səks]		[ʃəmtu] → [ʃəmt(u)] ~ [ʃəntu]	[ʃənda-mi] ~ [ʃəna-mi] (NONP), [ɕinna-xa] ~ [ʃi(n)na-xa] (PERF.PART)	[ʃiŋəi] ~ [ɕiŋə(r)i]
Lalin	[ʃiʃi]			[ʃilga]	[ʃəmutu]	[ʃinna-xa] ~ [sina-xa] (PERF.PART)	

Sibe		[eiliŋ]	[tʂəksə] ²⁸¹			[sənda-m] ~ [einda-m] (NONP)	[eiŋər]
Aigun		[eiliŋŋi]	[eiksə]				
Ilan Boo		[ei'liŋŋu]	[eisku]			[ʂun'da-me] (NONP)	[eiŋ'ŋuru]
Ibuci			eisikə ~ eiskə			einda- ²⁸²	eiŋər ~ eiŋər ~ eiŋər
Alcuka	[ʃiʃi] ~ [eiʃi]		[eikɬə]		[ʃəmu]		[eigə] ~ [eiŋgei]
Bala	[ʃəʃi]				[ʃəmu] ~ [ʃimu]		
Late Jurchen	*ʂiʂi	*ʂilei (*ʂile[h]i?)	*ʂi[h]se	*ʂirKa 'roebuck'		*hinda-, *hin(g)da-bi (NONP)	*ʂinggeri

(Bala exhibits centralization in the cognates above, but most words in fact do not undergo the change. The verb ‘to put, to place, to set; to release, to fire (a weapon)’ attests centralization in the widest range of dialects, perhaps due to the fact that it is highly grammaticalized and possibly prosodized together with preceding objects, such that the relevant syllable ends up non-initial.)

3.5.1.2. Centralization of /i/ in medial syllables

Centralization is most pervasive across varieties, and most frequent lexically, in open word-medial syllables. In this environment, the reflex of earlier /i/ is often fully deleted, particularly if the following onset is a dorsal obstruent. These facts support the notion that centralization is a kind of reduction that culminates in outright deletion. Even in cases of deletion, it is generally possible to determine whether centralization had previously applied in dialects that undergo allophonic alternations of the preceding consonants (see Chapter 2 §#####). Thus, for example, in Sibe, Aigun, Ilan Boo, and Ibuci, the presence of retroflex [tʂ, dz, ʂ, z] consonants preceding the position of the

²⁸¹ Compare the Sibe variant [tʂeiksə] ‘id.’, without centralization (Jerry Norman, p.c.).

²⁸² Compare the variant in (tA) ʂiŋe-mi (NONP) ‘to light (a fire)’, with centralization.

deleted reflex of /i/ is taken as evidence that the deleted /i/ had been centralized along the way, whereas alveolars [tɕ, ɕʑ, ɕ, ʑ] indicate that an un-centralized /i/ was deleted. As the reduction analysis predicts, the latter situation, with alveolars preceding a deleted un-centralized /i/, is extremely rare. Centralization/reduction of /i/ in medial syllables following earlier /tʃ/ is exemplified in (34):

(34) Table 16a. Centralization of /i/ in medial syllables after /tʃ/

pTg						
gloss	‘load, burden’	‘to learn’	‘to chop, to cut down’	‘leggings’	‘beautiful, attractive’	‘to go out, to come out’
WM	[aʃiʎa]	[taʃi-]	[saʃi-]	[ɕoʃiɕu]	[χoʃiɕon]	[tuʃi-]
orthographic	<i>aciha</i>	<i>taci-</i>	<i>saci-</i>	<i>gocikû</i>	<i>hocikon</i>	<i>tuci-</i>
Beijing	[aʃiʎa] → [aʃiʎ(a)]	[taʃi-xa] (PERF.PART)		[guoʃiku] → [guoʃiku]	[xuəʃikən] → [xuəʃikən] ~ [xəʃiʎən]	[tuʃi-kə] → [tuʃi-k(ə)] (PERF.PART)
Lalin	[aʃiʎa]	[taʃi-xa] (PERF.PART)		[guoʃiku]	[xuəʃikən]	[tuʃi-kə] (PERF.PART)
Sibe	[atʃiʎa]	²⁸³	[satʃə-m] (NONP)	[ɕotʃiɕu]	[χotʃiɕun]	[titei-m] (NONP)
Aigun		²⁸⁴	[satʃə-ʎa] (PERF.PART)			[titei-ɣə] (PERF.PART)
Ilan Boo	²⁸⁵	[tætei-ɣu] (PERF.PART)	[sa(:)ʔʃi-me] (NONP)	[ʔˈɕo:teikɔ]	[χotʃiʔ ʁon] ~ [χotʃiʔ ɕon]	[teyʔ tey-me] (NONP)
Ibuci		tætei-ɣə (PERF.PART)	²⁸⁶			teiʔ tei-mi (NONP)
Alcuka						[tuti-ʔə] (PERF.PART)
Bala						
Late Jurchen		*tati-				*tuti-he (PERF.PART)

²⁸³ Compare the derived word, WM [taʃiɕu] *tacikû* ‘school’ : Sibe [tateiɕu] ‘id.’, without centralization.

²⁸⁴ Compare the derived word, WM [taʃiɕu] *tacikû* ‘school’ : Aigun [tateiɕu] ‘id.’, without centralization.

²⁸⁵ Compare the related verb, WM [aʃi-] *aci-* ‘to load, to carry’ : Ilan Boo [a:ʔʃi-me] (NONP) ‘to carry on the back’, with centralization.

²⁸⁶ Compare the derived word, WM [saʃina-] *sacina-* ‘to go to chop’ : Ibuci [sətʃənna-mi] (NONP) ‘id.’, with centralization.

Additional examples of centralization in this environment include the reflexes of: WM [əʃʰikə] *ecike* ‘uncle (father’s younger brother)’ (in Beijing, Lalin, Sibe, Ilan Boo, and Ibuci); WM [kuəʃʰixə] *kuwecihe* ‘dove (bird)’ (in Beijing, Lalin, and Ilan Boo); WM [dʒuʃʰiba] *juciba* (~ [dʒuʃʰuba] *jucuba*) ‘firefly’, WM [χantʃʰiqan] *hancikan* ‘rather near’, and WM [qaʃʰilan] *kacilan* ‘(target practice) arrow’ (in Beijing and Lalin--but see below). A handful of items attest centralization in Alcuka and Bala, such as WM [məʃʰiqə] *mociko* : Alcuka [məʃʰikə] ‘crooked, askance’ and WM [dʒuʃʰiba] *juciba* (~ [dʒuʃʰuba] *jucuba*) : Alcuka [duʃʰiba] ~ [dʒətiba] : Bala [duəʃʰiba] ‘firefly’, but the regular development is retention of [i].

Note in (34) above that Sibe and “eastern” Manchu varieties fail to centralize in some items (e.g., ‘to go out, to come out’), particularly when a front vowel occurs in an adjacent syllable in the dialect reflex. Adjacent front vowels also seem to play a role in blocking regular centralization in Beijing and Lalin. For example, the reflexes of WM [nəʃʰixiə-] *necihiye-* ‘to level; to pacify’, [miʃʰixian] *micihyan* ‘shallow’--which would otherwise be expected to undergo centralization in Beijing and Lalin--do not. Some lexical items with irregular vowel and consonant correspondences perhaps also fall into this category, such as WM [ʃəʃʰikə] *cecike* : Beijing/Lalin [ʃʰiʃʰikə] : Sibe [tɛitɛ(i)kə] ~ [tɛitɛik(ə)] : Aigun/Ibuci [tɛitɛikə] : Ilan Boo [ˈtɛi(:)tɛiku] : Alcuka [ʃʰitixə] ~ [ʃʰiʃʰigə] : Bala [titigə] : LJ *šečehe ~ *šeč[h]e ‘small bird’, where--in all varieties other than WM and LJ--a front vowel stands in a syllable adjacent to the /i/ that is otherwise expected to undergo centralization.

Centralization of /i/ in medial syllables following earlier /dʒ/ is exemplified in (35):

(35) Table 16b. Centralization of /i/ in medial syllables after /dʒ/

pTg						
-----	--	--	--	--	--	--

gloss	‘to bring’	‘to end, to come to a close’	‘son-in-law’	‘to live, to be born’	‘to ask’	‘comb (N)’
WM	[ga(n)dʒi-]	[wadʒi-]	[χɔdʒixɔn] (~ [χɔdʒixɔn])	[bandʒi-]	[fɔndʒi-]	[idʒifun]
orthographic	<i>ga(n)ji-</i>	<i>waji-</i>	<i>hojihon</i> (~ <i>hojigon</i>)	<i>banji-</i>	<i>fonji-</i>	<i>ijifun</i>
Beijing			[x(u)ɔdʒixɔn] → [xuɔdʒixɔ̃ ⁿ] ~ [xɔdʒixɔn]	[banni-mi] ~ [bandʒi-m(i)] → [bandʒi-m(i)] (NONP)	[fɔnni-mi] (NONP) [fɔnni-xa] ~ [wɔndʒi-xa] (PERF.PART)	[idʒifun] → [idʒifun] → [idʒifū ⁿ]
Lalin			[xuɔdʒixɔn]	[banni-mei] (NONP)	[fɔnni-xa] ~ [vɔndʒi-xa] (PERF.PART)	[idʒifun]
Sibe	[gadʒi-m] (NONP)	[vadʒi-m] (NONP)	[χɔʃuɣun]	[bandʒi-m] (NONP)	[fɔndʒi-m] (NONP)	
Aigun			[χɔdʒuxɔn] (B. Li)	[bandʒi-ɤa] (PERF.PART)		
Ilan Boo		[va:dʒi-ɣu] ~ [va:dʒ-ɤΛ] (PERF.PART)	[χɔdʒ'ɤɔn] ²⁸⁷	[ban'dzi-m(b)e] (NONP) [ban'dzi-ɤa] (PERF.PART)	[fɔn'dzi-me] (NONP)	[jy'dzy:yo] ~ [ji'dzi:yo]
Ibuci	gadʒə-mi ~ gadʒΛ-mi (NONP)	vadʒi-mi ~ vadʒə-mi ~ vadʒə-mi (NONP) 'vadʒə-ɣə (PERF.PART)	xodʒə'gon ~ xodʒu'gon	bandʒi-mi (NONP) ban'dzi-ɣə (PERF.PART)	fɔndʒi-mi (NONP) fɔndʒi-ɣə (PERF.PART)	
Alcuka	[gadʒi-mei] ~ [gandʒi-nmei] (NONP)	[ɔdi-mei] (NONP)		[bandi-xa] (PERF.PART)		
Bala	[gadʒi-mi] ~ [gandʒu-mi] (NONP)	[ɔrdi-mi] (NONP)	²⁸⁸	[bardi-]		
Late Jurchen	*gadi-Ka ~ *godi-Ka (PERF.PART)	*odi-Ka (PERF.PART)	*hodi	*bandi-Ka? *bondi-Ka? (PERF.PART)	*fonisu (IMPERA)	*idifu

(The Alcuka and Bala reflexes of ‘to bring’ seem to be the only examples of centralization in this environment; given that the observed palatalization of *d is also irregular, I assume these forms reflect contact with some other Manchu variety.) Additional examples of centralization in this environment include the reflexes of: WM [mudʒilən] *mujilen* ‘mind’, and [udʒibu-] *ujibu-* ‘to be raised, to be nurtured’ (in Beijing), and WM [kədʒinə] *kejine* ‘a while, a long time’ (in Lalin). Note that ‘comb (N)’, with a front vowel in an adjacent syllable, fails to undergo centralization in Lalin and Ilan Boo.

²⁸⁷ Compare B. Li’s transcription, [χɔdʒyɣun] ‘id.’ (1996: 210), without centralization.

²⁸⁸ Compare Bala [xɔdixɔ-ɕi] ‘sons-in-law’.

In Beijing, centralization is reported for this item only in faster speech. In fact, faster speech also conditions Beijing centralization for verbs like WM [bandʒi-] *banji-* ‘to live, to be born’ and WM [fəndʒi-] *fonji-* ‘to ask’, which also do not undergo centralization in Sibe, Aigun, Ilan Boo, or Ibuci. In other words, in careful speech, Beijing patterns together with Lalin, Sibe, Aigun, Ilan Boo, and Ibuci in this context. As in the case of centralization following /ʃ/, there are further examples of unexpected failure of centralization when an adjacent syllable contains a front vowel. For example, the reflexes of WM [idʒisχʊn] *ijishûn* ‘obedient, submissive, docile’ and [ʃidʒirχʊn] *sijirhûn* ‘straight; honest’ are un-centralized in Beijing and Sibe.²⁸⁹ Furthermore, some exceptional items fail to centralize in any dialect, essentially without any clear motivation, such as WM [adʒigə] *ajige* : Beijing/Lalin [adʒig(ə)] : Sibe [adʒi(g)] : Aigun/Ibuci [ɛdʒi] : Ilan Boo [ai'dʒi(g)] ‘small, little’.

Centralization of /i/ in medial syllables following earlier /ʃ/ is exemplified in (36):

(36) Table 16c. Centralization of /i/ in medial syllables after /ʃ/

pTg						
gloss	‘letter (mail)’	‘to go down, to descend’	‘fish scale’	‘star’	‘whip’	‘to disperse, to scatter’
WM	[dʒaʃiɡan] (~ [dʒaʃiχan])	[waʃi-]	[əʃixə]	[uʃixɑ]	[ʃuʃixɑ]	[samʃi-]
orthographic	<i>jasigan</i> (~ <i>jasihan</i>)	<i>wasi-</i>	<i>esihe</i>	<i>usiha</i>	<i>šusiha</i>	<i>samsi-</i>
Beijing	[dʒaʃixan]	[waʃi-mi] (NONP)		[uʃixɑ]	[suʃixɑ]	[samʃi-mi] (NONP)
Lalin				[uʃixɑ]		[samʃi-ka] (PERF.PART)
Sibe	[dʒaciχan]	[vazi-m] (NONP)	[əsx]	[ueiχɑ]	[susχɑ]	[samzi-m] (NONP)
Aigun	[dʒezʲiχan]					
Ilan Boo	[dʒezʲiχan]	[vaːzʲi-me] ~ [vaːzʲi-mbe] (NONP)	[ˈuːʃkuw]	[uʃˈɛɑː]	[ʃuʃˈɛɑː]	[samˈzʲu-me] (NONP)
Ibuci	dʒiedʒigon ~ dʒiedʒigon ~	vaɖə-nmi (NONP)		usiχɑ ~ usiɛɑ ~		

²⁸⁹ Another possibility is that originally closed medial syllables simply did not undergo centralization.

	dziezǎ'xən			,usi'xa		
Alcuka			[əʃigə] ~ [əʃi]	[uʃixa]		
Bala			[əʃigən]	[uʃixa]		
Late Jurchen		*waši-nu (IMPERA)		*ušiKa	*sušiKa	

Additional examples of centralization in this environment include the reflexes of: WM [ʃiʃiŋga] *sisingga* ‘glutton’, [dauʃida-]? *doosida-* ‘to covet’, and [maʃila-] *masila-* ‘to strain one’s powers, to do forcefully’ (in Beijing and Lalin); WM [miəʃirila-] *mi(y)osirila-* ‘to smile’, [fuʃixola-] *fusihūla-* ‘to despise’, [wəʃixun] *wesihun* ‘lofty, exalted’, and [daŋʃi-] *dangsi-* ‘to reprove, to chide, to scold, to bawl out’ (in Beijing); WM [aʃixan] *asihan* ‘young (person)’ (in Sibe, Ilan Boo, and Ibuci); WM [jakʃi-] *yaksi-* ‘to shut, to bolt’ (in Sibe and Ilan Boo); WM [iʃina-] *isina-* ‘to reach, to arrive’ (in Alcuka and Ilan Boo); WM [niʃixa] *nisiha* ‘small fish’ and [laʃixi-] *lasihi-* ‘to shake, to toss around’ (in Alcuka and Bala).

Most items in (36) above do not centralize in Sibe, and in fact a majority of lexical items that meet the structural description appear to escape centralization. In general, centralization in this environment is more prevalent in the “Eastern” dialects Ilan Boo and Ibuci than in Sibe: there are very few etyma that undergo centralization in Sibe but *not* in an “Eastern” dialect.

3.5.1.3. Centralization of /i/ in final syllables

Centralization in final syllables is highly restricted. It is essentially absent following earlier /tʃ/. In a handful of items, a single dialect reflex is recorded with centralization, as in WM [iʃi] *ici* : Sibe [ʔiter] (Y) : Aigun [itee] : Ilan Boo [i:tee] : Ibuci itei-kə ~ itei-gə : Alcuka [iʃie] : **Bala [iʃi]** : LJ *iti ‘right (side)’ and WM [əbʃi] *ebci* : Sibe [əvtɛi] : **Ilan Boo [ʔubtʃu]** : LJ *e’uči ‘rib’. I speculate that these rare forms with centralization reflect irregular reduction, possibly in faster or casual speech.

There are no examples of centralization of earlier /i/ in final syllables following earlier /dʒ/.

Following /f/, final-syllable centralization of /i/ is found in Beijing, Lalin, Aigun, Ilan Boo, Ibuci, and Alcuka. This development is exemplified in (37):

(37) Table 17a. Centralization of /i/ in final syllables after /f/

pTg									
gloss	‘eggplant’	‘very’	‘craftsman’	‘where? how? in what way?’	‘piece, fragment’	‘handle, grip’	‘benefit, interest’	‘gold’	‘hither; until now’
WM	[χafɪ]	[uməfɪ]	[fakfɪ]	[abfɪ]	[farfɪ]	[fəfɪn]	[aifɪ]	[aifɪn]	[əbfɪ]
orthographic	<i>hasi</i>	<i>umesi</i>	<i>faksi</i>	<i>absi</i>	<i>farsi</i>	<i>fesin</i> (~ <i>fešen</i>)	<i>aisi</i>	<i>aisin</i>	<i>ebsi</i>
Beijing	[xa(i)ɸɪ] ~ [xaei]	[əm(ə)ɸɪ]	[fakfɪ]	[abfɪ] ~ [afɪ]	[farfɪ]	[fə(i)ɸən]	[aifɪ]	[aiein] ~ [aifɪn] ~ [aifən]	[əbfɪ] ~ [əfɪ]
Lalin				[abfɪ]			[aifɪ]		
Sibe	[χaei]	[uməei] ²⁹⁰	[faχei] ²⁹¹	[avei]	[farei]	[fəʂən] ~ [fəsən] (Y)	[aiei]	[aiein]	[əvei] ~ [əei]
Aigun				[ɛvee]	[faʂa]				
Ilan Boo	[ˈχaiɰe] ~ [χaiɰɛ] ²⁹²	[uˈmuɰɪ]	[faɰɪ]	²⁹³		[fuːˈzɪn]	[aiei]	[aiˈzɪn]	
Ibuci	xɛdʒə	əməʂɪ						ɛdʒən	
Alcuka	[xaidʒɪ] ~ [xaei]		[pakzɪ]			[fɛiɸɪ]		[anɸɪn] ~ [enɸɪn]	[gəˈuzɪ]
Bala								[anɸugun] ²⁹⁴	

²⁹⁰ Yamamoto stated that in Sibe this item is non-colloquial, and rendered it /²uməɸɪ/ [ʔumɛ] ~ /²umɰɪ/ [ʔumɰɛ] ‘id.’ (no. 2924, 1969: 149).

²⁹¹ Compare Yamamoto’s transcriptions (1969: 88, no. 1844) [faɰɛ] ~ [faχɛ] ‘id.’.

²⁹² The combination of a retroflex consonant with a front vowel, [...ɰɛ...], occurs only in this one item in Čenggeltei’s Ilan Boo materials, and seems to be a typographical error, most likely for [...ze...], meaning that this word has both centralizing and non-centralizing variants.

²⁹³ In Ilan Boo, this item was recorded only in a nominalized form, WM [abfɪ-niŋgə] *absiningge* : Ilan Boo [ˈabʂɪ-niŋgu] ‘something [done] for what reason’ (Čenggeltei 1998: 282), but in the derived word, /i/ is in a medial syllable, not a final syllable.

²⁹⁴ The relationship of this form to WM [aifɪn] *aisin* ‘gold’ and its more obvious cognates is not entirely clear.

Late Jurchen			*fa[h]ši		*faši			*anču ²⁹⁵	
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Additional examples include the reflexes of WM [dauʃi] *doosi* ‘greedy’, [fiʃin] *fisin* ‘thick, dense’, [kəʃi] *kesi* ‘favor, grace’, [ʃiʃi] *sisi* ‘hazelnut’, [uʃiʃi] *usisi* ‘farmer’, and cf. [uʃin] *usin* ‘field’, [ukʃin] *uksin* ‘armor’, and [dəkʃin] *doksin* ‘violent’. Note that although Sibe apparently attests centralization in a closed final syllable in ‘handle, grip’, it is overwhelmingly non-centralizing in all final syllables, whether open or closed.

3.5.2. Reduction of earlier /a/

Earlier /a/ may be reduced to /ə/ under varying conditions in all varieties of Manchu other than WM.²⁹⁶ It is difficult to “predict” reduction, since un-reduced renditions are apparently possible under certain conditions in most varieties of Manchu, especially in slower or more careful speech. In this section, characterizations of the environments for reduction are intended as preliminary attempts to discover structural conditions on the process. A fuller account awaits further research.

Depending on the dialect and the source material, the outcome of reduction is transcribed variously as any schwa-like vowel: [ə, ɨ, ɪ, ʉ, ɤ, ʌ]--that is, with any non-front, non-low, non-round quality--depending on the phonological environment. In particular, as discussed above, the higher centralized value [ɪ] is strongly correlated with preceding alveopalatal consonants /tʃ, dʒ, ʃ/, but it is also found following earlier /s/.²⁹⁷

²⁹⁵ As with the Bala form, the relationship to WM [aiʃin] *aisin* ‘gold’ is not clear.

²⁹⁶ It is difficult to “predict” reduction, since un-reduced renditions are apparently possible under certain conditions in most varieties of Manchu, especially in slower or more careful speech. In this section, characterizations of the environments for reduction are intended as preliminary attempts to discover structural conditions on the process. A fuller account awaits further research.

²⁹⁷ In other words, the relevant environment for [ɪ] as a reflex of reduced /a/ is more precisely defined as following sibilant consonants.

Furthermore, the process of reduction appears to be a gradient phenomenon that may culminate in full deletion.

In Beijing and Lalin, reduction of /a/ is primarily found in open post-initial syllables following the alveopalatal consonants /tʃ, dʒ, ʃ/. As expected, the primary reflex is [i], but in the same environment, parenthesized “[(a)]” and [ə] are also found. In Beijing Manchu, reduction is restricted to faster speech; I speculate that occasional variation in Lalin is due to the same condition. This development is exemplified in (38):

(38) Table 18a. Reduction of /a/ following alveopalatals

pTg					
gloss	‘to match, to meet, to fit’	‘to pursue, to chase, to catch up to’	‘five’	‘sister-in-law; older brother’s wife’	‘small storage house’
WM	[aʃa-]	[amʃa-]	[sundʒa]	[aʃa]	[χaʃa (bau)]
orthographic	<i>aca-</i>	<i>amca-</i>	<i>sunja</i>	<i>aša</i>	<i>haša (boo)</i>
Beijing	[aʃa-m(i)] → [aʃa-m] ~ [aʃə-m] (NONP)	[antʃa-mi] → [antʃa-m(i)] ~ [antʃi-m(i)] (NONP)	[sundʒa] → [sundʒə] ~ [sundʒ(i)]	[aʃi]	[χaʃi bəɔ] ~ [χaʃi bəɔ]
Lalin		[antʃa-mei] (NONP)			[χaʃi bəɔ]
Sibe	[atʃə-m] (NONP)	[amtʃə-m] (NONP)	[sundʒa]	[as]	
Aigun			[sundʒa]	[aʃa]	
Ilan Boo	[a: tʃʌ-me] (NONP)	[am tʃʌ-me] (NONP)	[sun' dʒa:]	['a: zʃ]	
Ibuci	a' tʃə-mi (NONP)	amtɕi-mi (NONP)	sundʒʌ ~ sun' dʒa ~ sun' dʒʌ ~ ʃundʒʌ	adʒə ~ ædʒə	
Alcuka	[aʃa-mei] ~ [gʌʃa-mei] (NONP)		[sundʒia] ~ [sudʒia] ~ [sudʒi] ~ [sudʒi]		
Bala	[χaʃa-mi] (NONP)	[gamʃa-ra] ~ [gantʃa-ra] (IMPF.PART)			

Late Jurchen	*ača-		*šunja	*aže ²⁹⁸					
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Note that other dialects (Sibe, Ilan Boo, Ibuci, Alcuka, and Bala) likewise attest reduction in this environment, but also in other environments. A very conspicuous fact about Beijing Manchu (and Alcuka, to some extent) is that earlier /a/ may be reduced even when it is the first occurrence of /a/ in the word (that is, the leftmost /a/ in the word), a pattern that is extremely restricted in other varieties (see ‘five’ in (38), above).

In Sibe, Aigun, Ilan Boo, Ibuci, Alcuka, and Bala, apart from the first (= leftmost) occurrence in the word, /a/ may be reduced following any consonant, though often as a variant of the underlying full vowel /a/ in alternate transcriptions; This development is exemplified in (39):

(39) Table 18b. Reduction of /a/ following other consonants

pTg									
gloss	‘to pull, to draw’	‘seven’	‘to sleep’	‘official, minister’	‘to cure; to correct’	‘to follow’	‘father’	‘to do, to make; to write’	‘hand’
WM	[tata-]	[nadən]	[amga-] ~ [amɣa-]	[ɣafan]	[dasa-]	[daɣa-]	[ama]	[ara-]	[gala]
orthographic	tata-	nadan	amga- ~ amha-	hafan	dasa-	daha-	ama	ara-	gala
Beijing		[nadən] → [nada] → [nan(a)] ~ [nad]	[amxa-ŋi] (COND.CONV)	[xafan] ~ [xafa(n)] ~ [xafan] ~ [xawa(n)]					[gala] → [gal(a)]
Lalin				[xavan] ~ [xawə]					[gala]
Sibe	[tata-m] (NONP)	[nadən]	[amɣə-m] (NONP)	[ɣavən]	[dazi-m] (NONP)	[daxə-m] (NONP)	[amə]	[arə-m] (NONP)	[ɣaɪ] (~ [ɣalə-])
Aigun		[nadən]	²⁹⁹					[ara-me] ~ [ar-me] (NONP)	
Ilan Boo	[ta:’tv-me] (NONP)	[na:’dɔn]	[am’GA-me] (NONP)	[ɣa:’vɔn]	[da:’zi-me] (NONP)		[’a:ma] ~ [’a:ma]	[a:’ru-me] (NONP)	[’ɣa:lɔ] ~ [’ɣa:lɔ]
Ibuci	ta’ tə-mi (NONP)	na’ dən ~ na’ dən	amɣə-mi (NONP)	ɣa’ vən ~ xavən	dadzi-mi ~ dAdzi-mi (NONP)	da’ ɣə-mi (NONP)	’ama ~ ’amə	’ar-mi ~ ’Ar-mi ~ ’al-mi	’gal(A) ~ ’gal(ə)
Alcuka			[amga-ŋi] (COND.CONV)	[xawə]	[dadzi-ti] (COND.CONV)	[daxa-ra’ə] (IMPF.NEG)		[ar-pi] (PERF.CONV)	

²⁹⁸ This is virtually the only attested example of /a/ > /ə/ in LJ. The weakening (voicing) of /-f-/ in the same item is also rare. Together, these facts suggest that the form of this word is due to mixture with an early “Eastern” Manchu-type dialect.

²⁹⁹ Compare the derived word, WM [amgabu-] *amgabu-* : Aigun [amgabu-] ‘to put to sleep, to let sleep’ (CAUS of ‘to sleep’), without reduction.

Bala				[xavə]					
Late Jurchen		*nada		*Kafa	*dasa-bi (NONP)	*daKa-	*ama	*ara-mbi (NONP)	*gala

Note the faster-speech reduction of /a/ in the Beijing reflexes of ‘seven’ and ‘hand’, and in the Lalin reflex of ‘official, minister’, possibly also reflecting a faster-speech variant. There are many similar examples in faster-speech forms in Beijing (especially in word-final /...xa#/), but almost no similar evidence in Lalin.

3.5.2.1. Reduction of leftmost /a/

As briefly mentioned above, it is highly unusual for the leftmost /a/ in a word to undergo reduction. This restriction is clearest in the case of initial-syllable /a/, which is essentially never reduced in Beijing, Lalin, Sibe, Aigun, Ilan Boo, Ibuci, or Late Jurchen.³⁰⁰ In Alcuka, however, a few items attest reduction in the initial syllable, as least as a variant, as exemplified in (40), though unfortunately, few of the items are well-attested in other dialects:

(40) Table 19. Reduction of initial-syllable /a/ (Alcuka)

pTg					
gloss	‘there is not’ (NEG.EXI)	‘halfway, midway’	‘goblin’	‘to stretch, to extend’	‘carp (fish)’
WM	[aɣʊ]	[aldafɪ]	[baldʒun]	[sanja-]	[χardaɣʊ]
orthographic	<i>akû</i>	<i>aldasi</i>	<i>baljun</i>	<i>saniya-</i>	<i>hardakû</i>
Beijing	[akʊ] (?) ~ [aku]				
Lalin					
Sibe	[aɣʊ]	[ʔaldæ] (Y)		[sanə-m] (NONP)	
Aigun	[ɔkɔ-tɛɛ] (COND.CONV)				
Ilan Boo	[ʼɑ:ʔχʊ] ~ [ɑ:ʔχʊ]				

³⁰⁰ Monosyllables also do not undergo reduction to /ə/. In Ibuci, the only example I have found has variation with respect to reduction: WM [fɑntʃa-] *fāncā-ha* : Ibuci fAntɕi-ɣə ~ fAntɕi-ɣə (PERF.PART) ‘to get angry’--if “reduction” is even the correct characterization.

Ibuci	'Aχου ~ 'αχου ~ 'αχου				
Alcuka	[aku] ~ [a'ɔ] ~ [ə'ɔ]	[ə'daʃi]	[balɔiŋ] ~ [baɔɔiŋ] ~ [bəlɔiŋ]	[səni-nmei]	[xəlda'uə]
Bala					
Late Jurchen	*akua				

Under certain conditions, a leftmost /a/ may be reduced in post-initial syllables in several dialects (Beijing, Sibe, Ilan Boo, Alcuka, Bala, Late Jurchen). In Beijing, where reduction is correlated with faster speech, leftmost post-initial /a/ may be reduced at the fastest speeds, even when it is the only /a/ in the word. This development is exemplified in (41):

(41): Table 20a. Reduction of post-initial leftmost /a/ (Beijing)

pTg				
gloss	'money'	'three'	'(cooked) rice; a meal'	'poplar (tree)'
WM	[dʒiχa]	[ilan]	[buda]	[fulχa] (~ [fulga])
orthographic	<i>jiha</i>	<i>ilan</i>	<i>buda</i>	<i>fulha</i> (~ <i>fulga</i>)
Beijing	[dʒix]	[ilan] → [ila(n)] → [il(a) ~ il(ə)] → [il ~ ir]	[buda] → [bud(a)] ~ [bəd(a)] → [bud] ~ [bəd]	[fulxə]
Lalin	[dʒixa]		[buda]	
Sibe	[dʒiχa]	[ilan]	[bəda]	
Aigun	[dʒiχa]	[ilan]	[buda]	
Ilan Boo	[dʒi'χa:]	[i'la(:)n]	[bu'da:]	[ful'χa:]
Ibuci	dʒi'χa ~ dʒiχa	ilAn	bu'da	
Alcuka		[ilan] ~ [ila]		[ful'gə] ~ [ul'gə]
Bala				

Late Jurchen	*jiKa	*ilan(g)	*buda	301
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As can be seen here, this Beijing development is most common in final syllables, and is basically unattested in other varieties, including the very closely related Lalin dialect.

(Note also ‘five’ in (38) above.)

In Sibe, Ilan Boo, and Late Jurchen, several items exhibit reduction of leftmost /a/ when the relevant vowel falls in a (non-initial) penultimate syllable and the following (word-final) syllable is closed.³⁰² This development is exemplified in (42):

(42) Table 20b. Reduction of leftmost /a/ (penultimate syllables)

pTg				
gloss	‘fingernail’	‘dog’	‘mud’	‘wine cup, goblet’
WM	[xitaχon]	[indaχon]	[ʧifaχan]	[χontaχan]
orthographic	<i>hitahûn</i>	<i>indahûn</i>	<i>cifahan</i>	<i>hûntahan</i>
Beijing		[indaχon] ~ [indaχo] ~ [indxun] → [innaxun]		
Lalin				
Sibe	[kœtχun]	[jɔnβun] ³⁰³	[teifχan]	[χunβan]
Aigun				
Ilan Boo	[ki'ta:βΛ]	[in'da:βʊ]		[χontΛ'βan] ~

³⁰¹ Kane (1989: 211) compares this etymon to LJ *faKa (mo) [389] ‘white poplar (tree)’, in which case no reduction is observed, but the vowel correspondences are irregular. (His original reconstruction reads “*fa[l]ha mo”.)

³⁰² The process is not quite systematic, because there are notable exceptions, including (very rare) reduction of leftmost /a/ even if the final syllable is open, as in WM [nimaxa] *nimaha* : Sibe [nimæa] ‘fish’, as well as “regular” reduction in words that have the right shape for the “special” development, such as WM [ibagan] *ibagan* ~ [ibaχan] *ibahan* : Sibe [ivaβan] ‘ghost, goblin, demon’; moreover, there seem to be cases of the “special” development in closed syllables, viz. WM [qodargan] *kûdarġan* ~ [qodarχan] *kûdarhan* : Sibe [χɔdɔrβun] ‘id.’, in which the spread of rounding presupposes reduction to /ə/ at an intermediate stage. These issues await further study.

³⁰³ Note, however, the “older-generation” pronunciation [indaβun] ‘id.’ recorded by B. Li (1996: 189), without reduction of leftmost /a/.

				[χʊntʌ'qʰχan] ~ [xʊntʌ'kʌn]
Ibuci		in'dAvoo ~ in'dAxə ~ in'davuo		
Alcuka		[indaxɔ]		
Bala		[indaxɔ(n?)] (1988: 19)		
Late Jurchen	*hitahun(g)	*indahu	*tip[h]a	*hut[h]a

Note that ‘fingernail’ has a variant syncopated spelling, WM *hithûn* implying a pronunciation [xitχʊn], that appears to be related to this development in Sibe. Similar cases are attested in Ilan Boo as well, such as WM [lifaxan] *lifahan* ‘mud, muck, slime’ : Ilan Boo [lib'qʰχan] ‘id.’, [goldargan] *gûldargan* (~ [goldarχan] *gûldarhan*) ‘swallow (bird in genus *Hirundo*)’ : Ilan Boo [gʊndʌr'kʌn] ‘id.’, [ub̥a-də] *ubade* ‘here, in this place’ : Ilan Boo [ʊ'vʊ-dʊ] (~ [ʊ'vʊ-dʊ]) ‘id.’, though note that Sibe, Aigun, and Ibuci all lack reduction in this last item, viz. Sibe [əv̥a] : Aigun [əv̥a] : Ibuci əv̥a-də ‘id.’. Another example is WM [subarχan] *subarhan* ~ [subargan] *subargan* ‘pagoda’ : Ilan Boo [suv̥ur'gan] ‘id.’ versus Sibe [suv̥arχən] ‘id.’, with the usual reduction pattern.³⁰⁴

Some of the Late Jurchen cognates in (42), above, involve open final syllables. In fact, in that variety, reduction of leftmost /a/ in penultimate syllables is not conditioned by a closed final syllable but rather by the presence of /a/ in the final syllable. Thus WM [nimaxa] *nimaha* ‘fish’ corresponds to LJ *nim(ʊ)Ka ‘id.’, and [suxsaχa] *suxsaχa* ‘thigh’ corresponds to LJ *su[h]sɛKa ‘id.’. Interestingly, Sibe also exhibits reduction in these items, viz. Sibe [nimɤa] ‘fish’ and [susq] ‘thigh, leg’, while Aigun, Ilan Boo, and Ibuci do not, viz. Ilan Boo [ni'ma(:)kʌ] ‘fish’ and [sug'sa:kʌ] ‘thigh, leg’. In these examples, as in

³⁰⁴ This item is considered a Sogdian borrowing via Mongolic (cf. WMong *subury-a* ‘id.’), and may be an example of a separate loan pathway into Ilan Boo from a language like WMong, in view of [u] in the second syllable, rather than an example of reduction. However, Ilan Boo also frequently rounds /ə/ following labial consonants, so this case is ambiguous. These issues also extend to the LJ cognate *sub̥u'an [539] ‘id.’.

the other cases of post-initial reduction in (41) and (42), the reduced vowel is most often followed by an earlier dorsal obstruent /k, g, x/; this seems to be a preferred position for vowel reduction (or syncope) in Manchu generally.

The leftmost /a/ in a word may also be reduced in Sibe and Ilan Boo when this first occurrence is relatively late in the word--in the third syllable or later. This development is exemplified in (43):

(43) Table 20c. Reduction of “late” leftmost /a/

pTg							
gloss	‘drawer’	‘pheasant’	‘slippery’	‘warm’	‘to reach, to arrive’	‘to singe off’	‘to despise, to look down on’
WM	[ɔʃima]	[ulχoma]	[niluqan]	[buluqan]	[iʃina-]	[fuʃixiala-]	[fuʃixɔʃa-]
orthographic	<i>gocima</i>	<i>ulhūma</i>	<i>nilukan</i>	<i>bulukan</i>	<i>isina-</i>	<i>fucihiyala-</i>	<i>fusihûša-</i>
Beijing	[ɔʃima] → [ɔʃim(a)]						305
Lalin							
Sibe		[ɔ.ɣum]	[jɔləqun]	[bɔləqu]	[izinə-m] (NONP)	[fəteixialə-m] (NONP)	[fəixusi-m] (NONP)
Aigun							
Ilan Boo		[ul'ka:ma]		[bulu:'kun]	[iz'na-me] (NONP)	[fetsɣu'lu-me] (NONP)	
Ibuci							
Alcuka					[iʃina-xa] (PERF.PART)		306
Bala							
Late Jurchen		*ul[h]uma					

Note that there is very little agreement across dialects.

3.5.3. Earlier /ə/ > [i] (“post-sibilant raising”)

³⁰⁵ Compare the related verb, WM [fuʃixɔʃa-] *fusihûla-* : Beijing [fuʃixɔʃa-mi] (NONP) ‘to despise, to look down on’, without reduction.

³⁰⁶ Compare the related verb, WM [fuʃixɔʃa-] *fusihûla-* : Alcuka [fueixulə-me] (NONP) ‘to despise, to look down on’, without reduction.

As discussed in §3.4.1, earlier /i/ is frequently centralized to /ə/ following the earlier alveopalatals /tʃ, dʒ, ʃ/ in several dialects under varying conditions. The argument for treating [ĩ] as an allophone of /ə/ (rather than /i/) flows in part from the observation that historical /ə/ also gives [ĩ] in the same environment, as well as after /s/--that is, after all sibilants, but with no obvious connection to /i/. Another part of the argument is that other vowels (e.g., /a/) also reduce to /ə/, and when reduction takes place following a sibilant, then /ə/ may in turn surface as [ĩ]. In this section, I explore in further detail the conditions under which original /ə/ surfaces as [ĩ]. My view is that [ĩ] is a weaker and higher allophone of the “full” schwa vowels /ə, u, i, ʌ/ etc. For the purpose of the discussion, I refer to the process informally as “post-sibilant raising” of /ə/. It bears emphasizing that this development is non-contrastive: it is an allophonic process with somewhat murky conditioning.

In Beijing, post-sibilant raising of /ə/ to [ĩ] is found primarily in faster speech following /ʃ/ in open post-initial syllables. In Sibe, Aigun, and Ilan Boo, post-sibilant raising is observed in the same environment, but also in initial syllables (particularly in Sibe). This development is exemplified in (44):

(44) Table 21a. Post-sibilant raising of earlier /ə/ following /ʃ/

pTg							
gloss	‘somewhat slanting’	‘to sting (of insects, etc.)’	‘wasp, hornet’	‘to hurry, to rush’	‘iron (for clothes)’	‘to recite from memory’	‘spring (source)’
WM	[əʃəməlɪən]	[ʃəʃə-]	[ʃəʃəmpə]	[əkʃə-]	[xuəʃəku]	[ʃəʃɪlə-]	[ʃəri]
orthographic	<i>ešemelīyan</i>	<i>šeše-</i>	<i>šešempə</i>	<i>ekše-</i>	<i>huwešeku</i>	<i>šejile-</i>	<i>šeri</i>
Beijing	[əʃiməlɪən] ~ [əʃiməlɪə(n)] ~ [əʃiməlɪ(ə)]	[ʃəʃi-mi] (NONP)		[əkʃə-mi] ~ [əkʃi-mi] (NONP)			
Lalin		[ʃəʃi-mei] (NONP)					
Sibe				[əxsə-m] ~ [əksə-m] (NONP)		[sɪdzilə-m]	[sɪr]

						(NONP) ³⁰⁷	
Aigun			[ʃizɪbɔ] ‘bee’		[xuʃikɔ]		
Ilan Boo			[ʃizɪba:] ‘bee’	[ʉkʰʃu:~me] (NONP)	[ʰkuʃko]		[ʰʃu:ru]
Ibuci							ʃəli
Alcuka	[əʃimili]						[ʃəri]
Bala				[əkʉʃə~mi] (NONP)			
Late Jurchen				³⁰⁸	*huʃigu		*ʃe

For several dialects (Lalin, Aigun, Ibuci, and Alcuka), the forms above are essentially the only examples of the process, suggesting that it may not be native in those varieties.

In Sibe, Ilan Boo, Ibuci, and Alcuka, earlier /ə/ may also undergo post-sibilant raising to [i] following the other voiceless sibilants /tʃ, s/. This development is exemplified in (45):

(45) Table 21b. Post-sibilant raising of /ə/ following /tʃ, s/

pTg						
gloss	‘household god’	‘chin’	‘cart, wagon’	‘fate, destiny’	‘seed’	‘children’
WM	[wəʃəkʉ]	[sənʃəxə]	[sədʒən]	[xəsəbun]	[usə]	[dʒusə]
orthographic	<i>weceku</i>	<i>sencehe</i> (~ <i>sencihe</i>)	<i>sejen</i>	<i>hesebun</i>	<i>use</i>	<i>juse</i>
Beijing			[sədʒin]			[dʒus]
Lalin			[sədʒin]			
Sibe	[utʃuku]	[sətʃikə]	[sɪdzən]	[xəzəvun]	[uzə]	[dʒus]
Aigun			[sədʒən]			[dʒudʒə]
Ilan Boo	[vu:ʰtʃiku]	[ʰsuntʃku]	[su(:)ʰdʒun]	[xu:ziʰbun] ~ [xu:ziʰyun]	[u:zi]	[dʒu:zi]
Ibuci	vutʃikə	ʰsətʃikə ~ ʰsətʃikə ~	ʰsɪdzən ~ ʃɪdzən	xədzɪgon	udʒə	dʒudʒi

³⁰⁷ Cf. Yamamoto (nos. 1320, 1864; 1969: 57, 90)’s transcriptions [ʃɜdzɪlə~m] ~ [sɜdzɪlə~m] ‘id.’.

³⁰⁸ This item has a variant involving irregular /k/ ~ /b/ alternation in the coda, viz. WM [əʃkə~] *ebʃe-* ‘id.’. LJ has a reflex, *euʃi~mbi (NONP) ‘id.’, with a different development in the stem-final position. See §x.x.x.x, below.

		səŋʂikə ~ ʂəŋʂikə				
Alcuka			[səɖʂi]			[ɖʂudz(ɪ)] ³⁰⁹
Bala						
Late Jurchen			*seje			

(Bala also attests this process in a handful of items, such as WM [ʃəku] *ceku* : Bala [ʃiku] ‘swing (suspended seat)’, but the usual development is [ə].

In Late Jurchen, there is no evidence for a distinct allophone like [i]; although Kane (1989) reconstructed *s [s] for the transcription character 思 (Mandarin *sī* [sɿ]), I assume a value of *se [sə] on the basis of the early Mandarin pronunciations in the *Zhōngyuán yīnyùn* and *Měngǔ zìyùn*, where it is segmentally identical to other transcription characters that Kane reconstructed as *se [sə], such as 塞 (Mandarin *sè* [sɛ]). Deletion is attested, as in WM [funʃə-xə] *funcehe* : LJ *fuč[h]ə ‘more, (too) much’, the PERF.PART of the verb ‘to exceed’ and [unʃəxən] *uncehen* : LJ *uč[h]e ‘tail’, but there is no particular connection to preceding /ʃ, s/; rather, deletion is conditioned by the configuration of an open medial syllable followed by *h [x].)

3.5.4. Coronal affricate fronting of stem-final /ə/

In most dialects (all but WM³¹⁰), /ə/ (including /ə/ resulting from reduction of earlier /a, ɔ, u/) may develop to [i] in stem-final syllables³¹¹ following the earlier alveopalatal affricates /ʃ, ɖʂ/. I tentatively regard this process as a species of the broader phenomenon of reduction, in the sense that vowels in this position appear to have lost their original

³⁰⁹ This Alcuka form is a rare example. Others include WM [ləŋsəkɪ] *lengseki* : Alcuka [ləŋsɪk] ‘coarse, crude’.

³¹⁰ Lalin attests the process, but there is not enough relevant data to allow any generalizations about distribution. In Aigun, the process is regular in the available data, but again, the sample is extremely small.

³¹¹ That is, in syllables immediately preceding inflectional suffixes.

underlying range of contrasts, all neutralized in favor of [i], but there is also an assimilatory aspect to the development. There are differences in the distribution of this process in the dialects, to be discussed below. The development is exemplified in (46):

(46) Table 22a. Coronal affricate fronting of stem-final /ə/ > [i]

pTg								
gloss	'to freeze'	'new'	'to dye'	'door'	'to die'	'to exceed'	'to laugh'	'heavy'
WM	[gəʃə-]	[iʃə]	[iʃə-]	[uʃə]	[buʃə-]	[funʃə-]	[indʒə-]	[udʒən]
orthographic	<i>gece-</i>	<i>ice</i>	<i>ice-</i>	<i>uce</i>	<i>buce-</i>	<i>funce-</i>	<i>inje-</i>	<i>ujen</i>
Beijing	[gəʃi-mi] (NONP)	[iʃə] ~ [iʃi]			[buʃi-r] (IMPF.PART)	[funʃə-m(ə)] → [funʃi-m] (IMPF.CONV)	[indʒi-m] (NONP)	[udʒin]
Lalin						[funʃə-mə] (IMPF.CONV)		[udʒin]
Sibe	[gəʃə-m] (NONP)	[iʃə]	[itei-m] (NONP)	[utei]	[bətʂə-m] ³¹² (NONP)	[fəntʂə-m] (NONP), [fəntʂi-]	[indʒi-m] (NONP)	[udʒin]
Aigun						[fintʂi-r] (IMPF.PART), [fitei-ʒə] (PERF.PART)	³¹³	
Ilan Boo	[gutei-me] (NONP)	[i'tei(:)]	[i'tei-me] (NONP)	[u'te:]	[butei-ʒə] (PERF.PART)	[fun'tei-me] (NONP)	[in'dzi-me] (NONP)	[udʒien]
Ibuci	gi'tei-mi (NONP)	³¹⁴	ɲitei-mi (NONP)	'utei ~ vutei ~ vitei		fəntei-mi (NONP)	indzi-mi (NONP)	udʒien
Alcuka		[iʃi]		[uʃi]	[buʃi-r] (IMPF.PART), [bətʂi-xə] (PERF.PART)			[uʃən] ~ [uidʒin]
Bala		[iʃi]			[buti-xə] (PERF.PART)			
Late Jurchen	*geti-he (PERF.PART)	*iče	*iče-	*uči	*buči-he (PERF.PART)	*fuc[h]ə (PERF.PART) 'more,	*inje-bi (NONP)	*uje

³¹² Cf. N. Jin (1991: 158)'s transcription, [butʂi-m] (NONP) 'id.', also without fronting to [i].

³¹³ Compare the derived CAUS/PASS verb, WM [indʒəbu-] *injebu-* : Aigun [indʒbu-ʒə] (PERF.PART) 'to cause to laugh, to be laughed at', in which the alveolar allophone [dʒ] implies a deleted [i].

³¹⁴ Compare the derived word, WM [iʃə-niŋə] *iceningge* : Ibuci itei-niŋə '(a) new one, new ones', with fronting to [i].

						(too) much ³¹⁵		
--	--	--	--	--	--	---------------------------	--	--

In Beijing, Alcuka, and Bala, this development is attested for nearly all items that meet the description above. However, a small number of words exhibit variation between fronted and un-fronted reflexes, and for certain items, faster speech rate is a condition of the process in Beijing.

In Sibe, the process seems to apply only in words that do not contain /ə/ elsewhere in the stem; however, even items that do not contain /ə/ occasionally fail to undergo the change to [i] (e.g., ‘new’). (This primarily applies to closed final syllables.)

In the “Eastern” Manchu dialects, the process is basically regular, at least when the historically underlying vowel was /ə/, as in the examples in (46), above. (As briefly mentioned above, reduction of other vowels--earlier /a, ə, u/--also feeds this process; see the discussion below.) As in Sibe, failures of fronting (primarily in closed final syllables) are correlated with the presence of /ə/ in the stem, though note that the process applies in ‘to freeze’ in spite of /ə/ in the stem. Furthermore, in final syllables, this [i] may be lowered to [(i)e] ~ [(i)ɛ] along with inherited /i/ under a separate process described in §3.4, below.

In Late Jurchen, fronted and un-fronted forms are attested for distinct sets of words; there are no clear cases of alternation. There are also no unproblematic examples of the process following earlier /dʒ/.³¹⁶

³¹⁵ Since the vowel in question is deleted in LJ, and the preceding consonant does not reveal the quality of the deleted vowel as it would in Sibe or “Eastern” Manchu dialects, it is unclear whether the process applied or not.

³¹⁶ One possible example--WM [gurdʒən] *gurjen* : LJ *gur(u)jī? *gur(u)jē? [483] ‘cricket’--is unclear, due to the use in the transcription of an ambiguous character 只 *ji ~ *je. (For most items with this character, *ji appears to be correct, so *gur(u)ji is in fact favored.)

3.5.4.1. The special case of /ə/-stems

In Sibe, Aigun, Ilan Boo, and Ibuci, stems that historically contained only /ə/ are exempt from the coronal affricate fronting process to [i] (primarily in closed final syllables).³¹⁷

This retention is contrasted with “reducing” dialects in (47):

(47) Table 22b. Absence of coronal affricate fronting in /ə/-final stems

pTg							
gloss	‘border, frontier’	‘frost’	‘city, city wall’	‘master; host’	‘upper part of the chest’	‘cart, wagon’	‘joy, gladness’
WM	[dʒəʃən]	[gəʃən]	[xəʃən]	[əɖʒən]	[ʃəɖʒən]	[səɖʒən]	[səɔɖʒən]
orthographic	<i>jecen</i>	<i>gecen</i>	<i>hecen</i>	<i>ejen</i>	<i>cejen</i>	<i>sejen</i>	<i>sebjen</i>
Beijing		[gəʃin]		[əɖʒən] → [əɖʒin]		[səɖʒin]	
Lalin						[səɖʒin]	
Sibe	[dʒətʂən]	[gətʂən]	[kətʂən]	[əɖʒən]		[sɪɖʒən]	[səɔɖʒən]
Aigun						[səɖʒən]	
Ilan Boo	[dʒuːˈtʂuːn]			[uːˈdʒuːn]	[tʂuːˈdʒuːn]	[suː(ː)ˈdʒuːn]	[subˈdʒuːn]
Ibuci			xətʂən ~ xəɖʒən			tɕɪɖʒən ~ ʃɪɖʒən	
Alcuka	[duəʃən] ~ [dʒəʃən]			[əɖʒin]		[səɖʒi]	[tsəɔɖʒən]
Bala							
Late Jurchen	*jeçi		*heče	*eže		*seje	

In addition to these items, the same pattern is observed in words where earlier /u/ was de-rounded to [ə] (~ [u, i, ʏ] etc.) following labials. (On de-rounding, see §3.7.) Thus, de-rounding results in the preservation of stem-final /ə/ in WM [muʃən] *mucen* : Sibe

³¹⁷ The behavior of the “northern” Manchu dialects (Alcuka, Bala, Late Jurchen) with respect to this condition is not entirely clear, mostly due to the scarcity of relevant data; however, at least some such items do undergo the change to [i]. Perhaps the situation was like Beijing, where speech rate is a factor.

[məʃən] : Ilan Boo [mu'ʈʂuŋ] : Ibuci məʃən ‘cooking pot, cauldron’. On the other hand, Alcuka and Bala have [muʃin] ‘id.’.³¹⁸

3.5.4.2. The special case of /ʃ/

In Sibe and Late Jurchen, the process described above as coronal *affricate* fronting of stem-final of /ə/ to [i] is also attested, though infrequently, following the earlier alveopalatal *fricative* /ʃ/. This development is exemplified in (48):

(48) Table 22c. Coronal fricative fronting of stem-final /ə/ > [i]?

pTg				
gloss	‘cord, belt, thong’	‘to stitch the soles of cloth shoes’	‘to hurry, to rush’	‘iron (for clothes)’
WM	[uʃə]	[uʃə-]	[əbʃə-]	[xuʃəku]
orthographic	<i>uše</i>	<i>uše-</i>	<i>ebše</i> ³¹⁹	<i>huwešeku</i>
Beijing				
Lalin				
Sibe	[uzi]	[uzi-m] (NONP)	[əxsə-m] (NONP)	
Aigun				[xuʃikə]
Ilan Boo	[u:zu]	[u'zu-me] (NONP)		['kuʃko]
Ibuci				
Alcuka				
Bala				

³¹⁸ The situation of verbs involves further sub-variation. In Sibe, /ə/-stems clearly do not undergo the change to [i], as in ‘to freeze’, ‘to exceed’, and ‘to remember’ in (46), and therefore may be said to pattern with non-verbs. In “Eastern” Manchu dialects, /ə/-stems--including those derived by de-rounding--mostly do undergo the change to [i], as in ‘to freeze’ and ‘to exceed’, but there are exceptions in which stem-final /ə/ is preserved, as in ‘to remember’. The problem requires further study.

³¹⁹ This item has a WM doublet, *ekše*- ‘id.’. See (44), above, for the reflexes in other dialects. None of the latter show “reduction” to [i] in this item.

Late Jurchen	*utsi(e) ³²⁰		*euši-mbi (NONP)	*huši- ³²¹
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Unfortunately, these items are not widely attested in the dialect materials, making it difficult to determine which Manchu varieties participated in the development. Ilan Boo, at least, seems *not* to participate: retroflex /ʂ/ [ʂ, z] (< /ʃ/) and the spread of rounding in ‘cord, belt, thong’ and ‘to stitch the soles of cloth shoes’ both indicate retention of the earlier stem final /ə/ at an intermediate stage.

3.5.4.3. Other sources of /ə/ > [i]

As briefly mentioned above, coronal affricate fronting of stem-final /ə/ to [i] can also be fed by the more usual sort of reduction of earlier /a, ɔ, u/ > /ə/ when this takes place following /tʃ, dʒ/. For example, this can be seen in the Ibuci reflex of WM [amʃa-] *amca-* ‘to pursue, to chase, to catch up to’ in (38), above. For words of that sort, I assume a development /amʃa-/ > [amtʂə-] ~ [amtʂi-] > [amtei-]. Additional examples are presented in (49):

(49) Table 22d. Earlier /a, ɔ, u/ > /ə/? > [i]

pTg							
gloss	‘to get angry’	‘to shout’	‘to leave, to depart’	‘to break off, to break in two (vi)’	‘to kiss’	‘to close (the eyes)’	‘to run’
WM	[fanʃa-]	[qaiʃa-]	[aldʒa-]	[mɔkʃɔ-]	[ɔdʒɔ-]	[niʃu-]	[sudʒu-]
orthographic	<i>fanca-</i>	<i>kaica-</i>	<i>alja-</i>	<i>mokco-</i>	<i>ojo-</i>	<i>nicu-</i>	<i>suju-</i>
Beijing							
Lalin							

³²⁰ The transcription contains a character 切 with multiple readings (Mandarin *qiē*, *qiè*, *qi*). It is unclear if this item should be interpreted as undergoing the process described here. The consonantal correspondence between earlier /ʃ/ and LJ *ts is also irregular. Kane (1989: 330, [965]) reconstructed *učie.

³²¹ Attested only in the derived instrumental noun LJ *hušigu ‘iron (for clothes)’.

Sibe	[fantsə-m] (NONP)	[qatei-m] (NONP)	322	[mɔχʰʂu-m] (NONP)	[ɔdzi-m] (NONP)	[nitʂu-m] (NONP)	[sudʒu- m] (NONP)
Aigun							
Ilan Boo	[fæn'tei-me] (NONP)	[qatei-me] (NONP)	[æ'l'dzi-me] (NONP)		[ɔ'dzi- me] (NONP)	[mite'i-me] (NONP)	[sy'dzi- me] (NONP)
Ibuci	fAntei-γə ~ fəntei-γə (PERF.PART)			moxədzi-γə (PERF.PART)	o'dzi-mi ~ qdzi-mi (NONP)		su'dzi-mi ~ tsu'dzi-mi (NONP)
Alcuka		[gaitʃa-l] (IMPF.PART)					
Bala							
Late Jurchen						*niču-	

The relevant words are attested only in the best-described dialects; all of the clearest examples are verbs. There is almost no evidence for this process in WM, Beijing, Lalin, Aigun, Bala, or LJ.³²³ Note that where the process has applied, giving [i], the latter may trigger fronting in the same manner as original /i/ in Sibe and Ilan Boo, but apparently not in Ibuci.

Furthermore, recall from §3.3.3.1.2 that Sibe and Late Jurchen also attest “reduction” of earlier /ə/ to [i] following /ʃ/. In Sibe, the reduction of other vowels to /ə/ also feeds this development, as in WM [χauʃan] *hoošan* : Sibe [χɔzin] ‘paper’, [tamiʃa-] *tamiša-* : Sibe [təmzi-m] ‘to taste’, [muʃu] *mušu* : Sibe [muzi] ‘quail (*Coturnix*)’.

3.5.5. Reduction of earlier /ɔ/

³²² Yamamoto recorded variants with and without fronting: [ʔaldzə-m] ~ [ʔaldzi-m] ‘id.’ (no. 1197, 1969: 50).

³²³ In Alcuka there are a few sporadic examples involving reduced /u/ (> /ə/?) > /i/, but generally in non-verbs, as in WM [pɔŋʃun] *pongcun* : Alcuka [bɔŋʃin] ‘short and paunchy’, [uʃun] *ucun* : Alcuka [uʃin] ‘song’, and [mandʒu (nialma)] *manju (niyalma)* : Alcuka [mandʒi (nə)] ‘Manchu person’. Note also WM [xudʒu] *huju* : LJ *huzi [624] ‘trough’ (with reduced fronted /u/ in a non-verb).

Earlier /ɔ/ may be reduced to /ə/ in several varieties under varying conditions. Overall, the process is less frequently observed than reduction of /a/ (see §3.3.2); some varieties (e.g., Lalin) do not attest it at all.

In Beijing, reduction of /ɔ/ is a faster-speech phenomenon in post-initial syllables.³²⁴ Reduction of /ɔ/ yields [i] following the voiceless alveopalatal affricate /tʃ/, but is transcribed “[ɔ]” in other positions, or [ə] (especially in closed final syllables), or may be fully deleted. These developments are exemplified in (50):

(50) Table 23a. Reduction of /ɔ/ in Beijing

pTg				
gloss	‘color’	‘few, little’	‘son-in-law’	‘far’
WM	[bɔʃɔ]	[qɔmsɔ]	[χɔdʒixɔn] (~[χɔdʒigɔn])	[ɠɔrɔ]
orthographic	<i>boco</i>	<i>komso</i>	<i>hojihon</i> (~ <i>hojigon</i>)	<i>goro</i>
Beijing	[bɔʃɔ] → [bɔʃi]	[kɔmsɔ] → [kɔms(ɔ)]	[x(u)ɔdʒixɔn] → [xuɔdʒixɔ̃ ⁿ] ~ [xɔdʒixɔn]	[ɠɔrɔ] → [ɠɔr]
Lalin	[bɔʃɔ]	[kɔmsɔ]	[xuɔdʒixɔn]	[ɠɔrɔ]
Sibe	³²⁵	[qɔmzu]	[χɔʧsuχun]	[ɠɔr]; /ɠɔru/ [ɠɔr ^w]? (B. Li: 193) ³²⁶
Aigun		[qɔmdzɔ]	[χɔdzɔkɔn] (B. Li)	[ɠɔrɔ]
Ilan Boo	[‘bɔ:tʃɔ]	[‘χɔmzɔ]	[χɔdzɔkɔn]	[ɠɔ:ɔ:] ~ [ɠɔ:lɔ]; [ɠɔrɔ] (B. Li: 177)
Ibuci	botʃo ~ botʃuə	‘kɔmɔzo ~ ‘kɔmɔzə	xɔdzɔ’ gon ‘husband’ ~ xɔdzɔ’ gon ‘son-in-law’	golo ~ go’lo

³²⁴ Note that due to restrictions on the distribution of /ɔ/, the environment described as “post-initial syllables” in this context is equivalent to “non-leftmost occurrence” of /ɔ/.

³²⁵ Yamamoto (1969: 116) recorded [bɔʃ] ~ [bɔʃ^w] ‘id.’ (no. 2417), with deletion in the “6th Company” dialect but raising to /u/ and subsequent desegmentalization in the “8th Company” dialect.

³²⁶ The transcription of S. Li et al. may indicate deletion of final /-u/; they do not recognize desegmentalization to [-^w] following /r/. Norman gives /gorə/ [ɠɔr] ‘id.’ (p. c.).

Alcuka			[ˈxɔdiwɔn]	[gɔɔ]
Bala			[xɔdixɔ-] ³²⁷	
Late Jurchen	*bočo		*hodi	*goro

In Sibe and “Eastern” Manchu dialects, post-initial /ɔ/ seems to develop either to /u/ or to /ə/. It is possible that /u/ in this context might be derived from a reduced intermediate /ə/ by the rounding processes described above in §3.2 (i.e., /ɔ/ > /ə/ > /u/). In many words, a post-initial /ɔ/ is simply deleted, perhaps by way of an intermediate [ə] or [u]. However, in many other cases post-initial [ɔ] is retained. The exact conditions governing these various outcomes are not at all clear. These developments are exemplified in (51):

(51) Table 23b. Post-initial /ɔ/ > [ə ~ u ~ Ø] (Sibe and “Eastern” Manchu)

pTg			†kɔltaka? (Cf. *kaltaka)
gloss	‘lake, pond’	‘to stroll’	‘half (of an object)’
WM	[ɔmɔ]	[ʃɔdɔ-]	[χɔntɔχɔ]
orthographic	<i>omo</i>	<i>šodo-</i>	<i>hontoho</i>
Beijing			
Lalin			
Sibe	[ɔm]	[sɔdu-m] (NONP) ‘to trot’	[χɔnχ ^w]
Aigun	[ɔmɔ]	[sɔdɔ-me] (NONP), [ʃɔdɔ-ke] (DESID)	
Ilan Boo	[ɔ:m]	[ˈʃɔ:dy-me] (NONP)	
Ibuci			xɔntukuo ~ χotəgo
Alcuka			
Bala			

³²⁷ Attested only in the plural, WM [χɔdʒiχɔ-ʃi] *hojihosi* : Bala [xɔdixɔ-ɕi] ‘sons-in-law’.

Late Jurchen			
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In Alcuka and Bala, reduction to [ə] (~ [i]) is also attested in post-initial syllables.

This development is exemplified in (52):

(52) Table 23c. Post-initial reduction to [ə] (Alcuka and Bala)

pTg				
gloss	‘square, four-sided’	‘tall boots’	‘golden carp, crucian carp’	‘(summer) hat’
WM	[χɔʃɔŋɕɔ]	[ɔlɔŋdɔ]	[ɔŋɕɔʃɔŋ]	[bɔrɔ]
orthographic	<i>hošonggo</i>	<i>olongdo</i>	<i>onggošon</i>	<i>boro</i>
Beijing			[ɔŋɕɔʃɔŋ] ~ [uŋɕɔʃɔŋ] → [uŋɕɔʃɔ̃ ⁿ]	
Lalin			[uŋɕɔʃɔŋ]	
Sibe	[χɔzɔŋ]			
Aigun				
Ilan Boo			[ɔŋ'ŋuzɔ]	
Ibuci			ɔŋudzi	
Alcuka	[xuʃəŋə]	[ɔŋdə]	[uŋguzə]	[bərə]
Bala		[ɔŋdə]		
Late Jurchen				*boro

These comparisons involve various additional difficulties, such as interaction with the related processes of raising of /ɔ/ > [u] (possibly a sub-class of reduction to [ə], at least in Sibe and “Eastern” Manchu dialects) and dissimilatory de-rounding of /ɔ/ > [ə] in the vicinity of labials (§3.7). However, the post-initial environment for the development of /ɔ/ to [ə], [u], or zero seems to be shared across several varieties. So, for example, Sibe [u] and zero (< /ɔ/) correspond to Alcuka [ə]; Ilan Boo/Ibuci [u] (< /ɔ/) corresponds to Alcuka [u]; Ibuci [i] (< /ɔ/) corresponds to Alcuka [ə] in individual cases above.

The properly reductive processes seem to affect only non-leftmost (and therefore post-initial) /ɔ/. In Sibe and “Eastern” Manchu, it is probably possible to say that all non-leftmost /ɔ/ are either retained as /ɔ/ [ɔ] (possibly a careful-speech option), or reduced to /ə/. The latter /ə/ is rounded by initial-syllable /ɔ/ to /u/, but in “weak” positions (especially unstressed?), either rounding does not apply (leaving [ə]), or /u/ is itself reduced to [ə]. In other dialects, it is possible that additional restrictions are active. For example, in Bala, reduction of /ɔ/ is not very clearly attested in closed post-initial syllables. Furthermore, although any post-initial syllable may undergo reduction in some dialects, it is clear that final open syllables are the most likely to undergo reduction of /ɔ/ in all varieties.

3.5.6. Reduction of earlier /u/

Reduction of /u/ generally follows patterns identified in the treatment of other vowels in the preceding sections.

3.5.6.1. Reduction of /u/ following affricates (medial syllables)

In several Manchu varieties, /u/ is regularly reduced to [ə] (~ [i]) in open medial syllables following the earlier alveopalatal affricates /tʃ, dʒ/. This development is exemplified in (53):

(53) Table 24a. Reduction of /u/ following affricates /tʃ, dʒ/

pTg						
gloss	‘trustworthy’	‘lonely, desolate’	‘shameful, disgraceful’	‘cruel; painful, terrible; strong (of liquor)’	‘to sing’	‘ <i>gacuha</i> (a game using sheep’s ankle bones)’
WM	[akdaʃuqa]	[ʃimaʃuqa]	[giʃukə]	[niməʃukə]	[uʃulə-]	[caʃuxa]
orthographic	<i>akdacuka</i>	<i>simacuka</i>	<i>gicuke</i>	<i>nimecuke</i>	<i>ucule-</i>	<i>gacuha</i>
Beijing	[axdaʃuka] ~ [axdaʃika] → [aɔdaʃika]	[ʃimaʃuka] ~ [ʃumʃika] → [ʃumʃik(a)]	[gyʃukə] ~ [giuəʃikə] → [giuəʃik(ə)]	[niməʃikə] → [niməʃik(ə)]	[uʃəʃə-x] (PERF.PART)	[gaʃixa]

Lalin	[aɔdaʃʲika]	[ʃumʃʲika]	[giuəʃʲikə]	[niməʃʲikə]		
Sibe		³²⁸	[gitequ] ³²⁹	[nimətʃʲiku] 'harsh, severe, strict'	[utʃulu-m] (NONP)	[gaʃʲuqu]
Aigun						
Ilan Boo			[ʻgitʃko]		[uʻʃu.ltu-me] (NONP)	
Ibuci					utʃər-mi (NONP)	gaʃʲiχa
Alcuka				[imʃixɑ]	[uʃʲilə-mi] (NONP), [uʃʲilə-xə] (PERF.PART)	[gaʃʲixɑ]
Bala	[əkdəʃʲika]			[niəmʃʲikə] ~ [imʃʲikə]		
Late Jurchen			*giričuke		*učulo-	

In Beijing, most relevant items attest only the reduced pronunciation, but a few items attest only un-reduced [u], or show variation between reduced and unreduced vowels, with no clear correlation to speech rate. In Lalin, reduction is regular in the available data; the environment includes all open post-initial syllables (that is, including final syllables). However, verb stem-final syllables do not undergo reduction in Beijing or Lalin.

Reduction is also the normal development in Alcuka, Bala, and Ibuci. Furthermore, in Beijing, Alcuka, and Bala, reduction is associated with simplification of the preceding affricate /tʃ/ > [ʃ].

In Sibe and Ilan Boo, reduction culminating in deletion is attested only in cases involving the deverbal adjectival suffix corresponding to WM [-ʃuqa/-ʃukə] *-cuka/-cuke*), with some variation across sources, but not elsewhere. (There is no evidence for the development in Aigun or Late Jurchen, in part due to scarcity of cognates.)

³²⁸ Cf. Yamamoto (nos. 2529, 2530, 1969: 122)'s [eimaʻtʃuqʷ] 'lonely', [eiʻmatʃʷqʷ] 'lonelier', with "reduction" (desegmentalization: see §3.4) in the latter form.

³²⁹ Compare a variant transcription (Yamamoto no. 1967, 1969: 96) [gitʃukʷ] 'id.', without reduction of earlier /u/.

3.5.6.2. Reduction following other sibilants (medial syllables)

In certain varieties, earlier /u/ may also be reduced to [ə] (~ [ɪ] ~ zero) in open medial syllables following original coronal fricatives /ʃ, s/. Given the similarities to reduction following (coronal) affricates /tʃ, dʒ/, the category of sibilant would seem to be relevant. This development is exemplified in (54):

(54) Table 24b. Reduction of /u/ following fricatives /ʃ, s/

pTg								
gloss	'to hold in the mouth'	'harmful sprite, fox sprite'	'small noise'	'gentle'	'to make fun of, to deride, to mock'	'to slide, to glide, to skate (on ice)'	'cause for joking or derision'	'to speak, to talk'
WM	[afu-]	[buʃuku]	[asuki]	[nəsukən]	[basu-]	[nisu-]	[basuʃun]	[gisurə-]
orthographic	<i>aʃu-</i>	<i>buʃuku</i>	<i>asuki</i>	<i>nesuken</i>	<i>basu-</i>	<i>nisu-</i>	<i>basucun</i>	<i>gisure-</i>
Beijing								[giuəsulə-m(i)] → [giuəsulə-m] ~ [gysurə-mi] ~ [gysulə-mi] (NONP)
Lalin								[giuəsulə-mei] (NONP)
Sibe	[azi-m] 'to insert (incense) into (a burner)' (NONP)	[busku]	[aski] ³³⁰		[bazi-m] (NONP) ³³¹		[bazitʃun]	[gizirə-m] (NONP) ³³²
Aigun								[gidzər-me] (NONP)
Ilan Boo								[gi'zurw-me] (NONP)
Ibuci			ɛʃikie ~ ɛsikie					gi'zəl-mi (NONP)
Alcuka		[buʃxuŋ]		[nəsīgə]				
Bala		[buciu]				[nitsi-mi] (NONP)		
Late Jurchen								*gisure (IMPF.PART?)

³³⁰ Compare Yamamoto (1969: 118, no. 2446)'s transcription [ʔæskʲ] 'noise, sound', also with reduction.

³³¹ Compare Yamamoto (1969: 56, no. 1303)'s transcription [basə-m] (NONP) 'to criticize', also with reduction.

³³² Compare Yamamoto (1969: 55, no. 1275)'s transcription [gisurə-m] (NONP) 'id.', without reduction.

In this environment, the development is essentially unattested in Beijing, Lalin, and Late Jurchen. I can find only one faster-speech example: WM [dursuki] *dursuki* : Beijing [dursuki] → [durs(u)ki] ‘similar’, whereas the reflexes of WM *gisure-* ‘to speak, to talk’ in these three dialects conspicuously retain /u/ in exactly the position of reduction to /ə/ in Sibe, Aigun, and Ibuci.

Relevant data is not abundant, but in Sibe, Aigun, Ibuci, and Alcuka, reduction appears to be typical, in spite of a few variants that retain [u]. Bala attests reduction following /s/ (as in ‘to slide, to glide, to skate (on ice)’), but the facts following /ʃ/ are not clear. In Ilan Boo, only a tiny minority of relevant forms exhibit the change of /u/ > [ə], as in WM [təsu-] *tesu-* ‘to be enough, to suffice’ : Ilan Boo [tu'zu-me] (NONP) ‘to be bearable, to be endurable’. The problem requires further study.

3.5.6.3. Reduction of /u/ following /tʃ, dʒ, ʃ, s/ (final syllables)

In several varieties, reduction is also attested in word-final syllables after some or all of the earlier coronal affricates and fricatives (i.e., the sibilants) /tʃ, dʒ, ʃ, s/. These developments are exemplified in (55):

(55) Table 24c. Reduction of final-syllable /u/ following sibilants

pTg											
gloss	‘uncle; mother’s (younger) brother’	‘different’	‘friend’	‘sorrel’	‘song’	‘head’	‘trough’	‘sixty’	‘line, stroke’	‘purple’	‘ugly’
WM	[nakʃu]	[əŋʃu]	[gʊʃu]	[ulunʃu]	[uʃun]	[udʒu]	[xuɖʒu]	[nindʒu]	[dʒidʒun]	[ʃuʃu]	[ərsun]
orthographic	<i>naku</i>	<i>encu</i>	<i>gucu</i>	<i>uluncu</i>	<i>ucun</i>	<i>uju</i>	<i>hiju</i>	<i>ninju</i>	<i>jijun</i>	<i>šušu</i>	<i>ersun</i>
Beijing									[dʒydʒun]		
Lalin	[nakʃʏ]										

Sibe	[naɣtʂə]	[untʂʷ]	[gutʂʷ]		[utʂun]	[udʒu]	[xudʒu]	[indʒi]	[dʒydzyn] ³³³	[sus]	[ərsun]
Aigun			[gutʂu]			[udʒu]		[nyŋgundʒə] ³³⁴			
Ilan Boo	[naʷtʂu]	[umtʂu]	[ˈgu(:)tʂə]			[ˈu:dʒə]	[ˈku:dʒə]			[ʃu:zo]	[urˈsun]
Ibuci	naxudʒə		gutʂu			udʒu		nyŋdʒu ~ nyŋdʒuə		ʃudʒu	
Alcuka	[naˈuʃu]	[gəŋʃə]		[uləŋʃi]	[uʃin]	[udʒu]		[niŋdʒu] ~ [jiŋdʒu] ~ [indʒu]			
Bala		[gəŋʃu]		[gəŋʃu]	[uʃin] ~ [xuʃin] (1988: 19)	[udʒu]					
Late Jurchen	*naKaču					*uju	*huži	*nin(g)ju			*eusun(g)

There is little or no evidence of this process in Beijing, Bala, or WM. Lalin attests reduction only in ‘uncle; mother’s (younger) brother’, but that item is a Mongolic loan in Manchu (cf. WMong *naɣaču* : Khalkha *нагацү* ‘id.’); it is at least conceivable that the Lalin form stems from a distinct borrowing event.

In Sibe, closed final syllables are rarely affected, though note that stems containing a preceding /a/ often seem to be exceptions to that generalization as, for example, in WM [arsun] *arsun* : Sibe [arsən] ‘bud, sprout’.³³⁵ In open syllables, final /u/ undergoes desegmentalization (§3.4) following earlier /tʃ/ and is deleted following earlier /f/ and /s/, but is generally retained following /dʒ/.³³⁶

³³³ A variant transcription, [dʒidʒun] (S. Li et al. 1984: 227), is attested in certain phrases or compounds, perhaps reflecting a reading pronunciation or another form of contact with standard WM.

³³⁴ Aigun does not attest the irregular contracted stem for ‘six’ that appears in ‘sixty’ in most varieties. Note also that final “[ɔ]” may be taken to mean /u/ lowered to [o], here.

³³⁵ The correlation is far from perfect.

³³⁶ It is important to point out that the various sources on Sibe are not in full agreement about the environment of desegmentalization. See §3.## for more details. S. Li et al. 1984 indicate desegmentalization of final /-u/ following alveodental stops /t, d/, the voiceless retroflex affricate /tʂ/ (< /tʃ/), and the dorsal fricatives /x, ɣ/. B. Li 1996 also includes the dorsal stops /k, q/, liquid /r/, and the voiceless alveodental fricative /s/ (< /s/ or /ʃ/), but *excludes* /t, d/. Yamamoto 1969 assumes desegmentalization of final /-u/ following any consonant. Lowering is also attested in some sources, but its distribution is not entirely predictable (see §3.4).

In Aigun, no version of reduction is very widespread. Forms like ‘sixty’ show final lowering (§3.4) following /dʒ/, but this may be part of a small quasi-regular development involving the numerals 60, 70, 80, and 90, which all include a contracted form of ‘ten’ (WM [dʒuan] *juwan*, with an original diphthong); the same set of numerals attests reduction to [ə] ~ [i] in Sibe. In Ilan Boo, reduction that eliminates roundness is infrequent, and largely confined to closed syllables. In open syllables that are unstressed in Ilan Boo, the basic development is lowering (§3.4) to [o] following any sibilant, though deletion is attested following /s/, as in Sibe.³³⁷ In Ibuci, reduction does not eliminate roundness in this environment. The data on lowering in this variety are difficult to interpret due to transcription issues, but it appears that most items simply preserve [u].

Alcuka attests reduction to [ə] (~ [i]) following /tʃ/ only; one item, ‘song’, shows the hypothetical development of reduction to (in this case, unattested) **[ə] or **[i] and then to [i] in a closed syllable. Late Jurchen seems to show the same development for one item, ‘trough’, in an open syllable following /dʒ/, but otherwise preserves [u].

3.5.6.4. Reduction of /u/ following non-sibilants

Certain varieties of Manchu (especially Sibe, Ilan Boo, and Ibuci) also attest reduction following non-sibilants. (WM, Beijing, and Lalin do not.) In Sibe, Ilan Boo, and Ibuci, earlier /u/ may be reduced to /ə/ (~ /u, ʌ, i/ etc.) or zero in open post-initial syllables following any consonant. This development is exemplified in (56):

(56) Table 25. Reduction of /u/ in open post-initial syllables

pTg									
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³³⁷ One example, WM [asu] *asu* : Sibe [as] : Ilan Boo [aɔz] ‘net’, seems to require an ordering such as ^(*)asu > auz > [aɔz_], since the voicing of [z] (< /s/) implies a following vowel (other similar examples are frequent), and the initial diphthong [aɔ] reflects rounding-by-breaking triggered by the deleted final /u/.

gloss	‘thick coat’	‘salty’	‘pan, basin’	‘to reap, to cut with a sickle’	‘lung(s)’	‘feces’	‘lazy’	‘to deep-fry’	‘leek, scallion’
WM	[pampu]	[χatʉχon]	[fəŋsəku]	[χadu-]	[ufuxu]	[χamu]	[banuχon]	[ʃaru-]	[əlu]
orthographic	<i>pampu</i>	<i>hatuhün</i>	<i>fengseku</i>	<i>hadu-</i>	<i>ufuhu</i>	<i>hamu</i>	<i>banuhün</i>	<i>caru-</i>	<i>elu</i>
Beijing									
Lalin									
Sibe	[pamp]	[χatχun]	[fəsk]	[χadə-m] (NONP)	[ufx ^w]	[χam]	[banχun]	[ʃarə-m] (NONP)	[u]
Aigun									
Ilan Boo		[χat'ʉon]	['fʉnskʉ]		['u:ko]	['χə:mə]	[ban'ʉon]		['u:lə]
Ibuci		χatkon	fənskə		uguɔ ~ uxuo		banoxō		ulo
Alcuka			[fəŋsəkə] ~ [fəskə]			[xəmu] ~ [xuəmu]			
Bala		[xantixun]				[xumu]			[ɔɔ]
Late Jurchen		*Kat[h]u	³³⁸		*up[h]u		*banhu		*elu

(None of these items is attested in Beijing or Lalin, but there is no other evidence that reduction or deletion is possible in this environment.)

In Sibe, as discussed in preceding sections, reduction of /u/ generally culminates in deletion in word-final position unless the preceding consonant is one that conditions desegmentalization, as in ‘lungs’, here. (Desegmentalization is treated separately in §3.##.#). Deletion is also the regular development in earlier open medial syllables, unless such a syllable ends up as word-final in Sibe due to other deletions. The prototypical example of the latter case is verb stem-final position in NONP forms (as in ‘to reap, to cut with a sickle’ and ‘to deep-fry’ in the table above). In that and other non-final positions, the result is [ə].

In “Eastern” Manchu dialects, deletion might be restricted to unstressed open *medial* syllables, whereas unstressed open *final* syllables undergo lowering (§3.##.#) to

³³⁸ Cf. LJ *funze ‘id.’ corresponding to a related form, WM [fəŋsə] *fengse* ‘id.’. Both terms are loans from Ch 盆子 *pénzi* ‘id.’.

[o].³³⁹ In Ibuci, lowering in final position is frequently transcribed with a diphthong, “uɔ”, but “o” is not uncommon. (The items above are not attested for Aigun, but similar examples exhibit lowering.) Elsewhere, the result is /ə/ (~ /ʉ, ɤ, i/, etc.).

In Late Jurchen, only deletion is clearly attested, and only in open medial syllables followed by *h /x/, as previously noted for other vowels.

3.5.7. Reduction of earlier /ʊ/

In most varieties of Manchu, earlier /ʊ/ does not regularly undergo reduction. In Ilan Boo and Ibuci, reduction (culminating in deletion) is attested only in word-final position. This development is exemplified in (57):

(57) Table 26a. Reduction of /ʊ/ in word-final position

pTg							
gloss	‘key’	‘small saw’	‘hundred’	‘palm (of hand)’	‘youngest (child)’	‘left (side)’	‘dishrack’
WM	[anaqʊ]	[faitaqʊ]	[taŋɣʊ]	[faləŋɣʊ]	[fiəŋɣʊ]	[χasχʊ]	[sarχʊ]
orthographic	<i>anakû</i>	<i>faitakû</i>	<i>tanggû</i>	<i>falanggû</i>	<i>fiyanggû</i>	<i>hashû</i>	<i>sarhû</i>
Beijing			[taŋɣu]		[fiəŋɣu]		
Lalin	[anku]		[taŋɣu]				
Sibe	[anq] ~ [anqə-] ³⁴⁰	[fætqu]	[taŋ] ~ [taŋə-]	[faləŋ]	[fijan]	³⁴¹	[sarχ]
Aigun			[taŋŋəŋ]				
Ilan Boo	[‘antʌ ⁹ χʊ] ~ [‘antʌ ⁹ xʊ]	[faitku]	[‘taŋŋɣ] ~ [‘taŋ]	[fa.laŋ]	[fiəŋ]	[‘χas ⁹ χʊ]	[‘sa.rɔɔ]
Ibuci	an ⁹ nAkou ~ an ⁹ nAxou ~ An ⁹ nAxou ~	‘fetku ~ fiɔtkou	taŋŋə ~ taŋŋə ~ taŋ		fyəŋ ~ fyəŋ	χaskə	

³³⁹ This is a speculation that assumes that the placement of stress is like that in Ilan Boo. Recall that many analyses treat lowered /u/ as /ɔ/. I follow B. Li (1996) in analyzing it as an allophone of /u/, although the precise conditions under which [o] (described as [ə] in his materials) occurs--rather than some other reflex of reduction--remain unclear.

³⁴⁰ Yamamoto (1969: 30, no. 674) gives [ʔaŋqʷ] and Norman (p. c.) [anqʷ], both ‘id.’, with desegmentalization, not deletion.

³⁴¹ Cf. Yamamoto (1969: 126, no. 2600) [χasχʊ] ‘id.’, without reduction.

	ɑ ^N nəxuo ~ An' nAχoõ						
Alcuka			[taŋgu] ~ [taŋ'u] ~ [ta'u]				
Bala							
Late Jurchen			*tangu	*falangKa		*Kas[h]u	

(There is no evidence of this development in Aigun.) It appears that Ilan Boo does not undergo reduction following earlier /x/ [χ], while Ibuci does not undergo reduction following earlier /k/ [q].³⁴²

In Sibe as well, reduction is attested in this environment, but seems to be regular only following earlier /-ŋg-/ [ŋG]. In addition, Sibe attests reduction in other post-initial syllables, as exemplified in (58):

(58) Table 26b. Reduction of /o/ in other post-initial syllables

pTg					
gloss	'gait (of horse, livestock)'	'double, having layers, storied (building)'	'to chew; to backbite, to criticize'	'to become cold, to catch cold'	'rabbit, hare'
WM	[alqon]	[dabqori]	[niaŋgu-]	[faχora-]	[ɣolmaχon]
orthographic	<i>alkûn</i>	<i>dabkûri</i>	<i>niyanggû-</i>	<i>šahûra-</i>	<i>gûlmahûn</i>
Beijing			[niaŋu-m(ə)] (IMPF.CONV)		[ɣuəmaxu(n)]
Lalin			[niaŋu-m] (IMPF.CONV)		
Sibe	[a.ɪqən]	[davqər]	[niaŋə-m] (NONP)	[saxərə-m] (NONP) ³⁴⁴	[ɣulmaxən] ³⁴⁵

³⁴² In Ilan Boo, word-final /o/ following earlier /x/ generally undergoes lowering as in 'dishrack', here.

³⁴⁴ Norman (p. c.) recorded a variant, [saxərə-m] 'id.', without reduction of /o/.

³⁴⁵ Yamamoto (1969: 108, no. 2216) gives [ɣolmaxən] and Norman (p. c.) [ɣulmaxən], both 'id.', without reduction.

	‘pace, step (distance)’ ³⁴³				
Aigun					
Ilan Boo				[ʂaʋʊ'ra-me] (NONP)	[ɣol'ma:ɣa] ~ [ɣol'ma:ʋa]
Ibuci					gurmAʏə
Alcuka					
Bala					
Late Jurchen					*gumahun(g)

3.5.8. Lowering and desegmentalization

In addition to the varieties of reduction already discussed above, which all broadly involve a sequence of changes of the general form /V/ > /ə/ > zero, several dialects (primarily Sibe and the “Eastern” Manchu dialects of Aigun, Ilan Boo, and Ibuci) exhibit special developments involving high vowels.

3.5.8.1. Desegmentalization and lowering of /i/

In Sibe, final /-i/ is desegmentalized to a palatal glide element [j] in word-final position following certain consonants. S. Li et al. (1984: 12) describe this desegmentalization process following the Sibe coronal sonorants /n, r, l/ and the velar fricative /x/. B. Li (1996) recorded forms in which desegmentalization also follows the velar stop /k/. Yamamoto (1969)’s data shows desegmentalization following several additional consonants including /b, g, f, v, ŋ/ etc., and also in non-final positions. However, /i/ can

³⁴³ In standard sources, WM does not attest a cognate verb; however, Sibe seems to have back-formed one, for which Yamamoto (1969: 52, no. 1224) gives [ʔalqə-m] ‘to take a step, to walk’, and Norman (p. c.) gives [alqa-m] ‘to straddle, to step across’. Norman’s form suggests that reduction of /ʊ/ to /ə/ in this particular context has resulted in neutralization with (reduced) /a/. The [a] in the second syllable may thus be understood as resulting from hypercorrection (undoing reduction of “/a/” to /ə/).

surface as “un-desegmentalized” full [i] when suffixes or particles are attached.

Desegmentalization of /i/ is exemplified in (59):

(59) Table 27a. Desegmentalization of final /i/ (Sibe)

pTg						
gloss	‘(only) then, finally’	‘winter’	‘all, every, in total’	‘meat, flesh’	‘strainer, ladle’	‘(straw or rush) mat’
WM	[təni]	[tuəri]	[uxəri]	[jali]	[dʒəli]? [dʒauli]?	[dərxi]
orthographic	<i>teni</i>	<i>tuveri</i>	<i>uheri</i>	<i>yali</i>	<i>jo(o)li</i>	<i>derhi</i>
Beijing				[janli]		
Lalin				[janli]		
Sibe	[təŋʲ]	[tyrʲ]	[uyərʲ] ~ [uyurʲ]	[jəlʲ]	[dʒæɫʲ]	[dirxʲ]
Aigun		[tuire]		[jɛle]		
Ilan Boo	[ti'ni:]	['ty:re]	[u'ɣure]	['jɛ:le]		
Ibuci	tini	tylie		jieli ~ jeli		
Alcuka						
Bala						
Late Jurchen		*tu'eri		*yali		*derhi

It is conspicuous that the “Eastern” Manchu dialects often show lowering of final /i/ to [e] (~ “ie”) in the same environment--when the vowel is unstressed in Ilan Boo. A complication that awaits a more thorough treatment is the fact that Sibe and Ilan Boo disagree on the placement of stress in many words, including some in the table such as the reflexes of WM [təni] *teni* ‘(only) then, finally’.

Lowering of final /i/ in “Eastern” Manchu dialects is attested following a broad range of consonants. As mentioned above, in Aigun and Ilan Boo, the outcome of lowering is generally transcribed as monophthongal [e(:)]. In Ibuci, the diphthongal transcription “ie” is more frequent, but “e” is also found. In some cases, [ei] appears to be a variant of [e]. In my view, diphthongal renderings such as “ie” can be understood

phonetically as [i^e] ~ [i^e] ~ [j^e]. It is nevertheless unclear if this should be interpreted as /i/ > /e/ (with /-e/ causing palatalization of the preceding consonant, thus [...C^je]) or as a kind of lowering offglide /i^e/. This is yet another question for future research. This development is further exemplified in (60):

(60) Table 27b. Lowering of final /i/

pTg					
gloss	‘right (side)’	‘neighbor’	‘fox’	‘vegetable’	‘pen, writing brush’
WM	[iʃi]	[adaki]	[dɔbi]	[sɔgi]	[fi]
orthographic	<i>ici</i>	<i>adaki</i>	<i>dobi</i>	<i>sogi</i>	<i>fi</i>
Beijing					
Lalin					
Sibe	[iɛitə] ³⁴⁶	[ɛdki]	[dœv] ~ [dœf] (~ [dœvu-])	[œɛg]	[fi]
Aigun	[itɛ]			[sɔgɛ]	[fi]
Ilan Boo	[‘i:teɛ]	[aitɻ‘ke(:)] ~ [aitu‘ke:]	[‘dɔ:vɔ] ~ [‘duuve]	[‘sɔ:giɛ] ~ [‘sɔ:giə]	[fui] ~ [fei]
Ibuci	iteikə ~ iteigə	ɛtiekie	diɔve	‘tsogu ~ ‘tsogo ~ ‘tsogu	fe
Alcuka	[iʃiɛ]		[dɔrbi(ə)] ~ [dɔbi]		[pi]
Bala	[iʃi]				
Late Jurchen	*iti		*dobi	*sugi	*fi

At first glance, these items appear to contradict the proposed correlation between desegmentalization in Sibe and lowering in “eastern” Manchu, since the Sibe cognates from S. Li et al. (1984) do not show desegmentalization. However, alternate transcriptions by Yamamoto confirm the existence of desegmentalized variants, such as

³⁴⁶ This Sibe form appears to be suffixed. Compare Norman’s transcription (p. c.) *is̄ito* [iɛʔtə] ‘id.’. On the other hand, Yamamoto (1969: 126, no. 2599) recorded a more conservative-looking [ʔitɛr] ‘id.’.

[²ɛdixʲ] ‘neighbor’ (1969: 127, no. 2609), [dǐœvʲ] ‘fox’ (1969: 108, no. 2207), and [sʲœgʲ] ‘vegetable’ (1969: 13, no. 303).

In Sibe, as well, there is some evidence of lowering of /i/ (as opposed to desegmentalization). A few historically /i/-final words are transcribed with a diphthong /iə/ in S. Li et al. 1984. (As previously discussed, the phonetic value of this Sibe diphthong is not specified, but seems--on the basis of comparisons with other sources--to be [i̯e] or [i̯ɛ].) Examples include WM [lɔbi] *lobi* : Sibe /lœviə/ ([lœvʲe]?) ‘ravenous, gluttonous’ and WM [galbi] *galbi* : Sibe /gɛlviə/ ([gɛrvʲe]?) ‘possessing keen hearing’.

3.5.8.2. Desegmentalization and lowering of /u/

A parallel process of desegmentalization is observed for Sibe /u/. In word-final position, /u/ is desegmentalized to a labial glide element [w] following certain consonants. S. Li et al. (1984: 12) indicate desegmentalization of final /-u/ following alveodental stops /t, d/, the voiceless retroflex affricate /tʂ/ (< /tʃ/), and the dorsal fricatives /x, ɣ/. B. Li 1996 also includes the dorsal stops /k, q/, liquid /r/, and the voiceless alveodental fricative /s/ (< /s/ or /ʃ/), but does not give any examples of /t, d/. Yamamoto (1969: 22) assumes desegmentalization of final /-u/ following essentially any consonant, and like desegmentalization of /i/, he transcribes it in non-final positions as well. This process is exemplified in (61):

(61) Table 28a. Desegmentalization of final /u/ (Sibe)

pTg					
gloss	‘ghost, devil’	‘friend’	‘how many? several’	‘beast, wild animal’***	‘deer’
WM	[xutu]	[guʃu]	[udu]	[gurgu] (~ [gurxu]?)	[buχo]
orthographic	<i>hutu</i>	<i>gucu</i>	<i>udu</i>	<i>gurgu</i> (~ <i>gurhu</i>)	<i>buhû</i>
Beijing				[gɔ(r)gu] ~ [gu(l)gu]	
Lalin					

Sibe	[xut ^w]	[gutʂ ^w]	[ud ^w]	[gurx ^w]	[bɔχ ^w]
Aigun		[gutʂu]	[udɔ]		
Ilan Boo	[ˈku:to]	[ˈgu(:)tʂo]	[ˈudu]	[ˈgu:rugo]	[ˈbɔ(:)ɛɔ]
Ibuci	xuduɔ	gutʂu	ud(u)		
Alcuka	[xutuŋ] ~ [gutu] ³⁴⁷		[udu] ~ [gudu] ~ [udɔ]	[gugu]	[buxɔ]
Bala	[kutu]			[ulgu]	
Late Jurchen					*bu'u

As in the case of final /i/, “Eastern” Manchu dialects (especially Ilan Boo) often show lowering of final /u/ to [o] or, in Ibuci, also “uɔ” in the same environment as Sibe desegmentalization, particularly if the vowel is unstressed in Ilan Boo.³⁴⁸ Note that Sibe final /u/ from any historical source may undergo desegmentalization. Thus, for example, final /u/ from earlier /ɔ/ is desegmentalized in /bɔχu/ ‘deer’, above.

Lowering in “Eastern” Manchu dialects occurs following a broad range of consonants. As mentioned above, [o] is the most frequent outcome. In Ibuci, “uɔ” is also frequent, and in small numbers of exceptions, additional variants “ɔ” and “oɔ” are also observed. This development is further exemplified in (62):

(62) Table 28b. Lowering of final /u/

pTg					
gloss	‘mirror’	‘portion, share’	‘head’	‘teacher, master’	‘onion’
WM	[buləku]	[ubu]	[udʒu]	[səfu]	[əlu]
orthographic	<i>buleku</i>	<i>ubu</i>	<i>uju</i>	<i>sefu</i>	<i>elu</i>
Beijing					
Lalin					

³⁴⁷ The original transcription (Y. Mu 1985) has “[g]”. An additional “variant”, [xɔsɪ] ‘id.’, does not look like a true cognate.

³⁴⁸ In his Aigun materials, Q. Wang (1984) treats lowered /u/ as /ɔ/, but I suspect some if not all of them are actually [o], and can analyzed as allophones of /u/.

Sibe	[buluŋku]	[uv] (~ [uvu-])	[udʒu]	[səf]	[uɪ]
Aigun		[ubɔ]	[udʒu]		
Ilan Boo	[ˈbulko]	[ˈu:vo]	[ˈu:dʒo]	[ˈsu:vʉ] ~ [ˈsu:vɔ]	[ˈu:lo]
Ibuci	bulukoo		udʒu	ʈovə ~ ʈovɔ ~ ʈovuo	ulo
Alcuka		[ubɔ]	[udʒu]		
Bala			[udʒu]		[ɔɔ]
Late Jurchen	*meleku ³⁴⁹		*uʃu		*elu ‘leek’

As in the case of final /i/, these data show that the correlation between Sibe desegmentalization and “Eastern” Manchu lowering of final /u/ is imperfect. This discrepancy may be attributed to fine-grained differences in the conditioning effects of preceding consonants, nearby vowels, and location of stress, not only between Sibe and “Eastern” Manchu but also within the “Eastern” Manchu group. In particular, note that Sibe cognates frequently undergo outright deletion (especially following labials) rather than desegmentalization. Furthermore, sources on Sibe do not always agree; some items that show desegmentalization of /u/ in one source show deletion in another.

In addition, parallel to the case of lowering of /i/, lowering of /u/ is also attested in Sibe. As in Q. Wang’s (1984) treatment of Aigun, S. Li et al. (1984) analyzed lowered /u/ in Sibe as phonologically equivalent to /ɔ/, and transcribed it accordingly. However, it is clear from phonetically narrower transcriptions in Yamamoto (1969) and B. Li (1996) that the true value is closer to [o] or central [ə]. I follow B. Li (1996) in analyzing these values as allophones of /u/, but here (as elsewhere) I retain S. Li et al.’s use of [ɔ] when citing their data. Lowering in Sibe is exemplified in (63):

(63) Table 28c. Lowering of final /u/ (Sibe)

pTg							
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³⁴⁹ Compare Kiyose’s reconstruction of the corresponding item in the Bureau of Translators’ glossary, *bulunku [buluŋku] ‘id.’ (Grube no. 251).

gloss	‘seed’	‘ice’	‘axe’	‘fruit’	‘semen’	‘pear’	‘needle’
WM	[usə]	[dʒuxə]	[suxə]	[tubixə]	[usxə]	[ʃulxə] (~ [ʃulgə]?)	[ulmə]
orthographic	<i>use</i>	<i>juhe</i>	<i>suhe</i>	<i>tubihe</i>	<i>ushe</i>	<i>šulhe</i> (~ <i>šulge</i>)	<i>ulme</i>
Beijing		[dʒuxə] → [dʒux]					
Lalin		[dʒuxə]					
Sibe	[uzə]	[dzuyə]	[suyə]	[tyvxə]	[uskə]	[suryə] ‘apple’	[unə]
Aigun		[dzuyu]					
Ilan Boo	[u:zi] (Č); /usu/ [uzə] (Li)	[ˈdzu:yo]	[ˈsu:yo]	[ty:biyu]		[ˈsuryo] ~ [ˈxu:lə]	[umu]
Ibuci	udzə	dzyuɔ ~ dzuvuɔ ~ dzuvuo ~ dzuvo	sugu				[umə]
Alcuka		[dʒuxuə]					
Bala							
Late Jurchen		*juhe	*suhe	*tuwihe		*šilu? *šil[h]u?	*ume

It is conspicuous that the Sibe items undergoing lowering of final /u/ generally involve rounding of earlier /ə/. (In certain cases, the “Eastern” Manchu cognates do not undergo rounding, and are ineligible for lowering.) This appears to play a role in the unavailability of desegmentalization in Sibe, though it should be reiterated that the various sources for Sibe do not always agree. Thus, for example, B. Li (1996) confirms lowering in Sibe [dzuyə] ‘ice’, [suyə] ‘axe’, [sulyə] ‘apple’, etc., while Yamamoto (1969) records un-desegmentalized, un-lowered reflexes such as [ʔusu:] ‘seed’ (nos. 330, 1158, 2143), [dzuyɜ:] ~ [dzuyu:] ‘ice’ (no. 2029), [suyɜ:] ~ [suyu:] ‘axe’ (no. 629), [sulɜ:] ~ [sulʷyu:] ‘apple’ (no. 326), and [ʔunu:] ‘needle’ (no. 266); but also desegmentalized [ʔusʷkʷ] ‘semen’ (no. 118). To summarize the Sibe facts, it appears that rounding of earlier /ə/, associated with the “8th Company” sub-dialect of Sibe, indeed yielded /u/. In the

materials of Yamamoto 1969, stress was generally retained on the vowel that was originally /ə/, and no desegmentalization took place. In the Sibe material of S. Li et al. 1984 and B. Li 1996, stress had apparently shifted to the penultimate syllable in such words; unstressed final /u/ was either reduced (or deleted), desegmentalized, or lowered, depending in part on the identity of the immediately preceding consonant.

Note that for a few items, Alcuka and Bala Manchu also appear to show similar lowered reflexes for final /u/. I assume that these sporadic correspondences reflect contact with dialects of the “Eastern” Manchu type rather than native processes. Clearly, the details of desegmentalization, lowering, and the relationship among both processes and other forms of reduction of /u/ (and /i/) require much further study.

3.5.9. Loss of tongue root retraction

As discussed in Chapter 1 (§x.x.x.x), WM vowels may be classified into [RTR] and non-[RTR] sets. Comparison with other varieties of Manchu as well as other Tungusic languages, together with vowel harmony phenomena, indicate that this state of affairs is archaic: the common ancestor of all Manchu varieties had the [RTR] vowels /a, ɔ, ʊ/. Under varying conditions in several varieties of Manchu, all of these vowels may lose their [RTR] specification.

Insofar as this change involves loss of featural content, it may be characterized as a type of reduction, as mentioned above in §3.3. In discussing the change of earlier /a/ > /ə/ (the non-[RTR] counterpart of /a/), it was assumed that reduction is a more accurate description in that case, for the simple reason that all other vowels including non-[RTR] vowels /i/ and /u/ also exhibit developments leading to a schwa-like vowel that can be represented in shorthand as /ə/, abstracting away from the considerable intra- and interdialectal variation in realization.

On the other hand, there is a largely parallel development of earlier /ʊ/ > /u/ (the non-[RTR] counterpart of /ʊ/), which does not seem to reflect a more general reductive pattern, but rather a process specifically eliminating the [RTR] specification, and which exhibits a somewhat different and more complicated distribution among Manchu varieties.

3.5.9.1. Earlier /ʊ/ > /u/

In WM, the contrast between /ʊ/ and /u/ has a restricted distribution, occurring robustly only following the dorsal obstruents /k, g, x/. The received interpretation, adopted in virtually all modern treatments of the problem, is that earlier /ʊ/ merged into /u/ in all other positions--i.e., when preceded by any consonant *other than* a dorsal obstruent, or when it was in absolute word-initial position and thus *not* preceded by a consonant.

In Beijing and Lalin, with minor exceptions to be addressed below, all occurrences of earlier /ʊ/ have merged into /u/. The result is that, even in those restricted environments where WM retains historical /ʊ/, Beijing and Lalin almost always show /u/ [u]. This correspondence is exemplified in (63):

(63) Table 29a. Earlier /ʊ/ > /u/ (Beijing and Lalin)

pTg						
gloss	‘leggings’	‘key’	‘road’	‘hundred’	‘strength’	‘thief’
WM	[cɔʃʲiqʊ]	[anaqʊ]	[dʒucɔn]	[taŋcɔ]	[χʊsun]	[χʊlχa] (~ [χʊlga]?)
orthographic	<i>gocikû</i>	<i>anakû</i>	<i>jugûn</i>	<i>tanggû</i>	<i>hûsun</i>	<i>hûlha</i> (~ <i>hûlga</i>)
Beijing	[gɔʃʲiku] → [gɔʃʲiku]		[dʒuxun]	[taŋu]	[χusun] → [χusũ ⁿ]	[xulχa]
Lalin	[gɔʃʲiku]	[anku]		[taŋu]	[χusun]	
Sibe	[cɔʃʲiqʊ]	[anq] ~	[dʒɔχun]	[taŋ] ~ [taŋə-]	[χuzun]	[χulχa]

		[anqə-] ³⁵⁰				
Aigun			[dzəʁəŋ]	[taŋŋəŋ]		[χəɪka]
Ilan Boo	[ˈɔːtɛiʁə]	[ˈantɬ ^h χʊ] ~ [ˈantɬ ^h xʊ]	[dzəːˈgʊn] ~ [dzəːˈʁən]	[ˈtaŋŋɤ] ~ [taŋ]	[kuˈzun]	[χɔɪˈgɑː]
Ibuci		anˈnAkou ~ anˈnAxou ~ AnˈnAxou ~ a ^N nəxuə ~ AnˈnAχou		taŋŋə ~ tAŋŋə ~ taŋ	xuɕun ~ xuɕon ~ χuɕun ~ xuɕun ~ xuɕon	xurka
Alcuka			[ɕʊˈun]	[taŋgu] ~ [taŋˈu] ~ [taˈu]	[xutsun]	
Bala					[xusun]	
Late Jurchen			*ju	*tangu	*husu	*hul(u)Ka

The development is exceptionless in the available data for Lalin Manchu. For Beijing Manchu, Y. Aisin-gioro stated that earlier /o/ was retained in initial syllables, but merged into /u/ in all other positions. However, his transcriptions of actual lexical items do not obey this generalization. For example, the reflex of earlier /o/ in initial syllables is transcribed as [u] in ‘strength’ and ‘thief’, above. In addition, a few items are transcribed with [ɔ] in post-initial syllables, though Y. Aisin-gioro’s transcriptions from earlier and later publications frequently disagree; the later transcriptions always have [u] rather than [ɔ], in both initial and post-initial syllables. Furthermore, in a few items, earlier /o/ corresponds to Beijing [ɔ], but only as a variant of [u], as in WM [ɔʊfɪn] *gûsin* : Beijing [ɔʊfən] ~ [ɔʊfə] ~ [gɔʊfɪn] → [gɔʊfɪ] ‘thirty’. I tentatively assume: that [ɔ] either does not occur at all, or perhaps reflects some type of contact with standard WM such as a reading pronunciation; that [u] is the native development; and that [ɔ] reflects contact with an “Eastern”-type dialect (see §#.#.# below).

As can be seen in (63), above, Sibe also generally has [u] corresponding to earlier /o/. The main exception is that in final position, /u/ (including /u/ from /o/) is frequently

³⁵⁰ Yamamoto (1969: 30, no. 674) gives [ʔanq^w] and Norman (p. c.) [anq^w], both ‘id.’, with desegmentalization.

reduced, deleted, desegmentalized, or lowered. As discussed above in §3.3 and §3.4, the sources for Sibe do not all agree on this point. Yamamoto's materials (1969) in particular often show [w] resulting from desegmentalization of underlying /u/, especially in final position. Furthermore, [ɔ] is often retained in Yamamoto's phonetic transcriptions, though he treats it as an allophone of /u/ following phonemic uvulars.) Another exception, discussed in more detail below in §###, is that earlier /ɔ/ was lowered to /ɔ/ under certain conditions; that change, however, does not involve loss of tongue root retraction.

All of the "Northern" Manchu dialects (Alcuka, Bala, LJ) also attest the merger of earlier /ɔ/ > /u/ under varying conditions. In Alcuka, earlier /ɔ/ is occasionally reflected as [ɔ], but most frequently corresponds to [u], as in the items in (63), above. I assume that the few instances of [ɔ] reflect contact with a more conservative dialect. As in Sibe and "Eastern" Manchu, earlier /ɔ/ corresponds to Alcuka [ɔ] in a number of words (on which see §3.5.1.#), but apart from one special environment (see §3.5.1.1 below), the development is irregular and unpredictable, again suggesting a source in contact with an "Eastern"-type dialect.

In Bala, earlier /ɔ/ generally merges into /u/ in all positions except closed final syllables, where [ɔ] may be retained.³⁵¹

For Late Jurchen, the Early Mandarin transcription does not distinguish *ɔ from *u. In my view, the most plausible interpretation is that the hypothesized merger by loss of tongue root retraction had already been completed in LJ, in spite of the fact that this variety is chronologically older than WM or any other variety of Manchu covered in this dissertation. However, the possibility that this is simply a defect of the transcription

³⁵¹ In fact, a large minority of items have [u] in this position, as well. However, in cases of multiple transcriptions, it appears that Y. Mu emended [u] in an earlier publication to [ɔ] in a later publication.

cannot be excluded. In addition, LJ systematically shows *ua corresponding to /ʊ/ in one exceptional environment (see §3.5.1.1).

The loss of tongue root retraction in the “Eastern” Manchu dialects operates somewhat differently from other Manchu varieties.

In Aigun, the regular reflex of WM /ʊ/ [ʊ] is /ɔ/ [ɔ], as seen in (63), above. In other words, /ʊ/ was lowered in all positions where it occurred in WM (namely, following dorsal obstruents), merging with /ɔ/. On the other hand, in those positions where /ʊ/ underwent loss of tongue root retraction in WM, merging with /u/ (that is, everywhere else), Aigun shows split reflexes, [u] and [ɔ]. That is, Aigun exhibits loss of tongue root retraction (/ʊ/ > /u/) only in a subset of the words that undergo the process in WM. In the remainder, it would appear that earlier /ʊ/ was initially unchanged, and subsequently lowered to /ɔ/ together with all other occurrences of /ʊ/. However, the distinction between WM /u/ < *ʊ : Aigun [u] and WM /u/ < *ʊ : Aigun [ɔ] is generally unpredictable, apart from one sub-regularity discussed in §3.5.##, below.

In Ilan Boo, [ʊ] is generally retained in those positions where it occurs in WM, as seen in (63), above, apart from instances of reduction or deletion, as in ‘hundred’. Note, however, that lowering to [ɔ] is also observed. In those positions in which /ʊ/ was merged into /u/ in WM, Ilan Boo also shows split reflexes, [u] and [ɔ]. The situation is thus like that in Aigun, where loss of tongue root retraction (/ʊ/ > /u/) is found only in a subset of the words that undergo the process in WM. Again, the distinction is generally unpredictable apart from one sub-regularity (see §3.5.##, below). However, there are also a number of cases in which loss of tongue root retraction has affected earlier /ʊ/ in positions where it is preserved in WM--that is, following dorsal consonants. This development is seen in ‘strength’ in (63) above, and further exemplified in (64):

(64) Table 29b. Loss of tongue root retraction (/ʊ/ > /u/) in Ilan Boo

pTg							
-----	--	--	--	--	--	--	--

gloss	‘pants’	‘to bake; to warm (oneself) by the fire’	‘to send on a mission’	‘to kneel’	‘anus’	‘drawer’	‘hairpin’
WM	[faqori]	[fiaqʊ-]	[taqora-]	[niaqora-]	[fadʒuqʊ]	[tataqʊ]	[ʃifiqʊ]
orthographic	<i>fakûri</i>	<i>fiyakû-</i>	<i>takûra-</i>	<i>niyakûra-</i>	<i>fajukû</i>	<i>tatakû</i>	<i>sifikû</i>
Beijing							
Lalin							
Sibe	[faqar]	[fiaqə-m] (NONP)	[taquru-m] (NONP)	[jaquru-m] ~ [jakurə-m] (NONP)	[fatʃiɣ] ‘buttocks’	[tatqu]	[ɕəfɣə]
Aigun							
Ilan Boo	[fa:ˈkure] ~ [fa:ˈkuri]	[fiɔˈku-me] (NONP)	[tɑ:ˈkur-me] (NONP)	[niakuˈru-me] (NONP)	[fa:ˈtʃuku]	[ˈta:tku]	[eiɔbku]
Ibuci	fɔvulə ~ fɔxul ~ fɔxulə	fɔxu-mi (NONP)		niɔxur-mi (NONP)			
Alcuka				[miakura-]			
Bala				[mijakura-] ~ [mikurə-] ~ [niukurə-]			
Late Jurchen			*taku-ha (PERF.PART) ³⁵²	*niekuru-			

This development seems to be most frequent following earlier /k/ [q], in post-initial syllables, but is unpredictable even in that environment. Note, also, that the loss of tongue root retraction in Ilan Boo systematically conditions preceding velar allophones of dorsal consonant phonemes rather than uvulars. (In Sibe, by contrast, uvulars became phonemic and are retained regardless of the loss of tongue root retraction. See Chapter 2 §#.#.#.)

In J. Zhao (1989)’s Ibuci material, the transcription of round vowels is problematic. As a general rule, I have tentatively interpreted the presence of *either* preceding uvular consonants *or* distinctly [RTR]-type vowels in the transcription (cf. ‘key’ and ‘strength’ in (63) above) as reflecting retention of the earlier state of affairs as found in WM. Where *neither* uvulars *nor* clearly [RTR]-type vowels are found (cf. ‘thief’ in (63) above), I assume that loss of tongue root retraction has taken place. Under this

³⁵² Kane (1989: 294) suggested that *-ra- is missing from the stem.

interpretation, the Ibuci reflexes of ‘pants’, ‘to bake’, and ‘to kneel’ in (64) all appear to have undergone the neutralizing loss of [RTR], as in Ilan Boo.

3.5.9.2. Earlier /ʊ/ > WM /u/ : “Eastern” Manchu /ɔ/

As mentioned above, in a subset of the cases where earlier /ʊ/ was merged into /u/ in WM by loss of tongue root retraction, the “Eastern” Manchu dialects have /ɔ/ rather than /u/. Since /ɔ/ is an [RTR] vowel, it is clear that such cases do not involve loss of tongue root retraction, but rather a lowering merger with inherited /ɔ/. This distinction between *ʊ that develops to /u/ and *ʊ that develops to /ɔ/ is largely unpredictable. However, there is one environment in which it is overwhelmingly regular, namely the set of words with the WM vocalism /...u...ʊ.../, which is assumed to be derived from an earlier *...ʊ...ʊ..., where the latter occurrence of *ʊ was preceded by a dorsal consonant but the former occurrence was not. (In WM, the dorsal consonant licenses the retention of /ʊ/, while the absence of a dorsal consonant conditions loss of tongue root retraction, giving /...u...ʊ.../.) In “Eastern” Manchu and Sibe, the first *ʊ (: WM /u/) is regularly lowered to /ɔ/, as exemplified in (65):

(65) Table 29c. *ʊ > WM /u/ : “Eastern” Manchu /ɔ/ : Sibe /ɔ/

pTg						
gloss	‘skin; bark’	‘clan’	‘log, block of wood’	‘road’	‘deer’	‘bag, sack’
WM	[suqʊ]	[muqʊn]	[fuŋqʊ]	[dʒugʊn]	[buχʊ]	[fulχʊ]
orthographic	<i>sukû</i>	<i>mukûn</i>	<i>fungkû</i>	<i>jugûn</i>	<i>buhû</i>	<i>fulhû</i>
Beijing				[dʒuxun]		
Lalin						
Sibe	[sɔqu]	[mɔqun]		[dʒɔkun]	[bɔχʷ]	[fɔɪχ]
Aigun				[dʒɔkɔŋ]		
Ilan Boo	[sɔ:ʷχɔ]	[mɔ:ʷχɔn]		[dʒɔ:ʷgʊn] ~ [dʒɔ:ʷkʊn]	[ʷbɔ:(:)kɔ]	[fɔ:lɔ]

Ibuci	'tsovʊ ~ 'tsoko ~ 'soku ~ 'soɣʊ ~ 'sokuɔ ³⁵³					
Alcuka			[fuŋgu]	[dʒu'un]	[buxɔ]	
Bala			[fuŋkɔ]			
Late Jurchen	*sugu			*ju	*bu'u	

Other varieties of Manchu do not show this development, though relevant cognates are not abundant.

3.5.9.3. Special reflexes of WM (-)akû

An additional complication is that earlier /ʊ/ exhibits exceptional correspondences in Alcuka and LJ in particular morphemes. In the NEG.EXI verb (: WM [aqʊ] *akû* ‘there is not, there are not, does not exist’) and the IMPF.NEG and PERF.NEG suffixes built on it, earlier /ʊ/ corresponds to Alcuka [ɔ] and LJ *ua. Meanwhile, in similarly-shaped words (i.e., words that end in WM *-akû* but do not contain the NEG.EXI verb) there are no examples with Alcuka [ɔ] or LJ *ua.³⁵⁴ One possibility is that the trace of an older contrast is preserved in Alcuka and Late Jurchen that was lost in WM and all other dialects. Another possibility is that this one morpheme underwent irregular sound changes--or even a single change shared by Alcuka and Late Jurchen--that ultimately gave rise to Alcuka [ɔ] : LJ *ua.

³⁵³ The original transcription reads “ts’okuɔ” (i.e., [tsoguɔ]); on the basis of the variant transcriptions, I assume that <k> is an error for <k’>.

³⁵⁴ There are, however, a few exceptions in Alcuka Manchu, such as WM *icakû*, *hami-rakû*, *oyombu-rakû*, all of which historically contain the NEG.EXI verb but do not undergo lowering to [ɔ], as well as WM *akû* : Alcuka [akɥ] ~ [a’ɔ] ~ [ə’ɔ] ‘there is not, there are not’, and *dorakûla-mbi* : Alcuka [dɔra’ɔla-mei] ‘to be unreasonable’ versus *dorakûla-fi* : Alcuka [dɔrakɥla-wi] (PERF.CONV), which involve the NEG.EXI verb but are inconsistent with respect to lowering.

3.5.9.4. Earlier /ɔ/ > /u/

In Manchu, the [RTR] vowel /ɔ/ has no unique non-[RTR] counterpart, due to the loss of its original counterpart, pTg *o (via mergers with the non-[RTR] vowels *u and *ə). As a result, the widespread change of earlier /ɔ/ > /u/ could be treated as a component or later stage of a broader process of neutralizing loss of tongue root retraction, assuming that this is truly distinct from more general reductive processes. (For a discussion of this change in the context of reduction, see §3.3.3, above.) In certain varieties with innovated rounding assimilation (particularly “Eastern” Manchu and Sibe), it is also conceivable that this development is secondary to reduction, where earlier /...ɔ...ɔ.../ is initially reduced to /...ɔ...ə.../, and subsequently rounded to /...ɔ...u.../. But this cannot be the correct analysis for dialects that do not share the rounding rules.

In Beijing and Lalin, earlier word-initial /ɔ/ frequently corresponds to [u] or [ə] under conditions that remain unclear, although most examples involve initial syllables originally closed by the nasals /n/ or /ŋ/. The correspondences are exemplified in (66):

(66) Table 30a. Earlier word-initial /ɔ/ > /u/ ~ /ə/ (Beijing and Lalin)

pTg						
gloss	‘wide’	‘pasture’	‘to fool around; to have sex’	‘to forget’	‘before’	‘golden carp, crucian carp (fish)’
WM	[ɔŋʃɔ]	[ɔŋqɔ]	[ɔndɔ-]	[ɔŋɡɔ-]	[ɔŋɔɔɔ]	[ɔŋɔɔʃɔn]
orthographic	<i>onco</i>	<i>ongko</i>	<i>ondo-</i>	<i>onggo-</i>	<i>onggolo</i>	<i>onggoʃon</i>
Beijing	[‘unʃuɔ]	[‘əŋkuə] ~ [əŋkɔ]	[‘ɔnduə-mi] ~ [ən’dɔ-m(i)] (NONP)	[əŋɡɔ-mi] (NONP)	[əŋɔɔ] ~ [uŋɔɔ]	[əŋɔɔʃɔn] ~ [uŋɔɔʃɔn] → [uŋɔɔʃɔn]
Lalin	[unʃuə]	[əŋkuə]	[ɔnduə-mei] ~ [ənduə-mei] (NONP)		[uŋɔɔ]	[uŋɔɔʃɔn]
Sibe	[ɔntsʷ]	[ɔŋqu]		[əŋu-m] (NONP)	[əŋu]	
Aigun						
Ilan Boo	[ɔn’tʃɔ:]	[‘əŋʷɔ]		[əŋ’ŋu-me] (NONP)	[əŋ’ŋuɔ] ~ [əŋ’ŋɔɔ]	[əŋ’ŋuɔɔ]
Ibuci	ontʃuɔ ~			əŋð-vo ~	ɔvulo ~	əŋudʒi

	ontʂuo ~ ɔntʂuə			oŋo-vo (PERF.PART)	oŋolo	
Alcuka	[unʃu]					[uŋguzə]
Bala						
Late Jurchen	*otso					

Note that [ɔ] is retained--at least as a variant--in some words, possibly only in stressed syllables, or in careful speech.

In Alcuka, a similar process gives initial [u] before all nasals. This development is seen in ‘wide’ and ‘golden carp, crucian carp’, above, and items such as WM [ɔmiχɔŋ] (~ [ɔmiχɔŋ]?) *omihon* (~ *omihûn*) : Alcuka [umiŋ] ‘hunger’.

In Late Jurchen, earlier /ɔ/ regularly corresponds to *u in initial syllables closed by /ŋ/. This development is exemplified in (67):

(67) Table 30b. Initial syllable /ɔ/ > /u/ (LJ)

pTg				
gloss	‘thread’	‘to cry’	‘small bell’	‘Mongolian’
WM	[tɔŋɔ]	[sɔŋɔ-]	[χɔŋɔŋ]	[mɔŋɔ]
orthographic	<i>tonggo</i>	<i>songgo-</i>	<i>honggon</i>	<i>monggo</i>
Beijing				
Lalin	[tɔŋɔ]			
Sibe	[tɔŋ]	[sɔŋu-m] (NONP)	[χɔŋun]	[mɔŋ]
Aigun		[sɔŋŋu-r] (IMPF.PART)		
Ilan Boo	[‘tɔŋŋɔ]	[sɔŋ ‘ŋu-me] (NONP)		[‘mɔŋŋɔ]
Ibuci	tɔŋɔ	sɔŋo-mi (NONP) ³⁵⁵		
Alcuka				
Bala				

³⁵⁵ A variant transcription, “dzoŋo-” (J. Zhao 1989: 17, 54), may be an error for tsoŋo-.

Late Jurchen	*tunggu	*sunggu-bi (NONP)	*hunggo	*munggo 'barbarian' ³⁵⁶
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Since the Early Mandarin of the *ZYYY* did not have the rhyme *[-ɔŋ] (only *[-ɔ], *[-ɔŋ]),³⁵⁷ it is conceivable that the transcription simply employed *[-uŋ] for both LJ *-ung /-uŋ/ and *-ong /-ɔŋ/. In that case, the items here could be emended to LJ *tonggu, *songgu-, etc., on the basis of the cognates in WM and other dialects. However, it would theoretically also have been possible to use syllables in *[-ɔŋ] for this purpose, i.e. **ton[g]gu, **son[g]gu-, etc. Since they never are, and in view of the similar-looking phenomenon of raising specifically before nasals in Beijing, Lalin, and Alcuka, I tentatively follow Kane's reconstruction of LJ *-ung /-uŋ/ in these items.

3.6 Diphthongs

The earlier diphthongs undergo unique developments and present special difficulties of phonological analysis in several varieties of Manchu. Even in WM, the phonetic and phonological interpretation of certain sequences of vowel letters has been controversial. As background for the following discussions of individual sound changes, I first review the inventory of diphthongs in WM.

3.6.1 WM diphthongs

The least controversial diphthongs of WM are presented in (68):

(68) Table 31. WM diphthongs (uncontroversial)

³⁵⁶ Kane reconstructed *menggo, but the value *mung for the transcription character 猛 is more consistent with his usual practice for this rhyme when preceded by a labial (1989: 102, 126n, 281).

³⁵⁷ The 'Phags-pa Chinese of the slightly earlier *MGZY* as reconstructed by W.S. Coblin (2007: 92) had only one syllable type with the rhyme *[-ɔŋ], namely *[ɣɔŋ], for characters such as 黃, 皇, 凰, 晃, 幌, etc., for which the *ZYYY* generally has *[-xwɔŋ], like modern Mandarin.

↓V1 \ V2→	/a/	/ə/	/i/	/ɔ/	/u/	/ʊ/
/a/			/ai/			
/ə/			/əi/		/əu/	
/i/	/ia/	/iə/		/iɔ/	/iu/	
/ɔ/			/ɔi/			
/u/		/uə/	/ui/			
/ʊ/	/ʊa/					

Certain combinations are ruled out in tautomorphic sequences due to vowel harmony clashes (solid gray); sequences of identical vowels are also impossible (diagonal hatching); sequences that do not contain at least one high vowel are illicit (cross-hatching); and sequences of two round vowels are also illicit (solid black). The remaining five blank cells in (68) are all problematic to a greater or lesser extent.

The WM digraph transliterated *oo* has been treated as long /ɔ:/ in some works (e.g., Zhang 1996), and it is pronounced [ɔ:] in some cognate words in certain dialects, but the dominant view is that it represents a phonological diphthong /au/. Since /a/ is an [RTR] vowel, it is assumed that the historical source of this diphthong was *aʊ, but because the element *ʊ is not immediately preceded by a dorsal consonant, it may be considered systematically neutralized to /u/ in this context by the regular process described in §3.5.1, above. In other words, no contrast between /au/ and /aʊ/ is expected or observed in WM.

The WM digraph transliterated *io* seems to have several phonetic and phonological values, depending on the word in which it occurs. Firstly, it co-occurs with both [RTR] and non-[RTR] vowels within phonological words, suggesting at least two distinct values. Comparison with other Manchu varieties confirms that WM *io* transcribes [iu] /iu/ in non-[RTR] words (e.g., [niuxə] *niohe* ‘wolf’). Secondly, in some [RTR] words,

the digraph *io* is interchangeable with WM *iyō*, the latter treated as unambiguous [iɔ] /iɔ/ (e.g., [fiɔχa] *fioha* ~ *fiyoha* ‘hen’); in those words--as well as some that are *not* alternately spelled with *iyō*--its value is clearly [iɔ] /iɔ/. Thirdly, there are [RTR] words where WM *io* seems, on the basis of vowel harmony patterns and comparison with other Manchu varieties, to be pronounced [iu] (e.g., WM [nianiū-] *niyanio*- ‘to chew’). As in the case of /au/, a hypothetical source like *iɔ, where *ɔ was not immediately preceded by a dorsal consonant, is expected to be neutralized to /iu/; since /i/ is a neutral vowel in WM harmony, the resulting sequence /iu/ is also predicted to be harmonically neutral, occurring in both [RTR] and non-[RTR] words with the same surface value [iu], but having distinct diachronic sources, *iu (e.g., ‘wolf’) and *iɔ (e.g., ‘to chew’).

WM sequences *uwa* and *ûwa* are both robustly attested, and are treated as /ua/ and /ɔa/, respectively. However, the presence of the [RTR] vowel /a/ in the diphthong implies that the historical source of both is *ɔa. In a sense, these diphthongs are in complementary distribution, since neutralization to [ua] versus retention of [ɔa] is transparently conditioned (in native vocabulary), so that one could set up a single underlying form, /ɔa/. Nevertheless, because monophthongal /u/ is potentially ambiguous, and because [ua] does not enter into any morphophonemic alternations with [ɔa], I have maintained the traditional distinction, treating the former as /ua/ (e.g., /tua/ [tua] ‘fire’) and the latter as /ɔa/ (e.g., /gɔa/ [gɔa] ‘other (person)’).

WM *ûi* is extremely infrequent as a tautomorphic sequence. Candidates include WM *hûi* ‘padded saddle-flaps (hanging between the stirrups and the horse)’; WM *hûi* ‘no matter what; despite’; WM *hûi hai se-me* ‘[feeling] dizzy, giddy, lightheaded, faint; [acting] blindly, without thinking’ (perhaps partly from Ch 胡 *hú* ‘recklessly, foolishly, wildly’); WM *hûi se-me* ‘vertiginous, dizzy, fainting; [feeling of] swaying, head spinning, off balance; drowsy’; WM *hûi šoro* ‘woven reed basket for extracting oil’

(*šoro* is ‘basket’; perhaps *hûi* is a GEN-marked noun, *hû-i*, but the hypothetical stem is not clearly identifiable). Moreover, some instances of WM *ûi* are non-standard spellings of standard *oi* [ɔi], as in WM *gûi-* ‘to hit, strike (a target)’, standardly [ɔi-] *goi-*; and WM *gûida-* ‘to elapse, to pass (of time, a long time); to spend (time, a long time)’, standardly [ɔida-] *goida-*. (In view of dialect developments discussed below, such variation could reflect contact with a Late Jurchen- or Sibe-type dialect.) Thus, there is little evidence for tautomorphic /oi/ in WM. However, /ui/ is readily found in [RTR]-harmonic words (e.g., WM [suiχa] *suiha* ‘mugwort, wormwood (genus *Artemisia*)’) when it is not preceded by a dorsal consonant, and therefore assumed to be derived from **oi* (by the neutralizing loss of tongue root retraction, §3.5). Significantly, several dialects occasionally show distinct reflexes for /ui/ < **oi* (e.g., Aigun [ue] : Ilan Boo [uæ] : Ibuci “uε”) versus /ui/ < **ui* (e.g., Aigun [ui] : Ilan Boo [ui] : Ibuci “ui”).³⁵⁸

3.6.2 Fronting and coalescence

As discussed in §3.1, above, earlier non-front vowels /a, ə, ɔ, u, (*ʊ)/ are fronted in several dialects when followed by the front vowel /i/ or, in some cases, by an earlier coronal consonant such as /ʃ/.

In Sibe, Aigun, Ilan Boo, and Ibuci, fronting has generally yielded front monophthongs [æ ~ ε; e ~ i; œ; y]. However, as discussed, under certain conditions in these varieties, there is only weak evidence for a phonological distinction between these innovated front monophthongs and earlier falling diphthongs /ai, əi, ɔi, ui/ or rising diphthongs /ia, iə, iɔ, iu/, or both.

³⁵⁸ In general, /ui/ < **oi* gives “Eastern” Manchu [ui]. Aigun attests “[iu]” in one item, WM [tuila-] *tuila-* : Aigun [tiula-] ‘to be spooked’, unless the Aigun transcription is just a typographical error.

Ilan Boo, as described by Čenggeltei (1998), generally retains the earlier diphthong /ai/ as /ai/, for example in the cognates of WM [aiʃin] *aisin* ‘gold’, [qaiʃa-] *kaica-* ‘to shout’, [bai-] *bai-* ‘to look for’, [baita] *baita* ‘matter, affair’, [gai-] *gai-* ‘to take (away)’, and [faiʃaʊ] *faiʃakû* ‘small saw’, etc. On the other hand, in a few words, the diphthong /ai/ undergoes coalescence to [æ:], at least as a variant, as in WM [sain] *sain* : Ilan Boo [sain] ~ [sæ:n] ‘good, pretty’ and its derivative WM [saiqan] *saikan* : Ilan Boo [sai'kɤn] ~ [sæ:'kɤn] ‘pretty; rather well’, and WM [dʒaila-] *jaila-* : Ilan Boo [dʒæ:'li-] ‘to move out of the way’.³⁵⁹ Furthermore, there are cases in which fronting in Ilan Boo produces a diphthong [ai] rather than the usual monophthongal [æ]. In the neighboring Aigun and Ibuci varieties, earlier /ai/ regularly coalesced to /ɛ/, though in a few Ibuci words, earlier /ai/ is reflected as some sort of falling diphthongoid “ɛi ~ ɛⁱ ~ ɛi”.

The facts are similar for earlier /əi/. Ilan Boo generally retains a diphthong [ui], while Ibuci generally has a front monophthong, “e” or “i”. (Very few relevant cognates are attested in Aigun; they show both diphthongal reflexes [əi] and monophthongal reflexes [i].)³⁶⁰ However, again, coalescence to [i(:)] is also attested in Ilan Boo, as in WM [dəidʒi-] *deiji-* : Ilan Boo [di'dʒi-] ‘to burn (vt)’, WM [məitə-] *meite-* : Ilan Boo [mi'ti-] ‘to tear apart, to cut off’***, and WM [məixərə-] *meihere-* : Ilan Boo [miɣ'ru-]

³⁵⁹ In B. Li (1996)’s description of Ilan Boo, earlier /ai/ regularly corresponds to /æ/ in all positions. Coalescence of /ai/ in Čenggeltei (1992)’s materials always gives a long monophthong [æ:], which I analyze as bimoraic in the analysis of Ilan Boo stress. See Chapter 4.

³⁶⁰ The distribution of “e” versus “i” in Ibuci in this context is unexplained, and there are examples of doublets, as in WM [ərin] *erin* : Ibuci *elin* ~ *ilin* ‘time, hour’. Though data is scarce, it appears that Aigun [əi] may regularly correspond to Ibuci “e”, and Aigun [i] to Ibuci “i”.

‘to carry on the shoulder’, and in some cases variation is attested for a single lexical item, such as WM [nəi] *nei* : Ilan Boo [nuui] ~ [ni:] ‘sweat, perspiration’.³⁶¹

The case of earlier /ui/ is again similar, but here there is even less evidence for a distinction between fronted /u/ and the inherited diphthong /ui/. First, as mentioned above in §3.1.2.3, fronting of earlier /u/ does not consistently produce monophthongal [y(:)]. In Ilan Boo, [y(:)] varies with [ui]; Ibuci likewise has “y” ~ “ui”.³⁶² In each dialect, this variation may be observed for individual lexical items, such as WM [duri-] *duri-* : Ilan Boo [dy:'le-] ~ [dui'ri-] ‘to seize, to rob’ and WM [tugi] *tugi* (~ [tuxi]? *tuxi*) : Ibuci “tygu ~ tuigə” ‘cloud’. Second, earlier /ui/ apparently shows the same range of reflexes as fronted /u/. Thus, for example, WM [duin] *duin* : Ilan Boo [dy:n] : Ibuci “dy” ‘four’ shows coalescence in Ilan Boo and Ibuci. Note, however, that /ui/ in [RTR]-harmonic words, assumed to descend from earlier **oi*, has distinct diphthongal reflexes in a few items (see §3.6.1, above) that are not attested as outcomes of fronting of /u/.³⁶³ Furthermore, the reflexes of earlier /iu/ (< **iu* or **iʊ*) also overlap with those of fronted /u/ and inherited /ui/. For example, in Aigun, earlier /iu/ gives [y] in WM [niʊŋniʌχʌ] *niongniyaha* : Aigun [nyŋniʌχʌ] ‘goose’ and WM [nianiʊ-] *niyanio-* : Aigun [nyeny-] ‘to chew’.

The Sibe data largely show the same range of developments as “Eastern” Manchu dialects, plus systematic overlap with the reflexes of rising diphthongs. Fronting of earlier /a/ generally gives [ɛ], while earlier /ai/ is mostly retained as [ai]. However, in initial

³⁶¹ Moreover, there are cases in which fronting of earlier /ə/ gives a diphthong [ui] rather than monophthongal [e] or [i], as in WM [səri] *seri* : Ilan Boo [suire] ‘rare’.

³⁶² In Aigun, very few examples of fronting of /u/ are attested, but the outcome is generally transcribed [ui], not [y].

³⁶³ The latter observation is expected, given that /ʊ/ does not undergo fronting. See §3.1.2.5, above.

syllables, there is a strong tendency for /ai/ to coalesce to [ɛ]. This development is exemplified in (69):

(69) Table 32. Earlier /ai/ > [ɛ] in initial syllables (Sibe)

pTg					
gloss	‘to do what, to be how’	‘hunting dog’	‘to shout’	‘to cut (material for sewing)’	‘elm’
WM	[aina-]	[taiχa]	[qaiʃa-]	[faita-]	[χailan]
orthographic	<i>aina-</i>	<i>taiha</i>	<i>kaica-</i>	<i>faita-</i>	<i>hailan</i>
Beijing					
Lalin					
Sibe	[ɛnə-m] (NONP)	[tɛχa]	/qɛtɛi-/ (B. Li) ³⁶⁴	[fiɛtə-] (Y) ³⁶⁵	[χɛlin] ‘tree’
Aigun					
Ilan Boo	[ai'na-me] (NONP)		[qaitɛi-me] (NONP)	[fai'ti-me] (NONP)	[χai'lien] ~ [xai'lien] ‘tree’
Ibuci				fɛti-mi (NONP)	χɛlin ~ xɛlin ‘tree’
Alcuka			[gaitʃa-l] (IMPF.PART)		
Bala					
Late Jurchen					

As discussed in §3.1.2.1, Sibe /ɛ/--either as a product of fronting or coalescence--is not found following certain consonants in the materials of S. Li et al. (1984). Instead, two alternative treatments are found. In the first, the vowel is analyzed as a phonological diphthong /ia/ or /iə/, which I have interpreted, on the basis of other sources, as [iɛ] or [i̯e]. For example, WM [gai-] *gai-* ‘to take (away)’ corresponds to Sibe /gia-/ ‘id.’ in S. Li

³⁶⁴ S. Li et al. (1984: 306) recorded [qatɛi-] which, as noted above in §3.3.3.1.3, does not match other sources or cognate forms, which all have /ai/ or /ɛ/.

³⁶⁵ Cf. also B. Li (1996: 196)’s transcription, /fɛti-/ ‘to saw’; Norman (p. c.) gave [fiɛtə-] ‘to cut’. S. Li et al. (1984: 152) gave /fɛtə-/ ‘to cut (off)’.

et al.'s transcription (1984: 156), whereas Norman (p. c.) recorded *giɛ-* [gⁱɛ-] 'id.'.³⁶⁶ I therefore assume that S. Li et al.'s /gia-/ is phonetically [gⁱɛ-], and I reanalyze the underlying structure as /gɛ-/.³⁶⁷ Similarly, S. Li et al. have WM [bai-] *bai-* 'to look for' : Sibe /bia-/ 'id.', but Norman (p. c.) recorded *biɛ-* [bⁱɛ-] 'id.', while Yamamoto similarly gives [bⁱæ-] (1969: xxiii) ~ [bⁱɛ-] (1969: 70, no. 1560). I likewise assume /bɛ-/ [bⁱɛ-]. In other words, I also take all words with this type of transcription in S. Li et al. 1984 as examples of the initial-syllable coalescence process under discussion.³⁶⁸

The second alternative treatment applies to positions following the reflexes of WM coronal obstruents /tʃ, dʒ, s/. There, S. Li et al. give /tɕa-, tɕə-, dʒa-, dʒə-, ɕa-, ɕə-/. In this case, the fronting of these earlier coronal obstruents--predictably conditioned by the front vowels--has been parsed into the preceding consonantal segment in the phonemic analysis, and taken out of the vowel. In S. Li et al.'s system, this treatment gives rise to an additional phonologically contrastive series of alveolar consonants that I deem unnecessary. In other sources on Sibe, we find that these sequences have phonetic front vowels:

(70) More examples of earlier /ai/ > [ɛ] in initial syllables (Sibe)

<u>gloss</u>	<u>WM</u>	<u>orth.</u>	<u>S. Li et al.</u>	<u>Yamamoto</u>	<u>Norman (p. c.)</u>
'hairpin' ³⁶⁹	[ʃaisə]	<i>caise</i>	/tɕas/	---	---

³⁶⁶ Yamamoto (1969: 61, no. 1402) recorded [gæ-] 'id.', with a surface front monophthong and retained uvular.

³⁶⁷ Note that coalescence of the historical diphthong /ai/ coincides with loss of uvular articulation of the preceding dorsal consonant in S. Li et al. and Norman's transcriptions. In this regard, their Sibe forms are similar to Aigun and Ibuci.

³⁶⁸ One problem is that S. Li et al. also set up Sibe /ia/ for "real" [ia] where it corresponds to WM /ia/, but very infrequently.

³⁶⁹ A loan from Ch 钗子 *chāizi* 'hairpin', but the correspondence matches the native words.

‘second’	[dʒaif̥i]	<i>jaici</i>	/dʒət̥ei/	[dʒɛt̥ɛ]	<i>jiɛci</i> [dʒʲɛt̥ɛʲ]
‘to move out of the way’	[dʒaila-]	<i>jaila-</i>	/dʒəl̥i-/	[dʒɛli-]	---
‘to bite’	[sai-]	<i>sai-</i>	/ɛa-/	---	<i>siɛ-</i> [ɛʲɛ-] ³⁷⁰
‘good’	[sain]	<i>sain</i>	/ɛan/	[ɛɛn]	<i>siɛn</i> [ɛʲɛn]

Here, I again assume underlying /ɛ/ for Sibe--that is, /t̥ɛ-, dʒɛ-, sɛ-/. Thus, I also take all of these words as examples of the initial-syllable coalescence process under discussion. In Sibe, then, the contrast between /ai/ and /ɛ/ is weak, particularly in the initial syllable.

At the same time, /ia/ is unclearly separated from /ɛ/ in certain cases. In S. Li et al. 1984, /ia/ can occur as the reflex of fronted (umlauted) earlier /a/ (as mentioned above, where I assume underlying /ɛ/), while /ɛ/ can occur as the reflex of coalesced earlier /ia/. I tentatively take the latter case as an underlying diphthong /ia/ that is (only infrequently) fused to [ɛ].³⁷¹

Similar ambiguities arise with respect to the Sibe reflexes of fronted /ə/, inherited /əi/, and inherited /iə/. As discussed above in §3.1.2.2, earlier /ə/ is fronted and raised to [i] (merging with inherited /i/) under umlaut. The basic reflex of /əi/ is also [i], although S. Li et al. occasionally present forms where Sibe retains /əi/ ([əi]?) such as WM [məixə] *meihe* : Sibe [məix] ‘snake’. Meanwhile, the basic Sibe reflex of earlier /iə/ is also [i],

³⁷⁰ However, note Norman (p. c.)’s variant *sia-* [ɛʲa-] ‘id.’.

³⁷¹ S. Li et al.’s /ia/ also occasionally reflects earlier /i/ in an initial syllable followed by /a/; I assume a sporadic, unpredictable process of breaking along the lines of /i/ > [i^a] > [ia] /_a. Norman (p. c.) treats this development as giving rise to a front vowel *iɛ* [ʲɛ], so this may again reflect an underlying /ɛ/. Even in cases where primary inherited /ia/ is apparently retained in S. Li et al. 1984, Norman most often gives *iɛ* [ʲɛ], so perhaps even words of that type (e.g., WM [ulgian] *ulgiyan* ‘pig’ : S. Li (Sibe) /vəlgian/ : Norman (Sibe) *velgiɛn* [vəɣʲiɛn]) should also be analyzed with Sibe monophthongal /ɛ/, leaving far fewer words requiring /ia/ as distinct from /ɛ/.

though /iə/ ([jɛ]?) is attested in a few items, such as WM [dʒufəlɪən] *jufeliyen* : Sibe /dzəvəlɪən/ ([dzəvəlʰɛn]?) ‘dried provisions’.

Coalescence of earlier /ɔi/ > Sibe /œ/ [œ] is also attested, similarly overlapping with the outcome of fronting of /ɔ/ and the reflex of earlier /iə/. Thus, for example, earlier /ɔi/ coalesces to [œ] in WM [gɔi-] *goi-* : Sibe [gœ-] ‘to hit (the mark), to strike (a target)’.³⁷² As discussed in §3.1.2.4, above, earlier /ɔ/ is likewise fronted to [œ], for example in WM [fɔndʒi-] *fonji-* : Sibe [fœndʒi-] ‘to ask’, under umlaut.³⁷³ On the other hand, the same fronting process sometimes gives “/iə/”, as in WM [nɔŋgi-] *nonggi-* : Sibe [niəŋu-] ‘to add, to increase’.³⁷⁴ Furthermore, earlier /ɔi/ is reflected as Sibe [iə] in a few items, such as WM [bɔiχɔn] *boihon* : Sibe [biəχun] ‘earth, ground, soil’, with unclear separation from inherited /iə/ (compare WM [niəχɔn] *niohon* : Sibe [niəχun] ‘greenish, light green’).³⁷⁵ However, since S. Li et al.’s /œ/ is never found following either /b-/ or /n-/, it may be feasible to assume earlier /bɔi/ > Sibe /bœ/ → [biə-] and earlier /nɔ...i/ > Sibe /nœ...i/ → [niə...i].³⁷⁶

As discussed with respect to “Eastern” Manchu dialects, fronting of earlier /u/ can produce monophthongal [y(:)] or diphthongal [ui], with no clear difference from the outcomes of the inherited earlier diphthong /ui/. In Sibe, fronting of /u/ primarily gives

³⁷² B. Li (1996: 191) similarly assumes an underlying monophthong, /gö-/ [gœ-] ‘id.’; Yamamoto (1969: 112, no. 2332) has a surface monophthong [gœ-] as well.

³⁷³ Most other sources adopt a similar treatment, though note Norman (p. c.)’s *fienji-* [fʰɛndʒi-], reflecting a de-rounding process that is extremely frequent in his materials, especially in absolute word-initial position.

³⁷⁴ Compare Yamamoto’s [niəŋi-] ‘id.’ (1969: 142, no. 2859), and Norman’s *liəŋo-mə* [lʰiəŋɔ-] ~ *nioŋu-mə* [nʰiəŋu-] ‘id.’ (p. c.).

³⁷⁵ The apparent metathesis in ‘earth, ground, soil’ is shared with all of the “Eastern” Manchu dialects (Aigun, Ilan Boo, Ibuci).

³⁷⁶ Under circumstances that remain unclear, earlier /ɔi/ is occasionally retained in Sibe as /ɔi/ [ɔi], as in WM [dɔiçɔn] *doigon* : Sibe [dɔiçɔn] ‘previous(ly), beforehand’. Interestingly, however, Norman (p. c.)’s materials do not contain any examples of retained [ɔi].

[y] /y/, apart from absolute word-initial position, where it gives [vi-] as a result of strengthening (see §3.3.2.3, above). However, coalescence of inherited earlier /ui/ is rare, and attested only following initial /s-/, as in WM [suifun] *sui fun* : Sibe [eyvin] ‘awl’; WM [suixə] *sui he* : Sibe [eyx^w] ‘ear (of grain)’; and WM [suiɣa] *sui ha* : Sibe [eyɣa] ‘artemisia, moxa’.³⁷⁷ On the other hand, earlier /iu/ generally undergoes coalescence in Sibe to [y] /y/, as in WM [niuxə] *ni o he* : Sibe [yx^w] ‘wolf’.³⁷⁸ In other words, the outcomes of /iu/ and fronted /u/ are not clearly distinguished in Sibe, and there is partial overlap with the outcomes of earlier /ui/.

As briefly discussed above in §3.6.1, the status of /oi/ in WM is unclear. In positions where it would be expected to survive as *ûi* [oi]--namely, following dorsal obstruents--rather than neutralized to *ui* [ui] (see §3.5.1, above), it is in fact exceedingly rare. Where *ûi* does occur, it is sometimes a variant of a more common spelling, *oi* [ɔi]. For example, WM *goida-* ‘to elapse, to pass (of time, a long time); to spend (time, a long time); to last for a long time, to endure’, commonly understood as [ɔoida-], has a non-standard spelling *gûida-* ([ɔoida-]?). Significantly, the Sibe cognate is [guida-].³⁷⁹ Furthermore, this item is also reflected in Late Jurchen as **guida-*, and in Beijing Manchu as [guaida-]. For items of this sort, I tentatively propose that the earlier (“Proto-Manchu”) form was underlyingly *oi. This *oi underwent loss of tongue root retraction > /ui/ in

³⁷⁷ Coalescence is confirmed by Norman (p. c.)’s transcription, for example in *süvin* [eyvin] ‘awl’.

³⁷⁸ Here, earlier initial /n-/ has been lost in Sibe before the front vowel (see Chapter 2 §#. #.#). Note, also, Norman (p. c.)’s transcription, *yüxə* [jyx] ‘id.’; Norman does not recognize any [y]-initial words, treating them instead as [jy-]. In final syllables, earlier /iu/ is simplified to /i/, as also in Ilan Boo. Cf. WM [xuniu] *hunio* : Sibe /xuni/ [xun^ɿ] ‘(wooden) bucket’, though note the unusual reflex recorded by Norman, *unixun* [uniɣun] (p. c.).

³⁷⁹ This pronunciation from S. Li et al. 1984 is also confirmed by Norman’s transcription *guida-* [guida-] ‘id.’ (p. c.).

varieties such as Late Jurchen and Sibe; in WM, **ɔi* must have merged with **ɔi* following dorsal obstruents, with some variation [ɔi] ~ [ɔ̄i] reflected in spelling, but generally underwent loss of tongue root retraction > /ui/ elsewhere, as normal; in Beijing, **ɔi* broke to [uai] following /g-/ and perhaps other dorsal obstruents, but an intermediate stage of **ɔi*--that is, a merger similar to that in WM or Late Jurchen--is not excluded.³⁸⁰

3.6.3 Rounding and coalescence

As discussed above in §3.2, the earlier non-round vowels /a, ə, i/ undergo various rounding processes in several Manchu varieties under the influence of co-occurring round vowels or labial consonants. The rounding of /a/ (§3.2.1) usually yields a monophthongal [ɔ] that is synchronically indistinguishable from inherited /ɔ/.³⁸¹ The rounding of /ə/ (§3.2.2) usually yields [u, o, ə], all taken to be synchronic allophones of /u/.³⁸²

Earlier /i/ breaks (§3.2.3) to [iuə] ~ [ui] (~ [y]) following dorsal stops /k-, g-/ and before a following /u/ in Beijing and Lalin. I assume that the basic development is phonologically breaking (diphthongization) /i...u/ > /iu...u/, with fusion of /iu/ to [y] as a sporadic, infrequent subphonemic variant. The reflex [ui] as in WM [kiru] *kiru* : Beijing/Lalin [kuilu] ‘banner’ is rare, but suggests some ambiguity between /iu/ and /ui/.

³⁸⁰ I assume slightly different developments in absolute word-initial position. In all varieties, the hypothesized earlier **ɔi* broke to [wai-], with subsequent strengthening in Sibe and “Eastern” Manchu > /vai-/ (and irregular coalescence to /vɛ-/). In Late Jurchen, all instances of **ɔi* merged into **ɔi* prior to word-initial breaking, such that **ɔi*/**ɔi*- all gave initial *[wai-]. Following labials only(?), **ɔi*/**ɔi* also broke to *[uai], but the *[u] was deleted following the labial consonant, such that **bɔi*- > *[bui-] > *[bai-].

³⁸¹ In Ilan Boo, rounding of /a/ triggered by a following round vowel reportedly produces broken (diphthongal) reflexes [ao ~ ɔo ~ ɔu] in particular environments; as far as I am aware, this is the only source for such diphthongs.

³⁸² Some sources analyze [o, ə] as allophones of /ɔ/; where no other allophones are described, I have retained these cases of “/ɔ/” as phonetic [ɔ] in the transcriptions, though I assume they are actually /u/ [o, ə]. In a small number of words, diphthongal variants such as [uo] are also attested.

The same change is attested following /n-/, not only in Beijing and Lalin, but also in Ilan Boo and Ibuci; [iu] is the primary outcome for all four varieties, but diphthongal [iy] and monophthongal [y] are also attested in Ilan Boo and Ibuci.

In Beijing, Lalin, Ilan Boo, and Ibuci, the rounding of earlier /i/ thus gives rise to /iu/, which may coalesce to [y]. In Ilan Boo and Ibuci, earlier /ui/ and fronted /u/ can also give rise to [y] (§3.6.2), meaning that /iu/, /ui/, and fronted /u/ all converge on [y] in particular environments. The phonological situation in Aigun is closer to that of Beijing and Lalin, since [y] does not arise through fronting of /u/, but only through rounding of /i/ and the regular fusion of /iu/; I have treat Aigun [y] from any source as /y/, and Aigun [ui] from any source as /ui/, though alternatively [y] /y/ could be analyzed as *phonetically* [y] but *phonologically* /iu/.

In Sibe, fronting of earlier /u/ gives [y], analyzed as /y/. Since, as discussed in §3.6.2 above, earlier /ui/ is ordinarily retained as [ui], there is no merger, and it is generally not possible to analyze fronted /u/ as underlying /ui/.³⁸³ Rounding of earlier /i/ gives [y], but inherited earlier /iu/ also gives [y], so there is no contrast between /y/ and /iu/ in Sibe; I have followed S. Li et al. in treating both reflexes as underlying /y/, though as in Aigun, /iu/ (with fusion) is also possible.³⁸⁴

Rounding of earlier initial-syllable /i/ followed by earlier /o/ has distinct reflexes. In Ilan Boo, earlier /i/ in this context breaks to [iɔ], while in Sibe, earlier /i/ gives [œ] ~ [iɔ] (~ [jɔ]). For example, WM [ʃifiqɔ] *sifikû* ‘hairpin’ corresponds to Ilan Boo [çiɔbku] :

³⁸³ Following /s/, /ui/ may fuse to [y], so a partial merger may be plausible.

³⁸⁴ In Sibe, the frequent but irregular deletion of initial /n-/ before front vowels often leaves the reflex of rounded /i/ in word-initial position. Different sources give various phonetic transcriptions in this environment. In S. Li et al.’s materials, [y-] is the regular outcome, just as when initial /n-/ is not deleted; in Yamamoto’s materials, [ju-] is found in the corresponding forms; Norman does not recognize absolute initial *ü* [y]; the corresponding forms have either *yu-* [ju-] or *yü-* [jy-], but the distinction is unpredictable.

Sibe [ɛɔfɔɔ]; WM [nilχɔn] *nilhûn* ‘slippery, slick’ corresponds to Ilan Boo [niɔl'ɛɔn]³⁸⁵; WM [iqɔ-] *ikû-* ‘to shrink, to contract’ corresponds to Sibe [jɔqu-]. Rounding in this environment is somewhat more widespread in Sibe than in other dialects. Specifically, a handful of words with original /i...a...ɔ/ vocalism underwent syncope of the medial syllable > /i...ɔ/, a process which is rare or unattested in other dialects. Thus, for example, WM [xitaxɔn] *hitahûn* ‘fingernail’ corresponds to Sibe [kætχun]³⁸⁶; WM [indaχɔn] *indahûn* ‘dog’ corresponds to Sibe [jɔnɕun] (S. Li et al.) : *yonəχun* [jɔnɕun] ~ *nionəχun* [niɔnɕun] (Norman). Since earlier /ɔ/ is lowered to [ɔ] in both Ilan Boo and Sibe when followed by /ɔ/ (see §###), I assume that the full sequence of events is *i...ɔ > *iɔ...ɔ > /iɔ...ɔ/ (> Sibe [iɔ...u] ~ [œ...u]). Thus, rounding of /i/ in this environment initially created a diphthong *iɔ (merging with the reflexes of original *iɔ); this diphthong was then lowered to /iɔ/ as part of a wider process of lowering of /ɔ/, such that rounded /i/, earlier *iɔ, and earlier *iɔ all merge in this context. In Sibe, the resulting reflex is also non-distinct from the /œ/ that arises from fronting of /ɔ/.

3.6.4 Coalescence and metathesis of WM *oo* (/au/?)

As discussed above in §3.6.1, WM *oo* is generally interpreted as an underlying diphthong /au/. However, there are numerous examples of spelling variation between <o> and <oo>, suggesting that in some cases <oo> in fact transcribes the regular monophthongal /ɔ/, and simultaneously that phonemic /au/ was phonetically similar to

³⁸⁵ Compare the related word, WM [niluqan] *nilukan* ‘slippery’ : Sibe [jɔɔɔqun] (S. Li et al.) : [jɔɔɔqɔn] ~ [jɔɔɔqun] (Yamamoto) : [jɔɔɔqun] (Norman) ‘id.’, with deletion of initial /n-/.

³⁸⁶ Compare Norman’s transcriptions *küetχun* [k^uetχun] ~ *küentχun* [k^uentχun] ‘fingernail’. In his system, *üe* [^uɛ] seems to be phonologically non-distinct from [^uœ] /œ/, which is more frequently transcribed *iö* [jœ]. Note that WM also attests a syncopated spelling variant *hithûn* [xitχɔn] for ‘fingernail’, but not for ‘dog’.

[ɔ], perhaps even monophthongal [ɔ] or [ɔ:], but more likely diphthongal [ɔu], as attested in some dialects. In Beijing and Lalin, WM word-initial <oo-> regularly corresponds to [ɔ], as in WM [autʃa]? *ooca* : Beijing/Lalin [ɔʃi] ‘small river fish’ and WM [auri]? *oori* : Beijing [ɔri] ‘essence; semen’, and is therefore partially neutralized with inherited /ɔ/. Elsewhere, WM *oo* corresponds to Beijing and Lalin [uɔ], as in WM [dau-]? *doo-* : Beijing/Lalin [duɔ-] ‘to cross (a river)’.³⁸⁷ I assume that [uɔ] arose as a metathesis of earlier [ɔu].

In the “Eastern” Manchu dialects, the basic reflex of WM *oo* /au/(?) is [ɔ(:)] or [ɔu]; the monophthongal reflex is also transcribed [o(:)] in some forms; the contrast with inherited /ɔ/ is thus partly neutralized, as in Beijing and Lalin. Certain lexical items show exceptional developments. For example, WM [χaufan]? *hoošan* ‘paper’ corresponds to Aigun [χuazɛn] : Ilan Boo [χɔɑ:’zɛn] ~ [χɔɑ:’zɛun] : Ibuci xuadzɛn ~ xuazɛn ‘id.’, with apparent metathesis of the original falling diphthong to a rising diphthong. The process is superficially similar to that assumed for Beijing and Lalin, but the affected lexical items do not match.

In Sibe, the basic reflex of WM *oo* /au/(?) is [ɔ], as in WM [bau]? *boo* ‘house’ : Sibe [bɔ] ‘id.’ and WM [mau]? *moo* ‘tree, wood’ : Sibe [mɔ] ‘id.’, with the same reflex as for inherited /ɔ/. However, Sibe diphthongal [au] also occurs in some items, such as WM [auri]? *oori* ‘essence’ : Sibe [aurʲ] ‘id.’; WM [jau]? *yoo* ‘sore, ulcer, boil, growth’ : Sibe [jau] ‘id.’; and WM [dau-]? *do(o)-* ‘to cross (a river)’ : Sibe [dau-] ‘id.’. Furthermore, metathesized [ua] is also attested in a few items such as WM [ʃauχa]? *cooha* ‘soldier,

³⁸⁷ Following the labial stop /b-/, Beijing/Lalin [uɔ] > [əɔ], apparently by dissimilation, as in WM [bau]? *boo* : Beijing/Lalin [bəɔ] ‘house’. Inherited monophthongal /ɔ/ also gives Beijing/Lalin [uɔ] in one narrowly-defined environment, namely when preceded by an initial dorsal consonant and followed by the centralized [i] (i.e., /ɔ/ → [uɔ] / #C_[dor]_C_i...). I assume this is a synchronic allophonic process.

army’ : Sibe [tʃuax] ‘id.’. Again, the distribution of different reflexes does not align clearly with distributions in other dialects.

3.6.5. Coalescence of /əu/

The diphthong /əu/ is infrequent, and relevant lexical comparisons are very limited. There are no attested examples in Lalin or Bala Manchu. In Beijing and Late Jurchen, earlier /əu/ is retained as [əu] in the available data, as in WM [dəu] *deo* : Beijing [dəu] : Late Jurchen **deu* ‘younger brother’. In “Eastern” Manchu, Ilan Boo retains a diphthong in [dɯu] ‘id.’, but the other varieties show coalescence to a round monophthong, Aigun [dɔ] : Ibuci “do” ‘id.’, both of which might perhaps be interpreted as [dɔ] /du/. In Sibe, the corresponding item is /du/ [du] ‘id.’. However, this item may be an exception, in light of WM [gəu] *geo* (: LJ **geu*) ‘mare’ : Sibe [gəu] ‘id.’, retaining the diphthong. Alcuka also attests a monophthongal reflex, as in WM [xəulədə-] *heolede-* (: Sibe [xəulədə-]) : Alcuka [xɔldə-] ‘to be careless or negligent’, but a diphthongal reflex [əɔ] (~ [ɑɔ]) is also observed in other lexical items.

As this admittedly shallow summary reveals, the developments--not only of /əu/ but of all the earlier diphthongs--are frustratingly murky. In particular, it seems to be very difficult to work out exactly what is going on in Manchu dialects that have developed new monophthongal front vowels, and whether these are ever demonstrably different from diphthongs. This is yet another topic that clearly calls for further study.

CHAPTER FOUR
STRESS IN ILAN BOO MANCHU

4.1. Introduction

In this chapter, I describe and analyze the stress system of Ilan Boo Manchu. Throughout the dissertation, I have adopted the phonetic description of Čenggeltei 1998,³⁸⁸ with some minor modifications noted in passing, and with occasional reference to other sources on this dialect such as B. Li 1996 and Kim et al. 2008. The phonological inventory I assume is as follows:

(1) Ilan Boo Manchu consonants (based on Čenggeltei 1998: 242)

p	t	tʂ	k
b	d	dʒ	g
f	s	ʂ	x
v			
m	n		ŋ
	r		
	l		
		j	

The main difference between this inventory and that in Čenggeltei’s analysis is that his “/tʂ, dʒ, ʂ/” are treated here as conditioned allophones of /tʂ, dʒ, ʂ/; and his “/z, ʒ, ʃ/” are treated as conditioned allophones of /s, ʂ, x/.³⁸⁹

³⁸⁸ This is a later edition of his “滿語口語語音 [Sounds of spoken Manchu]” (1982), based on data collected in 1961.

³⁸⁹ This inventory is also nearly identical to those of WM and proto-Manchu.

(2) Ilan Boo Manchu vowels (based on Čenggeltei 1998: 237)

i	y	u	u
			o
e			
æ		a	o

Čenggeltei includes one additional mid vowel, “/o/”, which I analyze as an allophone of /u/. On the other hand, B. Li (1996: ##) gives [ə] as the lowered allophone of /u/, but recognizes [o] as a conditioned allophone of /o/. There is also some question about the phonemic status of /e/, as some sources such as B. Li 1996 regard it as a predictable allophone of /u/ (which B. Li analyzes as /i/) or /i/. A related problem is that the distinction between front vowels /y, e, æ/ and the diphthongs /ui, ui, ai/, respectively, is unclear. (To a lesser extent, rising diphthongs /iu, iu, ia/ also show unclear separation from /y, e, æ/.) In addition, Čenggeltei’s [ɿ] and [ʮ] are assigned to /u/ rather than /i/.

Čenggeltei collected approximately 1,500 lexical items of Ilan Boo Manchu, of which around 150 items were left unmarked for stress. When available, I have checked the position of stress for these words in other sources.

4.1.1 Description

Čenggeltei’s transcription employs the standard IPA symbol [ˈ] for primary stress. As can be seen in the preceding chapters, many words also have “long” vowels, transcribed [V:]. He regarded the two phenomena as closely interrelated, and viewed both stress and vowel lengthening as non-contrastive, offering a set of descriptive generalizations governing their distribution (1998: 259-268). Significantly, he reported that unlike Mongolian phonemic vowel length, Ilan Boo Manchu vowel length was not so clear, and that during fieldwork he had recorded it as half-long [Vː] (1998: 265).

Problems with Čenggeltei’s approach.

Other work on Ilan Boo Manchu stress.

Exclusion of verbs from the analysis in this chapter.

(Of the total, approximately 900 are non-verbs.)

4.2 Analysis

The interaction of sonority with metrical stress in Ilan Boo Manchu is of particular theoretical interest. In this section, I propose a formal analysis of Ilan Boo Manchu stress in the framework of Optimality Theory (hereafter OT; see Prince and Smolensky 1993; McCarthy and Prince 1993; and Kager 1999, *inter alia*), which is uniquely suited to capture the resolution of the conflicts between competing priorities of the stress system. (More about the virtues of formal analysis, the necessity of explaining the overall system...)

Vowel lengthening

As discussed in the preceding section, it is not entirely straightforward how to formalize the phenomenon of vowel length as it has been described for Ilan Boo Manchu. In this section, I pursue the hypothesis that in general *lengthening is non-moraic* in Ilan Boo Manchu. Rather, lengthening of vowel duration is one--most likely the main--component of the phonetic implementation of prosodic prominence. More concretely, I assume that any vowel that occupies the head of any foot is potentially amenable to lengthening. Conversely, vowels in the non-head or “trough” of a foot (i.e., totally unstressed vowels) are *never* lengthened, and are subject to deletion in post-initial syllables. Under my assumptions about syllable weight and footing, note that only *open* syllables are subject to deletion; *closed* syllables are always heavy and always bear a stress.

Monosyllabic words

It will be useful to review the shapes of monosyllabic words³⁹⁰ in Ilan Boo Manchu as background for further claims about length and metrification. The observed shapes are:

- (3) a. (C)V
 b. (C)Vn
 c. (C)VV
 d. (C)VVn
 e. (C)VVV = (C)VV?

For the simple (C)V monosyllabic words (3a), length is variable and non-contrastive. Although some lexical items were only recorded as short, and some only as long, many have both lengthened and un-lengthened variants:

- | | | | |
|-----|---------------|--------------------------|--------------------------|
| (4) | a. short | b. long | c. variable |
| | [fa] ‘window’ | [da:] ‘root, base’ | [ba(:)] ‘place’ |
| | [tu] ‘now’ | [su:] ‘year of age’ | [na(:)] ‘ground’ |
| | [ku] ‘soot’ | [dza:] ‘easy’ | [bi(:)] ‘I (1.SG.PRO)’ |
| | [fu] ‘old’ | [bo:] ‘we (1.PL.EX.PRO)’ | [ei(:)] ‘you (2.SG.PRO)’ |

These facts seem inconsistent with either an underlying phonemic length contrast or moraic lengthening (“augmentation” to satisfy a minimal word constraint).

Similarly, closed (C)Vn monosyllabic words (3b) also show variable length, though the majority show no lengthening:

³⁹⁰ As discussed in the preceding section, verbs are excluded in this treatment because they appear to have a different type of stress, insofar as there are additional degrees of prominence, and sensitivity to morphological domains such as the stem.

(5)	a. short	b. long	c. variable
	[dun] ‘high’	[dzu:n] ‘stove’	[tɔ(:)n] ‘number’
	[ʃan] ‘ear’	[bɔ:n] ‘ice pick’	
	[ʃun] ‘sun’		
	[sun] ‘(animal) milk’		

I assume that the general absence of lengthening is due to the fact that these closed syllables are already phonologically bimoraic and therefore inherently prominent, whereas the occasional presence of lengthening even in such closed bimoraic syllables constitutes additional evidence that lengthening is non-moraic and merely prominence-enhancing.

Diphthongs present additional problems for the formal treatment of length. (C)VV monosyllabic words (3c) seem to behave differently depending on the contour of the diphthong. Rising diphthongs may exhibit lengthening, but falling diphthongs do not.³⁹¹

(6)	a. rising	b. falling
	[bia(:)] ‘moon; month’	[ai] ‘what’
	[tua:] ‘fire’	[bɔu] ‘house’
	[dzuu(:)] ‘two’	[duu] ‘younger brother’
	[χɔɑ:] ‘garden’	[nuu] ‘perspiration, sweat’

On the other hand, falling diphthongs frequently undergo coalescence, in which case the resulting monophthongs are invariably recorded as long:

³⁹¹ Note that /ui/ patterns with the *falling* diphthongs, as in [sui] ‘guilt’ (no lengthening). On the basis of longer words, it appears that /iu/ patterns with the rising diphthongs in permitting lengthening, but no clear monosyllabic examples were found.

- (7) [bɔu] ~ [bo:] ‘house’
 [mɔu] ~ [mo:] ‘tree; wood’
 [nuɪ] ~ [ni:] ‘perspiration, sweat’

I take the view that the words in (6a) are monomoraic, while the words in (5, 6b, 7) are bimoraic. The lengthening of coalescent monophthongs can be attributed to the preservation of *input* moras rather than mora augmentation. So in this particular situation, I take the recorded vowel length as reflecting underlying bimoraicity. Importantly, these “true” bimoraic vowels are underlyingly diphthongs rather than lengthened monophthongs. In order to capture this distinction more clearly, in this chapter I hereafter transcribe words like those in (7) as [bɔu] ~ [boo], [mɔu] ~ [moo], [nuɪ] ~ [nii], etc.

Closed (C)VVn monosyllabic words in (3d) show similar facts, except that lengthening is not observed even for rising diphthongs. Falling diphthongs again exhibit coalescence to long monophthongs:

- | | | | |
|-----|----------------------------|-----------------|--------|
| (8) | a. rising | b. falling | |
| | [giæn] ‘reason, principle’ | [sain] ~ [sæ:n] | ‘good’ |
| | [dzuan] ‘ten’ | /duin/ → [dy:n] | ‘four’ |

I assume that words like those in (8a) are bimoraic, and words like those in (8b) are at least bimoraic (perhaps underlyingly trimoraic) but in any case heavy. The apparently systematic absence of any lengthening of the rising diphthongs in (8a) is still an issue. At first glance, it would seem to be related to the fact that such syllables are underlyingly heavy to begin with. However, as we have already seen, certain other types of underlying heavy syllable do exhibit irregular lengthening.

As seen above with open syllables, the invariably lengthened monophthongs in (8b) that result from coalescence of falling diphthongs reflect input mora preservation. In other words, these *particular* lengthened monophthongs seem to be “true” phonologically bimoraic vowels. On this view, the syllables in (8b) are underlyingly trimoraic. Even so, there is no evidence from phonological processes that bimoraic and trimoraic syllables behave differently. (So, for example, there is no evidence that stress is attracted to trimoraic syllables in favor of bimoraic syllables.) Rather, bimoraic and trimoraic syllables pattern together into a single category, heavy.) As in the parallel case of (7), in this chapter I adopt a slightly modified transcription of such words: namely [sain] ~ [sææn], [duin] ~ [dyyn], to emphasize that these particular long vowels are derived from underlyingly diphthongal sequences.

There is one other monosyllabic word shape in (3e) that might be analyzed as minimally bimoraic, possibly trimoraic, but in any case heavy:

- (9) /fiɑu/? [fiɑu] ‘winnowing fan; dustpan’
 /kiɑu/? [kiɑu] ‘sedan chair, palanquin’

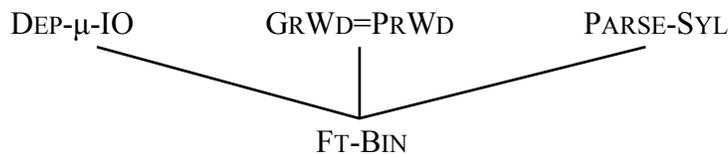
Words of this shape are rare; as expected, they do not show any additional lengthening, but it seems possible that surface forms like [fiɑu] and [kiɑu] are themselves to be understood as /fiɑ/ “[fiɑ:]” and /kiɑ/ “[kiɑ:]”, respectively, with (non-moraic) lengthening of the rising diphthongs as in (6a), as a concomitant of stress.³⁹²

The constraint hierarchy

³⁹² In addition to /iɑu/(?), possible triphthongs also include /uai/(?) [uæi] and /ɔai/ [ɔæi]; these are not attested in monosyllabic words, occurring primarily as outcomes of historical umlaut of /ua, ɔa/. There is no clear separation from /uæ, ɔæ/.

Having looked in greater depth at the monosyllabic word shapes, we are now in a position to begin building the constraint hierarchy. From the assumption that lengthening is non-moraic, it follows that Ilan Boo Manchu does *not* obey a strict bimoraic word minimum. /CV/ words consist of single light syllables, and are parsed as degenerate feet: (σ_μ) or (L), where L = light syllable. In OT terms, faithfulness to the underlying mora count takes priority over foot binarity (the requirement that metrical feet be minimally bimoraic or bisyllabic). It also follows that a grammatical word must contain at least one foot, and that this requirement also outranks foot binarity.³⁹³ The ranking so far can be represented as follows:

(10) preliminary ranking



This preliminary ranking can be exemplified for a generic /CV/ word as in the following tableau (here, $CV_{\mu\mu}$ stands for a hypothetical “true” bimoraic monophthong, where augmentation has taken place by insertion of a mora):

(11)

/CV _μ /	DEP-μ-IO	GRWD=PRWD	PARSE-SYL	FT-BIN
a. CV _μ		*!	*	
b. (CV _μ)				*
c. (CV _{μμ})	*!			

³⁹³ An unparsed syllable would also violate PARSE-SYL (“Syllables are parsed by feet.”), but since we are only considering monosyllabic words at this point, this constraint will mark the same output candidates that GRWD=PRWD marks. For now I rank them together.

Bisyllabic words

We turn now to bisyllabic words. To review, the following shapes are attested with the default stress pattern indicated (L = light syllable, H = heavy syllable):

(12)	<u>shapes</u>		<u>default pattern of (primary) stress</u>
	a. LL	→	'LL
	b. LH	→	L'H
	c. HL	→	'HL
	d. HH	→	H'H

According to the analysis of monosyllabic words above, monophthongal (C)V and rising-diphthongal (C)V_{hi}V count as light, while falling diphthongal (C)V_{hi}V and *all* closed syllables--(C)V(V)C--count as heavy. Examples of the default stress and lengthening pattern for each shape:

(13) a. LL → 'LL (cf. (12a) above)

(i) (C)V.CV

['ɑ: .kɑ] 'rain'

(around 70 items like this)

['mɔ: .rɔ] 'bowl'

['vʉ: .yʉ] 'stone'

['ku: .zɔ] 'knife'

['i: .tɛ] 'right (side)'

['dy: .re] 'cradle'

The vast majority of words of this shape have the stress and lengthening pattern above in (i). Some items show variable lengthening, as in ['jɑ(:) .kɑ] 'fire', ['gu(:) .vʉ] 'name', ['gu(:) .tɕo] 'friend' (around 12 words total). Fewer than 10 items are transcribed with

invariant short stressed vowels, including [ˈu.mu] ‘needle’, [ˈku.ni] ‘bucket’, and [ˈlu.vu] ‘bear’. In all but one case, the unexpectedly *unlengthened* vowel is a (**lower-sonority, intrinsically shorter-duration**) high vowel /i, u, ʊ/.³⁹⁴ Thus, the default pattern is stress on the initial syllable, with lengthening of the vowel in the stressed syllable. Other combinations of light syllables show similar behavior:

- (ii) (C)V.CV_{hi}V
 [ˈɑ(:).niɑ] ~ [ˈɑ:.nie] ‘year’
 [ˈsɔ:.gie] ‘vegetable’
 [ˈʊ:.niu] ‘mother’

Words like those in (ii) are rare because rising diphthongs have been simplified to monophthongs /i/, /u/, etc., particularly in final unstressed syllables, on which see Chapter 3 §###.

- (iii) (C)V_{hi}V.CV
 [ˈniɑ:.mʌ] ‘person’
 [ˈnie:.ke] ‘pus, mucus, phlegm’
 [ˈniu:.yo] ‘wolf’
 [ˈnie(:).yʊ] ‘duck’
 [ˈgia.ku] ‘most, very’

Initial syllables retain certain rising diphthongs, as in (iii). Lengthening is the norm. Note also [ˈduu.ve] ~ [ˈdɔ:vɔ] ‘fox’, which appears to reflect an underlying LL /dɔvi/ (: WM *dobi* ‘id.’); and [ˈdzuæi.le] ‘summer’, where [uæi] can be interpreted as /uæ/ → [uæ:] or

³⁹⁴ The other high vowels, /y/ and /ʊ/, are less frequent; failures of lengthening are not attested. **But what is the one case of a non-high vowel failing to lengthen??**

perhaps /uai/, thus /dzuæli/ or /dzuai/ (: WM *juwari*). Also, ['niu:ro] ‘banner company [左]’ /niuru/ (: WM *niru*).³⁹⁵

[***no (C)V_{hi}V.CV_{hi}V found in Čenggeltei]

(13) b. LH → L'H (cf. (12b) above)

(i) (C)V.CVn

[ɑ:.'dun] ‘flock, herd’ (around 50 items like this)

[dzɔ:.'kɔn] ~ [dzɔ:.'gɔn] ‘road’

[o:.'run] ‘drill’

[tʂu:.'dʒun] ‘chest, breast’

[ʂu:.'min] ‘deep’

[gi:.'zun] ‘speech, language’

All words of the shape /(C)V.CVn/ have stress on the final syllable,³⁹⁶ but only half show lengthening in the initial open syllable. The other half show no lengthening:³⁹⁷

(ii) (C)V.CVn

[dʒɑ:.'qɔn] ‘eight’ (around 50 items like this)

[χɔ:.'tɔn] ‘city’

[je:.'teɪn] ‘black’

[mu:.'tʂun] ‘cooking pot’

³⁹⁵ The latter two items are unmarked for stress in Čenggeltei 1998, but cf. Kim et al. (2008: 81) ['tʂwej.le] and (2008: 89) ['ɲoro].

³⁹⁶ There are a couple of marginal exceptions. ***Discuss *morin, honin, usin, gûsin, suwayan*. Fewer than 10 items show variable lengthening, such as [u(:). 'dun] ‘wind’.

³⁹⁷ A few items such as [i.'lɑ(:)n] ‘three’ and [u.'je:n] ‘thin, weak’ show lengthening in the closed stressed final syllable.

[ɔʊ. 'nin] ‘thought; mind’

[gu. 'run] ‘country’

[bi. 'zan] ‘flood’³⁹⁸

It is not entirely clear whether the height or sonority of the vowel plays any role in conditioning lengthening (or the percept of lengthening): On the one hand, vowels of any quality *can* appear either lengthened or unlengthened; but on the other hand, the majority of *unlengthened* initial-syllable vowels (about 35 of 50, or 70%) are high /i, u, ɪ, ʊ/.³⁹⁹

(iii) CV_{hi}V.CV_n

[niɑ:. 'muun] ‘heart’

[niɔ:. 'rɔn] ‘rainbow’

[χɔɑ:. 'rɔn] ‘barracks’

[χɔɑ(:). 'zɔn] (~ [χɔɑ:. 'zɔun]) ‘paper’

[giɔ. 'kɔn] ‘eagle’

[biɔ. 'kɔn] ‘earth, ground’

[tua. 'dan] ‘bustard’

[suæ. 'jin] ‘yellow’ (see note ####)

³⁹⁸ Cf. also [nie. 'min] ~ [ni. 'mien] ‘soft’ (: WM *nemeyen*). The exact segmental underlying form is a bit unclear, but LH seems secure.

³⁹⁹ Again, /y/ is not very frequent: the relevant shape--[(C)y.CV_n]--occurs in only two items. One is [ty:. 'zɔun] ‘brass’ with lengthening. A variant [tui. 'zɔun] reflects the reported interchangeability of [ui] and [y:]. Historically, this is a diphthong, so perhaps /tuisɔun/ [tyy. 'zɔun] ~ [tui. 'zɔun] is indicated here, in accordance with the observation that coalescence of heavy diphthongs like /ui/ is regularly mora-preserving in Ilan Boo Manchu. The other item is [jy. 'tun] ~ [y. 'tun] ‘two-year-old ox [犊 *xī* ‘sacrificial animal’]’. Perhaps [jy] can be treated as /ju/ or a light diphthong /iu/, with optional coalescence to monomoraic /y/.

The forms in (iii) show examples of light (rising) diphthongs in the initial syllable. Stress falls as expected on the final heavy syllable. Lengthening in the initial light syllable is variable.

Words with the other types of heavy final syllable are rare due to simplification or coalescence of historical diphthongs. Examples in a position where the final diphthong is apparently retained is:

- (iv) (C)V.CVV_{hi}
 [su.'zai] 'fifty'⁴⁰⁰ : WM *susai*
 [du:.'dai] 'waistband' < Ch 肚帶 *dǔdài*

Assuming that coalescence of falling diphthongs yields *bimoraic* monophthongs as discussed above, the following final-stressed items are potential examples:

- ? [e.'li:] ~ [ui.'li:] 'all; moreso' : WM *ele-i*
 [bu:.'ji:] 'self's, one's own...' : WM *beye-i*

Note that 'self' also occurs without the genitive marker /-i/, as ['bu:.'je] 'body'. I analyze these as /buji-i/ and /buji/, respectively.

(13) c. HL → 'HL (cf. (12c) above)

- (i) (C)VC.CV
 ['dzaŋ.dʌ] 'pine (tree)' (around 40 items like this)
 ['ɔŋ.ʎɔ] 'pasture'
 ['seŋ.ŋe] 'blood'
 ['bu:t.ɣu] ~ ['bu:t.ku] 'foot'

⁴⁰⁰ Unmarked for stress in Čenggeltei 1998, but cf. B. Li (1996: ##) [si.'zæ]*** and Kim et al. (2008: 95) [su.'zɛ], both showing final stress but also coalescence.

[ˈfuŋ.ko] ‘towel’

[ˈɛir.ɣu] ‘(silk) thread; wire’

A minority of words show (invariable) lengthening in the closed stressed syllable:

[ˈa:s.ɸɑ] ‘wing’

(around 10 items like this)

[ˈsa:p.ᵘχɑ] ‘chopsticks’

[ˈæ:rʰ.ke] ‘distilled liquor’

[ˈχɔ:r.ɸɔ] ‘cabinet’

Conspicuously, all such items involve lengthening of the lowest vowels in the system /ɑ, æ, ɔ/; there are *no* words of this shape with invariably lengthened high vowels /i, u, u, ɔ, y/.⁴⁰¹ There are also **around 10 items** with variable lengthening, such as [ˈta(:)s.ᵘχɑ] ‘tiger’ and [ˈɔ(:)r.ɸɔ] ~ [ˈɔr.ɸɔ] ‘grass’.

Other types of heavy initial syllable show the same stress pattern:

(ii) (C)VV_{hi}.CV

[ˈχai.ze]⁴⁰² ~ [ˈχai.zɰ] ‘eggplant’

[ˈmwi.ɣu] ‘snake’

[ˈvwi.ɣu] ‘tooth’

[ˈvwi.le] ~ [ˈvi:.le] ‘work’

⁴⁰¹ An example with /y/ is WM [ʃis.xə] : Ilan Boo [ˈɛys.go] ~ [ˈɛis.ku] ‘mattress, cushion’. Kim et al. 2008 give [ˈɛis.kʰo]. The round vowels of the Ilan Boo forms seem to reflect an additional suffix, i.e. *ʃisxə-ku, > /ʃisxəku/ > /ʃisxku/ > /ʃisku/ [ɛisku] (~ /ʃiusku/ [ɛys.ko])

⁴⁰² Modified: the source’s original transcription is <ˈχaize>, but the CV sequence [ze]--with a retroflex preceding a front vowel--is otherwise unattested and considered illicit. Cf. Kim et al. (2008: 105) [ˈχaj.zʌ] ‘id.’.

['sui.ɣu] ‘ear of grain’

Note coalescence of /ui/ > [i:] in ‘work’. As in similar cases above, I take the recorded length as a reflection of mora preservation and re-transcribe the form as [ˈvii.le].

A number of similar-looking items are attested:

(iii)	['fui.ɣu] ‘brain’	: WM <i>fehi</i> ~ <i>feihe</i>
	['bui.re] ‘bow (weapon)’	: <i>beri</i>
	['dwi.ɣu] ~ ['di:g] ‘forty’	: <i>dehi</i>
	['sui.dze] ~ ['sy:.dze] ‘silk’	: <i>suje</i>
	['tui.ɣu] ‘cloud’ ⁴⁰³	: <i>tugi</i>

These forms reflect historical fronting (umlaut?) in Ilan Boo Manchu (see Chapter 3 §###.###). These are precisely the sort of forms that call into question the phonological distinction between lengthened front monophthongs /y, e, æ/ and diphthongs /ui, uui, ai/, and thus between umlaut and breaking, in this dialect. Čenggeltei noted (1998: ##) that lengthened /æ/ was difficult to distinguish from /ai/ [ai]. I assume that lengthened /e/ and /y/ are also hard to discriminate from /ui/ [ui] and [ui] /ui/, respectively. The underlying monophthong analysis implies (LL) /fexu/ ‘brain’, /beri/ ‘bow’, /dexu ~ degu/ ‘forty’, /sydzi/ ‘silk’, and /tyxu/ ‘cloud’ as underlying forms.

Other HL shapes are rare, but show the expected default pattern. For example:

(iv)	CVVC.CV	
	['guan.za] ‘restaurant’	< Ch 館子 <i>guǎnzi</i>

(13) d. HH → H'H (cf. (12d) above)

⁴⁰³ Unmarked for stress in Čenggeltei 1998. Cf. Kim et al. (2008: 100) [ˈtʰuj.ɣʌ] ~ [ˈtʰwi.ɣʌ].

(i) (C)VC.CVn

[tal.'mʌn] ‘fog’

(around 70 items like this)

[næt.'ɣɔn] ‘dirty’

[ɔl.'kɔn] ~ [ɔl.'ɠɔn] ‘dry’

[sur.'kun] ‘cool’

[ɠol.'min] ‘long’

[sug.'dun] ‘breath; air’

[eiŋ.'ɲun] ‘forehead’

This pattern is virtually exceptionless. A few items show (invariable) lengthening in the final (i.e., primary-stressed) syllable only, such as [ul.'kɑ:n] ‘lasso’ and [bɔl.'dzɔ:n] ‘wave’, but none show lengthening in the initial syllable.⁴⁰⁴

⁴⁰⁴ The only potential example I have found is [tɛiɑ:s.'kun] ‘backward’ (WM *cashûn*). On the basis of Čenggeltai’s transcription, I have classified this word as CVVC.CVC, with a rising diphthong in the initial syllable, but from a diachronic perspective, this etymon is expected to give an Ilan Boo Manchu outcome with a monophthong, like *[tɛæs.kun] or *[tɛes.kun] CVC.CVC. See below.

- (ii) (C)VC.CVV_n
- [tæl.'kien] ‘lightning’
 - [jær.'gien] ‘true, truly’
 - [fu:l.'gien] ‘red’
 - [tɔm.'gien] ‘knee(cap)’
 - [gɪŋ.'ɲien] ‘bright’
 - [tɔl.'gien] ‘dream’
 - [χɔl.'gien] ‘silly, stupid’

There is some reason to doubt that [ie] in the stressed final syllables of the words in (ii) is truly distinct from /i/, but the syllables are closed and therefore heavy in any case, and regularly attract stress.

- (iii) (C)VC.CVV_{hi}
- [ut.'χai] ~ [ut.'ʁai] ‘then, thus’
- (iv) (C)VV_{hi}.CV_n
- [ai.'zɿn] ‘gold’
 - [sai.'kɿn] ~ [sæ:.'kɿn] ‘good-looking’
 - [tai.'zɿn] ‘error, falsity’
 - [fai.'dan] ‘row, column’
 - [mɿi.'ru:n] ‘shoulder’
 - [vɿi.'ɣun] ‘alive, living’
 - [tui.'zɿn] ~ [ty:.'zɿn] ‘brass’
 - [tui.'bu:n] ‘(carpenter’s) plane’
 - [tui.'bun] ‘cane, walking stick’

Note, again, that (optional?) coalescence of the underlying diphthongs /ai/ and /ui/ yields long monophthongs [æ:] and [y:], respectively. I re-transcribe these variants as [sææ.'kum] ‘good-looking’, [tyy.'zʉun] ‘brass’, to emphasize the underlyingly diphthongal analysis I am assuming.

Other attested HH shapes include:

(v) (C)VV_{hi}.CVV_n

[χai.'lien] ‘elm tree; tree’⁴⁰⁵

[uii.'gien] ‘husband’⁴⁰⁶

(vi) (C)VV_{hi}.CVV_{hi}

[bɔu.'bui] ‘treasure; darling’

: WM *boobai* < Ch 寶貝 *bǎobèi*

[gai.'ti:] ‘suddenly’ (i.e., [gai.'tii] /gaitui/ : WM *gaitai*)

(vii) (C)VVC.CV_n

[niɔl.'ɤɔn] ‘slippery’

[niɔŋ.'ŋen] ~ [nyæŋ.'ŋen] ~ [nyŋ.'ŋen] ‘green’

[niun.'ŋun] ~ [niyŋ.'ŋun] ~ [nyŋ.'ŋun] ~ [niŋ.'ŋun] ‘six’

(Note that coalescence of rising diphthongs in (vii) does not yield lengthened vowels.)

Taken together, the forms in (13a, b, c, d) confirm that (default) stress falls on the syllable containing the penultimate mora--that is, either the final heavy syllable, or the

⁴⁰⁵ Again, [ie] in the final syllable appears to be non-distinct from /i/. Compare Kim et al. (2008: 105) [χaj.'lin] ‘tree’.

⁴⁰⁶ Unmarked for stress in Čenggeltei 1998. Cf. Kim et al. (2008: 68) [ej'ɣin] ‘id.’.

penultimate syllable if the final syllable is light. In other words, the preferred foot type is a (moraic) trochee.

Assumptions about footing

For monosyllabic words, I assume that the syllable, foot, and prosodic word are coterminous. Thus:

(14) Monosyllabic words (cf. (3a, b, c, d, e) above)

light

- a. (na) ~ (na:) 'ground'
- b. (bia) ~ (bia:) 'moon; month'
- c. (dzuu) ~ (dzuu:) 'two'

heavy

- d. (tɔn) ~ (tɔ:n) 'number'
- e. (bɔu) ~ (boo) 'house'
- f. (dzuɑn) 'ten'
- g. (sɑin) ~ (sææn) 'good'
- h. (fiɔu) 'winnowing fan; dustpan'

For bisyllabic words, at a minimum I assume that the head foot is aligned at the right edge of the word. (For reasons to be discussed below in [###](#), I assume that footing is in fact iterative in Ilan Boo Manchu.):

(15) Bisyllabic words

- a. ('LL) ('ɑ:.kɑ) 'rain' (12a, 13a)
- b. L('H) gi:.('zun) 'speech, language' (12b, 13b)

- c. ('HL) ('dzaɡ.dʌ) 'pine (tree)' (12c, 13c)
 d. H('H) tʌl.('mʌn) 'fog' (12c, 13c)

More constraints

Returning to the constraint hierarchy, we can now make some additions. To enforce trochees, I assume that the following “rhythmic type” constraint is active:

RHTYPE=T(ROCHEE) “Feet have initial prominence.”

(Kager 1999: 172***)

Since we have so far seen only trochees and degenerate feet, we hypothesize that RHTYPE=T dominates its iambic counterpart, RHTYPE=I(AMB) “Feet have initial prominence.”⁴⁰⁷ We have also made the basic assumption that Ilan Boo Manchu does not require or allow moraic augmentation to repair single light syllables parsed as feet, so we conclude that the “anti-augmentation” constraint DEP- μ -IO must outrank the trochaic form constraint RHTYPE=T. The observation that subminimal (and thus non-trochaic) words are stressable--($C\acute{V}$) > CV--demonstrates that GRWD=PRWD also outranks RHTYPE=T. The fact that degenerate feet occur in longer words that contain other well-formed feet shows that PARSE-SYL outranks RHTYPE=T.

(16) Revised hierarchy (in progress, non-final)

DEP- μ -IO, GRWD=PRWD, PARSE-SYL >> RHTYPE=T, FT-BIN >> RHTYPE=I

Right edge attraction is enforced by a constraint of the ALIGN family:

⁴⁰⁷ It is unclear whether the constraint RHTYPE=X is violated by a light syllable parsed as a degenerate (L) foot. Put another way, it is unclear if rhythmic type requirements can be satisfied when the foot contains only one mora and thus no distinction between “initial” and “final” positions in the foot. I provisionally assume that degenerate feet violate *only* foot binarity, and conversely satisfy *both* RHTYPE=X constraints.

ALL-FT-R(IGHT) “Every foot stands at the right edge of the PrWd.”

(Kager 1999: 172***)

ALL-FT-R(IGHT) is equivalent to ALIGN (Ft, R, PrWd, R). Since light syllables beyond the right-aligned head foot must be parsed, we know that PARSE-SYL dominates ALL-FT-R. (We don’t know the relative ranking of ALL-FT-R and FT-BIN because we have not seen direct evidence that one of these can be violated solely to satisfy the other, with no other constraints playing a role.)

On the other hand, on the basis of vowel lengthening beyond the head foot, I have assumed the existence of secondary stress--i.e., of iterative footing. The harmonic statement $(C\grave{V}).(C\acute{V}n) > (CV.C\acute{V}n)$ indicates that an underlying sequence /LH/ is preferably parsed as $(\grave{L}).(\acute{H})$ rather than $(L.\acute{H})$. This indicates that RHTYPE=T must be ranked above ALL-FT-R, because the opposite ranking would enforce the iambic parse. Since it is better to create a trochee and an “extra” misaligned foot than to parse the full word as an iamb, we know that rhythmic type trumps right-edge alignment. (By transitivity, RHTYPE=T outranks FT-BIN.) This gives us the following ranking:

(17) **Revised hierarchy** (in progress, non-final)

DEP- μ -IO, GRWD=PRWD, PARSE-SYL \gg RHTYPE=T \gg

ALL-FT-R, FT-BIN \gg RHTYPE=I

On the assumption that vowel lengthening is an exponent of stress, combined with the observation that lengthening occurs beyond the head foot, I hypothesize that **footing is iterative**. Thus, in $L(\acute{H})$ words like those in (13b)/(15b), the light syllable to the left of the head foot is also footed. The frequent lengthening of vowels in these initial light syllables is taken as evidence that they are footed, but the syllables remain phonologically

light in any case, and the feet are therefore degenerate. Thus, words like those in (13b/15b) are footed as follows:

(18) Iterative footing

- a. (L)(H) (,gi:).('zun) ‘speech, language’
- b. (L)(H) (,mu).('tʂun) ‘cooking pot’
- c. (L)(H) (,nia:).('mun)] ‘heart’
- d. (L)(H) (,du:).('dai) ‘waistband’

Iterative footing is driven by a high-ranking constraint requiring that all syllables be footed:

PARSE-SYL “Syllables are parsed by feet.”

As mentioned above, this constraint must outrank the “rhythmic type” constraint, since it is a higher priority to parse a light syllable (both monomoraic words and stray light syllables beyond the head foot in longer words) than to strictly obey trochaic form.

PARSE-SYL must also dominate FT-BIN, since by the above assumptions, a single light syllable to the left of the head trochee is footed as a degenerate monomoraic foot (σ_{μ}).

Thus, such syllables bear secondary stress, and are therefore susceptible to lengthening.

Furthermore, PARSE-SYL must outrank ALL-FT-R since it is optimal to parse the light syllable into a foot even though the resulting foot does not stand at the right edge of the word. In other words, it is necessary to violate ALL-FT-R in order to satisfy the strictly enforced requirement that all syllables be parsed.

Primary stress

In words with two feet such as the bisyllabic words with closed final syllables in (13b), the foot at the right edge of the word contains the syllable with the greatest prominence (i.e., the one marked as stressed in Čenggeltei’s description). This reflects the activity of an EDGEMOST constraint (another member of the ALIGN family):

RIGHTMOST “The head foot is rightmost in PrWd.”

This is equivalent to ALIGN (Hd-Ft, R, PrWd, R). So far, we have not seen any violations of this constraint.

(19) **Revised hierarchy** (in progress, non-final)

DEP-μ-IO, GRWD=PRWD, PARSE-SYL, RIGHTMOST >> RHTYPE=T >>

ALL-FT-R, FT-BIN >> RHTYPE=I

It will be useful to look at how this ranking operates with schematic /CVCV/ and /CVCVn/ forms.

(20)	/CVCV/	DEP-μ-IO	GRWD=PRWD	PARSE-SYL	RIGHTMOST	RHTYPE=T	ALL-FT-R	FT-BIN	RHTYPE=I
a.	CV.(CṼ _μ)	*!		*					
b.	CV.CV		*!	**					
c.	CV.(CṼ)			*!				*	
d.	(CṼ).CV			*!			*	*	
e.	(CṼ).(CṼ)						*!	**	
f.	(CV.CṼ)					*!			
g.	^μ (CṼ).CV								*

Candidate (a) violates the undominated “anti-augmentation” constraint due to moraic lengthening (though it thus avoids violating lower-ranked FT-BIN). I ignore other types of

violation of DEP- μ -IO that might be motivated by other constraints. Failing candidates (b, c, d) all contain unparsed syllables, demonstrating the high rank of PARSE-SYL and GRWD=PRWD. Candidate (e) has too much metrical structure: parsing each syllable into its own foot satisfies PARSE-SYL and all other top-ranking constraints, but unnecessarily violates alignment and binarity. Candidates (f) and (g) are equally good except for rhythmic contour; candidate (f) is iambic and thus violates higher-ranked RHTYPE=T, while the winner, (g), satisfies all constraints except lowest-ranked RHTYPE=I. Now consider the case of /CVCVn/:

(21)	/CVCVn/	DEP- μ -IO	GRWD=PRWD	PARSE-SYL	RIGHTMOST	RHTYPE=T	ALL-FT-R	FT-BIN	RHTYPE=I
a.	(C \check{V} _{HT}).(C \check{V} n)	*!					*		
b.	CV.(C \check{V} n)			*!					
c.	(C \check{V}).(C \check{V} n)				*!	*	*	*	
d.	(CV.C \check{V} n)					*!			
e.	\mathbb{F} (C \check{V}).(C \check{V} n)						*	*	

[Here, it is crucial that RHTYPE=T is not violated by the initial degenerate foot in winning candidate (e).]

Candidate (a) violates the high-ranked “anti-augmentation” constraint (allowing it to satisfy all other requirements except alignment, but to no avail). Candidate (b) has a fatal unparsed syllable. Candidate (c) is fully parsed, but the most prominent foot is not rightmost; I pass over other lower-ranked violations. Candidate (d) avoids violations of alignment and binarity by parsing both syllables into a single foot; however, its iambic contour violates the higher-ranked foot contour constraint. The optimal parse is candidate (e), which manages to satisfy the trochaic contour requirement by parsing the initial light syllable into a degenerate foot; that degenerate foot violates both alignment and binarity but satisfies all higher-ranked constraints.

Iterative footing of (H)(H) words

As in the case of LH words, I assume that the initial syllable of HH words is also footed, giving (,H)('H). However, as lengthening is never observed in that position, it is worth considering an alternative parse with a single (H.'H) foot, (CVC.CVn). According to the revised constraint ranking (in progress) in (19), we would expect initial stress to result from this parse, as demonstrated in the following tableau, whereas final stress is the actual observed outcome: (Here, I collapse the undominated constraints and ignore candidates that violate them; □ marks the undesired winner by this ranking; ☞ marks the desired output that actually surfaces.)

(22)	/CVCCVn/	UNDOMINATED CONSTRAINTS	RHTYPE=T	ALL-FT-R	FT-BIN	RHTYPE=I
a.	□ (CVC.CVn)					*
b.	(CVC.CVn)		*!			
c.	☞ (CVC).(CVn)			*!		

One shared feature of “bad” candidates (a) and (b) is that they contain unstressed heavy syllables. This indicates the activity of another well-known constraint enforcing the “Weight-to-Stress Principle”:

WSP “Heavy syllables are stressed.”

This constraint must be ranked above ALL-FT-R in order to eliminate candidate (a) and ensure that candidate (c) will win:

(23)	/CVCCVn/	UNDOMINATED CONSTRAINTS	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	(CVC.CVn)			*!			*
b.	(CVC.CVn)		*!	*			
c.	☞ (CVC).(CVn)				*		

This gives the revised ranking in (24):

(24) **Revised hierarchy** (in progress, non-final)

DEP- μ -IO, GRWD=PRWD, PARSE-SYL, RIGHTMOST \gg RHTYPE=T, WSP \gg

ALL-FT-R, FT-BIN \gg RHTYPE=I

Longer words

Trisyllabic words are also attested. The default stress patterns are as follows:

(25)	<u>shapes</u>		<u>default pattern of (primary) stress</u>
a.	(i) LLL	→	L'LL
	(ii) HLL	→	H'LL
b.	(i) LLH	→	LL'H
	(ii) HLH	→	HL'H
c.	(i) LHL	→	L'HL
	(ii) HHL	→	H'HL
d.	(i) LHH	→	LH'H
	(ii) HHH	→	HH'H

Here are a few of examples of each shape:

(26)	a.	(i)	LLL → L'LL	
			[dɔ:. 'bu.re]	'night'
			[fa:. 'ku.ri]	'pants'
			[mu. 'yu:.le]	'round'
			[fe. 'ni:.yu]	'hair'

	(ii)	HLL → H'LL	
		[ab.'da:.ka]	'leaf'
		[ʃaŋ.'ʃa:.ka]	'cheek'
		[is.'ku.lu]	'narrow'
		[un.'du(:).re]	'spirit, deity'
b.	(i)	LLH → LL'H	
		[ɔ:.mi.'kɔŋ]	'hunger, starvation'
		[fa.tʃi.'kɔ(:)n] ~ [fa:.tʃi.'gɔŋ]	'(in) disorder'
		[fɔ:.dɔ.'kɔŋ]	'willow (tree)'
		[xu:.zi.'bun]	'destiny, fate'
	(ii)	HLH → HL'H	
		[an.tɿ.' ⁹ χan]	'guest'
		[un.tu.'kun]	'empty'
		[un.tɿi.'kien]	'tail'
		[dur.bu.'ɣun]	'wet, damp'
c.	(i)	LHL → L'HL	
		[u.'luŋ.ŋɔ]	'navel, umbilicus'
		[fi:.'liŋ.ŋu]	'ash'
		[gi.'reŋ.ŋe]	'bone'
		[χɔ:.'ruŋ.ŋɔ]	'powerful, awe-inspiring'

- (ii) HHL → H'**HL**⁴⁰⁸
- [al.'duŋ.ɔa] 'strange, uncanny'
- [vui.'liŋ.ŋu] 'guilty (person); (a) criminal'
- d. (i) LHH → LH'**H**
- [sɔ.mis.'ɣun] 'secret(ly)'
- [e.vir.'ɣun] 'weak'
- [bu.zir.'ɣun] 'bed'
- [da.ɤas.'ɣɔŋ] 'obedient'
- (ii) HHH → HH'**H**
- [bin.dɤr.'ɤan] 'martin, swallow (type of bird)'
- [ɣɔŋ.dɤr.'ɤan] 'swallow (type of bird)'

Based on the positions where vowel lengthening is observed, I assume the following footing:

- (27) shapes footing
- a. (i) LLL → (L)('LL)
- (ii) HLL → (H)('LL)
- b. (i) LLH → (LL)('H)
- (ii) HLH → (HL)('H)

⁴⁰⁸ The position of (primary) stress in these items may have another explanation. Both examples are derived by the adjectival suffix /-ŋɔA/, which apparently demands that main stress fall on the final syllable of the stem, overriding all other considerations. I have not been able to find any HHL words that do not contain this suffix.

- c. (i) LHL → (L)(HL)
(ii) HHL → (H)(HL)
- d. (i) LHH → (L)(H)(H)
(ii) HHH → (H)(H)(H)

This footing accounts for the (irregular) lengthening in the initial light syllables of the forms in (26ai, 26bi, 26ci).⁴⁰⁹ Here, I give a sample derivation of the type in (26ci), LHL. (I will not give tableaux for each type; the reader can verify that the hierarchy given above in (24) yields the correct results.)

(28)	/CVCVCCV/	UNDOMINATED CONSTRAINTS	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	CV.(CVC.CV)	*!					*
b.	(CV).(CVC.CV)	*!			**	*	
c.	(CV.CVC).(CV)		*!		*	*	
d.	(CV).(CVC).(CV)				***	*!*	
e.	☞ (CV).(CVC.CV)				**	*	

Candidate (a)--with the initial light syllable unfooted--violates the undominated constraint PARSE-SYL. Candidate (b)--with primary stress in the initial foot rather than the final foot--violates undominated RIGHTMOST. (I ignore other candidates that violate undominated constraints.) Candidate (c)--with an initial iamb--violates high-ranking RHTYPE=T. Candidate (d)--with each syllable parsed into its own foot--incurs a fatal number of violations of ALL-FT-R and FT-BIN. The winning candidate (e) has an initial

⁴⁰⁹ The absence of lengthening in the class of words in (26di) seems to be systematic. This poses a problem for the footing proposed here, but I leave the matter aside pending further investigation.

degenerate foot violating the same constraints as (d), but it incurs fewer violations and thus emerges as optimal.

Rhythmic deletion

As indicated by the footing given in (27), I assume that the head syllable of the rightmost foot bears primary stress. If the rightmost foot contains only one syllable, then that syllable bears primary stress. However, on the evidence of vowel lengthening in light syllables, I assume that all syllables are footed. That is, I assume that words with more than one foot have secondary stress. It bears repeating that Čenggeltei’s description and analysis of Ilan Boo Manchu prosody does not recognize secondary stress in non-verbs.

If the rather irregular notation of vowel lengthening were the only evidence for secondary stress, it might conceivably be possible to assume that phonological words have only a single foot. However, on the contrary, the proposed footing also accounts for rhythmic deletion phenomena. Specifically, wholly unstressed syllables--i.e., the troughs or non-heads of binary feet (LL) and (HL)--are subject to vowel deletion.

In Čenggeltei’s data, synchronic alternation with respect to rhythmic deletion is not usually recorded for the words in question, but it is clear--from the cases of alternation; transcriptions of the same dialect in other sources; and WM cognates--precisely where vowels have been deleted. Consider the following superficially monosyllabic words:

(29a) Apocopated forms CV(V).CV → CV(V)C

gloss	Čenggeltei 1998	Kim et al. 2008	WM	Ilan Boo UR
‘older brother’	[‘a:g]	[‘a.gʌ]	<i>age</i>	/agV/
‘eye’	[‘ja:z]	[‘ja.zʌ]	<i>yasa</i>	/jasV/
‘matter, affair’	[‘bait] ~ [‘bai.tu]	[‘pajt] ~ [‘pai.tʰje]	<i>baita</i>	/baitu/
‘skull, head’	[‘χɔ:t] ~ [‘χɔ:.tɔ]	[‘χɔ.tʰo]	<i>hoto</i>	/xɔtɔ/

‘again’	[ˈgʷul] ~ [ˈgʷ.lʷ]	[ˈkə.lʌ]	<i>geli</i>	/gʷulʷ/
‘don’t’	[ˈʷum]	[ˈə.mʌ]	<i>ume</i>	/ʷumV/
‘one’	[ˈʷum]	[ˈəm] ~ [ˈə.mu]	<i>emu</i>	/ʷumV/
‘breast(milk)’	[ˈmʷu:m]	[ˈmə.mʌ]	<i>meme</i>	/mʷumV/
‘this’	[ˈʷur]	[ˈəl] ~ [ˈə.lʌ]	<i>ere</i>	/ʷurV/
‘that; 3.SG.PRO’	[ˈtʷur] ~ [ˈtʷ.lʷ]	[ˈtəl] ~ [ˈtə.lʌ]	<i>tere</i>	/tʷurʷ/ ~ /tʷulʷ/
‘horizontal’	[ˈxʷut] ~ [ˈkʷu:t]	[ˈxət] ~ [ˈχə.tʰʌ]	<i>hetu</i>	/xʷutV/ ~ /kʷutV/
‘louse’	[ˈtʷei:g] ~ [ˈtʷei:ɣ]	[ˈtʰeʰi.ɣʌ]	<i>cihe</i> ~ <i>cige</i>	/tʷʂiɣV/ ~ /tʷʂixV/
‘urine’	[ˈeik]	[ˈeʰi.kʰʌ]	<i>sike</i>	/ʂikV/

Deletion of final unstressed vowels is also observed in longer words:

(29b) Apocopated forms (C)V(C).CV.CV → (C)V(C).CVC

gloss	Čenggeltei 1998	Kim et al. 2008	WM	Ilan Boo UR
‘shadow’	[kʷl.ˈmuk] ~ [kʷl.ˈmu.ko]	[kʰəl.ˈmu.kʰo]	<i>helmeku</i>	/kʷlʷmuku/
‘jar, vat’	[aŋ.ˈŋʌr]	[aŋ.ˈŋə.lʌ]	<i>anggara</i>	/aŋgʷurV/ ~ /aŋgʷulV/
‘spring’	[niŋ.ˈnir]	[niŋ.ˈni.lʌ]	<i>niyengniyeri</i>	/niŋnirV/ ~ /niŋnilV/
‘autumn’	[bɔ.ˈliɔl]	[po.ˈlo.lʌ]	<i>bolori</i>	/bɔlɔlV/ ~ /bɔliɔlV/?
‘after, later, in the future’	[a.ˈmʌl]	[a.ˈmə.lʌ]	<i>amala</i>	/amʷulV/
‘grandson’	[ɔ.ˈmɔl] ~ [ɔ.ˈmɔ.lɔ]	[o.ˈmɔ.lo]	<i>omolo</i>	/ɔmɔlɔ/ ~ /ɔmulu/
‘stomach’	[kʷ.ˈvʷul] ~ [kʷ.ˈvʷ.lʷ]	[kʰo.ˈvu.lʌ]	<i>hefeli</i>	/kʷurʷulʷ/

More frequently, the vowel of an unstressed word-medial syllable is deleted, especially in words with the underlying shape LLH:

(30a) Syncopated forms (C)V.CV.CVn → (C)VC.CVn

gloss	Čenggeltei 1998	Kim et al. 2008	WM	Ilan Boo UR
‘young (person)’	[a.ʂ.ˈqʰʌn]	[aʂ.ˈkʰən]	<i>asihan</i>	/aʂ(V)kan/

‘walking; pedestrian’	[ja:b.'kʷun]	[ja.wu.'kʰən]	<i>yafahan</i>	/jabVkuun/
‘son-in-law’	[χɔdzɛ.'ɤən]	[χozɛ.'ɣun]	<i>hojihon</i>	/xɔdzɛ(V)xən/
‘lazy’	[ban.'ɤən]	[pan.'ɣun]	<i>banuhûn</i>	/ban(V)xən/
‘strong’	[ut.'kun]		<i>etuhun</i>	/ut(V)kun/
‘clear, lucid’	[gut.'kun] ‘sober, awake [清醒]’	[kət.kʰun] ‘intelligent [聰明]’	<i>getuken</i>	/gut(V)kun/
‘letter (mail)’	[dzɛzɛ.'ɤən]	[tɛa.ʃi.'ɤən]	<i>jasigan</i>	/dzæʃVxən/ ~ /dzɛʃVxən/

(Unsyncopated variants for items such as ‘young (person)’, ‘son-in-law’, etc., are not attested. Perhaps syncope is already a completed sound change in these words.)

Rarely, underlying HLH words also attest syncope in the unstressed light syllable. As a general rule of Manchu phonology, complex syllable margins are illicit, so HLH words in which the first H is a closed syllable (as opposed to a falling-diphthong open syllable) would not be expected to undergo syncope, given that complex margins would arise. However, [...NC.C...] can in fact arise from syncope:

(30b) Syncopated forms (C)VN.CV.CV_n → (C)VNC.CV_n

gloss	Čenggeltei 1998	Kim et al. 2008	WM	Ilan Boo UR
‘talent, ability’	[uuntʃ.'xuun]		<i>encehen</i>	/uuntʃVxuun/
‘sweet’	[dziæntʃ.' ^q χun] ~ [dziɛn.tʃi.'kun]	[tɛəntʃʰ.'qʰun]	<i>jancuhûn</i>	/dzæntʃuukun/ ~ /dzɛntʃuukun/
‘facing upward’	[ɔntʃ.'kun]		<i>oncohon</i>	/ɔntʃVkun/

Sonority-driven “right dislocation”

Recall from (15a, 15c; 27a, 27c) above that, in the default case, words ending in /...LL/ and /...HL/ are parsed into right-aligned trochees, yielding penultimate stress: [...(‘LL)] and [...(‘HL)]. But, as noted in slightly different terms by Čenggeltei (1998: 260) and Norman (2004-5: 29-30), final primary stress--[...L‘L] and [...H‘L]--is regular for words with a high vowel /i, u, ʊ/ in the penultimate syllable and the low vowel /a/ in

the final syllable.⁴¹⁰ Descriptively, stress falls on the syllable to the right of its default position. For example:

(31a) [...L'L]

WM	<i>bira</i>	:	Ilan Boo	[bi.'rɑ:]	'river'
	<i>fisa</i>	:		[fi.'zɑ:]	'back (of the body)'
	<i>ura</i>	:		[u.'rɑ:]	'buttocks'
	<i>duha</i>	:		[du.'kɑ:] ~ [dʊ.'kɑ:]	'intestine'
	<i>hūda</i>	:		[χʊ.'dɑ:]	'business; price'
	<i>aihūma</i>	:		[ɑi.ʊʊ.'mɑ:]	'turtle'

(31b) [...H'L]

	<i>ilha</i>	:		[il.'kɑ]	'flower'
	<i>minggan</i>	:		[miŋ.'ŋɑ(:)]	'thousand'
	<i>dulba</i>	:		[dul.'bɑ]	'foolish'
	<i>sunja</i>	:		[sun.'dʒɑ:]	'five'
/uʃixa/	<i>usiha</i>	:	? /uʃxa/	[uʃ.'kɑ:]	'star'
	<i>gūlha</i>	:		[gʊl.'kɑ]	'boot'
	<i>ulgiyan</i>	:	? /viŋgia/ ⁴¹¹	[viŋ.'gie(:)]	'pig'

Čenggeltei (1998: 260) singles out WM *uca* : Ilan Boo ['u:.tʃɑ] 'hindquarters (of a cow, sheep, or deer), butt portion of an animal' as the only exception, but this item is also

⁴¹⁰ The other high vowels /y/ and /u/ do not ordinarily occur in this configuration. The near absence of /u...ɑ/ is due to fossilized vowel harmony. In a few items, /u/ is dissimilated to [ʊ] following labial consonants, such as [bur.'kɑ:] ~ [bʊl.'kɑ:] 'willow (branch)'. Those words always show the final-stress pattern discussed here.

⁴¹¹ The underlying form of this word is a bit unclear. Cf. Kim et al. (2008: ##) [wiŋ.'gɛ] /wiŋgaj/, which would correspond to /viŋgæ/ in the Čenggeltei system.

attested with final stress: [u.'tʂa] ‘胯 crotch, coxa’ (Kim et al. 2008: 100). A few words like WM *aldungga* : Ilan Boo [al.'duŋ.ga] /alduŋga/ ‘strange, queer’ and *jalingga* : Ilan Boo [dʒæ.'liŋ.ŋʌ] /dʒæliŋga/ (/dʒæliŋgu/?) ‘traitorous, wicked, crafty’ with default penultimate rather than final stress also require comment. In both words, WM *-ngga* must be the productive adjectival suffix *-ngga/-ngge/-nggo*. While WM *jali* ‘wicked, traitorous; plot, intrigue’ is attested, no stem ***aldu-* is found.

In Ilan Boo Manchu, all adjectives derived with this suffix have stress on the final vowel of the base. In most cases, this is indistinguishable from the ordinary penultimate stress due to the /-CCV/ shape of the suffix, viz. WM *dere* ‘face; surface’ : *dere-ngge* ‘decorous, proper’ :: Ilan Boo ['du:ruu] ‘face’ : [du:.'ru-ŋ.ŋu] ‘honorable’. The base-final stress requirement imposed by this suffix evidently trumps the rule or constraint that attracts stress to /a/ from high vowels. (In the remainder of this section, I leave such exceptions aside.)

Vowel quality thus plays a role in determining the location of stress. Specifically, the low vowel /a/ “attracts” stress from high vowels /i, u, ʊ/. Similar patterns of quality-sensitive stress have been discussed in Kenstowicz 1997/2004 for Kobon (Nuclear Trans New Guinea; Papua New Guinea), Chukchi (Kamchukotic; Russia), Alutor (Kamchukotic; Russia), Mari (aka Cheremis: Uralic; Russia), and Moksha Mordvin (Uralic; Russia). Ross 2002 describes quality-sensitive stress in Takia (Austronesian; Papua New Guinea). De Lacy (2002, 2004, 2006, 2007) analyzes quality-sensitive stress in Nganasan (aka Tawgi Samoyed: Uralic; Russia) and Kiriwina (aka Kilivila: Austronesian; Papua New Guinea). In all of these languages, stress patterns reflect a preference for the “peak” or head of the foot to coincide with more sonorous vowels (and for the “trough” or non-head of the foot to coincide with less sonorous vowels).

I assume that the sonority considerations that prefer stressed /a/ to stressed /i, u, ʊ/ specifically prevent the formation of any foot of which the head is a high vowel and the non-head is *simultaneously* a low vowel. Superficially, the result is “right dislocation”

of stress, or a right-headed (iambic) rhythm over the relevant syllables. This effect can be captured succinctly in OT terms: the constraint(s) responsible for encoding the sonority requirements must outrank the foot form constraint imposing trochees.

Here, I adopt the “Stringent Sonority Constraints” proposed by De Lacy (2007):

*HD_α/*x* “Incur a violation for every head of constituent *α* that contains *x*.”

For the purposes of describing the Ilan Boo Manchu pattern, we are only concerned with *α* = foot (FT). The variable *x* ranges over the following sets, corresponding to the universally available levels of the sonority hierarchy:

‘ <i>i</i> ’	high central vowels
‘ <i>i</i> , <i>ə</i> ’	high or mid central vowels
‘ <i>i</i> , <i>ə</i> , <i>i</i> · <i>u</i> ’	central or high peripheral vowels
‘ <i>i</i> , <i>ə</i> , <i>i</i> · <i>u</i> , <i>e</i> · <i>o</i> ’	central or non-low peripheral vowels
‘ <i>i</i> , <i>ə</i> , <i>i</i> · <i>u</i> , <i>e</i> · <i>o</i> , <i>a</i> ’	central or peripheral vowels (i.e., all vowels)

A parallel set of constraints is required governing non-heads:

*NON-HD_α/*x* “Incur a violation for every non-head of constituent *α* that contains *x*.”

Again, we are only concerned with the case of *α* = foot (FT). The variable *x* ranges over a converse hierarchy:

‘ <i>a</i> ’	low vowels
‘ <i>a</i> , <i>e</i> · <i>o</i> ’	low or mid peripheral vowels
‘ <i>a</i> , <i>e</i> · <i>o</i> , <i>i</i> · <i>u</i> ’	high, mid, or low peripheral vowels

- ‘a, e •o, i •u, ə’ peripheral or mid central vowels
 ‘a, e •o, i •u, ə, i’ peripheral or central vowels (i.e., all vowels)

Thus, for example, the constraint *HD_{FT}/i, ə, i •u will incur one violation for every foot head that contains any central or high peripheral vowel. Conversely, the constraint *NON-HD_{FT}/a will incur one violation for every foot non-head that contains a low vowel.

To capture the pattern described for Ilan Boo Manchu and exemplified in (31a, b) above, both *HD_{FT}/i, ə, i •u and *NON-HD_{FT}/a must be evaluated with respect to one and the same foot. Only *simultaneous* violation of *both* constraints within one and the same foot is illicit in Ilan Boo Manchu; separately, neither constraint on its own is active. I therefore assume Local Conjunction (see especially Smolensky 1993) of the two markedness constraints in the domain of the foot:

*HD_{FT}/i, ə, i •u &_{Ft} *NON-HD_{FT}/a (abbreviated *HD&_{FT}*NON-HD below)

This conjoined constraint is violated iff both conjuncts are violated within the same foot. (Here, I further assume that only one violation is assessed by the offending foot as a whole. The rest of the stringent sonority constraints are ranked low.)

(32) **Revised hierarchy** (in progress, non-final)

DEP-μ-IO, GRWD=PRWD, PARSE-SYL, RIGHTMOST >> *HD&_{FT}*NON-HD >>
 RHTYPE=T, WSP >> ALL-FT-R, FT-BIN >> RHTYPE=I

Consider the derivation of ‘river’ /bira/ → [bi.ˈra:] in (33) (ignoring candidates that violate undominated constraints):

(33)	/bira/	*HD&FT*NON-HD	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	('bi.ra)	*!					*
b.	(bi.'ra)		*!				
c.	⌈bɪ⌋ ⌈ra⌋				*	**	

Candidate (a) has default trochaic footing but crucially violates the conjoined constraint under discussion. Candidate (b)--a single foot with an iambic rhythm--satisfies the conjoined constraint but violates the high-ranking foot form constraint RHTYPE=T. Candidate (c)--which avoids the illicit structure by parsing the syllables into separate feet, emerges as optimal.⁴¹²

Now consider the derivation of 'boot' /gʊlxɑ/ → [gʊl'kɑ] in (34):

(34)	/gʊlxɑ/	*HD&FT*NON-HD	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	('gʊl.kɑ)	*!					*
b.	(gʊl.'kɑ)		*!	*			
c.	⌈gʊl⌋ ⌈kɑ⌋				*	*	

Again, candidate (a) has default trochaic footing but crucially violates the conjoined constraint. Iambic candidate (b) satisfies the conjoined constraint but violates both the trochaic foot form constraint and Weight-to-Stress (WSP), since the heavy initial syllable is entirely unstressed. Candidate (c) parses the initial syllable into its own foot, thus incurring a violation of All-Foot-Right; the final light syllable is also parsed into its own degenerate foot, violating binarity; but it emerges as the winning candidate since it satisfies all higher ranking constraints.

⁴¹² In fact, my intuition is that candidate (b) should be the winner, because the high vowels of initial light syllables in such words are never lengthened. On the other hand, it is usually the high vowels that generally fail to show lengthening in other contexts, as well.

Thus far, I have focused on forms in which the location of *primary* stress is “dislocated” due to the interaction of sonority and footing. But the same considerations also apply to the footing of syllables to the left of the primary-stressed foot. Consider these words with well-formed trochaic feet at the right edge of the word:

(35a) LL('H)

[i.va:.'ʋan]	‘monster, phantom’
[u.la:.'ʋon]	‘biography’
[mu.ʋa:.'len]	‘bullet’

The sequence of two light syllables preceding the heavy final syllable would ordinarily be footed as a trochee by the default stress rule: (,LL)('H), as discussed above. Note, however, that the second light syllable shows lengthening, in contrast to other words of the same LLH shape:

(35b) LL('H) (cf. (26bi) above)

[ɔ:.mi.'ʋon]	‘hunger, starvation’
[fa.tʃi:.'ʋo(:)n] ~ [fa:.tʃi.'ʋon]	‘(in) disorder’
[fɔ:.dɔ.'ʋon]	‘willow (tree)’
[xu:zi.'bun]	‘destiny, fate’

That is, while (,ɔ.mi)('ʋon), (,fa.tʃi:.)('ʋon), etc. are good parses, *(,i.va)('ʋan) appears to be bad. This is predicted by the constraint hierarchy in (32). Consider the derivation of ‘goblin, sprite’ /ivaxan/ → [i.va:.'ʋan] in (36):

(36)	/ivaxan/	*HD&FT*NON-HD	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	(.i.va).(ʼʌn)	*!			*		*
b.	(i.,va).(ʼʌn)		*!		*		
c.	[Ⓢ] (.i).(i.,va).(ʼʌn)				**	**	

The evaluation is parallel to that in (34). The winning candidate parses each syllable into its own foot.⁴¹³

“Left dislocation” via Extrametricality

In a fairly large set of lexical items, primary stress falls to the left of the default position. Consider the trisyllabic forms in (37):

(37) “Left dislocation”

a. LLL

Čenggeltei 1998

Kim et al. 2008

[ʼda:.bu.li] ‘only, merely’

[ʼsa:.tʃi.ʰʊ] ‘hoe’

[ʼsaʃ.kʰu]

[ʼbɔ:.tei.ke] ‘ugly’

[ʼpo.tɛ^{hi}.k^{he}]

[ʼɔɔ:.tei.ʌ] ‘leggings’

[ʼu(:).tu.ko] ‘clothes’

[ʼoʊ.t^hu.k^hu]

[ʼfu(:).lu.ʏo] ‘root’

[ʼful.ʌ]

[ʼfu.tɛi.ke] ‘Buddha’

[ʼɛi:.du.re] ‘馬絆子’

⁴¹³ Again, in my intuition, the absence of lengthening in the leftmost light syllable suggests that candidate (b) should be the winner. Also, HL(ʼH) words are predicted to pattern with HL words in (31b). Thus, the predicted footing for WM *hüntahan* : Ilan Boo [χʊn.tʌ.ʼʌn] ‘cup, mug, glass’ is (,χʊn).(,tʌ).(ʼʌn), but the absence of lengthening and the quality of the vowel in the medial syllable suggest (,χʊn.tʌ).(ʼʌn). This is confirmed by Kim et al. (2008: 108) [χʊnt.ʼkʰan] ‘id.’. This in turn implies that the underlying form of the word is actually /xontuxan/, with the unusual diachronic change of “leftmost /a/” > /ʊ/.

['tɛi(:).tɛi.ku] ‘bird’ ['tɛ^hi.tɛ^hi.k^hʌ]
 /ædili/~ /ædeli/ ['ai.de.le] ‘similar; same’ BUT: [ɛ.'di.lɛ] (i.e, default stress)

b. HLL

Čenggeltei 1998

Kim et al. 2008

['an.tʌ.ʔχɔ] ‘key’

[ant.k^hu]

['χɔn.tɛi.ke] ‘relatives’

['χɔn.tɛ^hi.k^hʌ]

These lexical items appear to have left-aligned trochees: ('LL)L and ('HL)L. Note that both shapes have totally unstressed medial syllables, where syncope is predicted to be available. This is confirmed by comparisons to WM:

(38) Syncope with “left dislocation”

gloss	Čenggeltei 1998	Kim et al. 2008	WM	Ilan Boo UR
‘father’s younger brother’	['u:tʂ.ku]	['ə.tʂ ^h ʌ]	<i>ecike</i>	/utʂ(V)ku/
‘fish scale’	['u:ʂ.ku] ~ ['u(:).s.ku]		<i>esihe</i>	/uʂ(V)ku/ ~ /us(V)ku/
‘plowshare’	['ɔv.ʔχɔ] ~ ['ɔ:f.ʔχɔ]		<i>ofoho</i>	/ɔv(V)kɔ/
‘broom’	['ur.ku]	['ol.k ^h o]	<i>eriku</i>	/ur(V)ku/ ~ /ul(V)ku/
‘lungs’	['vu.ko]	['vu.v.q ^h o]	<i>ufuhu</i>	/uv(V)ku/
‘small saw’	[fait.ku]	['fjat.k ^h o]	<i>faitakû</i>	/fait(V)ku/ ~ /fiat(V)ku/
‘mirror’	['bul.ko]	['bɔl.q ^h o]	<i>buleku</i>	/bul(V)ku/
‘fish hook’	['vim.ku]	[wiŋ.k ^h o]	<i>welmiyeku</i>	/vim(V)ku/
‘drawer’	['ta:t.ku]		<i>tatakû</i>	/tat(V)ku/
‘beggar’	['giɔk.tu]		<i>giohoto</i>	/giɔk(V)tu/? /giɔx(V)tu/?
‘shameful’	['gitʂ.ko]	['ki.tɛ ^h i.k ^h o]	<i>gicuke</i>	/gitʂVku/
‘cat’	['kuʂ.gu]	[k ^h əʂ.k ^h ʌ]	<i>kesike</i>	/kuʂ(V)ku/
‘pigeon, dove’	['kutʂ.ko]	[k ^h utʂ.χɔ]	<i>kuwecihe</i>	/kutʂ(V)ku/

‘iron (for clothes)’	[^h kuʃ.ko]		<i>huweʃeku</i>	/kuʃ(V)ku/
‘scissors’	[χa:s.ku]	[^h χas.kʰʌ]	<i>hasaha</i>	/xas(V)ku/
‘scrub brush’	[^h χa:ʃ.ʋo]		<i>haʃakû</i>	/xaʃ(V)xo/? /xaʃ(V)ku/?
‘jaw, chin’	[^h suuntʃ.ku]	[^h ʃəntʃ.kʰʌ]	<i>sencihe ~ sencehe</i>	/suuntʃ(V)ku/ ~ /ʃuuntʃ(V)ku/
‘braid, plait’	[^h səntʃ.ʔχo]		<i>soncoho</i>	/səntʃ(V)kə/? /səntʃ(V)xə/?
‘basin, pan’	[^h fums.ku]	[^h fəntʃ.kʰə]	<i>fengseku</i>	/fums(V)ku/

Again, the absence of synchronic alternations in Ilan Boo Manchu suggests that syncope has been completed as a historical change for most items in (38). However, the items in (37) reveal that initial stress cannot be derived by the default rule in all cases. Instead, I assume a class of words with final extrametricality.

The underlying forms of extrametrical syllables are restricted to: {ki/xi, ku/xu, ku/xu, kə/xə, kʊ/xʊ, li, tu}. In a number of items, {ku/xu, kʊ/xʊ} correspond to the WM instrumental noun suffix /-ku/ ~ /-kʊ/, suggesting that at some earlier historical stage, specific morphemes might have been systematically extrametrical. Synchronically, however, extrametricality must be stipulated: it is neither morphologically nor phonologically predictable in Ilan Boo Manchu.

There have been several approaches to this type of exceptionality in Optimality Theory, under the general topic of morpheme-specific phonology. Here, I adopt lexically indexed constraints (see especially Pater 2006 and 2010) to treat the “left dislocation” phenomenon described here. Specifically, I employ an indexed version of:

NONFINALITY(σ) ‘The final syllable is not parsed into a higher prosodic constituent.’

The indexed version is:

NONFINALITY(σ)_L ‘The final syllable is not parsed into a higher prosodic constituent for all members of lexical class L.’

For this constraint to drive the desired left-dislocation pattern, the relevant lexical items--namely, those in (37) at a minimum, and perhaps also those in (38)--must be marked as belonging to lexical class *L* in the lexicon. Thus:

Lexical Class L

/dabu_L/ ‘only, merely’

/satʃuk_L/ ‘hoe’

/bətʃiki_L/ ‘ugly’

et cetera

Clearly, the indexed constraint $\text{NONFINALITY}(\sigma)_L$ must be ranked above PARSE-SYL , otherwise the latter constraint would force the final syllable to be footed. Therefore, the revised constraint hierarchy is:

(39) **Revised hierarchy** (in progress, non-final)

DEP- μ -IO, GRWD=PRWD, RIGHTMOST, $\text{NONFINALITY}(\sigma)_L \gg \text{PARSE-SYL} \gg \dots$

... *HD&_{FT}*NON-HD \gg RHTYPE=T, WSP \gg ALL-FT-R, FT-BIN $\gg \dots$

...RHTYPE=I

Consider the derivation of /dabu_L/ ‘only, merely’ in (40):

(40)	/dabu _L li/	UNDOM. CONSTRAINTS	NONFIN(σ) _L	PARSE-SYL	*HD& _{FT} *NON-HD	RHTYPE=T	WSP	ALL-FT-R	FT-BIN	RHTYPE=I
a.	(,da)('buu.li)		*!					**	*	*
b.	(da.'buu){li}			*	*!	*		*		
c.	('da)(,buu){li}	*!		*				***	**	
d.	[⊖] ('da.buu){li}			*				*		*

Candidate (a), with default stress, violates the indexed constraint against footing the final syllable. Candidate (b) leaves the final syllable unfooted, but the preceding syllables are footed as an iamb with low /a/ in the non-head and high /u/ in the head, violating the conjoined constraint governing the permissible sonority contour of all feet. Candidate (c) also leaves the final syllable unfooted, and has primary stress on the correct syllable, but it violates the undominated constraint RIGHTMOST, which demands that primary stress fall on the rightmost foot. Candidate (d) incurs a violation of PARSE-SYL in order to satisfy NONFINALITY(σ)_L just like candidate (b), but the trochee parsed over the preceding syllables has a well-formed sonority contour in contrast to candidate (b), so candidate (d) emerges as the winner.

Given that trisyllabic words in this lexical class surface with a single trochee aligned at the left edge of the word, it is not immediately obvious that some other indexed constraint such as LEFTMOST_L is not a possible solution. That is, words like ‘only, merely’ might conceivably be parsed ('da)(,buu.li). However, consider the following (rare) underlyingly quadrisyllabic word:

WM *hujureku* : Ilan Boo [ku.'dzur.ko] /kudz_rVku_L/ (~/kudz_lVku_L/) ‘small mill’

This form cannot reflect **('kudzɯ)(,rVku) but must instead result from the parse (,ku)('dzurV){ku}. This confirms the analysis above.

Exceptional final stress

One other stress pattern remains to be discussed: words with final-stressed light syllables. Consider the following items:

(41) Exceptional final stress

a. L'L

[e.'gi:] ~ [e.'yi:] 'direction'

[i.'tɕi(:)] 'new'

[ɔ:.'ji] 'top; roof'

[buu.'tu] 'earthworm'

[buu.'ke] 'sturdy'

[mu.'kuo] ~ [mu.'ko(:)] 'water'

[ti.'ni:] '(only) then, not until'

? /xædzɪ/ [χai.'dʒi] 'dear, beloved'

b. H'L

[am.'ba:] 'big'

[uul.'yɯ] 'peaceful, quiet'

[ɔn.'tʂɔ:] 'wide'

[man.'da:] 'slow'

[dal.'ba:] 'side'

[χal.'ba:] 'shoulder blade, scapula'

c. LL'L

? /ætu:ki/ [ai.tu.'ke:] 'neighbor(ing)'

(Kim et al. 2008 confirms Čenggeltei 1998's final stress for all attested cognates.)

As in the case of final extrametricality discussed above, I adopt the formalism of indexed constraints to handle this exceptional lexical class. Specifically, I propose the following indexed version of ALIGN-HEAD:

ALIGN-HEAD- R_M "Align the right edge of the prosodic word with the right edge of the head of the prosodic word for all members of lexical class M "

[This abbreviates ALIGN (PrWd, R, Head_{PrWd}, R) _{M} .]

Following Prince and Smolensky (1993) and Pater (2000), I assume that if undominated, this constraint will force the head of the prosodic word to coincide with the rightmost syllable (in words of lexical class M). I further assume that, as in default stress, every syllable is footed. Thus, ALIGN-HEAD- R_M must be ranked below PARSE-SYL. In addition, note that the word /xædz_i M / → [χai.'dʒi] 'dear, beloved' happens to contain just the sort of "bad" sonority contour that is targeted by the conjoined constraint *HD&_{FT}*NON-HD. Therefore, I provisionally rank ALIGN-HEAD- R_M between PARSE-SYL and *HD&_{FT}*NON-HD. The revised hierarchy is given in (42):

(42) **Revised hierarchy** (final version)

DEP- μ -IO, GRWD=PRWD, RIGHTMOST, NONFINALITY(σ)_L >> PARSE-SYL >> ...
... ALIGN-HEAD- R_M >> *HD&_{FT}*NON-HD >> RHTYPE=T, WSP >> ...
...ALL-FT-R, FT-BIN >> RHTYPE=I

Consider the derivation of ‘new’ /itʃi_M/ → [i.ˈtɛi(:)] in (43):

(43)	/itʃi _M /	UNDOM. CONSTRAINTS	PARSE-SYL	ALIGN-HEAD-R _M	*HD& _{F1} *NON-HD	RH _{TYPE} =T	WSP	ALL-FT-R	FT-BIN	RH _{TYPE} =I
a.	(ˈi.tɛi)			*!						*
b.	i.(ˈtɛi)		*!						*	
c.	(i.ˈtɛi)					*!				
d.	¹³ (,i).(ˈtɛi)							*	**	

Candidate (a), with default trochaic stress, violates the proposed indexed constraint. Candidate (b) leaves the initial syllable un-footed, violating high-ranked PARSE-SYL, though main stress falls correctly on the final syllable. Candidate (c) also has stress in the proper position, but the iambic parse is ruled out by higher ranking RH_{TYPE}=T. Candidate (d), with two degenerate feet, incurs violations of both ALL-FT-R and FT-BIN, but satisfies all higher-ranking constraints and thus emerges as optimal. Given my assumptions about the nature of vowel lengthening in Ilan Boo Manchu, this parse predicts that both syllables of words like /itʃi_M/ are potentially amenable to lengthening. This prediction is borne out by forms like [ɔ:.ˈji] ‘top; roof’ and [χai.ˈdʒi] ‘dear, beloved’ (where [ai] is interpreted as lengthened /æ/⁴¹⁴).

To verify the ranking, we should also consider the derivation of /xædz_{iM}/ in (44):

⁴¹⁴ The proposed constraint hierarchy will also output the correct result even if the underlying form is assumed to be /xaidzi/, though with slightly different violations.

(44)	/xædzɪ _M /	UNDOM. CONSTRAINTS	PARSE-SYL	ALIGN-HEAD-R _M	*HD& _{FT} *NON-HD	RH _{TYPE} =T	WSP	ALL-FT-R	FT-BIN	RH _{TYPE} =I
a.	('χai.dzi)			*!						*
b.	χæ.('dzi)		*!						*	
c.	(χæ.'dzi)				*!	*				
d.	_{FT} (,χai).('dzi)							*	**	

Candidates (a) and (b) incur the same violations as the corresponding candidates in (43). Candidate (c) is eliminated by the locally conjoined constraint *HD&_{FT}*NON-HD because the foot has low /æ/ in the non-head and high /i/ in the head. Candidate (d) avoids this fate because each syllable is parsed into its own foot, emerging as optimal despite violations of the relatively low-ranked ALL-FT-R and FT-BIN.

For the sake of completeness, I provide derivations of an underlying HL word ‘big’ /amba_M/ → [am.'ba:] in (45), and of a LLL word ‘neighbor(ing)’ /ætuki_M/ in (46).

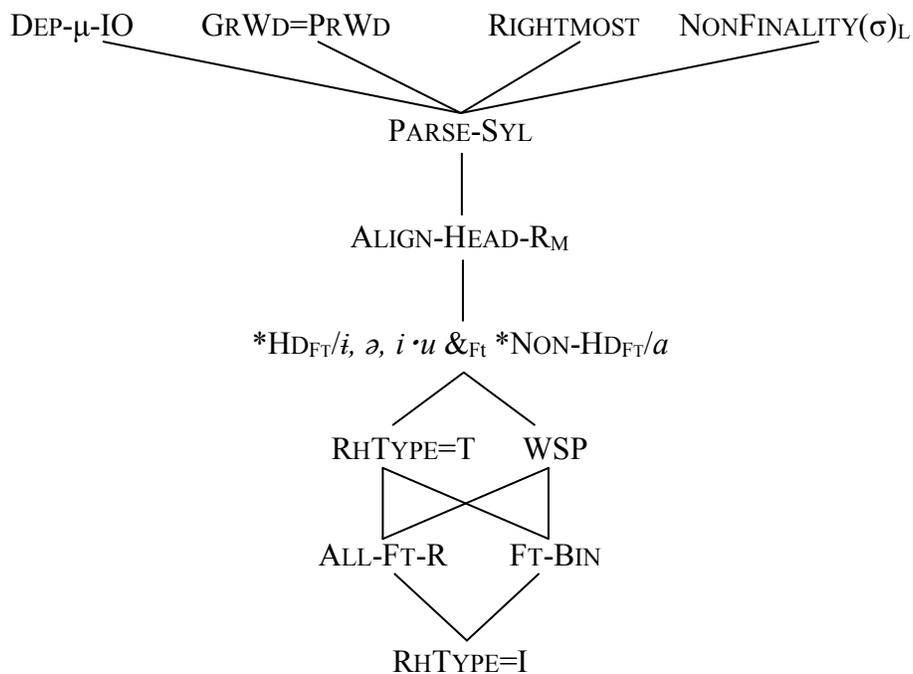
(45)	/amba _M /	UNDOM. CONSTRAINTS	PARSE-SYL	ALIGN-HEAD-R _M	*HD& _{FT} *NON-HD	RH _{TYPE} =T	WSP	ALL-FT-R	FT-BIN	RH _{TYPE} =I
a.	('am.ba)			*!						*
b.	am.('ba)		*!				*		*	
c.	(am.'ba)					*!	*			
d.	_{FT} (,am).('ba)							*	*	

(46)	/ætu _M ki _M /	UNDOM. CONSTRAINTS	PARSE-SYL	ALIGN-HEAD-R _M	*HD _{Ft} &*NON-HD	RH _{TYPE} =T	WSP	ALL-F _T -R	FT-BIN	RH _{TYPE} =I
a.	(,ai).('tu.ke)			*!				**	*	*
b.	æ.('tu.ke)		*!	*						
c.	æ.(tu.'ke)		*!			*				
d.	(,ai).(tu.'ke)					*!		**	*	
e.	[⊕] (,ai.tu).('ke)							*	*	

Note, again, that the optimal parse--candidate (e)--correctly predicts “lengthening” of /æ/ to [ai] in the secondary-stressed syllable.

Thus, the final ranking can be represented as follows:

(47) **Constraint hierarchy** (final)



CHAPTER FIVE

DIACHRONIC QUESTIONS

1. Introduction

In this chapter, I address in greater detail selected questions raised in the preceding chapters in the diachronic domain. I discuss the problems of classification within the Manchu group--that is, subgrouping--in §1.1; a description of the proto-Manchu ancestor follows in §1.2.

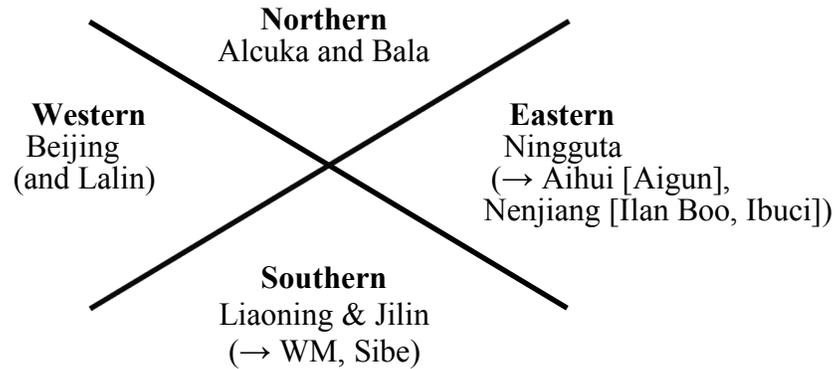
1.1 Subgrouping and classification

In Chapters 2 and 3, I described the main historical phonological processes affecting the consonants and vowels, respectively. In this section, I draw conclusions regarding the internal structure of the Manchu group. Specifically, I propose a classification of the ten varieties of Manchu covered in the preceding chapters based on phonological innovations. Ideally, extra-phonological innovations should also be incorporated, but this is not generally possible at present, due both to the overall grammatical similarity of all dialects in the Manchu group and also to the scarcity of relevant data for many varieties.

As far as I am aware, there have been no previous attempts to classify the full range of Manchu dialects in a formal way. Y. Mu (1986a? b?: ##)⁴¹⁵ has proposed an informal classification, adopted also by Y. Aisin-gioro (1986, 1987, 1993) and briefly reviewed by B. Li (1996: 37-8):

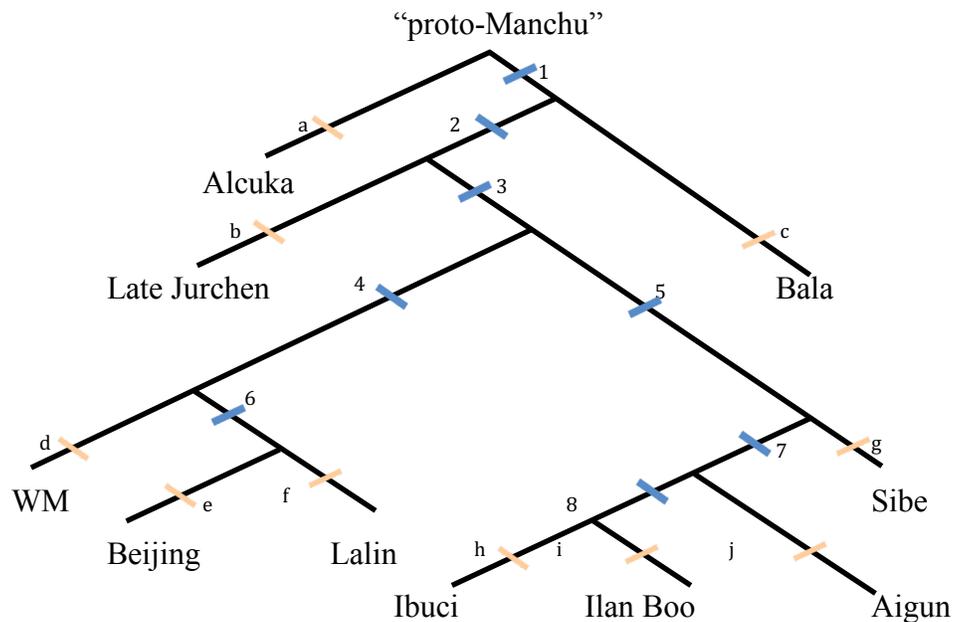
⁴¹⁵ CHECK: is it 阿勒楚卡滿語簡論 or 拉林滿語語音概論?

(1) Manchu dialect classification of Y. Mu (1986a, b)



I will refrain from commenting on this scheme until the end of this section, except to point out that the classification makes no claims about how these four branches relate to each other, or what the specific linguistic criteria for these divisions might be. I propose a somewhat different classification, based explicitly on phonological innovations:

(2) Internal structure of the Manchu group



1.1.1 Diagnostic sound changes

It is clear, on the basis of the data discussed in Chapters 2 and 3, that WM is generally the most conservative variety in the Manchu group. This fact is not particularly surprising, given that WM has the second-deepest historical attestation, not only in the Manchu group itself but also within the Tungusic family as a whole. As a point of departure for the following discussion, I begin by examining dialect phonological features that are more archaic than those of WM. In other words, I look at features of WM that are innovative with respect to the hypothetical ancestor of the Manchu group, paying particular attention to the distinction between varieties that share these innovations and those that do not. The major sets of innovations are numbered from **1** to **8**; minor sets of innovations--those specific to individual varieties of Manchu--are lettered from **a** to **j**.

1.1.1.1 Major innovations

(The parenthesized numbers here refer to the labelled positions in the tree above.)

(1) The first major innovation is intervocalic spirantization of /-p-/ (< pTg *p). As discussed in Chapter 2 §1.1.1, earlier /-p-/ underwent spirantization to /-f-/ in all varieties except Alcuka.

(2) In word-initial position, the same process, /p-/ > [f-], took place in all dialects except Alcuka and Bala.⁴¹⁶

(3) “Nuclear Manchu”?

In all varieties except Alcuka, Bala, and Late Jurchen, the alveodental stops /t, d/ were palatalized before the high front vowel /i/. As discussed in Chapter 2 §x.x.x.x, this was a neutralizing change that merged /ti/ with pre-existing /tʃi/, and /di/ with /dʒi/. Standard examples in basic vocabulary from WM include pTg *tīma ‘morning’ > WM *cimari* [tʃima-ri], *cimaha* [tʃima-χa] ‘id.’ and pTg *di- ‘to come’ > WM *ji-* [dʒi-] ‘id.’⁴¹⁷

As discussed in Chapter 2 §§x.x.x.x and 2.2, pTg initial *x- was lost in the Manchu group as a result of two sound changes. The first change involves an assimilatory development whereby pTg *x- was nasalized to /n-/ when the following consonant was pTg *m. All examples in Benzing (1955: ###) have pTg high front *i [i] or *ī [ɪ] in the initial syllable. This innovation is shared by WM, Sibe, Aigun, Ilan Boo, and Ibuci, but excludes Alcuka and Late Jurchen. The relevant data are not available for

⁴¹⁶ Beijing and Lalin have initial /p-/ in a small handful of items. Thus far, I have treated these as reflecting a chronologically secondary innovation at position (6) in the tree, perhaps due to contact with Alcuka or Bala, which are conservative with regard to the spirantization sound change. Other interpretations are possible; see §#.#.#. HAYATA 2013

⁴¹⁷ There are several complications, discussed in Chapter 2 §x.x.x.x, such as irregular depalatalization of historical /tʃ, dʒ/ in some lexical items, particularly in Bala.

Beijing, Lalin, and Bala. Since there is no counter-evidence for Bala, I speculate that the nasalization change also *did not* occur in that dialect. Likewise, in the absence of counter-evidence, I similarly hypothesize that Beijing and Lalin *did* undergo the nasalization change. On this view, the nasalization change occurred at position (3) in the tree.

A second change deleted pTg initial *x- everywhere. There is thus an apparent ordering paradox. In the innovating group under position (3), it is clear that the nasalization change must precede loss of pTg *x-, or else the environment for nasalization would have been lost before nasalization could take place. But this requires that deletion of pTg *x- subsequently applied across the entire Manchu group, *after* the earliest differentiation of dialects. In a strict *Stammbaum* model of language relationships, this pattern can only be handled by the assumption of multiple distinct, parallel developments--i.e., four identical changes involving loss of initial *x- at positions (a), (b), (c), and (3) in the tree.

A possibly more realistic treatment, in view of the shallow time depth and overall homogeneity of the Manchu group, is that loss of initial *x- spread from one branch into the other closely related--and most likely mutually intelligible--branches.⁴¹⁸ In other words, at an early stage of differentiation--just after the innovations at position (3)--deletion of initial *x- apparently swept across the entire Manchu group.

(4) “Southwestern Manchu”?

The incomplete merger of /o/ into /u/ in WM has already been discussed in Chapter 3 §3.5.1. The Sibe/Eastern Manchu clade either preserves /o/ [o] or gives evidence for earlier /o/ not only in the environment where it is retained in WM--

⁴¹⁸ This is not only a problem for the Manchu group. Loss of initial *x- is also typical of all of northern Tungusic, as well, although northern Tungusic and the Manchu group are never treated as a genetic clade under any classification of Tungusic. Perhaps loss of initial *x- in the Manchu group is an influence from northern Tungusic.

following dorsal obstruents--but also in other environments in a number of words, where it has been lost in WM. (The finer details of retained [ʊ] and evidence for /ʊ/ vary considerably within the clade.) The Beijing-Lalin group shows only further expansion of the merger, which involves innovation at (6) in the diagram (on which see below); it is never more conservative than WM or Sibe/Eastern Manchu. Therefore, there is an innovation at (4) involving this merger of /ʊ/ into /u/ in which the Sibe/Eastern Manchu clade seems not to have participated (at first). However, the survival of /ʊ/ forms in this clade beyond what is retained in WM is infrequent and phonologically unpredictable: nearly all relevant cognates show the WM-type merger. At present, it is not possible to specify a precise phonological environment for the merger at (4), though see Chapter 2 section ### for more details.

A conflict arises, however, when we consider Late Jurchen and Alcuka, which also seem to have entirely lost /ʊ/ through merger with /u/. In the case of Late Jurchen, it is possible that the Chinese-language transcription would have failed to capture such a distinction, but there is no clear positive evidence to that effect. The only solution that conforms to the structure proposed above is to assume parallel innovations at (a), (b), and (6).

***[Sibe poses a different sort of difficulty. According to the treatment in S. Li et al. 1984, there is neither a phonemic /ʊ/ nor a phonetic [ʊ]. In most positions where WM and Eastern Manchu have /ʊ/ [ʊ], Sibe has /u/ [u] preceded by a (phonemic) uvular consonant. This treatment of Sibe thus recognizes phonological contrasts such as /ku/ ≠ /qu/, /gu/ ≠ /gu/, etc. The most straightforward explanation is to assume that the merger of /ʊ/ into /u/ rendered the formerly allophonic distribution of [uvular] versus [velar] unpredictable, thereby phonologizing this consonantal place distinction. As a result, wherever Sibe has /u/ following a uvular consonant, it can be traced to earlier /ʊ/. Thus, although the change of /ʊ/ to /u/ is superficially similar to that in Beijing-Lalin, Alcuka,

and Late Jurchen, it has resulted in a completely distinct phonological system. Since Eastern Manchu also does not undergo the Sibe-type merger, I assume it is a unique (parallel) innovation at (g).]***

(5) Sibe/Eastern Manchu

A comparatively deep bundle of isoglosses distinguishes the Sibe/Eastern Manchu clade from other varieties of Manchu. The following innovations are broadly shared across the clade:

a. Spirantization of intervocalic lenis stops:

/-b-/ > [-v-]

/-g-/ > [-ʁ-] (before [RTR] vowels)

b. Voicing of intervocalic fricatives:

(*-p- >) /-f-/ > [-v-]

/-s-/ > [-z-] (~ [-dz-])

/-ʃ-/ > [-z-] ~ [-ʒ-]

/-x-/ > [-ɣ-] ~ [-ʁ-]

c. Progressive assimilation: /-ŋg-/ > [-ŋŋ-]

d. Fronting (umlaut):

/a/ > /æ/ (~ /ɛ/)

/ə/ > /e/ (~ /i/)

/u/ > /y/

e. Rounding:

/əCu, uCə/ > /uCu/

/iCu/ > /iuCu/ (/#_, #n_)

/əCi/ > /əCɔ/ (~ /əCu/ ~ /æCu/ ~ /æCy/)

/uCi/ > /uCu/ (~ /yCy/)

f. Centralization:

/i/ > /ə/ [ĩ, i, ɿ, u, ə, ɤ] (/ʃ_, dʒ_ in open medial syllables)

g. Reduction:

/a, ə, u, ʊ/ > /ə/ (under complex conditions)

h. Lowering:

(*)/ʊ/ to /ə/

/u/ to [o, ɵ]

i. Retroflexion of alveopalatal obstruents:

/tʃ, dʒ, ʃ/ > /tʂ, dʒ, ʂ/ (before non-front vowels)

These sound changes present numerous difficulties that were discussed in greater detail in the preceding chapters. From the perspective of classification, the crucial problems are the treatment of (1) the apparent non-uniqueness of certain of these shared innovations, and (2) discrepancies in the outcomes and conditioning environments among dialects within the innovating group.

To take a relatively easily resolved example of (1) non-uniqueness, spirantization of intervocalic /-b-/ is also attested in Beijing Manchu (Chapter 2 §1.1.3.1). However, in that variety, the conditioning environment is conspicuously disjunct with that in Eastern Manchu. On the opposite side of the problem, Sibe shows spirantization of intervocalic /-b-/ in a wider range of environments than Eastern Manchu (see below). In this case, Beijing spirantization should be treated as a separate, look-alike innovation at position (e) in the tree, while the expansion of the environment in Sibe reflects another separate innovation, at position (g).

Similar difficulties arise with respect to spirantization of intervocalic /-g-/ (Chapter 2 § 1.1.4.2). Preceding the originally [rtr] vowels /a, ə, ʊ/, intervocalic /-g-/ is spirantized to [ɣ] in Sibe/Eastern Manchu. WM retains (uvular) [g], while Beijing and Lalin have velar [g], having lost uvularity across the board via an innovation at position (6). So far, this is consistent with the proposed classification. However, Alcuka, Bala, and

Late Jurchen generally have a voiceless fricative [-x-] or zero [-Ø-] in this environment. Viewed as a shared innovation, this is incompatible with the tree on a strict view. For now, the only option is to treat the similar changes as parallel innovations at positions (a), (b), and (c).

Voicing of intervocalic fricatives is another hallmark of the Sibe/Eastern Manchu clade. For example, /-f-/ (< *-p-) is regularly voiced to [-v-] (Chapter 2 § 1.2.1). Again, Beijing Manchu--and Lalin Manchu, to some extent--occasionally shows /-f-/ > [-w-] ~ [-v-] in the same environment, but apparently only in faster speech. Since this Beijing [w] ~ [v] is the only clear evidence for any sort of voiced fricative outside of the Sibe/Eastern Manchu clade, it can again be treated as a separate innovation at position (e).

Voicing of the other intervocalic fricatives /s, ʃ, x/ in Sibe/Eastern Manchu exhibits some problematic clade-internal variation. As discussed in Chapter 2 § 1.2.2, intervocalic /-s-/ is (allophonically) voiced to [-z-] (~ [-dʒ-]) across the clade. (A small number of forms with [-dʒ-] are found in Alcuka, possibly due to contact.) However, Sibe shows apparently subdialectal or generational variation. The somewhat earlier materials of Yamamoto (1969) show little or no voicing of /-s-/, whereas S. Li et al. (1984)'s later materials show essentially regular voicing to [-z-]. For example, Yamamoto recorded [ʔusuʔ] versus S. Li et al.'s [uzɔ] (cf. WM *use* [usə] : Ilan Boo [u:zi] : Ibuci udʒə 'seed'). The treatment of /-s-/ > [-z-] ~ [-dʒ-] as a shared Sibe/Eastern Manchu innovation is thus an oversimplification. The suggestion is that in Sibe, voicing is a recent development, but recent contact between Eastern Manchu and Sibe is excluded as a possible explanation since the latter has been geographically separated from Eastern Manchu for two centuries. Perhaps the innovation of intervocalic voicing of /-s-/ originated in Eastern Manchu--i.e., at position (7)--prior to the departure of the Sibe to Xinjiang, and some Sibe-speaking communities acquired intervocalic voicing (through contact?) while others did not. The facts for /-f-/ are similar, with voicing extremely rare in Yamamoto's Sibe materials, but common in S. Li et al.'s forms.

When examined in sufficient detail, virtually all of the changes listed here for position (5) present similar obstacles for subgrouping. I will not pursue these issues further in this section. The reader is referred to the more detailed discussion in Chapters 2 and 3.

(6) Beijing/Lalin (“Western Manchu” in the Mu/Aisin-gioro system)

In Beijing and Lalin, intervocalic /-g-/ is usually spirantized to /x/ before the originally non-[rtr] vowels /i, ə, u/ (Chapter 2 §###). Since this runs against the prevailing pattern in the Manchu group--whereby [rtr] vowels /a, ə, u/ are stronger triggers of consonant weakening--it would appear to be a key diagnostic of the Beijing and Lalin subgroup. Before /i, ə, u/ all other dialects have a lenis stop [-g-] except for Sibe, where the voiced fricative [-ɣ-] is prevalent but alternates with [-g-] in some words.

Across-the-board loss of (allophonic) uvularization of dorsal obstruents is another shared innovation of Beijing and Lalin with respect to their closest relatives under the subgrouping analysis presented here--namely, WM and the Sibe/Eastern Manchu group. As discussed in Chapter 2 § 1.3.1, uvulars alternate predictably with velars in several varieties of Manchu, conditioned by the earlier [rtr] vowels /a, ə, u/. WM and the Sibe/Eastern Manchu clade are in near-perfect agreement as to where uvulars and velars occur, especially in word-initial position; most differences can be explained by reference to various vowel changes in the Sibe/Eastern Manchu clade. In Sibe, the relatively early change of [ʊ] to [u] partially eliminated the conditioning environment for uvular allophony, thereby phonologizing the formerly allophonic [uvular]/[velar] distinction. As a result, Sibe preserves uvulars more faithfully than Eastern Manchu. In Ibuci, /a/ is the only fully regular trigger of uvulars; before earlier /ə, u/, uvulars seem to be in free variation with velars.

Uvulars are not clearly attested in any other dialects. Superficially, then, the Beijing/Lalin elimination of uvular articulation is shared with at least Alcuka and Bala. It

is conceivable that the Chinese-character transcription of Late Jurchen simply ignored the phenomenon, but there is no positive evidence, so Late Jurchen can also be included. One alternative is that uvular allophony was an *innovation* at position (3). This would entail a subsequent, opposite change at position (6) eliminating the allophonic process in Beijing/Lalin. (Despite the undesirability of such a reversal, this scenario is compatible with the tree.) Another possibility is that uvular allophony goes back to the “proto-Manchu” level, and has been lost in multiple branches by elimination of the allophonic rule. Since uvulars are robustly attested in cognates in related Tungusic languages from multiple branches such as Even and Nanai, I adopt the second hypothesis and project uvular allophony back to the “proto-Manchu” ancestor. Note that Alcuka, Bala, and Late Jurchen--the “archaic” dialects--are once again the main troublemakers; it seems likely, especially in view of the number of parallel developments, that extensive contact has played a role.

As mentioned above in discussing the innovations at position (4), Beijing and Lalin share a development fully merging /ɔ/ into /u/ (including following dorsal obstruents) that has several parallels in Alcuka and Late Jurchen. The details are discussed in Chapter 3 §3.5.1.

As discussed in Chapter 3 § 3.1.1, in Beijing and Lalin, earlier /a/ and /ə/ broke to /ai/ and /əi/, respectively, before /i/. (A number of restrictions apply: /a/ and /ə/ must be in the initial syllable; the intervening consonant must be a singleton C, and C must be grave; /i/ must be the monophthong /i/, not a diphthong /iV/.) In a small number of words, /u/ sporadically undergoes the same process. Some similar isolated forms in Alcuka, Bala, and WM appear to reflect contact with Beijing or Lalin. The Sibe/Eastern Manchu clade also shows [ai], [əi], [ui] triggered by a following front vowel (see Chapter 3 § 3.1.2), but the process can be distinguished from Beijing/Lalin-type breaking on various grounds: (1) the primary outcomes in Sibe/Eastern Manchu umlaut appear to be monophthongs /æ (~ ε)/, /e (~ i)/, /y/ (the diphthongal reflexes may be the result of a type of lengthening

conditioned by stress, on which see Chapter 4 § #.#.#.#); (2) non-initial syllables can be affected; (3) intervening consonants may be in clusters, and need not be grave; and (4) both monophthongal /i/ and diphthongal /iV/ may trigger umlaut.

In the Beijing/Lalin group, initial-syllable /i/ may be centralized to [ī] following the affricates /tʃ, dʒ/, and in Lalin also following initial /ʃ/. This process is irregular but unique in the Manchu group, so the innovation is a diagnostic feature of the Beijing/Lalin group. The expansion of the environment to include initial /ʃ/ is a minor innovation at position (f).

(7) Eastern Manchu (= Mu/Aisin-gioro “Eastern Manchu” = “Hēi-Nèn Manchu”)

As discussed in Chapter 3 § 3.2.1, /a/ is rounded to /ɔ/ by a following round vowel in the Eastern Manchu grouping of Aigun, Ilan Boo, and Ibuci. The process is most restricted in Ilan Boo, and least restricted in Aigun. Since Sibe does not participate, this development provides evidence for Eastern Manchu as a subgroup within the Sibe/Eastern Manchu clade. Note that a superficially similar development in Alcuka (also /a/ > /ɔ/) occurs under clearly distinct conditions. I treat the Alcuka development as a separate innovation at position (a).

As discussed in Chapter 3 § 3.3.1 and above, the front vowel /i/ may be centralized (perhaps de-fronted? dissimilated? reduced?) to [ə, ī, u, ɤ, ī] following original alveopalatals /tʃ, dʒ, ʃ/ under varying conditions in different dialects. Only WM and Late Jurchen lack clear evidence of this development.⁴¹⁹ One Beijing/Lalin development has already been described under (6) above. The Sibe/Eastern Manchu clade generally shows centralization of /i/ in open medial syllables following original /tʃ, dʒ/--an innovation at position (5); the Eastern Manchu varieties also generally show centralization in medial and final syllables following /ʃ/. Sibe also attests centralization in

⁴¹⁹ This distributional pattern has a conspicuous chronological dimension: WM and Late Jurchen are the pre-modern, “historical” varieties.

medial syllables following /ʃ/, but un-centralized [i] is the more frequent reflex, and final syllables do not participate. Eastern Manchu has thus been innovative in this case, expanding the environment of this change.

Note that Beijing/Lalin also shows centralization of /i/ in the environments described immediately above for the Sibe/Eastern Manchu clade, but the process may be considered distinct on the basis of unpredictable exceptions. For example, the Sibe/Eastern Manchu clade is unanimous in *not* centralizing /i/ in the reflexes of WM [taʃi-] *taci-* ‘to learn’ and [tuʃi-] *tuci-* ‘to go out, to come out’, whereas Beijing and Lalin centralize both. In addition, Beijing/Lalin centralization occurs in some environments that do not attest it in Sibe/Eastern Manchu, as described under (6) above. I have treated Sibe/Eastern Manchu centralization and Beijing/Lalin centralization as distinct parallel innovations because of a strong intuition that these groups do not form a clade, but admittedly the environments are extremely similar.

Alcuka shows apparently regular centralization only following /ʃ/ in medial and final syllables. Bala attests centralization in various positions, but there is no discernible regularity; in almost every case, Alcuka has centralization in the cognate lexical items, suggesting that Bala centralization is due to contact with Alcuka. (Alcuka itself only attests centralization in environments where either Lalin or Eastern Manchu--or both--have it. Thus all “Northern Manchu” centralization might be due to contact.)

(8) Ilan Boo and Ibuci (“Nenjiang Manchu”)

As discussed in Chapter 3 § 3.2.2, in the Sibe/Eastern Manchu clade, earlier /ə/ is frequently rounded to /u/ when preceded or followed by another round vowel, typically /u/ but also including earlier /uə/. I have listed this as a shared innovation at position (5) above, but there are numerous dialect-specific conditions. The process is particularly restricted in Aigun, and there is subdialectal variation within Sibe: Yamamoto (1969)’s “8th Company” subdialect and the materials in S. Li et al. (1984) typically exhibit

rounding while the “6th Company” subdialect usually lacks it. This Sibe pattern is thus similar to that of voicing of intervocalic /-s-/, described above under (5), and raises the same questions. Whatever the solution to the Sibe subdialect problem, the highly restricted distribution of rounding in Aigun suggests that Ilan Boo and Ibuci have expanded the domain.

[There are distinct processes that share the basic change of /ə/ > /u/. In Beijing/Lalin, /Cəb-, Cəm-/ > /Cub-, Cum-/ is apparently regular when C is grave. In Alcuka, /əb-/ > [ub-] and /əm-/ > [ɔm-] also appear to be regular changes. These are separate innovations at positions (6) and (a), respectively.]

As discussed in Chapter 3 §§ 3.3.2 to 3.3.6, under varying conditions, the original non-front vowels /a, ə, u, ʊ/ undergo various developments to /ə/ in all varieties other than WM. The full range of reflexes in different dialects, environments, and data sources is quite wide: [ĩ, i, ə, ɜ, ʉ, ɤ, ʌ]. These qualities can be generalized as non-front, non-low, non-round; I have referred to them--collectively but informally--in earlier chapters as “schwa-like” vowels, and view them as allophones of a single vowel phoneme in each individual variety, variously analyzed in the original sources as Alcuka, Bala, Late Jurchen, WM, Beijing, Lalin, Aigun /ə/; Sibe /ə/, /ɜ/, or /i/; Ilan Boo /ʉ/ or /i/; and Ibuci /ɤ/. The allophone [ĩ] is found almost exclusively following the reflexes of the sibilant affricates and fricatives /ʧ, ʤ, ʃ, s/. The vowel /ʊ/ is rarely targeted. In Ilan Boo and Ibuci, /ʊ/ may be reduced to schwa or deleted in word-final position. Aigun does not participate, indicating an innovation at (8). (Sibe attests regular deletion of final /ʊ/, but only following /ŋ/.)

1.1.2 Remarks

These are the main sound changes that I have identified in Manchu. They allow the tentative classification presented here, though I freely acknowledge that many questions remain unresolved--certainly more than have been resolved. In particular, this

configuration depends on somewhat arbitrary choices as to which changes are taken as diagnostic of the “true” genealogical story and which are *merely* similar-looking parallel developments. Two problems stand out. First, the “archaic” varieties toward the top of the tree (Alcuka, Bala, Late Jurchen) often seem to undergo changes that are more characteristic of the lower-down “innovative” varieties. Extralinguistic common sense suggests that, in spite of the earliest differentiations on the basis of spirantization of *p, palatalization of *t and *d, and so on (§ 1.1.1.1), Manchu remained mutually intelligible across most if not all of its range, and was for the most part spoken in a geographically contiguous area. Under these conditions, the “archaic” varieties--of which Alcuka and Bala survived until the 1960s or 1970s--were in direct contact with the more generally innovative varieties, especially the Eastern Manchu dialects and Lalin.

1.2 The proto-Manchu ancestor

Throughout this dissertation, I have treated the set of ten varieties in the Manchu group as a genealogical clade--i.e., a branch--of the Tungusic family descending from a common ancestor that I refer to as proto-Manchu. Although I have not carried out a full-scale reconstruction of this entity, the analysis as to which developments are innovations and which are retentions across this group can be converted into a hypothesis about the phonological shape of this hypothetical proto-language.

1.2.1 The inventory: distributional differences with WM

As I have repeatedly argued, WM is highly conservative within the group. Since it is also the best-known member, it is convenient to use WM as a point of comparison for proto-Manchu. The consonant inventory of proto-Manchu is nearly identical to that of WM:

- (3) a. Proto-Manchu consonants b. WM consonants

p	t	ʃ	k		p	t	ʃ	k
b	d	ɟ	g		b	d	ɟ	g
—	s	ʃ	x		f	s	ʃ	x
m	n		ŋ		m	n		ŋ
	r					r		
	l					l		
		j					j	

Proto-Manchu, on this view, had no phoneme /f/, since the spirantization change emerged after the earliest differentiation. In other words, I am proposing that proto-Manchu had /p/ in all positions where WM has either /p/ or /f/. E.g.:

(4)	<u>Proto-Manchu</u>		<u>WM</u>	
	/paxon/	>	/faxon/	‘liver’
	/pisa/	>	/fisa/	‘back (of body)’
	/əpi-/	>	/əfi-/	‘to play’
	/əpəɾə/	>	/əfəɾə/	‘nose’

Proto-Manchu also had syllables like /ti, di/ corresponding to (some) WM /ʃi, ɟi/ (and /tiV, diV/ corresponding to some WM /ʃV, ɟV/). E.g.:

(5)	<u>Proto-Manchu</u>		<u>WM</u>	
	/tixa/	>	/ʃixa/	‘desire, wish’
	/di-/	>	/ɟi-/	‘to come’
	/tiəkə/	>	/ʃəkə/	‘chicken’
	/diaxa/	>	/ɟaxa/	‘boat’

Proto-Manchu had uvular allophony (as in WM and Eastern Manchu), whereby dorsal obstruents were non-contrastively uvular before [rtr] vowels /a, ə, ʊ/. E.g.:

(6)	<u>Proto-Manchu</u>		<u>WM</u>	
	/[q]aitʃa-/	=	/[q]aitʃa-/	‘to shout’
	/[ɕ]ɔlmin/	=	/[ɕ]ɔlmin/	‘long’
	/[χ]ɔlan/	=	/[χ]ɔlan/	‘chimney’

The proto-Manchu (monophthongal) vowel inventory is identical to WM:

(7)	a. Proto-Manchu vowels		b. WM vowels
	i	u	i
		ʊ	ʊ
	ə		ə
	a	ɔ	a
			ɔ

However, /ʊ/ was more widely distributed in proto-Manchu. On the basis of Sibe/Eastern Manchu evidence, /ʊ/ seems to have persisted in at least the following lexical items, in all of which /ʊ/ was neutralized to /u/ in WM:

(8)	<u>Proto-Manchu</u>		<u>WM</u>	
	/tokʃan/	>	/tukʃan/	‘calf (young ox)’
	/tomixa/	>	/tumixa/	‘nipple’
	/tʃʊmʃu-/? /tʃʊmʃʊ-/?	>	/tʃumʃu-/	‘to squat’
	/boʊʊ-kan/	>	/bulu-kan/	‘warm’
	/doka/	>	/duka/	‘gate’
	/doxa/	>	/duxa/	‘intestines’

/dolin/	>	/dulin/	‘half’
/sɔ-/	>	/su-/	‘to remove, to take off (clothing)’
/ʃomin/	>	/ʃumin/	‘deep’
/mɔŋga/	>	/muŋga/	‘mound, hill’
/mori-/	>	/muri-/	‘to twist, to wring’
/ɔrun/? /ɔron/?	>	/urun/	‘daughter-in-law; (son’s) wife’

Certain diphthongs also contained /ʊ/ in positions of neutralization in WM:

(9)	<u>Proto-Manchu</u>		<u>WM</u>	
	/sɔixa/	>	/suixa/	‘artemisia’

Furthermore, I proposed (Chapter 3 §§ 3.6.1 to 3.6.2) that WM /ɔi/ following dorsals came from a local merger of proto-Manchu /ɔi/ and /ɔi/--a minor innovation at position (d) in the tree:

(10)	<u>Proto-Manchu</u>		<u>WM</u>	
	/gɔida-/	>	/gɔida-/	‘to elapse, to pass (time)’
	/gɔi-/	>	/gɔi-/	‘to hit, to strike (a target)’

1.2.1.1 Some proto-Tungusic (pTg) ghosts and other problems

In Chapter 2, I discussed and dismissed the idea that *any* variety of Manchu has authentic retentions of pTg initial *ŋ-. It is also worth pointing out that no variety of Manchu preserves a distinct pTg [rtr] *ɪ as a surface vowel; so, for example, no variety of Manchu attests uvulars preceding /i/ in [rtr]-vocalic words: the neutralization had already taken place by proto-Manchu.

Although pTg initial *x- was eliminated in all forms of Manchu and would thus seem to constitute a diagnostic change for the Manchu group itself, the ordering of this change with respect to the related development of pTg *xIm- > /nim-/ at position (3) is problematic. (The issue of the origin and survival of proto-Manchu initial /x-/ (< pTg *k-?) and its interaction with the above changes is also unresolved. If pTg initial *x- survived into proto-Manchu and lasted as far as position (3) in the tree, then either “common Manchu” /x-/ did not yet exist, or it contrasted with the reflex of pTg *x-, since the former is *not* deleted along with pTg *x-. But varieties above position (3) indeed have common Manchu /x-/ while lacking /n-/ < *x-.)

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