

ACQUISITION IN A TRILINGUAL ENVIRONMENT AND PHILOLOGICAL
EDUCATION: A RE-EXAMINATION OF REGULAR, UNIQUE AND UNUSUAL SINO-
VIETNAMESE INITIAL FEATURES

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Abstract

Acquisition in a Trilingual Environment and Philological Education: a Re-examination of Regular, Unique and Unusual Sino-Vietnamese Initial Features

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This dissertation is a re-examination of Sino-Vietnamese (SV) initial consonants in light of major developments regarding our understanding of SV definitions, comparisons with Chinese pronunciations, narratives regarding the origin of Sino-Vietnamese, and recent developments in Chinese as well as Vietic historical phonology. I focus on three layers of SV: Early Sino-Vietnamese ESV, Late Sino-Vietnamese LSV and Hán-Việt Việt-Hóa HVVH. Example Sino-Vietnamese words from each initial type and layer are compared with Old Chinese, Late Han Old Chinese, Early Middle Chinese and Late Middle Chinese pronunciations. I discuss the historical and areal linguistic implications behind SV initial consonant features that are regular, unusual, and unique within the context of SV compared to other Sino-Xenic initial features.

For initial features that are unique and unusual, I compare those SV morphemes with cognates in modern Southern Chinese varieties, Tai languages such as Tày and Zhuang, and occasionally with cognates in Sino-Japanese and Sino-Korean. I also compare those SV features to cognates and phonetic components in Sino-Xenic scripts such as Chữ Nôm, Chữ

Nôm Tày and Zhuang Sawndip. I also compare SV morphemes to alternate *Fǎnqiè* 反切 spellings and discuss the effects and nuances of graphic analogy.

This re-examination shows that the transmission of SV words of every layer was a complicated process that involved trade, small scale as well as large scale migration, and political interference that gave rise to premodern philological practices and an environment that hosted Vietic, Tai and Chinese. This trilingualism involves successive waves of Chinese speaking communities that were affected by their linguistic environment. Tai languages such as Tày and Zhuang can reveal more information on what John Phan (2010;2013) calls Annamese Middle Chinese (AMC), as well as the trilingual environment.

I also explore the utility of Baxter & Sagart's (2014) Old Chinese (OC) reconstruction as a tool for researching ESV and SV initial lenition. This dissertation finds that some SV words with initial lenition such as v-, d- and g- indeed had OC pre-initials at the time of borrowing, but many SV words with lenited initials were not influenced by OC pre-initials or clusters. There are alternate causes for lenition such as sporadic betacism, phonological interpretation in Vietic and medial interference, thus many cases of lenition should be understood as Hán-Việt Việt-Hóa instead.

I also offer nuance to the education vs. acquisition hypothesis; some features of SV, Chinese varieties, Zhuang and Sino-Tày provide implications for acquisition of loanwords through multilingualism. Some unusual pronunciations are also due to pronunciation prescriptions. In the medieval period, some older pronunciations became codified as the standard pronunciation, some *Fǎnqiè* 反切 spellings were preferred over others, and some pronunciations were prescribed via graphic analogy. Furthermore, some examples of graphic analogy were common across the empire, some were common across other Sino-Xenic varieties and other instances only occurred in the Red River Delta.

DEDICATED

To my family, to my friends,
and to all interested in historical linguistics.

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List of Abbreviations:

AA: Austroasiatic (Language Family)

AMC: Annamese Middle Chinese

AV: Ancient Vietnamese

B&S: Baxter & Sagart (2014)

CN: Chữ Nôm

CNT: Chữ Nôm Tày

DALL: Dictionarium Annamaticum Lusitanum et Latinum

ESV: Early Sino-Vietnamese

EMC: Early Middle Chinese

GY: *Guǎngyùn* 廣韻

HESV: Han Early Sino-Vietnamese

HM: Hmong-Mien

HV: Hán-Việt

HVVH: Hán-Việt Việt Hóa

JESV: Jin-era Early Sino-Vietnamese

LSV: Late Sino-Vietnamese

LMC: Late Middle Chinese

LHOC: Late Han Old Chinese (Schuessler's Reconstruction)

MC: Middle Chinese (Generally)

MK: Mon-Khmer (Language Branch of Austroasiatic)

MSEA: Mainland Southeast Asia

MV: Middle Vietnamese

NVS: Nativized Sino-Vietnamese

OC: Old Chinese (Baxter & Sagart's Reconstruction)

PHOC: Pre-Han Old Chinese

PT: Proto-Tai

PSWT: Proto Southwestern Tai

PV: Proto-Vietic

PVM: Proto Việt-Mường

QY: *Qièyùn* 切韻

QYS: *Qièyùn* 切韻 System

RRD: Red River Delta

RSV: Recent Sino-Vietnamese

SK: Sino-Korean

SJ: Sino-Japanese

ST: Sino-Tày

SWMC: Southwestern Middle Chinese

YJ: *Yùnjìng* 韻鏡

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I: Defining Sino-Vietnamese and Research Motive:

A large portion of lexical items in the Vietnamese language is of Chinese origin.

These two languages and their ancestors, although genetically unrelated, both share a long and complicated history of language contact. Chinese, also called Sinitic, is a branch of languages in the Sino-Tibetan language family. Vietnamese is an Austroasiatic language in the Mon-Khmer branch and Vietic sub-branch. Like other languages unrelated to Chinese such as Japanese and Korean, the development of the Vietnamese language is deeply impacted by its historical interaction with Chinese, especially in terms of vocabulary. This history of close contact with China has resulted from trade, migration, and political domination. The outcome of such contact is regional multilingualism as well as the large-scale transmission of Chinese vocabulary, resulting in the formation of Sino-Vietnamese vocabulary.

This dissertation will discuss the initial features of Sino-Vietnamese words and investigate the historical linguistic implications for the regular, unique and unusual pronunciations when compared to their Middle Chinese and Old Chinese correspondences. The initial features that are unusual and unique in comparison to other Sino-Xenic forms bring implications of early small-scale Chinese contact with Tai and Vietic in the Qin and Han periods (221 BCE-220 CE), and a multilingual environment in the Red River Delta (đồng bằng sông hồng) including what John Phan (2010; 2013) calls Annamese Middle Chinese AMC with Tai and Vietic speakers. These initial features in Sino-Vietnamese also reveal implications for a medieval sporadic educational system that prescribed pronunciations based on either graphic analogy or characters with alternate *Fǎnqiè* 反切 spellings.

This substantial period of close contact in Chinese and Vietnamese history has led to a large amount of Chinese words being incorporated into the ancestor of the Vietnamese language, with the most amount of vocabulary being consistently transmitted during the Tang 唐 period (618-907) (Pulleyblank 1984; Phan 2013). The nature of this transmission is complex and to this day, vocabulary of Chinese origin is widely used in the Vietnamese language. Some of these loanwords are consciously known to be of Chinese origin and are called Hán-Việt HV ‘Sino-Vietnamese’ by the average Vietnamese speaker. Examples of Hán-Việt HV include học 學 ‘to study’ and hôn nhân 婚姻 ‘marriage’. Other words are of Chinese origin but were borrowed earlier and are assumed to be native Vietnamese, called Thuần Việt ‘Pure Vietnamese’, such as mùi 味 ‘smell’ and buồm 帆 ‘sail’.

Historical linguists from France (Henri Maspero, André Haudricourt, Michel Ferlus), Mainland China (Wáng Lì 王力, Xián Mǎnxuě 咸蔓雪), Japan (Mineya Tōru 三根谷徹, Shimizu Masaaki 清水政明), Vietnam (Nguyễn Tài Cẩn, Trần Trí Dõi, Vũ Đức Nghiệu), Taiwan (Chiang Chia-lu 江佳璐) and the United States (Mark Alves, John Phan) have made remarkable contributions to our understanding of Sino-Vietnamese vocabulary, and the scholarship shows that cross-referencing Chinese and Vietnamese phonology helps us understand the phonological development of each language. These scholars helped us understand the correspondences between Sino-Vietnamese and Middle Chinese, how to identify the approximate time period of borrowing, and the narrative of how Sino-Vietnamese entered the lexicon of the Vietnamese language.

André Haudricourt’s (1954) findings on Vietnamese tonogenesis has influenced our understanding of Chinese tonogenesis. Haudricourt argues that Vietnamese tonogenesis emerged from the loss of codas -s and -ʔ, developing into the hỏi-ngã and sắc-nặng tones

respectively. Haudricourt inspired the work of Edwin Pulleyblank (1962)¹, Mei Tsu-lin (1970) and Laurent Sagart (1998) who argue that a similar scenario of coda loss and tonogenesis occurred in Chinese as well. Old Chinese is now understood to have been a toneless language and developed tones after the loss of codas -s and -ʔ. There is now a consensus among historical linguists that the ancestors of both Chinese and Vietnamese respectively were toneless languages, and that tones developed later in their respective histories. These tone correspondences also help us identify the approximate period of borrowing for some Sino-Vietnamese words.

A cross-examination of Vietnamese and Chinese also reveals significant developments of their respective syllable structures. Sino-Xenic loanwords from Korean, Japanese and Vietnamese have been valuable resources for reconstructing Middle Chinese. Loanwords from Old Chinese in other languages led scholars to argue that Old Chinese had consonant clusters. Data from Proto-Mĭn and Southeast Asian languages convinced some scholars such as Baxter & Sagart B&S (2014) that Old Chinese was sesqui-syllabic, having pre-initial consonants and possibly unstressed pre-initial vowels as well.

Research of Vietic languages from Michel Ferlus (1982; 1992) and textual evidence from sources written in Chữ Nôm makes it clear that Vietnamese was once a sesqui-syllabic language (Shimizu 2011; 2015). This phenomenon of sesqui-syllabicity and initial lenition in Vietnamese led B&S to conclude that Old Chinese pre-initials had a direct impact on the pronunciation of Early Sino-Vietnamese words, or Sino-Vietnamese words that were borrowed roughly during the Han period (202 BCE-220 CE).

¹ Haudricourt (1954) makes implications for Chinese tones emerging from coda loss but Pulleyblank (1962) provides a more clear and direct argument for final *-s codas in Old Chinese *Qù* 去 tone (falling tone) words like 都賴 Talas (river) and 對馬 Tsushima (Baxter 1992: 313). Mei Tsu-lin (1970) and Pulleyblank (1962) also discussed the origin of the *Shǎng* tone (ibid: 320-323).

Linguists have provided substantial work on Tang-era (618-907 CE) Sino-Vietnamese, or Hán-Việt correspondences with Middle Chinese phonology. It is now widely known that there are regular correspondences including stops emerging from MC affricates and fricatives as seen with tâm 心 ‘heart’ tế 濟 ‘aid’, thư 書 ‘book’ and thần 神 ‘deity’, vowel centralization in finals for syllables as seen with tâm 心 ‘heart’ and lâm 林 ‘woods’, and tones such as the preservation of the *Rù* 入 tone coda stops in syllables like quốc 國 ‘state/country’ and đọc 讀 ‘to read’. Additional research has provided information for unique patterns that emerge in Late Sino-Vietnamese, convincing some scholars such as Hashimoto Mantarō (1978), John Phan (2010; 2013; 2016; 2022) and Hilario de Sousa (2016; 2022) that Late Sino-Vietnamese emerged from a local Chinese variety, which Phan & de Sousa call Annamese Middle Chinese. More details on this local Chinese variety will be discussed in chapters II, III and IV.

There is also a brief discussion on exceptions to regular correspondences that emerge from graphic analogy (Mineya 1972; Chiang 2011; Nguyễn Thanh-Tùng 2015), labial initials turning into dentals and palatals (Mineya 1972; Phan 2013; Meier & Peirot: 2017), initial nasalization of Middle Chinese glottal stop syllables (Pulleyblank 1984; Ferlus 2009; Chiang 2011; Lanneau 2020), and taboo character readings (Shimizu 1999; 2010). This dissertation will explain additional reasons for exceptions to regular MC and OC correspondences. These exceptions in Sino-Vietnamese as well as comparisons with other Southwestern Chinese varieties and Tai languages can also tell us more about how certain vocabulary words were transmitted through the spoken language or through pronunciation prescription.

Some additional phenomena that influenced Sino-Vietnamese pronunciations include an aspirated vs. unaspirated mismatch in Annamese Middle Chinese stops,

differences in phonological interpretation amongst Vietic communities, and betacism. Other phenomena that influenced Sino-Vietnamese include graphic analogy, which is assigning a pronunciation to a graph based on analogy to other graphs or graphic components².

Additionally, people in the Red River Delta took characters with multiple *Fǎnqiè* pronunciations and prescribed one pronunciation as the local standard; the chosen standard pronunciation for a character with multiple *Fǎnqiè* readings are sometimes different than the standard for other regions in China and the East Asian cultural sphere.

John Phan (2010; 2013) hypothesizes the presence of a contemporary Chinese variety in the Red River Delta called Annamese Middle Chinese, part of a larger dialect continuum in the medieval southwest that Phan & Hilario de Sousa (2016) call Southwestern Middle Chinese. This hypothesized variety was the main source of vocabulary in a Sino-Vietnamese layer called Hán-Việt or Late Sino-Vietnamese LSV. John Phan uses the term Late Sino-Vietnamese for Tang dynasty loanwords because there was a significant number of vocabulary borrowed during the Han as well; Phan uses the term Early Sino-Vietnamese ESV in reference to the Chinese words borrowed mostly in the Han and Jin periods. These layers of Sino-Vietnamese roughly correspond to the historical stages of Chinese; we will discuss the phonological stages of the Chinese and Vietnamese language in chapter II.

This dissertation will also provide a narrative of language contact from an areal and dialectological lens. Hashimoto Mantarō (1978), Phan (2013; 2016) and de Sousa's (2016) Medieval Southwest covers a massive area of land including North Vietnam, Guǎngdōng 廣東, Guǎngxī 廣西, and Húnán 湖南. These areas were, and still are, incredibly diverse, with

² Kim Sun-Mi (2015: ii) provides a similar definition when discussing the role of graphic analogy in Sino-Korean pronunciations. See Kim Sun-Mi, 2015, "Adoption of Aspiration Feature in Sino-Korean Phonology", PhD Dissertation, University of Washington.

five language families occupying the area. Vietic and Tai languages such as the Zhuang and the Tày have developed Sino-Xenic scripts of their own after extended contact with Chinese. These Sino-Xenic scripts such as Chử Nôm, Chử Nôm Tày and Zhuang Sawndip can provide us with valuable phonological information on Southwestern Middle Chinese, Annamese Middle Chinese and earlier stages of Chinese and Vietic as well as a method for researching Sino-Vietnamese. I will discuss more on Sino-Xenic scripts in chapter V.

It is likely that the majority of the ESV and LSV vocabulary was borrowed from regional varieties of Chinese through the spoken language. John Phan's hypothesis is not without controversy though, as other scholars such as James R. Chamberlain (2016) note that Phan (2013) completely neglects the Kra-Dai languages in the AMC narrative, and that the origin of Vietic was south in the Cả and Mã River Deltas instead of the Red River Delta. Scholars such as Trần Trí Dõi (2011), James R. Chamberlain and Mark Alves (2019) have provided substantial evidence for the long-established Tai presence in Northern Vietnam.

Archeological and historical linguistic evidence from Michel Ferlus (2009a) suggests that a Vietic presence was indeed also present in the Red River Delta. This suggests that various stages of Vietic coexisted alongside local varieties of Tai and local varieties of Chinese. Contrary to Chamberlain's assertion, Vietic was indeed present in The Red River Delta. However, Kra-Dai languages must also be considered if we want a more holistic picture of AMC. This dissertation will discuss the trilingual domain in the Red River Delta, where AMC, Tày and Việt-Mường interacted and borrowed each other's vocabulary.

This intense degree of language contact is one of the main reasons for unique initial changes that occurred in various layers of Sino-Vietnamese. This dissertation will systematically compare multiple layers of Sino-Vietnamese initials with their Old Chinese,

Late Han Old Chinese, Early Middle Chinese, Middle Chinese Proper³ and Late Middle Chinese counterparts. This detailed examination of initials will assist us in further understanding initial features of Annamese Middle Chinese as well as the conditions of unique Sino-Vietnamese initial development. I argue that there are many factors that impact initial changes in Sino-Vietnamese, including language contact, internal language mutation, Sino-Vietnamese betacism, graphic analogy and anachronistic fossilization, which is placing earlier loanword as a standard Hán-Việt pronunciation.

This chapter will define Sino-Vietnamese and explain why a close re-examination of Sino-Vietnamese is necessary. Chapter II will provide a brief overview comparing the stages of Chinese and Vietnamese, which is necessary for the data comparison. Chapter III will provide an areal view of Southeast Asian languages that have a deep history of contact with Chinese. Chapter IV will reframe the history of Vietnam and Southern China through the lens of language interaction and a phenomenon I will call philological interference, or lexical transmission through reading prescription. Chapter V will discuss important Sino-Xenic scripts such as Vietnamese Chữ Nôm, Chữ Nôm Tày for the Tày language, and Sawndip for the Zhuang language.

The main body of this dissertation is a close examination of Sino-Vietnamese initials that are regular, unusual and unique in the Sino-Vietnamese context in terms of their Middle Chinese and Old Chinese correspondences. I will organize chapter VI into thirty-seven sections; each section will display charts that examine Sino-Vietnamese initials belonging to a specific Early Middle Chinese initial type. Each initial type chart will show a Chinese word with its pronunciation in Old Chinese, Late Han Old Chinese, Early Middle

³This term Middle Chinese Proper is used by Mark Alves (2018).

Chinese, Late Middle Chinese, Han-Era Early Sino-Vietnamese, Jin-Era Early Sino-Vietnamese, Late Sino-Vietnamese and Hán-Việt Việt-Hóa, which is translated as Nativized Sino-Vietnamese⁴. I will refer to Southwestern Chinese varieties and Southeast Asian languages when discussing Sino-Vietnamese pronunciations that are unique in the Sino-Vietnamese context and unusual when compared to their MC and OC counterparts.

After examining all this data, I conclude that there are many factors that produce unusual and unique pronunciations. Some spoken language factors include multilingualism from Southwestern Chinese varieties and contemporary Southeast Asian Languages, as well as internal changes within Vietic, and betacism, confusing labial stops with labiodentals. Many unique and unusual pronunciations in Sino-Vietnamese also emerged from philological interference, for instance, a Sinograph may be confused with another in a process called graphic analogy *lèi tuī* 類推. Graphic analogy in Sino-Vietnamese is a complex phenomenon that can be divided into two main types, there is unique graphic analogy which only occurred in the Red River Delta, and there is common graphic analogy which also occurred in other Chinese and Sino-Xenic varieties. There are also examples of Sinographs with multiple *Guǎngyùn* pronunciations or *Fǎnqiè* spellings, and only one becoming commonly used in Sino-Vietnamese.

⁴ Mark Alves, “Early Sino-Vietnamese Lexical Data and the Relative Chronology of Tonogenesis in Chinese and Vietnamese.” *Bulletin of Chinese Linguistics* 11 (2018) 3-33. Alves (ibid: 4) uses the translation ‘Nativized’ and ‘Vietnamized’ for Wáng Lǐ’s term 越化 *Yuè Huà* Việt Hóa; this term could also be translated as ‘indigenized Sino-Vietnamese’. Additionally, the term ‘Vietnamized’ is used by Vũ Đức Nghiệu (2010).

Defining Sino-Vietnamese

The word Sino-Vietnamese can be problematic because there are different interpretations amongst scholars within the literature. This section will define the different layers of Sino-Vietnamese. Throughout the twentieth century, the word Sino-Vietnamese simply meant Chinese words borrowed during the Tang and Song periods, known as Hán-Việt in Vietnamese. Of course, scholars have long been well aware of other loanwords of Chinese origin.

Henri Maspero (1912;1920) uses the term *Sino-Annamite* in French, Wáng Lì uses the term *Hànyuè* 漢越 in Chinese, and Nguyễn Tài Cẩn (1978) uses the Vietnamese term Hán-Việt, which are all translated as ‘Sino-Vietnamese’ in the literature written in the English language. Scholars clearly make a distinction between Sino-Vietnamese and other loanwords of Chinese origin throughout the 20th and early 21st century. Throughout that time, the term ‘Sino-Vietnamese’ strictly referred to the layer of vocabulary borrowed during the Tang dynasty in Annam, modern day Northern Vietnam.

Nguyễn Tài Cẩn also mentions Sino-Vietnamese readings that are only used to read Chinese characters but are not used in Vietnamese such as *chấm* 怎 and *ma* 么. Nguyễn also discusses words that are borrowed from Chinese, yet are not traditionally affiliated with Sino-Vietnamese:

... Words that were borrowed before Sino-Vietnamese such as *mùa* 務, *mùi* 味 ‘smell’, *buồng* 房 ‘room’, *buồm* 帆 ‘sail’. Words that were borrowed during the Tang period but then phonologically changed afterwards, such as *gan* 肝 ‘liver’, *gần* 近 ‘near’, *vốn* 本 ‘capitol’, and *ván* 板 ‘plank’. Words

that were borrowed through interaction with speakers of Chinese dialects, such as *mỳ chính*⁵ 味精 ‘msg’, *cắc*⁶ 角 ‘a type of coin’ and *lú bú* 蘿蔔 ‘radish’.

(Nguyễn Tài Cẩn 1979: 20-21. Translation by this author)

Nguyễn also discusses words that entered the Vietnamese lexicon from Chinese and were in the Sino-Vietnamese reading system, such as *học* 學, *quốc* 國, *gia* 家; these are these are both *cách đọc Hán-Việt* “Sino-Vietnamese readings” and *yếu tố gốc Hán* “Factor of Chinese origin” (Ibid 1979: 20-21).

In later scholarship the term Sino-Vietnamese took on a more nuanced meaning. John Phan (2013) uses the term Sino-Vietnamese to mean all words in Vietnamese that are of Chinese origin, providing additional terms such as Early Sino-Vietnamese, Late Sino-Vietnamese and Recent Sino-Vietnamese. For our purposes, we will define Sino-Vietnamese as all Vietnamese words of Chinese origin, following the interpretations of scholars such as Phan (2013) and Zev Handel (2019). Within this variety of Chinese loanwords, there are four significant layers of Sino-Vietnamese important for our purposes: Chinese loanwords from the Han and pre-Han era called Han Early Sino-Vietnamese (HESV), loanwords from the Jin era called Jin Early Sino-Vietnamese JESV, loanwords from the Tang era called ‘Late Sino-Vietnamese’ (LSV), and loanwords that phonologically changed after the LSV period called ‘Hán Việt Việt Hoá’ (HVVH). One additional layer will be discussed briefly which I call Pre-Qin Early Sino-Vietnamese, which are loanwords that have initial features influenced by Old Chinese pre-Initials.

It is important to note that Phan (2013) and Vũ Đức Nghiệu (2010) discuss loanwords from the post-Ming (1644-) period called ‘Recent Sino-Vietnamese’, which are significant for Sino-Vietnamese in general, but will not be part of this dissertation’s main

⁵ Compare *mỳ chính* with Cantonese *mei6 zing1* 味精 ‘msg’.

⁶ Compare *cắc* with Cantonese *gok3* 角 ‘a type of coin’.

topic. Recent Sino-Vietnamese words are either borrowed directly from contemporary Chinese dialects in the post-Ming period, or they consist of vocabulary that is based on an already fixed Late Sino-Vietnamese pronunciation. Therefore, Recent Sino-Vietnamese words provide no extra information on Middle Chinese and Old Chinese initial correspondences.

The loanwords borrowed during the Warring States period (475-221 BCE), the Qin 秦 (221-206 BCE) the Han 漢 (206 BCE-220 CE) and the Jin 晉 (265-420) period are known as Hán-Việt Cổ⁷ in the literature written in the Vietnamese language; in Chinese, this term is called *Gǔ Hàn Yuè* 古漢越 ‘Old Sino-Vietnamese’. In English, this layer of borrowings is either referred to as ‘Old Sino-Vietnamese’ (Miyake 2003), ‘early Chinese loan words’ (Baxter 1992) or simply referred to as ‘older strata’ or ‘earlier layer of loans’ (Pulleyblank 1984). We will follow John Phan’s terminology and call Hán-Việt Cổ ‘Early Sino-Vietnamese’. Most of the Early Sino-Vietnamese vocabulary is specialized, related to technology or specific Chinese cultural practices and materials such as *mả* 墓 ‘tomb’, *đũa* 箸 ‘chopsticks’ and *gả* 嫁 ‘to marry’.

Late Sino-Vietnamese, or Hán-Việt, from the Tang 唐 (618-907) and Song 宋 (960-1279) periods has the largest scale of borrowing, covering several semantic domains. John Phan argues that this layer of vocabulary arose from a bilingual interaction between an elite Chinese group and Proto Việt-Mường speakers in the Red River Delta (đồng bằng sông Hồng) in modern day northern Vietnam. Phan bases his arguments on unique phonological features which we will discuss in detail in chapter three. Some of the Late Sino-Vietnamese

⁷ Sometimes this term is also written as Cổ Hán-Việt (Trần 2011: 141).

words are cognate with some Early Sino-Vietnamese words, but were borrowed at a later period so there are phonological and semantic differences:

LSV: 主 chủ 'lord', ('landlord'), compare with ESV: chúa 'Lord' (religious term in Catholicism/political)
LSV: 夏 hạ 'summer' (literary), compare with ESV: hè 'summer' (colloquial)
LSV: 味 vị 'flavor', compare with ESV: mùi 'smell'

Additionally, some words were borrowed several times in the Han, Jin, and Tang eras. All three of these layers have slight phonological differences among them. Take the word for 'grave' that has been borrowed in three different periods with each respective pronunciation:

Mả 墓 'grave': Han era Early Sino-Vietnamese HESV
Mồ 墓 'grave': Jin era Early Sino-Vietnamese JESV
Mộ 墓 'grave': Tang era Late Sino-Vietnamese LSV

(Modified from Phan 2013: 171)

Notice that there is a phonological similarity between the Jin Early Sino-Vietnamese and Tang era Late Sino-Vietnamese vowel forms. This is because Jin era Early Sino-Vietnamese words were borrowed from an earlier stage of Middle Chinese instead of Old Chinese. Another example is the word crossbow, which was borrowed before the Han, during the Jin or Sui and again during the Tang period:

Ná 弩 'crossbow' pre-Han Early Sino-Vietnamese
Nỏ 弩 'crossbow' Jin era Early Sino-Vietnamese JESV
Nỗ 弩 'crossbow' Tang era Late Sino-Vietnamese LSV

The syllable JESV layer for 'grave' mồ 墓 has a huyền tone coming from a Chinese *Qù* tone and 'crossbow' nỏ 弩 has a hỏi tone coming from a Middle Chinese *Shǎng* tone syllable. The tonal correspondence of these syllables show the approximate time of borrowing. Some JESV words were borrowed from Chinese before Vietnamese tonogenesis and some were borrowed after Vietnamese tonogenesis. Tonal correspondences are important for determining the time of borrowing for specific syllables; more details on tone correspondences will be given in the following chapters. Below is a chart demonstrating

Sino-Vietnamese tonal correspondences for Early Sino-Vietnamese and Late Sino-

Vietnamese:

Figure 1: ESV and LSV Tonal Correspondances with OC and MC

Old Chinese Tone	Vietnamese Tone	Early Sino-Vietnamese Examples
<i>Píng</i> 平 from *-0, -n, -m or -ŋ	Ngang-huyền	cưa 鋸 <i>jù</i> 'saw' rèm 簾 <i>lián</i> 'curtain'
<i>Shǎng</i> 上 from *-ʔ	Sắc-nặng	chúa 主 <i>zhǔ</i> 'Lord' chợ 市 <i>shì</i> 'market'
<i>Qù</i> 去 from *-s	Hỏi-ngã	tuổi 歲 <i>sui</i> 'age' mũ 帽 <i>mào</i> 'hat'
<i>Rù</i> 入 from -p, -t, -k ⁸	Sắc-nặng	cướp 劫 <i>jié</i> 'to rob' đục 鑿 <i>zào</i> 'chisel'

Middle Chinese Tone	Vietnamese Tone	Late Sino-Vietnamese Examples
<i>Píng</i> 平	ngang or huyền	nhân 因 <i>yīn</i> 'cause' như 如 <i>rú</i> 'similar' bình 平 <i>píng</i> 'peaceful/flat'
<i>Shǎng</i> 上	ngã or hỏi	mã 馬 <i>mǎ</i> 'horse' đồng 懂 <i>dǒng</i> 'to understand' tại 在 <i>zài</i> 'to be located'
<i>Qù</i> 去	sắc or nặng	báo 報 <i>bào</i> 'to report' vạn 萬 <i>wàn</i> 'ten-thousand'
<i>Rù</i> 入	sắc or nặng	sách 冊 <i>cè</i> 'book' đọc 讀 <i>dú</i> 'to read'

Wáng Lì (1948) introduces another layer of Sino-Vietnamese which he calls *Hàn Yuè Yuè Huà* 漢越越化 Hán-Việt Việt-Hóa, we will refer to this as either Hán-Việt Việt-Hóa, HVVH, or Nativized Sino-Vietnamese, following Alves's translation (2018). This layer refers

⁸Pān Wùyún (2000) argues that Middle Chinese -p, -t, -k comes from -b, -d, -g based on cognates from Tibetan.

to vocabulary words that were borrowed either before, during or after the Tang period, then underwent unique phonological changes. Hoàng Trọng Canh & Trịnh Thị Mai (2018) elaborate further by stating that Hán-Việt or Late Sino-Vietnamese is used for reading Chinese characters, but some other forms split off into the colloquial language, creating a doublet system with colloquial lexicon that exists in parallel to the Sino-Vietnamese forms (Hoàng 2018: 53). Wáng describes “Vietnamized” Chinese as follows:

一个字有两种形式：其中一种是官定的汉音（正音），另一种呢，也许比官定的汉音更早，它是由老百姓口口相传得来的白话音；又也许比官定的汉音更晚，它是“文字口语化”，渐渐和“字音”距离更远。我们的困难就是只知道它不是汉字的官音，换句话说就是知道它并非汉越语，然而我们没有充分的材料去证明它是不是更古或更晚。

“A syllable has two forms, one of which is the standard pronunciation, as for the other, perhaps it came earlier as spoken language spread amongst the common people. It is also possible that Hán-Việt Việt-Hoá pronunciations came later, as a colloquialization of Chinese character readings; with a gradual change that made it more and more distinct than the standard pronunciation. The challenge for us is that we only know that they are not the standard pronunciation, in other words, we know they are not (Late) Sino-Vietnamese words and we do not have substantial evidence to prove that they came about earlier or later.”
(Translation by this author)

(Wáng 1948: 551)

Wáng Lì says it is possible that the Sino-Vietnamese words in the HVVH layer were either borrowed before or after the Late Sino-Vietnamese period. A common feature that is attributed to this layer is spirantization of initial stops, b- → v-, q-/k-/c- → g-, đ- → d-.

Vietnamese scholars such as Nguyễn Tài Cẩn argue that this phenomenon happened after Late Sino-Vietnamese words were borrowed into Vietic languages. Baxter & Sagart (2014) insist that this change came about from Old Chinese pre-initials that became lenited after borrowing:

Figure 2: Sino-Vietnamese Syllable Lenition

Syllable	Old Chinese	ESV / HVVH	Late Sino-Vietnamese
本 bĕn ‘root’	*C.pʰə[n]ʔ	vốn	bản

近 jìn ‘near’	*N-kərʔ	gần	cận
刀 dāo ‘knife’	*C.tʰaw	dao	đao
寄 jì ‘to send’	*C.[k](r)aj-s	gửi	ký

This illustration shows Wáng Lǐ’s point that Nativized Sino-Vietnamese has phonological changes that are unique in Vietnamese and are not inherited features from any Chinese variety. It is important to note that the Sino-Vietnamese layer of Hán-Việt Việt-Hóa or Nativized Sino-Vietnamese does not correspond with a particular stage of Chinese phonological history because their features are based on Vietic internal phonological changes. This lenition without Old Chinese pre-initials is supported by Vũ Đức Nghiệu (2010), Chiang Chia-lu (2011) and John Phan (2013). Other scholars such as Mark Alves (2016; 2024), Gong Xun (2018) and Baxter & Sagart (2014) insist that lenition is a feature of Early Sino-Vietnamese, and that pre-initial features in Old Chinese remained at the time of borrowing into Vietic, causing lenition in Vietnamese words.

- *C.tʰaw → dao ‘knife’ 刀
- *C.pʰə[n]ʔ → vốn ‘capital’ 本
- *k.teʔ → giấy ‘paper’ 紙
- *C.[k](r)aj-s → gửi ‘entrust’ 寄

This set of vocabulary with v-, g- and d- initials for Middle Chinese syllables in the *Bāng* 幫, *Jiàn* 見, and *Duān* 端 initial groups have more than one cause for lenition. If some of these borrowings are from a time when pre-initials or sesqui-syllabic features were preserved in Old Chinese, then perhaps they contributed to the spirantization process and they were borrowed in a time before the Eastern Han. However, it is also likely that lenition has other origins besides pre-initials. I argue that another feature that caused lenition in Sino-Vietnamese syllables is betacism, the confusion of b- and v- in the Red River Delta.

Another important and phonologically heterogeneous layer is Recent Sino-Vietnamese: there are two means of transmission for this layer of vocabulary. There are loanwords that appeared after the fall of the Ming period, when Southern Chinese refugees brought vocabulary words that were borrowed based on the pronunciation of those Chinese varieties. This layer also includes 19th and 20th century Japanese neologisms (*wasei kango* 和製漢語), that translate modern western concepts and adhere to the already standardized Late Sino-Vietnamese pronunciations.

After the fall of the Ming dynasty (1644), some Ming loyalists were allowed to stay in Vietnam. These refugees brought a significant amount of culinary vocabulary that is likely traced to Cantonese and Mǐn varieties such as *Lì xì* 利是 ‘new years money’ Canto: lei6 si6, *Xì dǒu* 豉油 ‘soy-sauce’ Canto: si6 jau4, *Xa xiú* 叉燒 ‘Chinese BBQ’ Canto: caa1 siu1 and *Mì chīng* 味精 ‘MSG’ Canto: mei6 zing1 (Phan 2013: 342, see also Nguyễn Đình Hòa 1997: 79).

The later Japanese neologisms were brought to Vietnam through the *Đông Du* ‘go east’ movement following the victory of Japan in the Russo-Japanese war in 1905. These vocabulary words were translated in Chinese first then brought to the Vietnamese public through the “*tân thư*” *xīn shū* 新書 ‘new books’, which were Chinese books and articles on these new western concepts that were also translated into Japanese (Vinh Sinh: 1993). Such vocabulary used the Late Sino-Vietnamese pronunciation and was educational, administrative and scientific, including words like:

‘education’ 教育 VN: giáo dục M: *jiào yù*, J: *kyō iku*

‘economy’ 經濟 VN: kinh tế M: *jīng jì*, J: *kei zai*

‘science’ 科學 VN: khoa học M: *kē xué*, J: *ka gaku*

Sino-Vietnamese vocabulary has entered the ancestor of the Vietnamese language in waves that span over a millennium and the term Sino-Vietnamese garnered complexity throughout the past century. The term went from being a reference to Tang era loanwords to a catch-all term for loanwords of Chinese origin that are “irrespective of time or mode of borrowing” (Phan 2013: 20). Phan introduced new terms for understanding the lexical layers of Sino-Vietnamese such as Early Sino-Vietnamese ESV, Late Sino-Vietnamese LSV, and Recent Sino-Vietnamese RSV.

Providing a consistent set of terms for Sino-Vietnamese layers is helpful when comparing each Sino-Vietnamese layer with their contemporary form of Chinese. That being said, correspondences in each layer of Sino-Vietnamese do not always match neatly with their Middle or Old Chinese counterparts. Early Sino-Vietnamese roughly corresponds to Late Old-Chinese and Early Middle Chinese. Early Sino-Vietnamese also roughly corresponds to Early Middle Chinese and Middle Chinese (Alves 2018:21). Late Middle Chinese roughly corresponds with Late Sino-Vietnamese (ibid:21).

II: Chinese and Vietnamese Linguistic Stages

Both Chinese and Vietnamese have undergone significant changes throughout their respective histories. It is widely agreed that both languages used to be non-tonal and experienced later development of tonogenesis. It is also widely agreed by scholars such as Baxter & Sagart (2014) and Mark Alves (2018) that both languages used to have consonant clusters, though there is some nuance on how scholars interpret the nature of these consonant clusters. Both changes are important for understanding the phonological context behind the borrowing of Sino-Vietnamese words throughout Early Sino-Vietnamese and Late Sino-Vietnamese periods. This chapter will focus on the corresponding stages of the Chinese and Vietnamese languages throughout the period of borrowing Early and Late Sino-Vietnamese vocabulary.

Each stage of Chinese has contributed to the vocabulary of Vietnamese. Sino-Vietnamese, or the set of Vietnamese words of Chinese origin, is complex with many layers. Some of the stages of Chinese have contributed to the vocabulary of Vietnamese through a variety of interactions such as trade, migrations, and political occupation. Below, we can simplify the corresponding stages of Chinese and Sino-Vietnamese.

Figure 3: The corresponding stages of Chinese and Sino-Vietnamese:

Old Chinese 上古漢語	Pre-Qin Early Sino-Vietnamese
Late Han Old Chinese 晚期漢代上古漢語	Han Era Early Sino-Vietnamese
Early Middle Chinese 早期中古漢語	Jin Era Early Sino-Vietnamese
Middle Chinese 中古漢語	Jin Era Early Sino-Vietnamese/Late Sino-Vietnamese
Late Middle Chinese 晚期中古漢語	Late Sino-Vietnamese

Equally important to the various stages of Sino-Vietnamese is the change that occurred within Vietic. The stages of Vietnamese that were present during the times of early Chinese interaction were Proto-Vietic and Proto Việt Mường. Correspondences between Chinese and Vietnamese stages are not clear cut. Ferlus (2004) shows us that Proto Việt-Mường can be divided into different stages as Old Chinese in the Han era interacted with what he calls Early Proto Việt-Mường. Sino-Vietnamese words also continued to transform in Ancient Vietnamese and Middle Vietnamese after independence from China in 938 CE. The following table demonstrates the corresponding stages of Chinese and Vietic:

Figure 4: The corresponding stages of Chinese and Vietic

Pre-Qin, Qin & West Han Old Chinese	Proto-Vietic
Late Han Old Chinese	Proto-Vietic / Early Proto Việt-Mường
Early Middle Chinese	Early Proto Việt-Mường
Middle Chinese	Early Proto Việt-Mường / Late Proto Việt-Mường
Late Middle Chinese	Late Proto Việt-Mường

In the following section, I will first focus on the historical stages of Chinese and then proceed to discuss the stages of Vietnamese. For the Vietic historical linguistic stages, There will be a discussion on the phonological characteristics that are shown in the attested

records for Ancient Vietnamese, Middle Vietnamese, and Modern Vietnamese; I will compare the features shown in earlier stages of Vietnamese to other modern Vietic varieties.

Stages of Chinese Phonology

Old Chinese

Pre-Qin Old Chinese

Old Chinese (OC) refers to the oldest stage of Chinese that we know of, and it is the ancestor of all Chinese varieties (Baxter 1992:1). Old Chinese is the ancestor of Middle Chinese and is often regarded as the direct ancestor for *Mǐn*. The temporal range of OC is vast, aligning with the Shang 商 (1500-1100 BCE) Zhou 周 (1046-221 BCE), Qin 秦 (221-206 BCE), and Han 漢 (206 BCE-220 CE). Old Chinese is not a settled issue, as there are disagreements on reconstruction choices. The time-frame of OC is also contested; Baxter (1992) claims that OC is the language of the early and mid-Zhou dynasty. Baxter & Sagart (2014) give another broad timeline of OC saying it was a variety of languages from the Pre-Qin period (Baxter; Sagart 2014: 1). Shen Zhongwei (2020) offers further categories of OC such as Early Old Chinese during the Shang and Early Zhou, Middle Old Chinese during the Late Zhou, and Late Old Chinese during the Qin, Han, and Wei 魏 periods (Shen 2020: 60).

Our understanding of Old Chinese phonology begins with the work of the Ming 明 & Qing 清 philologists. Philologists in China before the modern period examined rimes in the Classic of Poetry *Shī Jīng* 詩經. As a collection of mid-Zhou poems, the contemporary pronunciation of the Classic of Poetry was strikingly different from the OC varieties spoken in the Late Zhou and Qin. This phenomenon puzzled scholars for centuries and it led some to

assume that the ancients changed the pronunciation of characters to make them rhyme or had loose standards when it came to rhyming (Baxter 1992: 153).

Many contributions made by the Ming and Qing philologists show that the ancients did not have such loose standards for writing and that characters in similar phonetic series give clues for earlier forms of reading. The framework for analyzing ancient poems provided by the Ming & Qing philologists were later complemented by modern linguistics from the western traditions such as the work of Bernhard Karlgren. In modern linguistics, several contributions have been made for our understanding of Old Chinese with different, sometimes conflicting hypotheses about the phonology of Old Chinese.

Most of the information on Old Chinese initials comes from working backwards in the *Qièyùn* 切韻 system, data from Mǐn 閩 varieties, rhyming words in poetry and phonetic components of Chinese characters, as well as data from other Sino-Tibetan languages. Shen Zhongwei (2020) summarizes the differing initial systems used by OC scholars. Li Fang-Kuei's (1971) reconstruction contains 30 initials, Baxter's (1992) reconstruction contains 37, and Zhèngzhāng Shàngfāng's reconstruction contains 25 initials. Baxter & Sagart (2014) argue for consonant clusters and pre-initials based on Vietnamese words that they consider to be ESV. The following figures from Shen Zhongwei (2020) compare OC initial reconstructions.

Figure 5: OC Reconstruction comparisons (Shen 2020: 69-70)

Table 2.9 *Li Fang-Kuei's reconstruction system (thirty initials)*

p	ph	d	hm	m		
t	th	d	hn	n	hl	l, r
ts	tsh	dz			s	
k	kh	g	hŋ	ŋ	h	Ø
kw	khw	gw	hŋw	ŋw	hw	Øw ^a

^a Because a null initial is not voiced, the resulting sound is /w/.

Table 2.10 *Baxter's reconstruction system (thirty-seven initials)*

p	ph	b	hm	m	w	hw				
t	th	d	hn	n	j	hj	l	hl	r	hr
ts	tsh	dz			s	z				
k	kh	g	hŋ	ŋ	h	fi	?			
kw	khw	gw	hŋw	ŋw			?w			

Table 2.11 *Zhèngzhāng's reconstruction system (twenty-five initials)^a*

p	ph	b	m	mh		
t	th	d	n	nh	l	lh
s	sh/tsh	z/dz			r	rh
k	kh	g	ŋ	ŋh		
q/?	qh/h	g/fi				

^a The pairs of initials separated by / indicate early and late forms.

(Shen 2020: 69-70)

Baxter & Sagart's system provides a massive expansion for OC initials, totaling at around seventy-one unique initials. Baxter & Sagart's OC reconstruction also distinguishes between what Pulleyblank (1994)⁹ calls type A and type B syllables. According to Pulleyblank, this type A, type B distinction is defined by the presence and absence of a medial yod in a Middle Chinese syllable. Type A syllables are syllables in Grades I, II, and IV in the *Yùnjìng* rime table and are reconstructed without a medial yod (-j- in IPA) in Karlgren's

⁹ Edwin Pulleyblank, 1994, "The Old Chinese Origin of Type A and Type B Syllables." *Journal of Chinese Linguistics*, Vol 22, No. 1.

reconstruction (Pulleyblank 1994 75:76); Pulleyblank continues to define Type B as syllables in Grades III with a medial yod (Ibid: 76). Jerry Norman (1994) was the first to hypothesize pharyngealization to be the cause of type A (pharyngealized) and type B (non-pharyngealized) syllable distinctions. B&S Old Chinese reconstruction follows suit from Norman with some modifications¹⁰, and uses type A initials (Pharyngealized) and type B initials (non-Pharyngealized). The main initials of OC are shown below: (Baxter & Sagart 2014: 69)

Figure 6: Baxter & Sagart’s Main Initial System

TABLE 4.1 Old Chinese main-syllable initial consonants

Plain: (type B)	p	t	ts			k	k ^w	q	q ^w	ʔ
	p ^h	t ^h	ts ^h	s		k ^h	k ^{wh}	q ^h	q ^{wh}	
	b	d	dz			g	g ^w	ɣ	ɣ ^w	
	m	n			l	r	ŋ	ŋ ^w		
	ɱ	ɳ			ʎ	ʀ	ŋ̊	ŋ̊ ^w		
pharyngealized (type A):	p ^ʰ	t ^ʰ	ts ^ʰ			k ^ʰ	k ^{wʰ}	q ^ʰ	q ^{wʰ}	ʔ ^ʰ
	p ^{hʰ}	t ^{hʰ}	ts ^{hʰ}	s ^ʰ		k ^{hʰ}	k ^{whʰ}	q ^{hʰ}	q ^{whʰ}	
	b ^ʰ	d ^ʰ	dz ^ʰ			g ^ʰ	g ^{wʰ}	ɣ ^ʰ	ɣ ^{wʰ}	
	m ^ʰ	n ^ʰ			l ^ʰ	r ^ʰ	ŋ ^ʰ	ŋ ^{wʰ}		
	ɱ ^ʰ	ɳ ^ʰ			ʎ ^ʰ	ʀ ^ʰ	ŋ̊ ^ʰ	ŋ̊ ^{wʰ}		

* rare

This massive discrepancy over initial types alone shows that Old Chinese phonology is far from being a settled issue. B&S’s reconstruction also provides the following features:

Pre-initials: *s.kr[a]m-s 劍 *jiàn* ‘sword’

Sesqui-syllables: *sə-[d]ər 晨 *chén* ‘part of scorio; morning’

¹⁰ For example, Jerry Norman considers type A (or class A) to be pharyngealized, including divisions I & IV, while class B are retroflex syllables in divisions II & III, and class C is unmarked and were weekly palatalized and pharyngealized (Norman 1994: 403-404). See Norman, Jerry. 1994. “Pharyngealization in Early Chinese.” *JAOS* 114:397-408.

Underspecified consonants and vowels represented by C and []: *[C.dz]^hre(j) 柴 *chái*
'firewood'

Consonant clusters: *pra 膚 *fú* 'skin'

Pre-tonogenetic consonant codas: *q^huʔ 好 *hǎo* 'good', *s.li[j]-s 四 *sì* 'four'

Derivational morphology: 王 *G^waŋ *wáng* 'king' vs. *G^waŋ-s *wàng* 'to be king'

An additional crucial feature of Old Chinese that is uncontroversial is the lack of tones. The work of Haudricourt (1954) discusses the process of tonogenesis in Vietnamese. The modern Vietnamese hỏi-ngã tones come from the coda -h which is from Mon-Khmer *-s or *-h, the sắc-nặng tones come from a glottal stop ending *-ʔ, and ngang-huyền comes from a zero-coda syllable -0. Haudricourt's work was monumental for both scholars in Vietnamese and Chinese language history. We will discuss the work of Haudricourt and Vietnamese tonogenesis in more detail in chapter II.

Ultimately, we still cannot make any absolute claims about the phonological system for Old Chinese, as Axel Schuessler (2019) writes, "No one knows what Old Chinese (OC) was like, none of us were there" (Schuessler 2019: 84). Nevertheless, an approximate framework is still necessary. For our purposes, the most important stage of Old Chinese before the Han era is the late Zhou and Qin period. This is perhaps when the earliest contact between the ancestors of Vietnamese and Chinese took place. Baxter & Sagart's reconstruction is frequently used in the literature of Sino-Vietnamese (Alves 2016; Phan & DeSousa 2021) and is also used by other specialists in Southern Chinese and MSEA languages (Ratliff 2010). Because of the importance of Baxter & Sagart's Old Chinese reconstruction in Sino-Vietnamese studies and SEA linguistics, I will be using Baxter & Sagart's system as the primary representative of Old Chinese from the Zhou, Qin and Early Han Period.

Late Han Old Chinese

Axel Schuessler (2009) defines Later Han Old Chinese LHOC as an intermediate stage of Chinese between Old and Middle Chinese. This stage coincides with Shen Zhongwei's Late Old Chinese. This intermediary stage of OC was likely spoken in the first century BCE and first century CE. Schuessler bases his reconstruction of LHOC on modern dialectal evidence with a strong emphasis on the Mǐn dialects, South Coblin's (1991) Old Northwestern Chinese, rimes in Han era and Wei-Jin poetry, as well as contemporary Buddhist transcriptions (Schuessler 2009: 29).

Some of the features for LHOC includes the lack of consonant clusters, as transcriptions for Dharmic terms show, using disyllabic *shī lì* 師利 LH si li for the Sanskrit honorific term śri, and *pó luó mén* 婆羅門 LH bâ-lâ-mən for the Sanskrit term 'Brahmana' (ibid: 29). In LHOC, there is a preservation of the OC -s coda; which also makes this period of OC arguably a significant precursor to tonogenesis in Chinese. Schuessler draws on transcriptions of foreign words from the Middle Han period and the Later Han period to show interesting tonal developments in LHOC, such as the usage of *Píng*, *Shǎng*, *Qù* and *Rù* tone syllables in foreign transcriptions. Schuessler notices that in the Middle Han period, only tones A (*Píng*) and D (*Rù*) were used in foreign transcriptions, while tones B (*Shǎng*) and C (*Qù*) were not commonly used in foreign transcriptions until the Late Han period (Schuessler 2009: 22-23). Schuessler notes that the sources for Han era OC pronunciation come from contemporary texts such as the *Shuōwén jiězì* (SWJZ) 說文解字, which uses sound glosses such as *Dúruò* 讀若, using the formula X 讀若 Y "X is read like Y".

This stage of the Chinese language is important for understanding Vietnam's early history of language contact and Chinese occupation during the Han dynasty. Phan (2013)

and Taylor (1983) discuss aggressive Sinicization campaigns, and Alves (2016) also discusses the introduction of agricultural techniques and patriarchal marriage practices, which led to a large amount of loanwords related to agriculture and marriage filtering into Vietic and Early Proto Việt-Mường¹¹. The bulk of the earliest ESV layer comes from the Late Han period, which means we must be cautious when using Baxter & Sagart’s Old Chinese system for ESV correspondences. Alves (2024) argues that some pre-initials from B&S’s reconstruction lingered on into the Late Han period, but a close examination of Sino-Vietnamese syllables, areal languages and textual information make this scenario unlikely.

Middle Chinese

This section focuses on the different stages of Middle Chinese. Middle Chinese is understood to be the phonological basis for a medieval literary standard that is attested in rime books and rime tables. It is also understood to be the source of most Sino-Xenic pronunciations found in Korean, Japanese and Vietnamese. There is a lack of consonant clusters and contains the codas -m, -n, -ng, -p, -t, and -k. There is a three-way initial contrast as illustrated by the bilabial consonants that are voiceless [p-], voiceless aspirated [p^h-], and voiced [b-]. Additionally, Middle Chinese had four tones, *Píng* 平, *Shǎng* 上, *Qù* 去 and *Rù* 入:

“The term sheng 聲 in the meaning ‘tone’ has been in use since the 5th century CE. The *Nan Shi* 南史- the official history of the Southern Dynasties- credits Shen Yue 沈約 (441-513) and Zhou Yong with the theory that Chinese had four tones, named by them Ping, Shang, Qu, and Ru” (Sagart 1998: 3).

The *Píng*, or the level tone, is sometimes referred to as the A tone that developed from a lack of non-nasal consonant codas in OC. The *Shǎng* or the rising tone, is sometimes referred to as the B tone; it developed from the disappearance of glottal stop codas in OC.

¹¹ Alves uses the *Hòu Hàn Shū* 後漢書 as textual evidence.

The *Qù* or the falling tone, sometimes referred to as the C tone, developed from the disappearance of final coda -s and -h in OC. The *Rù* tone, which is the entering tone, has consonant codas -p, -t, -k, which were preserved from OC¹².

The time frame for Middle Chinese spans from the Wei-Jin 魏晉 period (265-420), the northern and southern dynasties (420-589), the Sui period (581-618), the Tang period (618-907), up until the Northern Song period (960-1127). Obviously, Middle Chinese went through changes throughout its stages. Pulleyblank (1984) provides nuanced details to Middle Chinese based on dialectal shifts, which he refers to as Early Middle Chinese and Late Middle Chinese. In general, Late Middle Chinese has a few features that are distinct from Early Middle Chinese, which include the development of labiodentals, a merger of retroflex and palatal initials, as well as a higher frequency of medial glides. These distinctions will be discussed in more detail below.

Early Middle Chinese EMC

Early Middle Chinese EMC is a term coined by Pulleyblank which refers to the stage of Middle Chinese that corresponds to the *Qièyùn* 切韻. The *Qièyùn*, completed in the Sui 隋 period (581-618), is a glossing dictionary that shows the readers the pronunciation for the literary standard during the the Wei-Jin 魏晉, Six Dynasties and Sui periods. The *Qièyùn* gives pronunciations glosses that use the *Fǎnqiè* 反切 method, a glossing method that illustrates the initial and final of the syllable represented by two characters, giving readers the formula X=AB 切. Take the word ‘east’ for example:

東德紅切 “dōng ‘east’, having the initial of dé and the final of hóng.”

¹² There are some scholars such as Pān Wùyún (2000) who argue that -p, -t, -k codas in Middle Chinese were voiced -b, -d, -g codas in Old Chinese due to comparisons with Tibetan.

This glossing method shows us that ‘east’ 東 *təwŋ* has the same initial as ‘virtue’ 德 *tək* as well as the same final and tone as ‘red’ 紅 *ɣəwŋ*. The gloss is a formula that can be summarized as $X = AB$ 切 *təwŋ* = *tək ɣəwŋ* 切.

Bernhard Karlgren assumed that the *Qìyèyùn* reflected the prestige dialect of Chang’an 長安 which served as a koine throughout the empire. Karlgren’s hypothesis was later challenged by Pulleyblank (1984) and William Baxter (1992), who were both unconvinced that the *Qìyèyùn* is based on the dialect of Chang’an. The *Qìyèyùn*, according to Pulleyblank, reflected a codification of the standard for the variety of Chinese spoken in Luòyáng 洛陽 during the Northern and Southern Dynasties (Pulleyblank 1984: 3). Baxter notes that the prestigious dialects from the age of the *Qìyèyùn* were likely to be from the cities of Luòyáng, Jīnlíng 金陵 in modern day Nánjīng 南京 and Yè 鄴 in modern day Hebei 河北; Cháng’ān was hardly a prestigious dialect during the compilation period of the *Qìyèyùn*.

Like some scholars such as Chang Kun (1972; 1974; 1979) have argued, the *Qìyèyùn* was likely to be an artificial literary compromise that reflected a mixture of dialectal standards (Pulleyblank 1992: 370). Among the most widely used Early Middle Chinese reconstructions are by Edwin Pulleyblank (1984) and William Baxter (1992). Pulleyblank’s system used IPA symbols while Baxter uses a typable transcription. In the chart below, Pulleyblank’s reconstruction is on the top row, while Baxter’s transcription is on the bottom.

Figure 7: Early Middle Chinese Initials (top Pulleyblank 1984: 1991; bottom Baxter 1992: 45)

	Plain	Aspirate	Voiced	Nasals	Plain	Voiced	Approximants
Labials	幫 p- p-	滂 p ^h - ph-	並 b- b-	明 m- m-			
Dentals	端 t- t-	透 t ^h - th-	定 d- d-	泥 n- n-			
Retroflex Sibilants	知 tr- tr-	徹 tr ^h - trh-	澄 dr- dr-	娘 nr- nr-			
Lateral							來 l- l-
Dental sibilants	精 ts- ts-	清 ts ^h - tsh-	從 dz- dz-		心 s- s-	邪 sh- z-	
Retroflex sibilants	莊 tʂ- tʂr-	初 tʂ ^h - tʂrh-	崇 dz- dzr-		生 ʂ- sr-	俟 ʒ- zr-	
Palatals	章 tɕ- tɕy-	昌 tɕ ^h - tɕyh-	禪 dz- dzy-	日 ɲ- ny-	書 ɕ- sy-	船 ʒ- zy-	以 j- y-
Velars	見 k- k-	溪 k ^h - kh-	群 kh g-	疑 ŋ- ng-			
Laryngeals	影 ʔ- ʔ-				曉 x- x-	匣 ɣ- h- 云 w- h(j)-	

This stage of Middle Chinese was significant for contributing to the later layer of Early Sino-Vietnamese. John Phan (2013) discusses the migration of Chinese speakers after the Yongjia rebellion during the Wei-Jin period. The arrival of these refugees into the Red River Delta brought Jin era vocabulary with them and made significant additions to Sino-Vietnamese vocabulary. Eventually these additions contributed to the Jin layer of Early Sino-Vietnamese. Because the refugees spoke a variety of Early Middle Chinese, the phonological features are different from Early Sino-Vietnamese words borrowed from the Han era. For

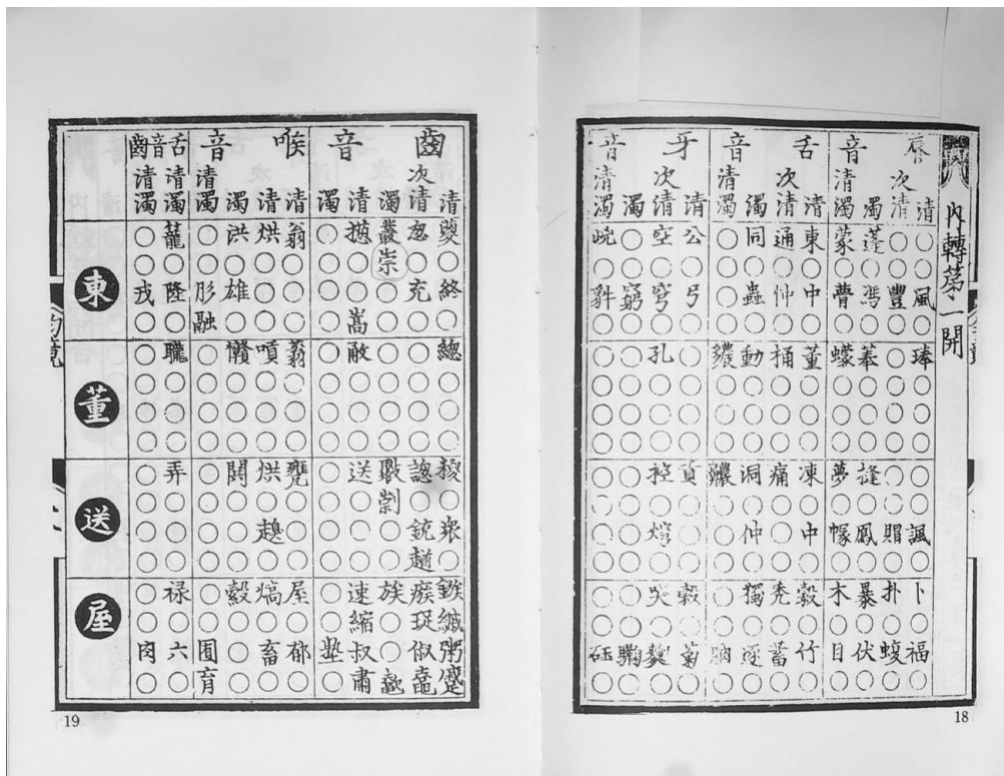
example, Phan (2013) shows us vowel and medial differences between words borrowed more than once such as ‘tomb’ 墓, which is *mả* in Han Early Sino-Vietnamese, *mở* in Jin Early Sino-Vietnamese and *mộ* in Late Sino-Vietnamese.

Late Middle Chinese LMC

According to Pulleyblank, Late Middle Chinese refers to the variety of Chinese that became the standard for the Tang period, based on the dialect of Chang’an (Pulleyblank 1984: 3). Pulleyblank also mentions that this stage of Middle Chinese became the basis for the majority of Chinese dialects with the exception of Min, and crucially for our purposes, became the basis for reading traditions for Sino-Japanese, Sino-Korean and arguably for Sino-Vietnamese as well (Ibid 1984: 3). Late Middle Chinese is also regarded by Baxter (1992) to be the language of the late Tang and to be represented in rime table (*Yùntú* 韻圖), traditions of the late Tang and early Song, attested in documents such as the *Yùnjìng* 韻鏡 ‘the rime mirror’.

These rime tables were likely adopted from Sanskrit rime tables in Buddhist circles (Branner 2006). The rime tables show approximate pronunciation based on the initial types, the tones and the medials. The initials are divided into seven sound categories *qī yīn* 七音. The sound classes are shown from right to left, which are the *chún* 唇 lip sounds, *shé* 舌 tongue sounds, *yá* 牙 molar sounds, *chǐ* 齒 teeth, *hóu* 喉 glottis, as well as *bànshé* 半舌 & *bànchǐ* 半齒. These initial types are further divided into *qīng* 清 plain unaspirated, *cì qīng* 次清 plain aspirated, *zhuó* 濁 voiced, *qīng zhuó* 清濁 sonorant initials.

Figure 8: The first table of the *Yùn jìng* 韻鏡¹³



The tones in the above table are laid out in the left column, *dōng* 東 represents the *Píng* tone, *dǒng* 董 represents the *shǎng* tone, *sòng* 送 represents the *Qù* tone and *wū* 屋 represents the *Rù* tone. Each grid is also laid out with 4 rows of circles that are filled in by syllables with specific initial, tonal, and medial features. Each grid has four rows of syllables that determine the medial type or ‘grade’ *děng* 等. For example, in the above table, the syllable 東 *dōng* ‘east’ is found underneath the *shé* 舌 initial category with a *qīng* 清 ‘plain unaspirated’ initial; the syllable *dong* is also a *Píng* tone syllable and since it is on the first row of its grid, it is a first ‘grade’ syllable *yī děng* 一等.

Though certainly well known in the field and often studied, the ‘Mirror of Rimes’ *Yùn jìng* 韻鏡 is not the only rime table that gives us information on Late Middle Chinese

¹³ Zhāng Línzhī 張麟之, publisher. 2014. *Yùn jìng* 韻鏡. Taipei: Yiwén Yīnshū Guǎn Yínháng Gǔfèn Yǒuxiàn Gōngsī 藝文印書館股份有限公司. pg 18.

Chuān 穿 tʂʰ-, *Chuáng* 牀 (t)ʂh-, *Shěn* 審 ʂ-, and *Shàn* 禪 ʂh-, which are the names of initials that emerged from a merger between Early Middle Chinese palatals, called *Zhāng* 章 tʂ-, *Chāng* 昌 tʂʰ-, *Chuán* 船 z-, *Shū* 書 ʑ-, *Chán* 禪 dz-, and retroflexes *Zhuāng* 莊 tʂʰ-, *Chū* 初 tʂʰ-, *Chóng* 崇 dz-, *Shēng* 生 ʂ-, *Sì* 俟 z-. Late Middle Chinese includes new labiodental initials *Fēi* 非 f-, *Fú* 敷 f-, *Fèng* 奉 fh-, *Wēi* 微 v- that emerged from Early Middle Chinese labials.

Pulleyblank (1984) provides a reconstruction for these initials in the table below:

Figure 10: The Thirty-Six Late Middle Chinese Initials (Pulleyblank 1984: 63)

3.2 THE THIRTY-SIX INITIALS

見 k	溪 k'	群 kh	疑 ŋ		
端 t	透 t'	定 th	泥 n		
知 tr	徹 tr'	澄 trh	娘 nr		
幫 p	滂 p'	並 ph	明 m		
非 f	敷 f	奉 fh	微 v		
精 ts	清 ts'	從 tsʰ		心 s	邪 sʰ
照 tʂ	穿 tʂ'	牀 (t)ʂh		審 ʂ	禪 ʂh
影 ʔ	曉 x	匣 xh	喻 (H)		
			來 l		
			日 r		

There are several changes that occurred with Middle Chinese initials between Early Middle Chinese and Late Middle Chinese. Baxter discusses the changes that occurred with palatal and retroflex Middle Chinese sibilants:

“the palatal initials tsy- (章), tsyh- (昌), dzy-(禪), sy-(書), and zy-(船) and the retroflex initials tsr- 莊, tsrh- (初), dzr- (崇), sr- (生), and zr- (俟) are treated as a single set, called *zheng chiyin* 正齒音 ‘true front tooth sounds’. Probably, the two types of initials had merged as the result of a sound change which caused EMC -i- and -j- either to be lost or to become back after retroflex sibilants tsr-“ (Baxter 1992: 53).

These palatals and retroflex syllables merged into the *Zhào* 照 tʂ-, *Chuān* 穿 tʂʰ-, *Chuáng* 牀 (t)ʂh-, *Shěn* 審 ʂ-, and *Shàn* 禪 ʂh- initials.

Late Middle Chinese has other features quite distinct from Early Middle Chinese. There are more medials present in Late Middle Chinese than in Early Middle Chinese. The

following syllables in Pulleyblank's reconstruction have developed high front -j- or high back -u- medials by the Late Middle Chinese period:

Bō 鉢 'Buddhist begging bowl', EMC: pat, LMC: puat

Biān 邊 'edge, margin', EMC: pɛn, LMC: pjian

Jiàn 見 'see, call on', EMC: kɛn, LMC: kjian

Another phonological difference is that there is a lack of labiodentals in EMC. In the Bang initial group there is an additional set of labiodentals: there is the Fei 非 initial emerging from *Bāng* 幫 initial, *Fū* 敷 initial emerging from the *Páng* 滂 initial, the *Fèng* 奉 initial emerging from the *Bìng* 並 initial, and the *Wēi* 微 initial emerging from the *Míng* 明 initial. These labiodental changes are due to medial merging, labials with medials in the third rank *děng* 等 rime category. Let us compare these initials in EMC and LMC:

Fēi 非 EMC: puɟ, LMC: fɟjɟ/fɟi

Fū 敷 EMC: p^huǎ, LMC: fɟjǎ/fuǎ

Fèng 奉 EMC: buawŋ', LMC: fhjyawŋ`/fhəwŋ`

Wēi 微 EMC: muj, LMC: ujɟj/ujɟi

Most of our information about MC comes from the rime books and rime tables provided during the medieval period. Modern scholarship compares the information provided by these medieval sources with phonological features found in Sino-Xenic loanwords and modern Chinese languages such as Cantonese, Shanghainese, Xiāng, and Mandarin to reconstruct the approximate MC pronunciation. It is a likely hypothesis that a regional MC variety was the main provider of loanwords for the contemporary Vietic and Tai languages.

Our understanding of OC relies on what we know about MC, early loanwords from Chinese, *Mĩn*, and other Sino-Tibetan languages. Old Chinese is indeed a broad concept that covers a large timespan. In the following sections I will mostly use Baxter & Sagart's system for OC because of its use in the Sino-Vietnamese literature. I will also compare B&S as well

as Schuessler's system with loanwords found in Tai languages that were in contact with Vietic languages. Let us move on to the stages of Vietic that coincide with stages of Chinese.

Stages of Vietnamese Phonological History:

Vietnamese today is a monosyllabic language with no consonant clusters, six tones and a massive amount of Chinese loanwords. The ancestors of Vietnamese started off as being polysyllabic with complex initial consonants and a lack of tones. Nguyễn Định Hòa (1997) provides an outline of Vietnamese language history based on Maspero's work from 1912 (NĐH 1997: 5). To this list I have added Proto-Vietic and Proto Việt-Mường:

1. Proto-Vietic (PV); common ancestor to all Vietic languages.
2. Proto Việt-Mường (PVM) (Pre-Vietnamese), common to Vietnamese and Mường;
3. Ancient Vietnamese (AV): containing features attested in Chử Nôm texts such as the Phật thuyết đại báo phụ mẫu ân trọng kinh, and represented by the Chinese-Vietnamese glossary Hua-yi Yi-yu 華夷譯語 [Hoa-di Dịch-ngữ];
4. Middle Vietnamese, reflected in the Vietnamese-Portuguese-Latin dictionary by Alexandre de Rhodes (17th century); and
5. Modern Vietnamese, beginning in the nineteenth century.

(Modified from Nguyễn Định Hòa 1997: 5)

Proto-Vietic PV

Much of what we know about Proto-Vietic is based on archeological and historical linguistic evidence. There is a debate on the homeland of PV, with some scholars choosing the Red River Delta (Alves 2020), whereas Chamberlain (2016) argues that the homeland is as far south around the Cả and Mã rivers. The archaeological, linguistic, as well as historical evidence suggests that there were indeed Vietic speakers present in the Red River Delta (Alves 2020: xxiv). Ferlus (2009) mentions that Vietic words for agricultural tools such as

‘pestle’ *chày* and ‘husk’ *xay*, were used in the RRD during the Đông Sơn period (600 BCE-200 CE)¹⁴, later spreading to other Austroasiatic languages. Alves (2019) also shows us that the ESV word for ‘tile’ *ngói* 瓦 has a preserved high syllable glide coda from OC *C.ɲ^{wc}ra[j]ʔ, while it is not in Tai languages.

Mark Alves (2020) mentions that there are tentative reconstructions of PV put forth by Ferlus in the *Mon Khmer Etymological Dictionary* (2007). Paul Sidwell & Mark Alves (2021) have made tentative, yet significant contributions to our understanding of PV. What we do know about PV is that it was non-tonal, it had consonant codas *-h, *-s, *-r and *-l (Sidwell; Alves 2021: 181), and those codas developed into tones. We also know that PV was polysyllabic (Alves 2020: xviii), whereas Vietnamese is monosyllabic, and other modern Vietic languages like Arem, Rục and Thavưng are sesqui-syllabic.

Alves (2020) also provides a comprehensive comparison between Proto-Vietic and Vietnamese initials, codas, and vowels. According to Alves, there are 35 initials in PV. The comparisons are made with a PV reconstruction provided in IPA and Vietnamese provided in the orthography. The chart below is modified from Alves (2020: xli-xlv)

Figure 11: Proto-Vietic initials

Proto-Vietic initial	Vietnamese initial	Vietnamese example + gloss	Proto-Vietic
*p	b	bay ‘to fly’	*pər
*k	g	gãi ‘to scratch’	*-ka:s
*Ck	g	gạo ‘uncooked rice’	*r-ko:ʔ
*C+(pal)	gi	giàu ‘to be rich’	*k-ɟaw
*h	h	há ‘open (mouth)’ ¹⁵	*ha:ʔ

¹⁴ The Đông Sơn culture is a civilization that emerged from Mê-Linh and is defined by the remarkable bronze craftsmanship, with archeological findings including bronze weapons, farming tools, and most famously, bronze drums (Taylor 1983: 4; 7: 12).

¹⁵ Alves (2020: xli) forgot to write a Vietnamese example, however, judging from the English gloss, it is likely that Alves meant to write in Há as in Há miệng ‘to open one’s mouth’.

*k	k/c	cánh 'wing'	*kɛ:ŋʔ
*kw	qu	quay 'stir, mix'	*kwe:
*gw	qu	quạt 'fan'	*gwa:t
*kv	qu	quê 'village'	*k-ve:r
*k ^h	kh	khế 'starfruit'	k ^h e:ʔ
*l	l	lá lách 'spleen'	*la:ʔ
*Cl	l	lè 'to pull out tongue'	*t-lɛ:l
*m	m	mật 'gall'	*məc
*Cm	m	mọt 'termite'	*k-mɔ:c
*b	m	múc 'to draw water'	*ba:lʔ
*đ	n	năm 'five'	*đam
*Cđ	n	nắng 'to dry, on fire'	*p-đaŋ
*Cn	n	nanh 'eye, tooth, tusk'	*k-nɛ:ŋ
*ŋ	nh	nhà 'house'	*ŋa:
*C-ŋ	nh	nhá/(nhai) 'to chew'	*s-ŋa:ʔ
*ml	nh	nhặt, lặt 'to chew'	*m-la:c
*ɟ	nh	nhau 'placenta'	*ɟaw
*ŋ	ng	ngồi 'to sit'	*ŋu:j
*Cŋ	ng	ngái 'far'	#s-ŋa:jʔ
*p ^h	ph	pha 'to dilute, mix'	*p ^h a
*Cr	r	ruồi 'fly'	*m-rɔ:j
*Cs	r	rắn 'snake'	*p-səŋʔ
*Cr	s	sấm 'thunder'	*k-rəmʔ
*s	t	tóc 'hair'	*-suk
*t ^h	th	thổi 'to blow'	*t-hu:s > tu:s / thu:s
Cl	tr	trái 'fruit'	*p-le:ʔ > ple:ʔ / tle:ʔ
*v	v	vặn 'to twist/wring'	*vaŋʔ

*C+(lab)	v	vôi lime (mineral)	*k-pu:r
*p	v	vắt 'to press fruit'	*pat
*c	ch	cháu 'grandchild'	*cu:ʔ
*Cʔ	zero	óc 'brain'	*c-ʔɔ:k
*tʃ	x	xương 'bone'	*tʃ-ʔa:ŋ > ʃa:ŋ / tʃiəŋ
*c	d	dứa 'pineapple'	*-ca:ʔ > -ciaʔ
*Ct	d	dựng 'to build'	*pr-təŋʔ > p-dəŋʔ

Alves's comparison of ESV with their Vietic counterparts also provides phonological context during the time of borrowing. Take the words lúa 'rice' as in đồng lúa 'rice paddy', cải 'cabbage' and liềm 'sickle', which were borrowed from OC *[l]ʰuʔ 稻 dào, *kʰr[e][t]-s 芥 jiè and *[r]em 鎌 lián respectively. In PV, 'paddy' is *ʔa-lɔ:ʔ 'sickle' is *liem, and 'cabbage' is *ka:s. The words 'rice paddy' and 'sickle' are possible Chinese loanwords according to Alves (2020).

The above chart also shows information useful for examining the cause of lenition in Sino-Vietnamese velars, labials and dentals. The initial v- in modern Vietnamese has three possible origins, from *C.p-, *p- and *v-, showing that it is possible to have lenition without pre-initial activity. The same can be applied for Vietnamese voiced velars g- which has its origins in PV *k- and *C.k-. The origin of the fricative d- [z-] is either a palatal affricate [c-], or a dental with a pre-initial *C.t-. Rather than betacism or sporadic voicing which is likely the case for some b → v and k → g words, the process of ʈ → d is more likely caused by medial interference. This phenomenon will be further explored in chapter IV.

The information on nasals in the above chart is also interesting because of the correspondences of voiced palatal implosives /ɟ-/ with palatal nasals /ɲ-/ in Vietnamese. Voiced palatal implosives and voiced palatal plosives /ɟ-/ play a significant role in Proto

Southeast Asian languages and data from Tày and Proto-Tai show that there are cognates with Sino-Vietnamese nh- words that interpreted palatal implosives as palatal plosives, then dramatically diverged, such as pronouncing the Chinese syllable ʔjin 因 ‘cause’ as nhân in LSV and giển in Chữ Nôm Tày.

Proto-Việt-Mường PVM

This is the variety of Vietic that was present in the Red River Delta as well as the Cả and Mã River Deltas during the medieval periods; it is also a contemporary of Middle Chinese. In Phan’s (2013) hypothesis, this language was spoken side by side with Annamese Middle Chinese on the Red River Delta. Work on the phonological system has been done by scholars such as Michel Ferlus (2009). We know that in Việt-Mường, there was a process of syllabic reduction (Alves 2020: xviii). PVM also had sesqui-syllables and consonant clusters for words such as k-ra:p > sáp ‘wax’ and p-ri: > say ‘drunk’ (Ferlus 2009a: 97). Ferlus (2004) makes a distinction between Early PVM and Late PVM on the basis of tones which is useful information for JESV and LSV loanwords with strange tonal correspondences. The overview of the Proto Việt-Mường Initials with modern Vietnamese orthography (Ferlus 2009a: 96):

Figure 12: Proto Việt-Mường initials (Ferlus 2009a: 96)

p^h <i>ph</i>	t^h <i>th</i>	s <i>t~r</i>		k^h <i>kh</i>	h <i>h</i>
p b <i>b~v</i>	t d <i>đ~d</i>	c ʃ <i>ch~gi</i>	tʃ <i>x~gi</i>	k g <i>c/k~g/gh</i>	ʔ <i>#</i>
ɓ <i>m</i>	ɗ <i>n</i>	ʃ <i>nh</i>			
m <i>m</i>	n <i>n</i>	ɲ <i>nh</i>		ŋ <i>ng/ngh</i>	
v <i>v</i>		j <i>d</i>			
	r <i>r</i>	l <i>l</i>			

Proto Việt-Mường retains the voiced palatal implosive /ʃ-/ from Proto Vietic. Ferlus (2009b) argues that some MC Glottal Stop initial syllables with high front vowel medials were interpreted as voiced palatal implosives (Ferlus 2009b: 26). This, according to Ferlus, is the reason why there are nasals in the MC glottal stop initial syllables in LSV; this is a phenomenon that I will address in greater detail in chapter VI.

Tonogenesis in Proto Việt-Mường was caused by a three-way contrast of codas (Ferlus 2004: 298). Haudricourt (1954) says that there were three tones in PVM (or what he called “Old Vietnamese”, spoken before the 10th century); he names the three tones after their modern tone-split reflexes:

- *-0 Ngang-huyền Ngang and huyền
- *-s Hỏi-ngã Hỏi and ngã
- *-ʔ Sắc-nặng Sắc and nặng

These tones came from a loss of finals, such as final *-s and glottal stop *-ʔ. The ngang-huyền tone came from a lack of special consonant codas besides nasals. Haudricourt argues that the Proto Việt-Mường sắc-nặng tone was like the Chinese *Shǎng* or rising tone. Data

from Austroasiatic languages of Mon-Khmer and the Palaung-Wa shows glottal stop codas corresponding to Vietnamese cognates in the sắc-nặng tones:

Vietnamese: 'leaf' lá, Riang laʔ, Khmu la ʔ

Vietnamese: 'rice' gạo, Riang koʔ, Khmu kaʔ

Vietnamese: 'dog' chó, Riang soʔ, Khmu soʔ

(Haudricourt 1954: 15)

According to Haudricourt, a glottal stop following a vowel is produced by an increase in vocal fold tension. During the articulation of the vowel, the increase in vocal fold tension in anticipation of the coda glottal stop produces a rising tone (ibid: 16). This hỏi-ngã tone appeared after the final fricative *-s became a laryngeal -h produced by a relaxation of the larynx. The relaxation of the vocal folds then produced a pitch drop of the preceding vowel (ibid: 15). Before tonogenesis in Việt-Mường, Chinese *Qù* tones were interpreted as hỏi-ngã tone words, and Middle Chinese *Shǎng* tone words were interpreted as sắc-nặng words. However, after tonogenesis, Middle Chinese *Shǎng* tone words were borrowed as hỏi-ngã tone words and Middle Chinese *Qù* tone words were interpreted as sắc-nặng words.

This stage of Vietic experienced frequent contact with Chinese. Late Han Old Chinese was in contact with the early stage of Proto Việt-Mường and varieties of Middle Chinese were in contact with Early Proto Việt-Mường and Annamese Middle Chinese was in contact with Late Proto Việt-Mường. The bulk of Late Sino-Vietnamese words were borrowed into Proto Việt-Mường when northern Vietnam was under Chinese occupation from the Tang (Phan:2013). The pronunciation of these borrowings did change after the period of independence as we shall see in Ancient Vietnamese.

Ancient Vietnamese AV

One of the main sources for Ancient Vietnamese is the Buddhist text Phật Thuyết Đại Báo Phụ Mẫu Ân Trọng Kinh 佛說大報父母恩重經 or simply, the Phật Thuyết 佛說. Shimizu Masaaki 清水政明 (2015) mentions that there are different opinions on the period of this text. Shimizu mentions Nguyễn Tài Cẩn (2008) who considers the text to be from the 12th century, and Hoàng Thị Ngọc as well as himself who consider the text to be from the 15th century (Shimizu 2015: 136). Shimizu (2011; 2015) demonstrates how this Chữ Nôm text is helpful for reconstructing AV sesqui-syllables. For example, the word ‘snake’ rắn has two graphs 破散, indicating that it might be pronounced as *pa-san. Another example is ‘new’ mới, written as 舍美, in AV, it was likely pronounced as c-mj¹⁶ (Phan 2019: 6)¹⁷.

An interesting feature of Sino-Vietnamese initials from this period is a lack of distinction between MC voiced and voiceless initials, such as the Middle Chinese *Bāng* 幫 and *Bìng* 並 initials being realized as voiced implosives *b-. Another example is *Jiàn* 見 and *Qún* 群 initial being realized as a plain velar stop *k-. Shimizu (2020a) proposes the following initials for Ancient Vietnamese in the 15th century. Some of the initials only occur in Sino-Vietnamese words, which are shown in square brackets:

¹⁶ The word for ‘new’ in Khmer, a cousin of Vietnamese, is /tʰməj/ ថ្មី (Wiktionary) <https://km.wiktionary.org/wiki/%E1%9E%90%E1%9F%92%E1%9E%98%E1%9E%B8> accessed 03/11/2025.

¹⁷ It is not clear if the pre-initial c- for ‘new’ is a palatal stop /c-/ or an unidentified consonant *C-. I think it is likely to be an unidentified consonant.

Figure 13: Ancient Vietnamese initials

(7)	*b	*d	[*t]	*c	*kj	*k	*ʔ	C+r
	幫並	端定	知澄莊	章	見 二	見羣	影	
	*p ^h	([*ps])	*t ^h			*k ^h		C+l
	滂非敷奉	幫並 三A	透			溪		
	*ɸ	*s	[*ʃ]	*ç		*x	*h	ml
		精從心邪	崇徹初生	船書禪清昌			曉匣	
	(*β)	*ð				(*ʎ)		
	*w			*j				
	微云			以明 三A				
	*ʔm	*ʔn		*ɲ		*ŋ		
	明	泥孃		日疑 二 影 三A		疑		
		*r						
		*l						
		來						

[]: only occurs in SV

(Shimizu 2020a: 192)

What is particularly interesting about Shimizu's figure, is the *ps- initial for Sino-Vietnamese *Chóngniǔ* 重紐 bilabials. Some Sino-Vietnamese words that are alveolars are originally bj- and pj- sounds, then are *ps- and by the 15th century, and then realized as t- by later in the 15-16th century (Shimizu 2020a: 193). This change of *pj- to *ps- to *s- and to t- did not occur in all *Chóngniǔ* IV syllables as some retained their labial features. This phenomenon of *Chóngniǔ* for labials will be covered in greater detail in chapter VI.

These above features also hold some interesting implications for LSV words, their pronunciations during the time of borrowing into PVM, and their cognates in Tày. The *Jīng* initial group 精組 is almost consistently pronounced with alveolar fricatives *s- in LSV words during the 15th century, though in modern Vietnamese these are rendered to alveolar stops t-. In Tày, the *Jīng* initial group demonstrates consistent voiceless dental and alveolar fricatives ʃ-. Perhaps Phan (2013) is correct to state that *Jīng* initials rendering to stops is not the source of a Southwestern koine like Hashimoto (1978) claims, though I do not think this

feature is common enough to call it an areal feature; because this only occurs in Vietnamese and a handful of Southwestern Chinese dialects; it does not occur in Kra-Dai or Hmong-Mien.

Middle Vietnamese MV

The phonology of Middle Vietnamese is attested in the Jesuit dictionary *Dictionarium Annamiticum Lusitanum et Latinum* (DALL). By the MV period the sesqui-syllabic features have been lost, though consonant clusters are still present at this time. For example, Modern Vietnamese tr- is written as bl- in the DALL: blời > trời ‘Sky, God’, blả > trả ‘pay’, blâu > trâu ‘buffalo’. The DALL is not the only Vietnamese source that demonstrates initial clusters. Other Chữ Nôm documents also reveal features of consonant clusters. Take trăng 𠵹 ‘moon’, which combines of 巴 (HV ba) and 陵 (HV lǎng), representing the MV pronunciation blǎng with ba 巴 being used for the labial initial (Handel 2019: 150).

Initial consonant clusters are shown in other Quốc Ngữ documents written from the 17th up until the 19th century. Vũ Đức Nghiệu (2019) shows that these documents demonstrate initial consonant clusters bl-, ml-, mnh- and tl- (Vũ 2019: 143). These documents include books, letters, and dictionaries:

Figure 14: Sources that document MV initial clusters: Modified from Vũ (2019: 144)

17 th Century
<ul style="list-style-type: none"> • Dictionarium Annamiticvm Lvsitanvm, et Latinvm (sic) (Vietnamese Portuguese Latin Dictionary), (Rhodes 1651). • History of Annam by Bento Thiện in 1659.
18 th Century
<ul style="list-style-type: none"> • Dictionarim Anamitico Latinum (Vietnamese-Latin Dictionary) by P. de Behaine, 1772-1773.
19 th Century

- Sách sổ sang chép các việc (The Records) by Philippe Bỉnh, a native Vietnamese speaker written in 1822
- Dictionarium Annamitico Latinum (Vietnamese Latin Dictionary) by Jean-Louis Taberd.

Vietnamese writers of Quốc Ngữ, on the other hand, may have wanted to make a distinction between Sino-Vietnamese and non-Sino-Vietnamese words by consistently using tr- rather than tl- in Sino-Vietnamese words (Vũ 2019: 149). Vu then proceeds to cite a sentence that uses both tl- and tr- forms.

Nước Ngô **tluớc** hết mới có vua **trị** là Phục hi

‘The country of Wu primarily had the ruler Fuxi’

(From *History of Annam* by Bento Thiện in 1659, *ibid*: 149)¹⁸

Figure 15: Middle Vietnamese Initial Consonants (Gregorson 1969: 146)

	Labial	Apical	Apical	Frontal	Dorsal	Glottal
		Frontal	Retroflex			
Fortis	vl-	t-	tr-	ch-	k-	ʔ-
	vd- b-		đ			
Medium	ph-	th-	s-	x-	kh-	h-
Lenis	ḃ- b with a flourish	d-	r-	gi-	g-	
Nasal	m-	n-		nh-	ng-	
Oral	w-	l-		-y-		

Some of these letters are either no longer in use for Vietnamese or represent different sounds compared to today’s phonology. For example, b with a flourish was used to

¹⁸ Vũ Đức Nghiệu (2019) finds this primary source in Đỗ Quang Chính. 2008. *Lịch sử chữ quốc ngữ*. (including *Lịch sử nước Annam* by Bento Thiện, a letter 1659 by Bento Thiện, and a letter 1659 by Igesico Văn Tín). Tôn giáo Publishing House.

transcribe, as Alexandre de Rhodes puts it, “pronounced not by sending out the breath, but rather by drawing it in through an opening of the mouth itself or the lips as though one wished to produce m and afterwards produced b” (ibid: 148). In the Vietnamese orthography, d was originally used to transcribe a voiced interdental fricative [ɖ-]. We see Sino-Vietnamese words with these features such as ‘woman’ 婦 bợ and ‘knife’ 刀 dăo showing spirantizing features that eventually became vợ ‘wife’ and dao ‘knife’. These features can help us investigate if the [v-] and [z-] initials for *Bāng* and *Duān* initial group syllables are features of ESV or Vietnamized Sino-Vietnamese Hán-Việt Việt-Hóa.

Modern Vietnamese:

The Vietnamese language is written in the latinized Quốc Ngữ script today. The script was introduced by the Jesuit missionaries in the 17th century and was promoted by the imperial French government during French occupation. After independence in 1945, the Quốc Ngữ script became the official orthography for Vietnamese. The official standard dialect in Vietnam is the Hanoi dialect and the most common dialect for the diaspora community in the United States is the Saigon dialect. There are key differences between the Hanoi and Saigon accents, for example, in the orthography, gi- is pronounced as [j-] in Saigon and pronounced as [z-] in Hanoi. The letter r is pronounced as [z-] in Hanoi and as [r-] in Saigon. Thus, the question “mấy giờ rồi” ‘what time is it’ in Hanoi is pronounced [mәi zә: zәi], whereas in Saigon it is [mәi jә: rәi].

The initials for both the Hanoi and Saigon dialects of Vietnamese are shown from Andrea Hoa Pham (2009). The phonological value is given in brackets with IPA alongside the Vietnamese orthography.

Figure 16: Vietnamese Initial Chart 1: Hanoi Dialect (Hoa Pham 2009)

labial	alveolar	retroflex	palatal	velar	glottal
	/t ^h / th-				
	/t-/	/t/ tr-	/c/ ch-	/k/ c-, k-, q-	/ʔ-/
/b-/	/d/ đ-				
/f/ ph-	/s/ x-			/x/ kh-	/h-/
/v/	/z/ d-, gi-, r-			/ɣ/ g, gh	
	/l-/				
/m-/	/n-/		/ɲ/ nh-	/ŋ-/ ng-, ngh-	

Figure 17: Vietnamese Initial Chart 2: Saigon Dialect (Hoa Pham 2009)

labial	alveolar	retroflex	palatal	velar	glottal
	/t ^h / th-				
	/t-/	/t/ tr-	/c/ ch-	/k/ c-, k-, q-	/ʔ-/
/b-/	/d-/ đ-				
/f-/ ph-	/s-/ x-	/ʃ/ s-		/x-/ kh-	/h-/
	/l-/	/z/ r-	/j/ v-, d-, gi-	/ɣ/ g-, gh-	
/m-/	/n-/		/ɲ/ nh-	/ŋ-/ ng-, ngh-	

The Vietic languages started off as being polysyllabic, later developing into branches that are bisyllabic *tiểu nhóm song tiết*, and monosyllabic *tiểu nhóm đơn tiết*. The phonological features shown in the earlier stages of the Vietic languages are important for Sino-Vietnamese studies. The Proto-Vietic features show us the approximate state of

phonology during the time of early contact with Chinese. Proto Việt-Mường shows us the approximate state of Vietic phonology during the time of intense contact with AMC. The features of Ancient Vietnamese are revealed in the Chữ Nôm script and we know of sesquisyllabic features that are lost in modern Vietnamese yet preserved in other Vietic languages like Thavưng and Rục. Middle Vietnamese shows initial clusters such as tl-, and bl- that are lost in Vietnamese today as well as unique features such as the b with a flourish that show intermediary phonological stages between [b-] and [v-], which are important for examining betacism.

III: Areal View of Southern China & Southeast Asia

Southern China and Mainland Southeast Asia (MSEA) are linguistically diverse regions with a high degree of migration and contact among language groups. The area that covers Southern China and MSEA is home to several languages, including Sino-Tibetan, Austroasiatic, Austronesian, Hmong-Mien, and Kra-Dai. This intense diversity in the area has been present for at least two millennia. In the Warring States (475-221 BCE) and Early Imperial period (221 BCE-220 CE), the northern Chinese of the Yellow River Valley referred to the vast group of southern peoples collectively as Bǎi Yuè 百越, Bách Việt or Hundred Yue.

This chapter will focus on the languages of modern-day Southern China and MSEA. I will discuss the Hundred Yuè, Chinese records about them and their likely relation to the areal language families. I will then proceed to introduce the five areal language families as well as relevant branches within those families. A comprehensive overview is well beyond the scope of this chapter, but a basic introduction of their proto forms and modern languages used in the field is necessary to provide context for the multilingual environment of Vietnamese.

The Hundred Yuè 百越 Bǎi Yuè / Bách Việt

In the Warring States and early imperial period, the term Yuè 越 or Việt referred to any foreign cultural or linguistic group in the peripheries south of the Yellow River Valley. These groups were collectively called Bǎi Yuè 百越 Bách Việt or Hundred Yuè by the northern Chinese. The term Yue 越 or Việt was initially an exonym and a catch-all term for foreign southerners, but later states like Việt Nam 越南 embraced the term. The region that is home to the Bǎi Yuè is enormous, with Erica Brindley stating that Yuè areas extended from Zhejiang, down through Fújiàn, Guǎngdōng, Guǎngxī, Guìzhōu and Northern Vietnam (Brindley 2015: 30). This gigantic geographic area, just like today, was a linguistically, culturally, and ethnically diverse region.

Despite this diversity, northern Chinese considered the Yuè to have similar features such as tattooing their bodies, cutting their hair, and blackening their teeth. A common phrase describing the Yuè in premodern texts such as the Spring and Summer Annals *Chūnqiū Zuǒzhuàn* 春秋左傳 is *duàn fà wén shēn* 斷髮文身 ‘to cut one’s hair and tattoo one’s body’. Northerners considered the Yuè to be barbarians, though not all perceptions were negative. The Chinese from the Central Plains region also admired the craftsmanship of the Yue, such as their swords and boats (Ibid: 182).

Outside of Chinese sources, we have no direct access to any information written by the Yuè themselves in their own contemporary languages. Due to records coming from outside groups, we should be aware of oversimplification and bias. Nevertheless, they offer insight on how the contemporary Chinese viewed southern peoples and how they described

the so-called Bǎi Yuè cultures and languages. The Chinese texts provide details of cross-cultural information and clues for language taxonomy.

Scholars attempt to identify these so-called Yuè languages by comparing lexical items appearing in premodern Chinese texts with modern languages. It is argued that the languages in these texts are Austro-Asiatic, Kra-Dai and even Austronesian. For example, Jerry Norman & Mei Tsu-lin (1976) consider the words ‘dog’ *náo sōu* 獯豸 and ‘death’ *zhá* 札 to be words cognate with Vietnamese *chó* ‘dog’ and *chết* ‘death’ respectively. Norman and Mei found the word for ‘dog’ in the *Shuōwén Jiězì* 說文解字 and the word for ‘death’ in the *Zhōu Lǐ* 周禮. Both texts say that they are Yuè words and Norman & Mei argue that these words are Austro-Asiatic.

Zhèngzhāng Shàngfāng (1991) identifies the language in the *Yuè Rén Gē* 越人歌 ‘The Song of the Yuè Boater’ to be Kra-Dai, specifically Tai. Erica Brindley (2015) considers ‘The Song of the Yuè Boater’¹⁹ to be one of the few Yuè documents transcribed in its own language; the closest record we have for a contemporary living Yuè language (Brindley 2015: 43). The song is in the *Shàn Shuō* 善說 chapter of the *Shuō Yuàn* 說苑; it provides a Chinese transcription of the Yuè language within a Classical Chinese narrative. Zhengzhang compares the Chinese transliteration with Thai and his own Old Chinese reconstruction:

Verse 1 of the transliterated song:

濫兮挀草濫 *làn xī biàn cǎo làn*

hgraams hee brons tshuu? hgraams (Old Chinese by Zhèngzhāng Shàngfāng)

glamx hεε blyyn cyɣ glamX (Central Thai Transcription)

¹⁹ The gender of the boater in *Yuè Rén Gē* 越人歌 is not exactly clear because a common translation of this poem is ‘Song of the Yuè Boatman’ (Zhengzhang 1991), however, Erica Brindley (2015) uses the translation ‘Song of the Boat-woman’ (Brindley 2015: 43). Although it is an interesting topic, this dissertation is not concerned with the exact identity of the boater, so I will use the gender neutral term ‘Boater’.

คส์้า แส เพลสิ่น เจอ , เจอะ คส์้า

‘Oh, the fine night, we meet in happiness tonight!’

(Zhèngzhāng 1991: 162, 165)

Laurent Sagart (2008) and Erica Brindley (2015) discuss the controversial nature of Zhengzhang’s analysis, such as the anachronistic method of using modern Thai as a window for Yuè pronunciation. Nevertheless, Zhengzhang gives us a starting point for identifying one of the contemporary Yuè languages. Chamberlain’s (2016) discussion on Kra-Dai presence in Chu and Southern China in the Warring States period also provides a historical framework for identifying the ‘Song of the Yue’ as a Kra-Dai, or even a Yuè poem.

As Chinese speakers moved south, significant areal loanwords, such as terms related to culture and technology, were borrowed into non-Chinese languages in the region. Terms such as ‘cage’, ‘dye’ and ‘crossbow’ were borrowed into several languages from Chinese. The literature also suggests that the direction of borrowing does not always go from north to south. A famous example of an Austro-Asiatic word being borrowed into Chinese is the word ‘river’ jiāng 江 *krong, which is cognate with Viet *sông*, Bahnar and Sedang *krong*, as well as Bru *klong* ‘river’, according to Norman and Mei (1971: 280).

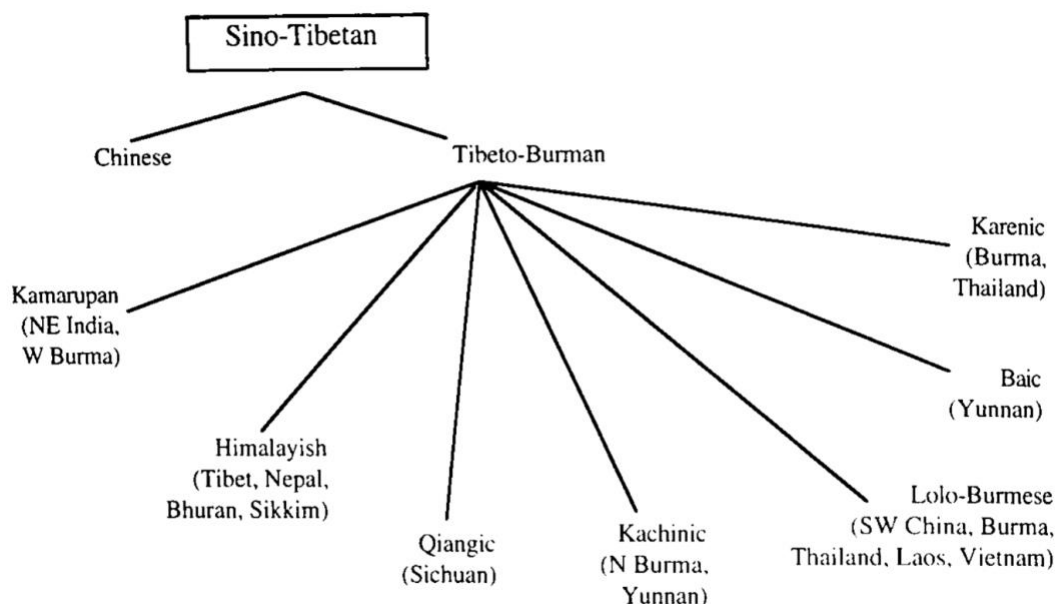
It is most likely that the region for the Hundred Yuè was just as diverse ethnically and linguistically, if not more so than it is now. I will provide a brief overview of five language families home to Southern China and MSEA. I will discuss the proto varieties that have cognate loanwords with ESV as well as cognates with LSV words. These proto varieties with Chinese cognates demonstrate the high degree of interaction and their phonological features can help us determine the approximate period of ESV borrowing, whether in the pre-Qin, the Late Han, or the Jin period.

Language Family Overview:

The Sino-Tibetan Family

Sino-Tibetan is the second largest language family in the world, with the number of native speakers second only to Indo-European (Handel 2008: 422). The geographic range of Sino-Tibetan stretches from China and Myanmar to Arunachal Pradesh in India. Many of its speakers live with members of other language families, as Randy LaPolla (2010) notes, Sino-Tibetan includes the majority languages of China and Myanmar, as well as minority languages in Thailand, Vietnam, and Northeast India (LaPolla 2010: 6858). Sino-Tibetan includes two major branches, Sinitic and Tibeto-Burman. Tibeto-Burman includes Burmese, Tibetan, the languages of Arunachal Pradesh and the Himalayan languages. Sino-Tibetan taxonomy is still a work in progress as there are still discrepancies. The phonology of Sino-Tibetan languages is also complex, with varying syllable and tonal features. James Matisoff (1997) provides a tree that shows Sino-Tibetan taxonomy and geographic distribution:

Figure 18: Sino-Tibetan Family Tree



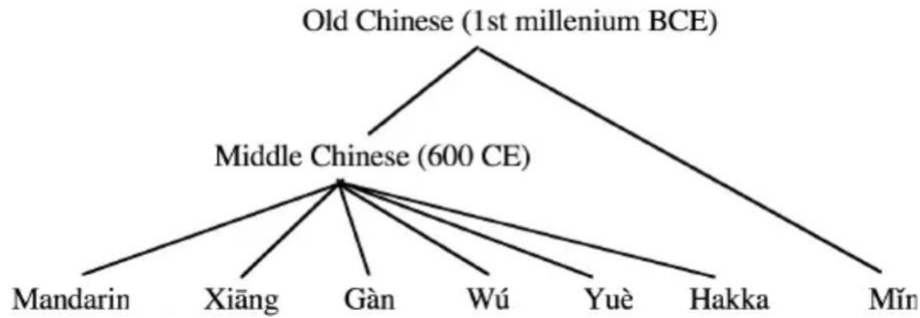
(Matisoff 1997: x)

Matisoff's arrangement is not the only interpretation of the Sino-Tibetan language family tree as there are different methods for categorizing the Tibeto-Burman languages. The issues of taxonomy on the Tibeto-Burman branch are important but not directly involved in this dissertation since we are mainly concerned with Chinese. This section will focus on the Sinitic branch, which includes all the Chinese languages and has the most amount of contact with the early varieties of the Vietnamese language.

Sinitic:

Sinitic, or Chinese, is a group of mutually unintelligible languages with a common written script. Today in China, Mandarin is called the 'common language' pǔtōng huà 普通话, and other Chinese languages are called 'dialects' fāng yán 方言. The term 'dialect' is a common translation for fāng yán, though the terms 'regional speech' or 'topolect' are more direct translations. Since the fāng yán are mutually unintelligible, I will use the terms 'languages' and 'varieties' when referring to fāng yán 方言. I will use the term 'dialect' when discussing mutually intelligible speech communities within a variety of Chinese, for example, Taishanese/Toisanese 台山話 is a dialect of the Yue 粵 variety. To illustrate, here is a simplified traditional view of Sinitic and their Fāng yán (Zev Handel 2010: 3)

Figure 19: Simplified Sinitic Family Tree



Scholars such as Jerry Norman (1988) and Zhan Bohui (1981) have different criteria for classifying Chinese varieties. For our understanding, Sinitic roughly includes seven mutually unintelligible language varieties: Mandarin or Guānhuà 官話, Wú 吳, Xiāng 湘, Gàn 贛, Hakka 客家, Yuè 粵, and Mǐn 閩, though some scholars add Huī 徽, Jìn 晉 and even the controversial Píng huà 平話 to this list as well (Chappel 2006: 331). The Sinitic languages can also be classified based on geography, since Jerry Norman (1988) divides the Sinitic languages into Northern and Southeastern varieties.

According to Norman's classification, the Northern Mandarin varieties include the official spoken language for China and Taiwan, as well as local dialects found in the Northwest such as Shaanxi 陝西 and Gānsù 甘肅, Southwest such as Húběi 湖北 and Sìchuān 四川, as well as East China such as Ānhuī 安徽 and Jiāngsū 江蘇 (Norman 1988: 191). The Wú dialects are spoken around the Chángjiāng 長江 Delta in Jiāngsū and Zhèjiāng 浙江 provinces and include the Shanghainese dialect. The Gàn dialects are spoken in Jiāngxī 江西 province and Eastern Húnán 湖南. The Xiāng dialects are primarily spoken in Húnán province and the typologically controversial varieties of Píng huà 平話 and Tǔ huà 土話 are spoken in Guǎngxī 廣西 province.

The Wú dialects are well known for their retention of the Middle Chinese three-way distinction of voiced, voiceless aspirated and voiceless initials; to illustrate, take the bilabial

initials /p-/ voiceless plain, /p^h-/ voiceless aspirated and /b-/ voiced initials. Chiang Chia-lu (2011) considers the Wú variety to also have an impact on recent Sino-Vietnamese phonology. For example, Chiang considers the Sino-Vietnamese initial v- for *Xiá* 匣 initials to be a recent phenomenon that resulted from influence of dialects such as Hakka and Wú (Chiang 2011: 52).

Southwestern varieties have also caught the attention of Sino-Vietnamese scholars. The Xiāng dialects hold an important position in Sino-Vietnamese studies due to plain stop initials emerging from Middle Chinese voiced initials and velar softening (Phan 2013). The geographic range of Xiāng is also significant because it is situated in what Phan & de Sousa (2016) call “The Medieval Southwest”, which is the homeland for the dialect continuum that provided the bulk of LSV loanwords.

Píng huà is spoken in Guǎng xī province today; its status is controversial since it is a difficult language to classify. Hilario de Sousa (2020) mentions that not much is known about Píng huà compared to other languages in Guǎng xī such as Southwestern Mandarin and Guǎng xī Cantonese. De Sousa also mentions that Píng huà has a long historical presence in Guǎng xī and that its speakers are possibly migrants from Húnán (de Sousa 2020: 257). Data from Píng huà is used by both Phan and de Sousa to investigate phonological features of Annamese Middle Chinese, placing Píng huà in a critical position for Sino-Vietnamese studies.

The Yue dialects are spoken primarily in Guǎng dōng and Guǎng xī province and include the dialects of Cantonese and Taishanese. The Mǐn dialects are spoken in Fú jiàn, Taiwan and Eastern Guǎng xī province including varieties such as Mǐn běi 閩北 and Mǐn nán 閩南 (known as ‘Taiwanese’ in Taiwan). Over the past few centuries, Chinese speakers migrated from Southern China to Thailand, Malaysia, Indonesia, and Vietnam as well. These

relatively recent migration waves have contributed to the lexicon of local languages in Southeast Asia.

The Mǐn dialects are significantly diverse and is also one of the few Chinese varieties that are not descendants of Middle Chinese. Mǐn has phonological features that are unique to the other Chinese varieties, such as initial denasalization, with nasal m- rendering to b-:

無 wú 'without'

Zhangpu 漳浦: bo, Datian 大田: be, Dianbai 電白: po

馬 mǎ 'horse'

Zhangpu 漳浦: bǎ/be, Datian 大田: ba, Dianbai 電白: pe

(Data from Xiǎoxué táng 小學堂)

In the seventeenth century, Southern Mǐn speakers migrated from Fujian to Taiwan (Chappell 2009: 230). Across Southeast Asia today, there are large communities of Southern Mǐn speakers, primarily of the Hokkien or Quánzhāng 泉漳 dialects (Chappell 2019: 177).

The Chinese varieties of Yuè, Hakka and Mǐn contribute to the vocabulary of local languages in Southeast Asia, including Khmer, Thai, Tagalog and Vietnamese. Scholars such as Vũ Đức Nghiệu (2010) and John Phan (2013) identify certain Sino-Vietnamese words to be from recent Southern Chinese varieties brought over by Chinese immigrants, belonging to a layer that Phan calls Recent Sino-Vietnamese.

Tiệm 店 vs. LSV điểm 'shop' (Vũ 2010: 140)

Xì dầu 豉油 vs. LSV thị du 'soy sauce' (Phan 2013: 342)

Mỳ 麵 vs. LSV miến 'noodles' (Ibid: 342)

The literature suggests that there is a deep affiliation of Chinese Southern varieties with Sino-Vietnamese, though interpretations of such affiliation vary. Hashimoto Mantarō (1978) hypothesizes a Southern Chinese Koine based on his comparison of LSV words with Southern Chinese varieties such as Yuè, Mǐn and Hakka. Following Hashimoto's hypothesis,

Pulleyblank (1984) and Marc Miyake (2003) suggest that the source of LSV was a dialect similar to Cantonese based on vowel centralization of MC high front vowels, for instance:

Lín 林 ‘woods’ MC: lim, Cantonese: lam, (Late) Sino-Vietnamese: lâm

Xīn 心 ‘heart’ MC: sim, Cantonese: sam, (Late) Sino-Vietnamese: tâm

It is however, important to keep in mind that there are LSV innovations that differ from Yuè phonology such as lenition of velar initials in syllables like ‘loosen’ jiě 解 *giǎi* and ‘bamboo slip’ jiǎn 簡 *giǎn* as opposed to *gai* and *gaan* respectively with velar stops.

John Phan (2013) argues for the existence of a contemporary local dialect of Middle Chinese which is the direct ancestor to the Xiāng and Píngguà varieties. Phan bases his argument off of a few phonological innovations that convinces him of LSV emerging from a bilingual interaction rather than a glossing tradition similar to the case in Japan and Korea. The innovations mentioned by Phan include plain stops for Middle Chinese voiced initials, lenition of velar initials, and high series tone in low-register syllables with sonorant initials. Later scholars offer their own hypotheses building off the ideas of Phan, such as Picus Ding (2015) who suggests a relation with the Hoisanese 台山 dialect of the Yuè variety.

Hilary Chappell (2017) notices typological similarities between MSEA languages and Southern Chinese varieties. Chappell mentions Hashimoto Mantarō’s arguments that non-Sinitic languages influenced features of northern and southern Chinese varieties respectively. To Hashimoto, Northern Chinese became altaicized, impacted by Mongolic and Turkic, and Southern Chinese was impacted by Tai and became taicized (Chappell 2017: 658). Chappell also adds Austro-Asiatic languages had a typological impact on Southern Chinese as well (Ibid: 2017: 658). Hashimoto’s taicized features for Southern Chinese include

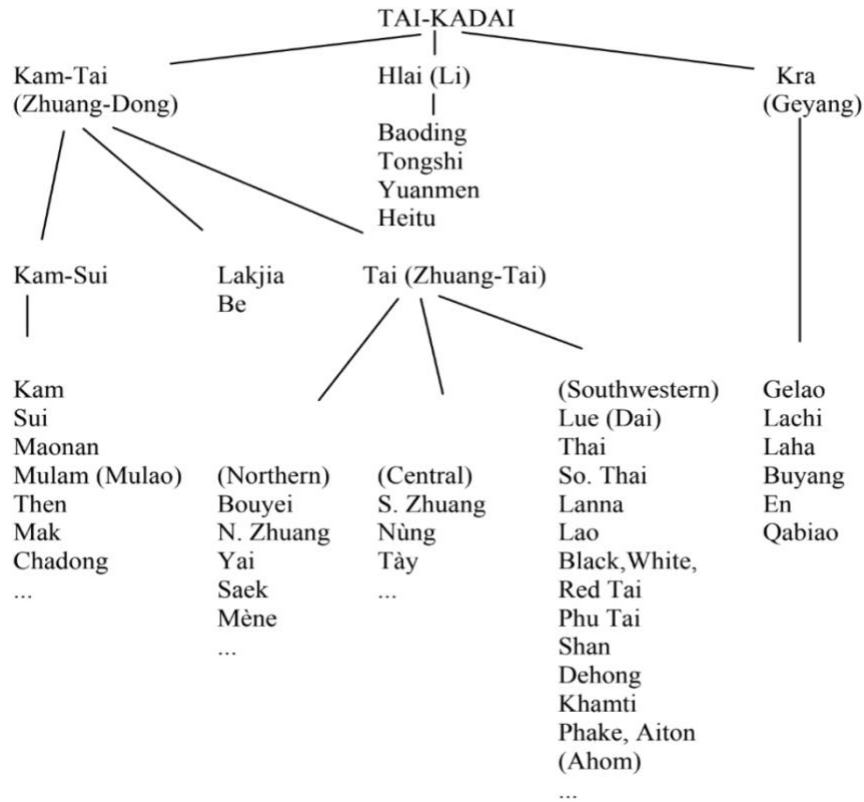
more tones, monosyllabic words and classifiers, modified-modifier for noun phrases²⁰, and a more complex syllable structure (Ibid: 658). Since Chinese speakers were in close-contact with Kra-Dai groups for two millenia, local Chinese languages like the hypothesized Annamese Middle Chinese and Southwestern Middle Chinese became taiïcized and impacted the phonology of words that are cognate in ESV and LSV words.

The Kra-Dai Language Family

Kra-Dai, or sometimes called Kadai or Tai-Kadai, is the language family situated in South China and Mainland Southeast Asia that includes Kra, Hlai, Tai and Kam-Tai (Chamberlain 2016: 28). Peter Norquest (2007) divides the Kra-Dai languages into North Kra-Dai, including Kra, Kam-Sui and Lakkjia, as well as South Kra-Dai, including Tai, Be, and Hlai (Norquest 2007: 16). These languages experienced a high degree of contact with Chinese speakers and borrowed many loanwords with historical linguistic information.

Figure 20: The Kra-Dai/Tai-Kadai Language Family Tree (Luo et al. 2008: 3)

²⁰ (ie, 雞母 gaai mou for 'hen' in Cantonese)



The Kra-Dai language family has its origins in Southern China with a relatively recent migration into Southeast Asia (B&S 2014: 36). Some scholars argue that the Kra-Dai languages originated in Guizhou or the coast of southern China, stretching from Fujian to Guǎngdōng and Guǎngxī (Tao et al: 2023). James R. Chamberlain (2016) argues that the homeland for the Kra-Dai language family is in the State of Chu from the Warring States Period (Chamberlain 2016: 28), implying a high degree of contact in the pre-imperial era. There was also frequent contact during the Qin and with the establishment of Nányuè 南越 by Zhào Tuó 趙佗. Han expansion into Southern China and Northern Vietnam around 111 BCE also led to more systematic contact between the two groups.

The Chu homeland hypothesis proposed by Chamberlain (2016) brings implications for Charles Higham Rachanie Thosarat’s (2012) discussion on the State of Chu’s trade with Southeast Asian language communities.

There was also an increasing Chinese interest in Southeast Asia. During the 4th and 3rd centuries BC, the powerful Chu state of the Yangtze valley was engaged in intensive trade with Southeast Asia. By 100 BC, the Han Chinese were expanding their empire to the south.
(Higham & Thosarat 2012: 224)

If Chu is the homeland of Kra-Dai then Chinese merchants from Chu would likely be in contact with Kra-Dai members in their home state in addition to Tai, Hmong-Mien or Austro-Asiatic languages outside their borders. Schuessler (2007) also mentions areal words that have OC consonant clusters which are preserved in languages such as Khmer, Burmese, Proto-Tai and Austronesian (Schuessler 2007: 167).

The Tai (Zhuang-Tai) branch is especially significant for the research of Chinese loanwords and language contact. Pittayawat Pittayaporn (2009:3) agrees with Diller (2000) and Gedney (1989), suggesting that the ancestor of the Tai languages, Proto-Tai, was spoken in Guǎngxī and Northern Vietnam. Tai today includes the majority language for the countries of Thailand and Laos, and includes minority languages in Vietnam, China, and Cambodia. Tai languages have borrowed Chinese numerals en masse with a few varieties such as Hlai preserving native numerals (Matisoff 1995: 121). Take the numbers 2-10 in modern Thai in the following table:

Figure 21: Kra-Dai Numerals, modified from Suthiwan & Tadmor (2009: 606) and Norquest (2007: 391)

#	Thai	Origin for Thai Numeral	Proto-Hlai (Norquest: 2007)
---	------	-------------------------	-----------------------------

1	หนึ่ง nueng	Proto-Thai	*[te ^h u:]
2	สอง song	Middle Chinese sraewng 雙	*hlu:ʔ
3	สาม sam	Middle Chinese sam 三	*tʃ ^h wuʔ
4	สี่ si	Middle Chinese sijH 四	*tʃ ^h əwʔ
5	ห้า ha	Old Chinese *C.ŋ ^ʰ aʔ (B&S 2014) or ŋâʔ (Schuessler 2007) 五	*hma:
6	หก hok	Middle Chinese ljuwk 六	*hnom
7	เจ็ด chet	Middle Chinese tshit 七	*t ^h u
8	แปด paet	Middle Chinese peat 八	*ru
9	เก้า kao	Middle Chinese kjuwX 九	*C-βu:ʔ
10	สิบ sip	Middle Chinese dzyip 十	*fu:t

Suthiwan and Tadmor’s (2009) discussion on the Thai numerals show a period of contact with Chinese varieties going back to the Old Chinese period. Tai languages have influenced other Austro-Asiatic and Sino-Tibetan as well. Alexander Vovin (2021) considers the word ‘crocodile’ è 鱷 or *ŋak in LHOC, to be a loanword into Chinese from Tai *ŋjæk or *ŋjik (Vovin 2021: 112-113). Tai also brought words like ‘duck’ (Alves 2009) and ‘road’ into Austro-Asiatic:

VN: Đường vs. Thai: ถนน tán ‘road’

VN: Vịt vs. Thai: เป็ด bpèt ‘duck’

(Trần Trí Dõi 2011: 141)

Wéi Shùguān 韦树关 (2004) also recognizes the importance of Kra-Dai languages for understanding Sino-Vietnamese initials²¹. Wei notices that an aspirated and unaspirated

²¹ 韦树关 Wéi Shùguān, 《汉越语关系词声母系统研究》 ‘Systematic research on Sino-Vietnamese initials’. I became aware of Wéi Shùguān’s 2004 work on Sino-Vietnamese initials in January 2025. I only have access to the first 17 pages of his book in a preview. Wéi’s research motive is to investigate Sino-Vietnamese initial developments in Southern China and Southeast Asian linguistic environments. A re-examination of Sino-

mismatch occurs in Sino-Vietnamese and argues that those Sino-Vietnamese words are borrowed directly from Kra-Dai languages instead of Chinese:

在分析声母对应还需要注意音系整体的特点，例如送气音声母的对应。各组声母中都存在送气音混入非送气音的对应，如滂母读入帮母，透母读入端母，彻母读入知母，等等。越语史的研究成果显示，早期越南语并无送气音（NTC 1995/1997: 85, 98）。我们对汉越语关系语素声母对应的研究也印证了这一点。韦树关指出，早期的壮侗语没有送气与不送气的对立，因而认为这些关系语素是越南语从壮侗民族语言借入的（韦树关, 2004: 118）(Xián 2016: 180-181).

"When analyzing initial correspondences, we still need to pay attention to wholistic phonological features, for example, the aspiration correspondences. Each initial group has aspirated, unaspirated mismatched correspondences. For example, *Páng* is read as *Bāng*, *Tòu* is read as *Duān*, *Chè* is read as *Zhī*, etc. Research results for Vietnamese historical linguistics shows that Early stages of Vietnamese did not have aspirated initials (Nguyễn Tài Cẩn 1995/1997: 85). Our research in Sino-Vietnamese initial correspondences also proves this point. Wei Shuguan points out, early stages of Kra-Dai did not have a distinction between aspirated and non-aspirated, because of this, he considers these Sino-Vietnamese words (关系语素) to be borrowed into Vietnamese from Kra-Dai-Languages (Wéi 2004: 118)."-(Xián: 2016: 180-181) (Translation by the author).

Wéi Shùguān recognizes the deep historical connection that Vietnamese has with Kra-Dai languages, considering Âu Lạc to be the common ancestor of Vietnamese and Kra-Dai (Wei 2004: 8). Kradai languages certainly have an effect on the aspirated/unaspirated mismatch in Sino-Vietnamese, though I would argue that the impact of Kra-Dai was not as direct. Data in Southwestern Chinese varieties shows the occurrence of the aspirated/unaspirated mismatch phenomenon. What likely happened is that Kra-Dai languages in the medieval southwest impacted Southwestern Middle Chinese and Annamese Middle Chinese and the mismatched syllables were then borrowed into Proto Việt-Mường.

Tai is the most referenced Kra-Dai language in the Sino-Vietnamese literature, especially in the work of Mark Alves (2016; 2018; 2020). Vietic and Chinese speakers had

Vietnamese initials is still necessary since over the past 21 years there have been important developments on Chinese historical phonology, Austro-Asiatic historical phonology, Kra-Dai historical phonology, historical narratives involving Southern China and Vietnam and the education vs acquisition narrative for Late Sino-Vietnamese. Nevertheless, it is certainly worth using Wéi Shùguān's book for future research.

extensive contact with proto forms of Tai languages. Chamberlain (2016) claims that a large number of Chinese loanwords in Vietic are cognate with Tai, as he says:

“...Mường most probably borrowed from Tai languages rather than from Middle Chinese as more than fifty percent of the forms he (John Phan) cites have Tai cognates (just at first glance)” (Chamberlain 2016: 37).

Chamberlain does not provide examples of Tai cognates, and his argument that Vietic was not present in the Red River Delta is problematic. Nevertheless, Tai was indeed present in the RRD. Thus, Chinese loanwords in Tai are critical for examining Sino-Vietnamese words and Sino-Vietnamese initials.

Proto-Tai

Proto-Tai PT is the ancestor of the Tai branch in the Kra-Dai language family and is a contemporary of Old Chinese. Like many modern Tai languages like Central Thai and Zhuang, the initials are complex and include consonant clusters. Pittayaporn also considers Proto-Tai to have sequi-syllables (Pittayaporn 2009: 63). Proto-Tai words could be monosyllabic such as *pi: ‘year’, *gap ‘narrow’, or sesqui-syllabic such as *p.ta: ‘eye’, and *gm.ra ‘orphan’ (ibid: 65). Li Fang-kuei (1977) and Pittawat Pittayaporn (2009) provide reconstructions for Proto-Tai. This dissertation will primarily use the reconstructions by Pittayaporn (2009) and occasionally by Li (1977).

Figure 22: Proto-Tai consonant clusters from Pittayaporn (2009: 139)

		labial	alveolar	palatal	velar	uvular
voiceless stops	-r-	*pr-	*tr-	*cr-	*kr-	*qr-
	-l-	*pl-			*kl-	
	-w-	*pw-	*tw-		*kw-	*qw-
implosives	-l-	*ɓl-				
voiced stops	-r-	*br-			*gr-	
	-l-	*bl-			(*gl-)	
	-w-	*bw-				*gw-
fricatives	-w-		*sw		*xw-	
					*ɣw-	
nasals	-w-	* ^h mw-				
			*nw-	*ɲw-	*ŋw-	
liquid	-w-		* ^h rw-			
			*rw-			

Proto Southwestern -Tai

Pittayaporn (2014) notes that Proto-Southwestern Tai PSWT is the ancestor of Central Thai, Lao, Yuan/Northern Thai, Lue, Shan, Black Tai, and White Tai (ibid: 48). Pittayaporn also suggests that Proto Southwestern Tai has been in contact with five phonological stages of Chinese, Old Chinese, Later Han Chinese, Early Middle Chinese, and Early Mandarin, suggesting “contact with Chinese at least until the Tang era” (ibid: 47).

Pittayaporn’s handling of pre-Han Old Chinese loans is especially useful for us because he uses clusters as an indication of pre-Han borrowing, take the word ‘indigo’ 藍 for example, which is *gra:m in PSWT:

Figure 23: Cognates with ‘Indigo’ (Modified from Pittayaporn 2014: 51)

Gloss	PSWT	OC	LH	EMC	LMC	EM	Graph
‘indigo’	*gra:m	*N-k.r ^h am	lam	lam	lam	lám	藍 lán

In ESV ‘indigo’ is chàm. Perhaps the Early Sino-Vietnamese form also shows traces of Old Chinese consonant clusters and pre-initials. Pittayaporn also shows examples of PSWT

words that he considers to be borrowed from the Late Han or EMC period. For example, ‘to dye’ *ɲɑ:m̥c 染 is likely a Late Han loanword into PSWT:

Figure 24: Cognates with ‘dye’ (Modified from Pittayaporn 2014: 59)

Gloss	PSWT	OC	LH	EMC	LMC	EM	
‘to dye’	ɲɑ:m̥c	*C.n[a]m?	ɲam _{B/C}	ɲiam _B	riam _C	rěm	染 rǎn

Compare the PSWT pronunciation with Early Sino-Vietnamese nhuộm and we see a rime form that has a palatal nasal yet lacks a high front vowel medial. Pittayaporn’s data is helpful for us to find possible cognates in the trilingual southwest and his method can help us determine which ESV words are from Late Han Old Chinese or Pre-Qin Old Chinese. Due to the long period of contact with Chinese, Proto Southwestern Tai is a useful resource for understanding areal phonological features that are contemporary to ESV and LSV.

Tày

Tày is a Tai language widely spoken in the northern Vietnamese provinces of Cao Bằng, Lạng Sơn, Tuyên Quang, Hà Giang, Bắc Cạn, Thái Nguyên, Lào Cai and Yên Bái (Đoàn 1996:4). The Tày are the largest ethnic minority in Vietnam with a total population of 1,190,342 as of 1996 (ibid: 4). The Tày are indigenous to Vietnam and scholars such as Đoàn Thiện Thuật (1996) mention the long history of Tày presence in northern Vietnam, even identifying Thục Phán or famously known as An Dương Vương, as an ethnic Tày.

Vietic has a long history of interaction with Tày, receiving several loanwords. Many ethnic Tày people speak both Vietnamese and Tày in the modern era (Vương 1992: 4). Nguyễn Ngọc San (2000) discusses a number of loanwords from Tày that only exist in disyllabic bound morphemes in Vietnamese. Such examples of these Tày loanwords include

má ‘dog’, used in Vietnamese chó má ‘dog, scoundrel’; the word xống ‘clothes’ used in the Vietnamese word áo xống ‘clothes’; and the Tày word chóc ‘bird’ in chim chóc ‘birds’ (Nguyễn Ngọc San 2000: 197). According to Liam Kelley (2013) The Tày and Vietnamese also share a word for ‘rice’ which is khẩu in Tày and its cognate gạo in Vietnamese.



(Figure 25: Vietnamese provinces with large Tày populations²²)

Since the 1960’s the Tày language began to be written in a romanized orthographic system similar to Quốc Ngữ used in Vietnamese. Although there is no official orthography for the Tày language, each region has their own transcription system, for example, Cao Bằng and Bắc Kạn have distinct transcription features²³. Đoàn (1996) and Shimizu (2020b) provide a basic phonology for the popular orthography used by Tày speakers:

²² Political map of Vietnam obtained from mapsofworld.com <https://www.mapsofworld.com/vietnam/vietnam-political-map.html> accessed 03/12/2025.
²³ Personal communication with Shimizu Masaaki.

Figure 26: Tày Syllable Structure & Initial Consonants

(1) Cấu trúc âm tiết:

IMVF/T

(2) Phụ âm đầu (l)

p (p)	t (t)		c (ch, tr)	k (c/k/q)	ʔ (ø)
b (b)	d (t)	ɕ (đ)		g (g)	
p ^h (ph)	t ^h (th)			k ^h (kh)	
m (m)	n (n)		ɲ (nh)	ŋ (ng)	
f (ph)			ʃ(∞s) (x)		h (h)
v (v)		ʒ (r)	ʒ(∞z) (d, gi)		
	l (l)				
	ɬ (sl, s)				

(Shimizu 2020b: 42)

Gloss: cấu trúc âm tiết ‘syllable structure’, Phụ âm đầu ‘initial consonants’

The chart above shows the phụ âm đầu ‘initial consonants.’ The phonetic quality is shown in IPA while the Tày orthography is written in the parentheses. There is a significant amount of overlap with the Vietnamese orthography, yet there are a few considerable differences. Some points that are worthy of attention include the orthographic usage of s- and sl- for voiceless alveolar lateral fricatives /ɬ-/. Another interesting feature of the orthography is the usage of the ph- initial to write labiodental fricatives /f-/ and aspirated bilabial stops p^h.

The Tày language plays an important role in Sino-Vietnamese history. Tày also has a large amount of Chinese loanwords and the Tày people used a Sino-Xenic script to write their language with the large amount of Chinese loanwords. This script called Chữ Nôm Tày shows Tày pronunciations for words that are cognate in Sinitic, Tai and Vietic. The features of these pronunciations include fricatives for Middle Chinese *Xīn* 心 initial syllables as opposed to stops in Vietnamese and lenition of Middle Chinese *Cóng* 從 initial syllables.

Figure 27: MC, SV and Sino-Tày *Cóng* 從 and *Xīn* 心 initial consonants:

Chinese and Gloss	Middle Chinese	Late Sino-Vietnamese	Sino-Tày
西 <i>xī</i> 'west'	sej	tây	sây ²⁴
絲 <i>sī</i> 'silk'	si	ti	sơ
賊 <i>zéi</i> 'thief'	dzok	tặc	sắc
錢 <i>qián</i> 'money'	dzjen	tiền	dèn

These pronunciations bring implications for language contact. It is likely that Sino-Tày preserves fricative features in the *Xīn* initial syllables while Late Sino-Vietnamese produced stop initials. There are also quite a few Sino-Tày words that sound identical to their Late Sino-Vietnamese counterparts:

Figure 28: Identical initials in LSV and Sino-Tày

Chinese and Gloss	Middle Chinese	Late Sino-Vietnamese	Sino-Tày
在 <i>zài</i> 'to be located'	dzojX	tại	tại
數 <i>shù</i> 'number'	srjuX	số	số

²⁴ There is an alternative pronunciation for 'west' 西: tây, which is identical to the Late Sino-Vietnamese pronunciation.

Shimizu suggests that close contact between Vietnamese and Tày has led to a gradual shift in pronunciation from Sino-Tày to Sino-Vietnamese in the Tày script (Shimizu 2020b: 39), and that other pronunciations of Sino-Tày has their origin in Guǎngxī Chinese varieties (ibid:48). It is likely that Tày was present in Annam alongside Proto Việt-Mường and Annamese Middle Chinese. The level of interaction between the Vietnamese speakers and Tày speakers must have become more constant after Annamese Middle Chinese died out in the Red River Delta after the tenth century, and the prestige language has been changed to Proto Việt-Mường.

We should be cautious with identical cognates. However, the Sino-Tày words with initials different from Late Sino-Vietnamese will give us helpful insight on phonological changes that happened in Chinese, Tai and Vietic during the Annam period. I will discuss the Chử Nôm Tày script in more detail in chapters IV and V.

Lakkia

Lakkia, Lạp Gia, or Lājīā yǔ 拉珈語 is a Northern Kra-Dai language spoken in Guǎngxī. Lakkia may have originated in Guǎngdōng with later migrations to Guǎngxī (Chamberlain 2016: 43). Like other Kra-Dai languages in the area, Lakkia has a history of contact with Chinese varieties. Zhào Tuó's expedition, the establishment of Nam Việt and the Han expansion undoubtedly led to Chinese migrations into Guǎngdōng and Guǎngxī. The phonological features of Chinese loanwords in Lakkia makes it an important resource for the research of Guillame Jacques as well as Baxter & Sagart (2014). B&S (2014) consider Lakkia to hold evidence for Old Chinese complex onsets. B&S suggest that Lakkia initials preserve the pre-initial stops in OC loanwords.

zhǐ 紙 ‘paper’ Lakkia: khjei, from OC: *k.teʔ
 zéi 賊 ‘bandit’ Lakkia: kjak, from OC: *k.dzʰək
 zhēn 箴 ‘needle’ Lakkia: the:m, from OC: *t.[k]əm

Zhuang

The Zhuang language is a Tai language spoken primarily in Guǎngxī but also in Guǎngdōng, Guìzhōu, Yúnnán and Húnán. It is an indigenous language in Southwestern China and it is the largest minority language group in the People’s Republic of China with 18 million native speakers (Luo 2008: 317). The Zhuang are internally diverse with varieties such as the Dai Zhuang, Nong Zhuang and Min Zhuang (Johnson 2008: 7-10). Linguistically, there is variation between Northern Zhuang and Southern Zhuang, for example:

‘tail’ North: riəŋ, South: hɑ:ŋ
 ‘water’ North: rɑm, South: nɑm
 ‘nest’ North: ro:ŋ, South: laŋ
 (Luo 2008: 321).

Zhuang onsets are relatively simple, with few consonant clusters and possible labialized onset features such as tʷ, ʔdʷ, lʷ, ɕʷ, sʷ, tsʷ, jʷ, ɲʷ, kʷ, ŋʷ (Ibid 323).

Figure 29: Fèngshān Zhuang consonants; Modified from Luo 2008 (323)

	Labial	Alveolar	Palatal	Velar	Glottal
Plain Stop	p-	t-	ts-	k-	ʔ-
Voiced	ʔb-	ʔd-	ʔj-		
Nasals	m-	n-	ɲ-	ŋ-	
Fricatives	f-	θ-	ɕ-		h-
Voiced	v- (w-)		j-		
Lateral		l-			

Hilario de Sousa (2020) notes that Zhuang is a significant areal language that experienced contact with Yuè and Píng huà languages. De Sousa compares the phonological features of Chinese loanwords in Zhuang with ESV and LSV. Additionally, Luo states that Zhuang and Píng huà, a Chinese variety significant for de Sousa and Phan's research on Annamese Middle Chinese, have influenced each other (Luo 2008: 320).

One significant feature to note on the Fèngshān Zhuang initials is the lack of aspirated initials. Hilario de Sousa notes that Northern Zhuang completely lacks aspirated consonants (de Sousa 2023: 11:50-12:10²⁵) This lack of aspirated consonants may have impacted other languages that were present in the Húnán-Guǎngxī corridor. We do not know if Zhuang interacted directly with Proto Vietic or Proto Việt-Mường in the RRD. However, as a language that experienced frequent contact with Píng huà and Yuè and as an indigenous language group in SW China, the Zhuang must have contributed to the aspirated/unaspirated mismatch that has occurred in Annamese Middle Chinese, and by extension, influenced the development of inconsistent aspirated initials in Sino-Vietnamese.

Hilario de Sousa (2020) uses data from Píng huà, Sino-Zhuang, Late Sino-Vietnamese and Yuè varieties to examine the unique features of Píng huà and the effects that it has taken from and given to other languages. De Sousa writes that Zhuang has been influencing Píng huà for over a millenia, which may give us clues about how Annamese Middle Chinese or Southwestern Middle Chinese inherited Kra-Dai features. De Sousa also mentions that in many aspects including vowels, Sino-Zhuang and Late Sino-Vietnamese share common features. The importance of Sino-Zhuang in examining areal features of Southwestern China

²⁵ This is from one of Hilario de Sousa's lectures on Youtube: de Sousa Hilário: Some Features of Nán níng Píng huà, 10/15/2023, Ассоциация развития синологии Russia. <https://www.youtube.com/watch?v=roPEdBgO62I&t=3959s>

and Vietnam make Zhuang important for a close examination of Sino-Vietnamese initial features.

Zhuang also has a Sino-Xenic script that has developed after frequent contact with Chinese speakers. This script has been used throughout the medieval southwest and manuscripts can be found in Northern Vietnam as well as the Chinese provinces of Hunan, Guǎngxī, Guìzhōu, and Yúnnán. The Zhuang have borrowed words phonologically into their language from Chinese and a close look at their script can give us clues on medieval southwestern pronunciations and possible causes for abnormal initial changes in Sino-Vietnamese. Much of what we know about the Old Zhuang script is from the work of David Holm (2013). More details on the Zhuang script will be given in chapter V.

Austro-Asiatic Family

The Austro-Asiatic Language family covers a geographic range from MSEA to the Nicobar Islands and the eastern coast of India. Austroasiatic is phonologically diverse with polysyllabic and monosyllabic languages. Work by Shorto (2006) and Alves delve into the phonology and vocabulary of Proto Austro-Asiatic. Vietnamese belongs to a branch of the Austroasiatic language family called Mon-Khmer.

As the name Mon-Khmer suggests, Vietnamese is related to the Khmer language in Cambodia, though the two languages diverge from each other in terms of syllable structure, tonogenesis and vocabulary. Khmer has sesqui-syllabic features and has the major syllable structure C1(C2)VC3 or C1(C2)VV(C3) and minor syllable structure C1-(C2)-V-(C3) (Bisang 2015: 678). Khmer also has many specialized loanwords from Sanskrit and Pali due to Dharmic, primarily Buddhist influence (ibid: 678), whereas the bulk of specialized loanwords in Vietnamese come from Chinese. Khmer is also atonal while Vietnamese developed tones.

Vietnamese also belongs to the Vietic branch of the Vietnamese language. For our purposes, we will primarily focus on the Vietic branch which has the highest degree of contact with Chinese.

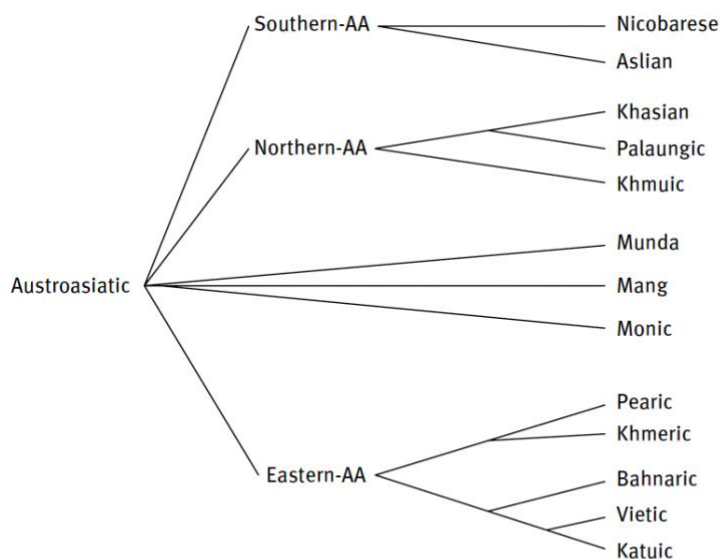


Fig. 3: Classification of AA branches suggested by computational phylogenetic analysis of 200-word list (Sidwell 2018).

Figure 30: The Austro-Asiatic Family Tree, from Paul Sidwell (2021: 182)

Proto-Vietic

There is a debate on the homeland of the Proto-Vietic language. Some scholars make claims about the homeland being the Red River Delta in modern day northern Vietnam (Alves 2020), whereas other scholars such as Chamberlain (2016) argue that the homeland is as far south as the Că and Mã rivers. We can safely assume that the homeland of Vietic is the northern half of Vietnam, and archaeological, linguistic, as well as historical evidence suggests that there were Vietic speakers present in the Red River Delta (Alves 2020: xxiv). Nam C. Kim (2015) argues that in the Red River Delta, there was also a complex urban society that existed prior to the period of Chinese domination. The language Proto-Vietic

chronologically corresponds to Old Chinese and Early Sino-Vietnamese, around the period of interaction during the pre-Qin, Qin and Han eras.

Alves (2020) notes that there are tentative reconstructions of Proto-Vietic put forth by Ferlus in the *Mon Khmer Etymological Dictionary* (2007). Paul Sidwell and Mark Alves (2021) have made significant contributions to our understanding of Proto-Vietic, though the steps put forth are tentative. What we do know about Proto-Vietic is that it was non-tonal. Proto-Vietic has some consonant codas that developed into tones. The consonant codas include *-h, *-s, *-r and *-l (Sidwell; Alves 2021: 181). We also know that Proto-Vietic was polysyllabic (Alves 2020: xviii), whereas modern Vietnamese is monosyllabic, and other modern Vietic languages like Arem, Ruc and Thavung, which are spoken in central Vietnam and Laos²⁶, are sesqui-syllabic.

Alves (2020) also provides us with a comprehensive comparison between Proto-Vietic and Vietnamese initials, codas, vowels, and loanwords from Chinese. According to Alves, there are 35 initials in Proto-Vietic. The comparisons are made with a Proto-Vietic reconstruction provided in IPA and Vietnamese provided in the orthography. Proto-Vietic initials are found in the table below:

Figure 31: PV initials, modified from Alves (2020: xli-xlii). Same as Figure 11.

Proto-Vietic initial	Vietnamese initial	Vietnamese + gloss	Proto-Vietic
*p	b	bay 'to fly'	*pər
*k	g	gãi 'to scratch'	*-ka:s
*Ck	g	gạo 'uncooked rice'	*r-ko:ʔ
*C+(pal)	gi	giàu 'to be rich'	*k-ʔaw

²⁶ Paul Sidwell, Mark Alves: The Vietic languages: A phylogenetic analysis, *Journal of Language Relationship*. 19/3 (2021). 166-194. pg. 188.

*h	h	none ²⁷ 'to open (mouth)'	*ha:ʔ
*k	k/c	none ²⁸ 'wing'	*kɛ:ŋʔ
*kw	qu	quay 'stir, mix'	*kwe:
*gw	qu	quạt 'fan'	*gwa:t
*kv	qu	quê 'village'	*k-ve:r
*k ^h	kh	khế 'starfruit'	k ^h e:ʔ
*l	l	lá lách 'spleen'	*la:ʔ
*Cl	l	lè 'to pull out tongue'	*t-lɛ:l
*m	m	mật 'gall'	*məc
*Cm	m	mọt 'termite'	*k-mɔ:c
*b	m	múc 'to draw water'	*ba:lʔ
*ɗ	n	năm 'five'	*ɗam
*Cɗ	n	nắng 'to dry, on fire'	*p-ɗaŋ
*Cn	n	nanh 'eye, tooth, tusk'	*k-nɛ:ŋ
*ŋ (typo)	nh	nhà 'house'	*ŋa:
*C-ŋ (typo)	nh	nhá/(nhai) 'to chew'	*s-ŋa:ʔ
*ml	nh	nhặt, lật 'to chew'	*m-la:c
*ʃ	nh	nhau 'placenta'	*ʃaw
*ŋ	ng	ngồi 'to sit'	*ŋu:j
*Cŋ	ng	ngái 'far'	#s-ŋa:jʔ
*p ^h	ph	pha 'to dilute, mix'	*p ^h a
*Cr	r	ruồi 'fly'	*m-rɔ:j
*Cs	r	rắn 'snake'	*p-səŋʔ
*Cr	s	sấm 'thunder'	*k-rəmʔ
*s	t	tóc 'hair'	*-suk

²⁷ Alves (2020) forgot to write a Vietnamese example, however, judging from the English gloss, it is likely that Alves meant to write in Há as in Há miệng 'to open one's mouth'.

²⁸ Alves (ibid) forgot to add a corresponding Vietnamese word but most likely meant cánh 'wing'.

*t ^h	th	thổi 'to blow'	*t-hu:s > tu:s / thu:s
Cl	tr	trái 'fruit'	*p-le:ʔ > ple:ʔ / tle:ʔ
*v	v	vặn 'to twist/wring'	*vaŋʔ
*C+(lab)	v	vôi lime (mineral)	*k-pu:r
*p	v	vắt 'to press fruit'	*pat
*c	ch	cháu 'grandchild'	*cu:ʔ
*Cʔ	zero	óc 'brain'	*c-ʔo:k
*tʃ	x	xương 'bone'	*tʃ-ʔa:ŋ > ja:ŋ / tʃiəŋ
*c	d	dứa 'pineapple'	*-ca:ʔ > -ciaʔ
*Ct	d	dựng 'to build'	*pr-təŋʔ > p-dəŋʔ

Alves's comparison of Early Sino-Vietnamese loans with their Vietic counterparts also provides us with the phonological context during the time of borrowing. One additional significant detail includes Vietnamese words with a v- initial that come from a *p- initial in Vietic. The v- initial in Sino-Vietnamese has three origins from Proto-Vietic, which are *v-, *p-, and a pre-initial consonant *C. combined with a labial *C.p-. This correspondence shows that it is possible for Sino-Vietnamese words with a v- initial to develop from labial stops without interference from pre-initial consonants. I argue that betacism is one of the contributing factors of Sino-Vietnamese lenition and developing v- initials for Sino-Vietnamese labial initial syllables. I will discuss betacism in more detail in chapter VI. Vietnamese *g- initials also has origins from *k- as well.

Proto Việt-Mường

Proto Việt-Mường was the contemporary language during the Middle Chinese and Late Middle Chinese period. In Phan's (2013) hypothesis, this language was spoken side by side with Annamese Middle Chinese on the Red River Delta. Work on the phonological

system has been done by scholars such as Michel Ferlus (2009a). We know that by the Việt-Mường period, there was a process of syllabic reduction (Alves 2020: xviii). Proto Việt-Mường had sesqui-syllables and consonant clusters. Based on tono-genetic studies, Ferlus (2004) makes a distinction between Early Proto Việt-Mường and Late Proto Việt-Mường. Between the periods of Early and Late Proto Việt-Mường arose a contrast of vowel lowering in tense syllables and vowel rising in lax syllables. The tense syllables constricted in the glottis and was given a rhyme while the lax remained unmarked (Ferlus 2004: 308)

Old Chinese		Early PVM		Late PVM
C-CV(C) (tenseness)	transferred to	C-CV(C) (tenseness)		C-CV(C) (glottal constriction)
CV(C) (laxness)	transferred to	CV(C) (laxness)		CV (C) (unmarked)

(Ibid 2004: 308)

Figure 32: Overview of the Proto Việt-Mường Initials with modern Vietnamese orthography (Ferlus 2009: 96):

p^h <i>ph</i>	t^h <i>th</i>	s <i>t~r</i>		k^h <i>kh</i>	h <i>h</i>
p b <i>b~v</i>	t d <i>đ~d</i>	c ʃ <i>ch~gi</i>	tʃ <i>x~gi</i>	k g <i>c/k~g/gh</i>	ʔ <i>#</i>
ḃ <i>m</i>	ḍ <i>n</i>	f <i>nh</i>			
m <i>m</i>	n <i>n</i>	ɲ <i>nh</i>		ŋ <i>ng/ngh</i>	
v <i>v</i>		j <i>d</i>			
	r <i>r</i>	l <i>l</i>			

Proto Việt-Mường also had consonant clusters:

PVM: k-ra:p > VN sáp ‘wax’

PVM: p-ri: > VN say ‘drunk’

(ibid: 97)

Proto Việt-Mường was also a toneless language, though later tonogenesis was caused by a three-way contrast of codas (Ferlus 2004: 298).

Modern Vietic Languages

Vietic languages are phonologically diverse, with varieties such as modern Vietnamese being monosyllabic, Rục and Thavưng being sesqui-syllabic. Vietic dialects have been crucial for Baxter & Sagart's Old Chinese reconstructions due to their presence of pre-initials and sesqui-syllabic features. Languages such as Rục and Thavưng have loanwords from Chinese with pre-initials, which serve as evidence for Baxter & Sagart's (2014) argument that Old Chinese had sesqui-syllabic features.

OC 種 *k.tonʔ, Rục kco:ŋ, VN giống

OC 紙 *k.teʔ, Rục kəcáy, VN giấy

Vietic languages are a valuable resource for studying Old Chinese. Baxter & Sagart's reconstruction remains controversial but the phonological features of Vietic languages such as Rục, Sách and Thavưng remain significant to Sino-Vietnamese studies.

Modern Vietnamese

Modern Vietnamese is monosyllabic, has six tones and has a tremendous amount of vocabulary from Chinese. The orthography is a Latin script called Quốc Ngữ and is largely based on Portuguese, Italian and French spelling rules. Vietnamese has three main dialects based in Hanoi, Hue and Saigon. Each of these dialects differ in phonology. For instance, in Hanoi, d- and gi- in the orthography are both pronounced as [z-], whereas in Saigon they are pronounced as [j-]. There is a debate between the works of Alves (2022), and Phan (2013)

on the identification of loanwords such as chiên 煎 ‘to fry’ as being RSV ESV. More details on the linguistic history of Vietnam and Vietnamese will be provided in chapter IV.

Hmong-Mien Family

Languages in the Hmong-Mien or Miáo Yáo 苗瑤 language family have a historical presence in Southern China with later migrations to Laos, Vietnam, and Thailand. Like other language families in South China and Mainland Southeast Asia, Hmong-Mien has a high degree of contact with Sinitic languages and many loanwords from various stages of Chinese. Martha Ratliff (2010) effectively summarizes the challenges of categorizing the Hmong-Mien languages and goes on to mention that previous scholars suggested a genetic relationship with Sino-Tibetan, Austroasiatic, Austronesian and Kra-Dai. Ratliff tentatively labels Hmong Mien as a separate language family. Likewise, I will also treat the Hmong-Mien languages as a distinct language family.

The Hmong-Mien languages are internally diverse and can be divided into two major branches, the Hmongic and Mienic languages. The Hmongic languages include Hmong, A-Hmu and Bunu in the West Hmongic branch, Qo Xiong in the North Hmongic branch, Hmu in the East Hmongic branch as well as Jiongnai, Ho Ne and Pa-Hng (Ratliff 2010: 3). The Mienic languages include Mien, Mun, Biao Min and Zao Min (Ibid 2010: 3). Ratliff provides reconstructions for Proto Hmong-Mien, Proto Hmongic and Proto Mienic.

Modern Hmong, or Mong Leng has consonant cluster initials and modern Hmongic languages have sesqui-syllabic features (Mortensen 2019: 612). Likewise, Proto Hmong-Mien had consonant clusters, which are visible in loanwords from Chinese:

‘price’ Proto Hmongic Nqa, OC: *mə.qʰ<r>aʔ-s 價 jià (Ratliff 2010: 261)

‘daughter in law/bride’ Proto-Mienic *mbɥɛŋ, OC: *Cə.[b]əʔ 婦 fù (ibid: 251)

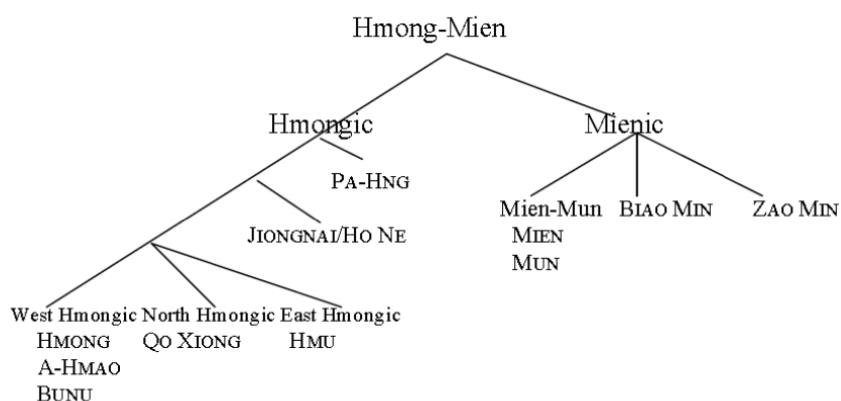
‘indigo’ Proto Hmong-Mien: *ŋglam, OC: *Cə.[r]ʰam 藍 lán (ibid: 256)

‘repair/mend’ Proto Hmong-Mien *(mə)-pʰaʔ, OC: *mpjaX 補 bǔ (ibid: 262)

There are some segmental and prosodic features that are seen almost exclusively in Chinese loanwords. Ratliff informs us of features that appear frequently in Chinese loanwords, including aspiration, friction, affrication, and palatalization (ibid: 225).

The onset features of Proto Hmong-Mien are quite complex, including consonant clusters, and there is a lack of retroflex initials and a variety of palatal initials. Ratliff’s reconstruction of Proto Hmong Mien is used frequently in Mark Alves’s (2016; 2018) work on Sino-Vietnamese loanwords, as well as B&S’s (2014) work on Old-Chinese. The areal significance of Hmong as well as the phonological significance of Early Chinese loanwords in Proto-Hmong-Mien is well known. Hmong-Mien has a high degree of contact with other areal languages as well such as Kra-Dai and Austro-Asiatic.

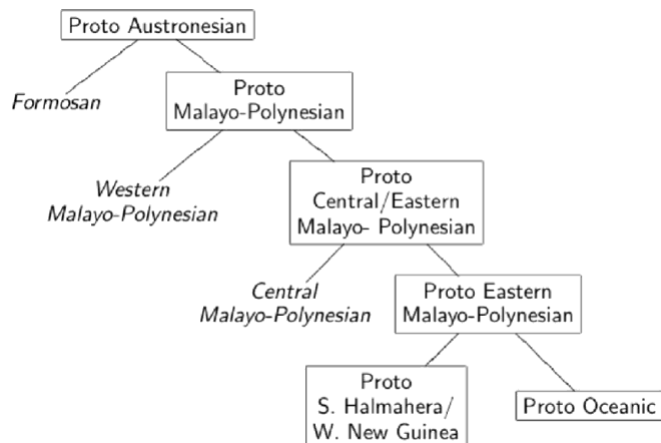
Figure 33: The Hmong-Mien family tree from Ratliff (2010: 3):



Austronesian Family

Meaning ‘southern islands’, Austronesian speakers inhabit islands across maritime Southeast Asia. Speakers of this language family cover a wide geographic range across the Pacific and from Taiwan to Madagascar as can be seen in the language family tree below:

Figure 34: The Austronesian Family Tree (Blust; Ross 2008: 165)



(Tree by Robert Blust, from Malcolm Ross 2008: 165)

In Vietnamese history, frequent contact with Austronesian speakers is considered to be ancient, with Keith Taylor arguing that Đông Sơn stone axes are influenced by stone-age Austronesian art (Taylor 1983: 9). Large scale interaction between Vietic and Austronesian is relatively recent as most Austronesian speakers in Vietnam such as the Cham were historically situated in the Southern half of Vietnam. In the literature on Sino-Vietnamese loanwords, the mention of Austronesian languages is also relatively rare. Nevertheless, Austronesian languages are important to note because of Laurent Sagart's (2008) attempt to identify the word for 'dog' *náo sōu* 獯猯 from the Shuowen Jiezi as the Austronesian word 'aso'.

Indeed, the area of Southern China and Northern Vietnam is historically and presently tremendously diverse, hosting five language families. The most important language groups for our purposes are Kra-Dai, Austro-Asiatic and Sino-Tibetan, specifically Tai, Vietic and Sinitic. These three language groups were in contact with each-other during the Red River Delta, giving rise not to diglossia, but to triglossia. A re-examination of Sino-Vietnamese initials shows that Tai languages are important for understanding initial features for Annamese Middle Chinese. Tai and Vietic have interacted with each-other long before

Chinese political domination and small scale Chinese trade, migration and eventually political domination would give rise to a more complex linguistic tapestry.

IV: Linguistic History of Vietnam and Southern China: The Trilingual Jiaozhi and Annam

The Vietnamese Historical Narrative

History is inherently political and different groups of people, even within the same borders of a country write their history differently. That is to say, people of the same nation or ethnic group may also have differing views of their own history. Vietnamese history within Vietnam is told from a nationalist lens, whereas the people of Vietnam have been in a constant struggle for independence from foreign invaders such as China, France, Japan, France again and then the United States. It is critical to note that the interpretation and opinion of the United States and the Republic of Vietnam's role in Vietnamese history differs between those living in Vietnam and the Vietnamese diaspora, especially the diaspora in the United States. Modern Vietnamese history is indeed controversial, but another side of Vietnamese history that is controversial, yet not as well known is Vietnam's distant past.

This chapter is not meant to be an exhaustive history of southern China and Vietnam, rather it is meant to provide a historical framework for language interaction and Sino-Xenic loans. This section will start with Vietnam's distant past in the Red River Delta and discuss the languages that were present before large scale Chinese interaction. We will then discuss the kingdom of Nam Việt and Chinese domination periods. There will be an additional discussion on the medieval Annam, the linguistic environment of Annam, and the way of Sino-Vietnamese transmission. Finally, we will briefly discuss Independence, Ming refugees and Sino-Japanese neologisms. All these events are critical for understanding Sino-Vietnamese and its distinctive layers.

The Red River Delta:

Most of Vietnam's early history is set in the Red River Delta or as people in Vietnam call it, Đồng bằng sông Hồng, located near Hà Nội in modern day northern Vietnam. A lot of work has been done to help us understand the history, culture and language of the people living in this region in the distant past. Nam Kim (2015) shows us that a complex urban society existed in the citadel of Cổ Loa before the arrival of Chinese forces during the Qin period (221-206 BCE). Keith Taylor (1983; 2013) discusses an overview of Vietnamese history starting from the neolithic period. Mark Alves, James R. Chamberlain, Michel Ferlus and Paul Sidwell give us accounts of Vietic and Austro-Asiatic life in the Red River Delta before the arrival of Chinese political domination. There were Vietic speakers, Tai speakers, and a small number of Chinese speakers in the Red River Delta during Vietnam's early history.

Figure 35: Map of the modern Red River Delta (Olsen; Chau 2022: 545)²⁹

²⁹ K.R. Olsen; K.M. Chau, 2022, "Natural and Anthropogenic Sources of Arsenic in the Groundwater and Soils of the Mekong Delta." *Open Journal of Soil Science*, 12: 541-570.



The nature of Vietnam’s linguistic landscape holds a complicated story that has been retold many times. One of the popular and longstanding narratives was the idea that during the Tang period (618-906), Chinese was taught at schools in Vietnam like how Kanji and Hanja were learned in Japan and Korea respectively (Pulleyblank 1984: 62; Phan 2013: i). Another hypothesis by John Phan (2010; 2013) challenges this idea of unilateral education and argues for the existence of a bilingual community that led to the bulk of Sino-Vietnamese words to be filtered in via the spoken language. Another hypothesis proposed by James R. Chamberlain argues that the Việt-Mường originated in the Cả and Mã river instead of the Red River Delta (Chamberlain 2016: 37). Chamberlain argues that there were Tai speakers on the Red River Delta and that many Việt-Mường words are cognate with words in the Tai language family.

Much of Vietnam’s early history revolves around the Red River Delta or *Đồng bằng sông Hồng*, as well as the Cả and Mã River deltas. The center stage for Sino-Vietnamese history was the commandery of Jiāozhǐ 交趾 *Giaochi*, a name that has a contested

etymology, one of which is possibly of Kra-Dai origin, with *jiāo* 交 being cognate with ‘Lao’ (Chamberlain 2016: 46-47). Another possible etymology for Jiāozhǐ is a reference to southern peoples sitting crossed legged, found in the Liji 禮記 (Taylor 1983: 26)³⁰. The Red River Delta was a multilingual environment that included Tai, Vietic and a small number of Chinese speakers who arrived mainly for trade. There were likely early migrations of Tai speakers into modern day northern Vietnam and there are Sino-Vietnamese words that were possibly borrowed from Old Chinese consonant clusters, which either indicates indirect borrowing from Tai speakers, or borrowing in an early Han or the pre-Han era:

Figure 36: Consonant clusters in OC, ESV and PT words

Lexicon and gloss	Old Chinese	Early Sino-Vietnamese	Proto-Tai
lóng 籠 ‘cage’	*k.r ^h oŋ	chuông	*kroŋ (Li 1977)
lán 藍 ‘indigo’	*[N-k.]r ^h am	chàm	*khraam (Li 1977)

Much of Vietnam’s early history is intertwined with Chinese political developments. Periods of Chinese political domination in Vietnam are called *bắc thuộc* 北屬 ‘northern domination’ in Vietnamese and those periods are significant for the large scale cultural and linguistic developments in Vietnamese history. This chapter will provide a basic historical framework for linguistic developments in modern day Southern China and Northern Vietnam as well as the political events that fostered those developments.

I have also provided a timeline that shows the Sino-Vietnamese historical events that were significant for the transfer of loanwords. Interlingual interactions in each period were

³⁰ Taylor cites Asami Shōzō’s interpretation of ‘intertwined feet’, referring to sleeping with one’s head tucked in and feet in the center (Taylor 1983: 26). I am not convinced by this and think it’s more likely that the phrase refers to sitting cross legged instead.

due to small scale trade, political domination, cooperation, migration, and multilingualism, which is seen in the figure below:

Figure 37: Significant Sino-Vietnamese Historical Events

Historical Events	Corresponding Sino-Vietnamese Loans
Small scale interaction with the Bǎi Yuè	Early Sino-Vietnamese (Pre-Qin, before 221 BCE)
Zhào Tuó's establishment of Nam Việt and the conquest of Âu Lạc	Early Sino-Vietnamese (Qin-Han 221 BCE-111 BCE)
Han Conquest of Nam Việt	Early Sino-Vietnamese (Han 111 BCE-40 CE)
The Trưng Sister Uprisings and Mã Yuán's campaign	Early Sino-Vietnamese (Han 40 CE-220 CE)
The Yǒngjià rebellions and Jin refugees	Early Sino-Vietnamese (Jin 265-420)
The Tang Protectorate of Annam	Late Sino-Vietnamese (Tang 619-906)
Independence in 938	Late Sino-Vietnamese (Southern Han 917-971)
Ming Refugees in Saigon	Recent Sino-Vietnamese (Colloquial)
Japanese neologisms in modern Vietnamese	Recent Sino-Vietnamese (LSV pronunciation)

Early Chinese interaction with the Bǎi Yuè / Bách Việt 百越

The earliest Chinese dynasties include the mythical Xia 夏 as well as the historical Shang 商 (1766-1111 BCE) and Zhou 周 (1111-221 BCE). The founding of the Xia Dynasty is based on the myth of Yǔ 禹 taming the floods of the Yellow River by building canals. Not much is known about the historicity of this dynasty, though some scholars identify the Èrlǐtóu 二里头 culture (1900-1500 BCE) in Hénán to be the Xia (Liu 2005; Cao 2004). Much of what we know about the Shang Dynasty is based on archeological discoveries, including

bronze sculptures and oracle bone inscriptions. The Zhou conquered the Shang, under the pretext that the last king of Shang was evil, and the Zhou was mandated by Heaven to rule instead.

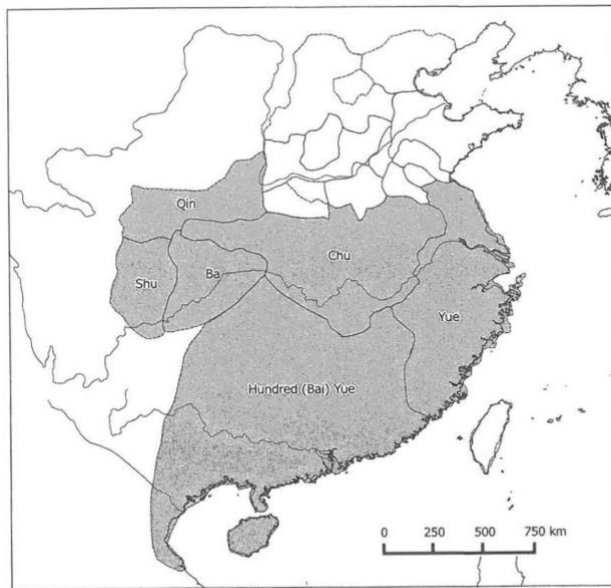
The Western Zhou was politically and militarily strong, but after the start of the Eastern Zhou, political unity started to disintegrate. During the Spring and Autumn Period (770-453 BCE) the power of the Zhou king faded and nobles held a monopoly on social, economic, political and cultural power (Pines 2020: 494). Eventually, the king was no longer able to restrain the power that local lords had amassed, the centralized state disintegrated, and smaller states started fighting for supremacy, igniting the Warring States period (476-221 BCE).

The Zhou dynasty was also a period of intense cultural and philosophical developments in China. This era provided a rich tapestry of texts that would serve as the bedrock of early Chinese thought, such as The Book of Odes *Shī Jīng* 詩經, the Songs of the South *Chǔ Cí* 楚辭 and the *Dào Dé Jīng* 道德經. The Zhou also witnessed the emergence of schools of thought such as Ruism³¹ *Rú Jiā* 儒家, Daoism *Dào Jiā* 道家 and Legalism *Fǎ Jiā* 法家, which provided later political and philosophical contributions.

During the Eastern Zhou's period of division (476-221 BCE), there was large scale interaction with the Hundred Yue Bǎi Yuè 百越 Bách Việt, who lived in modern day Zhèjiāng, Fújiàn, Guǎngdōng, Guǎngxī, and Northern Vietnam. These non-Sinitic peoples were likely to be Austro-Asiatic, Austronesian, Hmong-Mien and Kra-Dai speakers. This interaction included episodes of migration, trade, combat, and political cooperation. As Brindley (2015)

³¹ Ruism is also known as Confucianism.

discusses, this complex interaction and Chinese attitudes include contempt, fascination and admiration due to the Yuè craftsmanship and maritime skills (Brindley 2015: 182).



Map 2: Warring States China, 350 BCE (drawn by Dan Shultz).

Figure 38: Map of the Hundred Yuè and Warring States China (Erica Brindley 2015: xxi)

Charles Higham and Rachanie Thosarat (2012) discuss large-scale trade between the state of Chu and Southeast Asians in the Warring States period (Thosarat & Higham 2012: 224). James R. Chamberlains' hypothesis (2016) paints a more intriguing picture as he claims that Kra-Dai emerged from the state of Chu with its speakers later migrating southwards. Chamberlain's hypothesis implies that there was a large-scale interaction between Chinese and Kra-Dai speakers within the same borders of a Chinese state, leading to the likely flow of Kra-Dai and Chinese words into each other's vocabulary. Words such as 'indigo' and 'cage' were possibly incorporated into Kra-Dai at this time. We also have likely instances of early trade in metallurgy in this early period as seen in Alves (2016: 266):

Figure 39: Metallurgy vocabulary (Alves 2016:266)

Metal Phyla	Gold 金	Silver 銀	Copper/Bronze 銅	Iron 鐵	Steel 鋼
OC	*k(r)[ə]m	*ŋrə[n]	*[l]ʰoŋ	*ʃik	*C.kʰaŋ
MC	kim	ngin	duwng	thet	kang
Proto-HM ³²	*kjeəm	*ŋwiəŋ	*dɔŋ	*hluwC ph *hrəkD pm	*tshəwA ph
Proto-Tai	*yam	*ŋəʔn	*dɔŋ	*hlekd	*xaŋ
Proto-Vietic	NA	*ŋən	*do:ŋ	*k-rac	*t-kaŋ
LSV	kim	ngân	đồng	thiết	cương
ESV	vàng 黃	bạc 白	NA	sắt	gang; thép

Chamberlain (2016) argues that there was no Vietic or Việt-Mường presence in the Red River Delta until well after the 11th century CE, he proposes the idea of Vietic originating from the Cả and Mã rivers instead. There are some problems with Chamberlain's argument. First, Chamberlain's argument relies on the fact that Chinese texts do not explicitly mention Vietic, Việt-Mường or Annamese Middle Chinese. One would be hard pressed to find contemporary materials that describe living, Chinese dialects or non-Chinese languages of that time; our access to such information is not completely absent, but extremely limited.

The second problem with Chamberlain's argument is that we do have archeological and historical linguistic evidence for the presence of Vietic in the ancient RRD. Ferlus (2009a) provides linguistic evidence from the Đông Sơn 東山 period in the RRD, which was

³² Ph Proto-Hmong, pm Proto Mien.

from approximately 600 BCE to the 200 CE. The Đông Sơn civilization is a confederation of cultures that emerged from Mê-Linh and they are best known for their bronze works (Taylor 1983: 4). The Đông Sơn civilization was a socio-politically complex material culture that was largely agricultural and had the citadel of Cổ Loa as its urban center (Alves 2016: 277). The Đông Sơn culture also witnessed militarism, as Nam Kim (2015) writes, “Generally speaking, Dongson culture societies were marked by increased social differentiation, agricultural intensification, growing populations, and militarism” (Kim 2015: 235).

Ferlus’ primary piece of evidence for a Vietic presence in the Red River Delta is the existence of Proto Việt-Mường initial tʃ- corresponding to modern Vietnamese morphological pairs with a verb and nominal derivative. These pairs include:

Xáy/xay ‘to husk’ – chày ‘pestle’
Xeo ‘to lift up with a crowbar’ – chèo ‘paddle, oar’
Xum/xúm ‘to gather, form groups’ – chùm ‘bunch, cluster’/chụm ‘assemble, gather’.
Xĩa ‘to pick, jab, to put on a stick’ – chĩa ‘pitchfork, trident’
Xỏ ‘to sting, pierce’ - chõ ‘pan to cook sticky rice’

(Ferlus 2009a: 97)

Ferlus (2009a) compares this morphological pair with cognates in other Austro-Asiatic languages to show that the pestle was invented by Austro-Asiatic speakers in the RRD. He then claims that the pestle was adopted by other linguistic groups within Mon-Khmer and Austro-Asiatic afterwards (Ferlus 2009a: 95).

It is likely that Tai speakers were present alongside Vietic in the ancient RRD as well and were also present when the Chinese arrived. The argument for a Tai presence in the ancient RRD is not new, with Maspero arguing that Vietnamese is a Tai language, and the work by 20th century Vietnamese scholars researching Tai-Vietic mixing in ancient times

(Kelley 2013). Liam Kelley (2013)³³ mentions the 1963 work of Vương Hoàng Tuyên, who discusses the mixing between Tai and Vietic and the shared vocabulary between them³⁴:

banana: chuối (Viet) vs. khuổi (Tai)
 to slowcook: ninh (Viet: as in ninh thịt ‘to slowcook meat’) vs. ninh (Tai)
 debt: nợ (Viet) vs. nợ (Tai)
 (Kelley 2013: 62)

Kelley also mentions the work of Phạm Đức Dương, who in 1982 argued that there was shared vocabulary between Tày-Thái and Việt-Mường for agriculture, socio-economic and political life:

Sticky rice: gạo nếp (Vietnamese), khẩu nếp (Tày)
 Regular white rice: gạo tẻ (Vietnamese) khẩu tẻ (Tày)
 (Kelley 2013: 70)

Mark Alves (2019) also makes the case that there was a mixture of Tai and Vietic speakers in the Đông Sơn era Red River Delta. Alves uses the ESV word *ngói* 瓦 ‘Chinese style tiles’ as evidence for the linguistic presence of Vietic. Alves also adds on to Kim’s discussion on Cổ Loa as an early state and implies Cổ Loa to be a cosmopolitan urban setting with both Vietic and Tai speakers. There are many instances of early Tai words being borrowed in Proto-Vietic.

Figure 40: Tai words borrowed into Vietic (Modified from Alves 2019: 17)

Lexical Item	Proto-Tai	Proto-Vietic	Vietnamese
‘Duck’	*pjet D1 (Li)	*vi:t	vịt
‘Water spinach’	*buŋC (Pitt.)	*bo:ŋʔ	muống

³³ Liam Kelley, “Tai Words and the Place of the Tai in the Vietnamese Past”. *The Journal of the Siam Society*. 2013.

³⁴ Kelley notes that Vương does not use a Tai writing system in his glosses, only quốc ngữ transcriptions (Kelley 2013: 62).

Alves lists possibilities for different degrees of Vietic and Tai interactions. One scenario is that Vietic and Tai speakers were equally influential in the RRD by the Đông Sơn period, but Tais were gradually pushed to the peripheries. Another scenario is that the RRD was predominantly Austro-Asiatic and Vietic became a distinct AA speech community due to significant contact with the Tais (Alves 2019: 18). Alves leans towards the idea that Vietic was prominent in the RRD with significant contact with Tai in the Đông Sơn era (Ibid: 18). The arrival of the Chinese brought forth another layer of complexity to this environment, providing loanwords to Vietic and to Tai as well.

This set of Tai-Vietnamese shared vocabulary makes it very likely that the RRD and northern Vietnam in general was trilingual instead of bilingual after the Chinese came in large numbers. This means that Tai holds an important place, not just in Vietnamese history, but in our understanding of Sino-Vietnamese and the development of their syllable initials. Tai also holds an important place in understanding the development of a local Chinese dialect in the Red River Delta. Tai languages in modern-day northern Vietnam and the border region in Southwestern China are especially important for this nuanced understanding of these developments.

One language of particular interest for this dissertation is the Tày language. Tày is a Kra-Dai language of the Tai branch that is indigenous to northern Vietnam, with some scholars claiming that the legendary King An Dương Vương was a Tày person (Đoàn 1996: 2). Đoàn Thiện Thuật considers the Tày language to be present in northern Vietnam since the third century BCE (ibid: 2). There are also legends of the Tày migrating to the provinces of Cao Bằng in Vietnam and Jīnlóng 金龍 in China from the RRD (Holm 2019). According to this legend, around 600 years ago, a community of Tày migrated from Hải Dương to Cao

Bằng in Vietnam and Jīnlóng in Guǎngxī (Holm 2019: 3). If this legend is rooted in historical reality, then the Tày have been in Hải Dương province during the time of AMC.

The Tày also had a unique Sinographic script called Chử Nôm Tày. This script is used to write borrowed Chinese words, Sino-Vietnamese words from Vietnamese directly and Tai words.

Figure 41: Examples of Chử Nôm Tày writing Tai words:

Graph	Orthographic reading	Gloss	Thai cognate
的 on top of 小	đếch	'child'	เด็ก dek 'child'
Food radical 食 with 豎	kin	'to eat'	กิน kin 'to eat'
Animal radical 犛 with 灵	lình	'monkey'	ลิง ling 'monkey'

Critically for our purposes, are examples of Chử Nôm Tày used to write Chinese loanwords:

Figure 42: Chử Nôm Tày used to write Chinese loanwords

Graph & Gloss	OC	MC	Tày Orth	ESV	LSV
假 jiǎ 'fake'	*Cə.kʰraʔ	kaeX	chá	?	giả
價 jià 'price'	C.qʰraʔs / mʰ.qʰraʔs	kaeH	chá	?	giá
客 kè 'guest'	*kʰrak	khaek	khéch	?	khách
真 zhēn 'true'	*ti[n]	tsyin	chăn	?	chân
正 zhēng 'first month'	*C.teŋ	tsyeng	chiêng	giêng	chính
瓦 wǎ 'tile'	*C.ŋʷra[j]ʔ	ngwaeX	ngoạ	ngói	ngoa
味 wèi 'smell'	*m[ə]t-s	mj+jH	mùi ³⁵	mùi	vị
錢 qián 'money'	*N-ts[a][n]	dzjen	dèn	?	tiền

³⁵ Most Tày speakers say mụi instead of mùi like in Vietnamese (Hoàng 2003: 339).

The evidence shows that Vietic and Tai were well established in the RRD. The evidence also shows Kra-Dai and Austroasiatic languages throughout southern China are likely to be the languages spoken by the Hundred Yuè tribes.

Speakers of Old Chinese were in regular contact with Kra-Dai languages. Merchants from the state of Chu frequently interacted with people from Southeast Asia. The state of Chu itself was home to Chinese speakers and was likely home to Kra-Dai speakers as well. Vietic interacted with Old Chinese on a small scale, but a rogue Chinese general would establish a kingdom in the south and start changing the linguistic landscape of southern China and the Red River Delta. The Chinese leader of this kingdom would gain support not only from Chinese settlers, but also local Kra-Dai and Vietic speakers.

Zhào Tuó, Nam Việt and the Conquest of Âu Lạc

Zhào Tuó 趙佗 (230-137 BCE), or Triệu Đà in Vietnamese, was a Qin general of northern Chinese origin; his hometown was Zhēndìng 真定. His status in Vietnamese history is controversial, as some Vietnamese consider him to be a hero who defended against northern Han aggression (Taylor 1983: 26-27), while others consider him to be a usurper. Regardless of his status in Vietnamese history, the kingdom of Nam Việt and Zhào's reign as king left a large impact on Sino-Vietnamese history. His reign brought a Chinese administrative presence in modern day Guǎngdōng, Guǎngxī and North Vietnam with local cooperation, rejection of imperial control from the central plains, and the establishment of the Jiāozhǐ / Giao Chỉ 交趾 commanderies in the Red River and Mã River Deltas.

During the Qin dynasty, the emperor Qín Shǐhuáng 秦始皇 sent Zhào Tuó on southern campaigns to conquer new territory for the empire. Zhào Tuó led his armies south

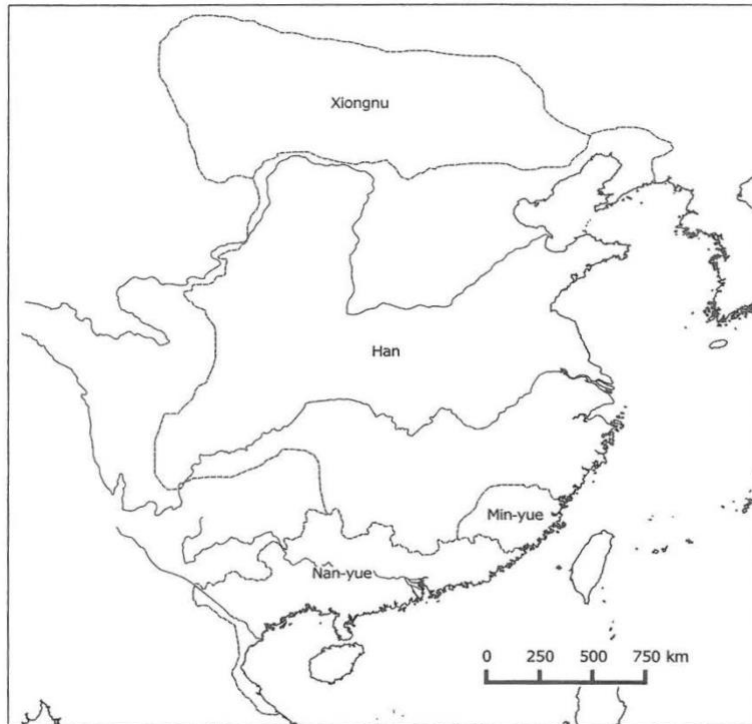
and gained territory inhabited by the Yuè. The newly acquired territory by Zhao Tuo included the commanderies of Nánhǎi 南海, Guìlín 桂林, and Xiàng 象 in modern day Guǎngdōng and Guǎngxī. The Qin would not be able to officially hold on to this territory because trouble was brewing in the north. Zhào Tuó was also about to be unexpectedly promoted by fate.

The historical texts *Shǐjì* 史記 and *Hàn Shū* 漢書 both narrate Zhào Tuó's ascension as king of Nam Việt. When the Qin fell into civil war around the central plains, the governor Rèn Xiāo was on his deathbed, and called Zhào Tuó for his last piece of advice. He told Zhào Tuó about the civil war in the north and advised him not to get involved. Rèn Xiāo also emphasized that they are far away and could establish their own kingdom. Zhào Tuó agreed to take this opportunity and after Rèn Xiāo passed away, Zhào Tuó sealed off the passes of Huángxī 滄溪, Héngpǔ 橫浦 and Yángshān 陽山, gathered the local peoples, put the Qin officials not loyal to Zhào Tuó to death, and proclaimed himself king of Nán Yuè or Nam Việt³⁶.

Figure 43: Map of Han China and Nam Việt (Nán Yuè) (Brindley 2015: xx)

³⁶ Sī Mǎqiān 司馬遷 Record of the Grand Historian *Shǐjì* 史記, *Nán Yuè Liè Zhuàn* 南越列傳 <https://ctext.org/shiji/nan-yue-lie-zhuan> 03/14/2025.

Keith Taylor, 1983, *The Birth of Vietnam*, Berkely and Los Angeles: University of California Press, 23.



Map 3: Early Han era, 200–111 BCE (drawn by Dan Shultz).

The cooperation of the local peoples is an important detail in the history of Nán Yuè. Taylor (1983) mentions that Zhào Tuó was not only popular amongst the Chinese migrants but also among non-Chinese groups (Taylor 1983: 23-24). By the early Han period, the Emperor Hàn Gāozǔ sent his envoy Lù Jiǎ 陸賈 to recognize Zhào Tuó as king of Nán Yuè and a vassal of the Han. Lù Jiǎ also advised Zhào Tuó to not disturb the Han borderlands. Zhào Tuó met Lù Jiǎ by squatting and wearing his hair in the local style (Brindley 2015: 206). Zev Handel (2019) makes another observation that implies political cooperation with Kra-Dai and Austro-Asiatic speakers. Handel shares his speculation on the political apparatus in the kingdom of Nán Yuè as well as the need for writing amongst those working in the administration. Handel implies that there was an incorporation of Kra-Dai and Austro-Asiatic speakers that were literate in written Chinese:

Administered by a Chinese leadership, the state introduced Chinese administrative practices and culture to the area. The administrative bureaucracy was sophisticated and widespread, and relied on written communication and record keeping. It can be safely assumed that a significant number of speakers of non-Chinese Yuè languages became familiar with, if not fully proficient in, Chinese writing.

In order for the administration to function, it must have relied on Yuè language speakers who learned both spoken and written Chinese. (Handel 2019: 125)

Specifically, Handel draws on Phan and says that one of the languages incorporated into this administration was Proto Việt-Mường, which is unlikely due to Proto Việt-Mường being a contemporary of the Tang era, it is more likely that Proto-Vietic and other Austro-Asiatic proto languages were incorporated into the administration instead since Proto Vietic is a contemporary of Old Chinese (Alves 2018):

The identities of the various Yuè languages are not known, but almost certainly included members of the Tai-Kadai and Mon-Khmer language families. Among the languages spoken in the area of Nán Yuè that is congruent with modern-day northern Vietnam was the language ancestral to modern-day Vietnamese, Proto-Viet-Muong. (Handel 2019: 125)

Nevertheless, This incorporation of so-called Yuè peoples into the administration likely created an educated and partially Sinicized class of scholars and bureaucrats. Wéi Shùguān (2004) also draws upon the 13th century Vietnamese historical text An Nam Chí Lược 安南志略 to show that education was encouraged in Nam Việt:

趙佗王越南，稍以詩禮化其民，西漢末，錫光治交趾，仁延治九真，建立學校，尊仁依義

When Zhào Tuó (Triệu Đà) ruled as king in Nán Yuè (Nam Việt), he sought to transform the people through poetry and etiquette. At the end of the western Han, Xīguāng (Tích Quang) governed Jiāozhǐ (Giao Chỉ) and Rènán governed Jiǔzhēn (Cử Chân), they established schools and upheld benevolence and justice (Wei 2004: 2) (Translation by this author).

The An Nam Chí Lược shows that Zhào Tuó was interested in educating the local population in Nam Việt. This would make Handel's hypothesis of Tai and Austro-Asiatic integration into the administration all the more likely. This Yuè administration would expand as Zhào Tuó later conquered the Kingdom of Âu Lạc, which is situated in the RRD in Vietnam. The conquest of Âu Lạc brought forth the possible incorporation of this Austro-Asiatic Kra-Dai literate class into the government of Jiaozhi. The conquest of Âu Lạc also possibly led to the incorporation of Vietic speakers into the administration.

From the reign of Zhào Tuó in the kingdom of Nam Việt, we have had a period of possible cohabitation between Chinese, Tai and Vietic speakers. Since the ancestor of the Tày language is said to be indigenous to northern Vietnam since the third century BCE, it was likely incorporated into Zhào's administration by the time Zhào Tuó conquered Âu Lạc. The likelihood of Vietic and Tày speakers being included in the administration is based on Zhao's popularity with local ethnic groups. The kingdom of Nam Việt could not last forever though, as Zhào Tuó's heir Zhào Mò 趙昧 Triệu Mạt (137-122 BCE) was no match for the new northern political force with ambitions for southern expansion.

Han Conquest of Nam Việt

The winner of the civil war that raged in the north was Liú Bāng 劉邦 (256-195 BCE), who led a rebellion against the Qin's repressive policies. Liú Bāng proclaimed himself Emperor Gāozǔ or Hàn Gāozǔ 漢高祖 and started the Han Dynasty (206 BCE-221 CE). The Han Dynasty was a period of prosperity, cultural achievements, and territorial expansion. Ruism became the state philosophy of the Han under leadership of Hàn Wǔdì 漢武帝 (156-87 BCE). The Han held control of the Tarim basin and opened trade with the Parthians and Romans on the Silk Road. Indeed, this period can be regarded as Imperial China's first Golden Age. Initially, the kingdom of Nán Yuè was a vassal state for the Han, but it was not enough for the ambitious Han empire.

In 111 BCE the Han empire took direct administrative control of Nán Yuè after a successful expedition by the Han general Lù Bódé 路博德 (119-109 BCE) (Phan 2013: 72). The RRD would then be under direct Chinese political control for the next millennia, starting the first of many periods known in Vietnam today as bắc thuộc 北屬 'northern domination'.

The Han were initially relatively relaxed on their involvement in the local culture, the indigenous Lạc lords were allowed to rule over the local population, but as prefectural officials (Taylor 1983: 33). By the first century CE, the Han overlords imposed marital and agricultural customs on the local population (ibid: 36). Many Chinese words entered the Vietic lexicon during this period.

Figure 44: Proposed ESV words for marriage practices according to Alves (2016: 281)

CH	GL	MN	OC	MC	ESV	LSV
婦	woman; wife	fù	*mə.bəʔ	bjuwX	vợ	phụ
丈	husband	zhàng	*[d]raŋʔ	drjangX	chồng	trượng
媒	match-maker	méi	*C.m ^ɛ ə	mwoj	mai	môi

Figure 45: Proposed ESV words for agriculture according to Alves (2016: 280)

CH	GL	MN	OC	MC	ESV	LSV
稼	to sow	jià	*k ^ɛ ra-s	kaeH	gieo	giá
井	well (n.)	jǐng	*C.tseŋʔ	tsjengX	giếng	tỉnh
闌	enclosure	lán	*[r]ʔan	lan	ràn	lan

Tensions were present due to increasing interference, taxes, and patriarchal inheritance customs foreign and hostile to the Lạc social order (Taylor 1983: 36-37). An uprising carried out by two sisters would change everything in the region and leave a lasting legacy on Vietnamese history.

The Trưng Sister Uprisings and Ma Yuan's Campaign

There is a villain in the first Chinese domination period known as Sū Dìng 蘇定 朶 Đĩnh, who heavily taxed the people. Sū Dìng was reportedly corrupt and weak; during his

tenure, the local Lạc rulers became increasingly bold (Taylor 1983: 37-38). Trưng Trắc, along with her sister Trưng Nhị organized a rebellion against their Han overlords. Initially the Han did not take them seriously because of their sexist assumptions, however, the Trưng sisters were able to capture multiple citadels, including Cổ Loa. They drove the Han Chinese administration out and they became queen and vice regent.

Understanding that the Trưng sisters are a formidable force, the Han emperor dispatched his best general Mã Yuán 馬援 (14 BCE-49 CE) to defeat them. Mã Yuán planned his campaign carefully, building roads behind him to secure a supply line. Ma Yuan fought the Trưng sisters and defeated them. Sources differ on the fate of the sisters; the *Hòu Hàn Shū* 後漢書 says they were captured then killed with their heads brought back to the capital, popular legend says the Trưng sisters took their own lives to escape being captured, and other popular traditions suggest that they died in battle, died from illness or simply disappeared into the clouds (Taylor 1983: 40).

The defeat of the Trưng sisters brought lasting effects on the RRD. Mã Yuán began a Sinicizing campaign that would alter Vietnamese society forever. Many of Mã Yuán's soldiers stayed in the RRD and intermarried with the local population. It is likely that there was intermarriage amongst Chinese and Vietic speakers as well as the Chinese and Tai speakers. Chinese vocabulary continued to enter Vietic and possibly Tày as well.

The Jiànkāng Empire, The Yǒngjià Rebellions, and Jin Refugees

The fall of the Han empire led to the Three Kingdoms era (220-280 CE) and the Northern and Southern period (219-580). The northern states were influenced by nomadic ethnic groups and the south was culturally sophisticated with hereditary claims to legitimacy. The successive dynasties in the southern realm were centered around the city of Jiànkāng 建康 which is in modern day Nánjīng. Andrew Chittick (2020) calls the Southern realm the Jiànkāng Empire, which was multi-ethnic with regional prestige languages, including the predecessor of Annamese Middle Chinese. Chittick attempts to divorce the successive dynasties in the south from China's national historical narrative. Though I am not quite convinced that the Jiankang empire was not Chinese per say, I am convinced that the empire was indeed multi-ethnic and multilingual with regional prestige languages.

Significant linguistic developments took place during the period of division, such as the formation of Middle Chinese and tonogenesis. Shěn Yuē 沈約 (441-513) was amongst those who gave a description of the four tones that emerged in Middle Chinese. The phonological system of this first stage of Middle Chinese, which Pulleyblank (1984) calls Early Middle Chinese, was based on a literary compromise between northern and southern pronunciations in the *Qièyùn* 切韻, compiled in 601 CE by Lù Fǎyán 陸法言. The northern pronunciation was based on the dialect of Luòyáng 洛陽 and the southern pronunciation was based on the dialect of Jiànkāng. The local speech of Jiànkāng was influential, especially for Sino-Xenic loanwords like Japanese *Go-On* 吳音, as Pulleyblank notes, one of the sources of Early Middle Chinese was in Jiànkāng (Pulleyblank 1984: 130).

Refugees from China’s northern areas migrating south would add further complexity to the Sino-Vietnamese lexicon. Nomadic groups have invaded Chinese territories during the Yǒngjià 永嘉 era (307-313) of the Jin Dynasty (265-419) (Phan 2013: 76). These nomadic invasions in addition to famine and in-fighting led to countless Chinese refugees fleeing the central plains and migrating into the RRD. Phan cites Jacques Garnet (1972) on the migration pathways that these one million northern Chinese refugees took:

One route extended from Hebei and Shandong towards the Huai River valley, on into the lower Yangzi, Zhejiang, and Fujian; the other route led through Shanxi and Shaanxi, towards the upper Yangzi, on into the relative stability of Jiao in the Red River Delta.

(Gernet, 1972, p. 180; from Phan 2013: 76).

It was during this period when yet another stage of ESV loanwords entered the Vietic language. John Phan discusses the phonological differences between the ESV loans from the Han era and ESV loans from the Jin era. The Jiaozhounese community mentioned in Phan's (2013) work and the Jiankang empire mentioned in Andrew Chittick's work (2020) was likely impacted by this new wave of migrants. The migrants likely spoke forms of EMC, and once they settled into the RRD, a local dialect of Chinese influenced by local languages would likely emerge.

Figure 46: Han Era ESV & Jin Era ESV from Phan (2013: 81):

PHONOLOGICAL INDICES FOR HAN ESV VS. JIN ESV

Stratum	Fronting of low-back (-a-like) vowels	Raising/rounding of low-back vowels	Monophthongization of *-aj	Deletion of final *-h element in Departing Tone syllables ⁶⁷
Han ESV		墓 <i>grave</i> : maɪɬɪ (mà)	蛾 <i>moth</i> ɲajɬɪ (ngài)	
Jin ESV	夏 <i>summer</i> : heɪɬɪ (hè)	墓 <i>grave</i> : moɪɬɪ (mò)		墓 <i>grave</i> : moɪɬɪ (mò)
LSV			蛾 <i>moth</i> ɲaɪɬɪ (nga)	墓 (<i>grave</i>): moɪɬɪ' (mộ)

Table 2.1

The Tang Protectorate of Annam

The Tang Dynasty is considered to be another golden age in Chinese history.

Historians such as Mark Edward Lewis (2009) write that the Tang Dynasty was a high point for Chinese civilization in terms of cultural and political prowess. The Tang grew in territory larger than the Han and the Tang fostered trade for China on the Silk Road once again. Keith Taylor (1983: 171) mentions how a defeat by the Tibetans motivated the Tang to organize the frontier lands into protectorates *dūhùfǔ* 都護府. Four protectorates were organized to “pacify” and oversee “barbarian lands” in the frontier: there was Āndōng 安東 on the Korean border, Ānběi 安北 around Mongolia, Ānxī 安西 on the Tarim basin, and Ānnán/Annam 安南 in modern day North and Central Vietnam.

The Tang was also cosmopolitan. Many foreigners were welcomed and different cultures were incorporated into the empire, though some scholars such as Yang Shao-yun (2023) claim that the cosmopolitan nature was exaggerated by modern historians. The high culture of the Tang attracted scholars from Korea, Japan, and Turkic lands, and China influenced its neighbors and non-Sinitic peoples in the protectorates. The meritocratic civil service exam was expanded during the Tang era and after 821, foreigners were able to take the prestigious *Jinshi* 進士 exam, who were called ‘guest candidates’ *Bīn gōng* 賓攻 (Yang 2023: 49). The Tang is also a golden age in poetry with some famous poets such as Bái Jūyì 白居易 (772-846), Lǐ Bái 李白 (701-762), and Dù Fǔ 杜甫 (712-770) producing work in this era. During this culturally advanced era of Chinese history, many Sino-Xenic terms made their way into the ancestor languages of Vietnamese, Korean and Japanese.

Many scholars in the 20th century assumed that Sino-Vietnamese vocabulary from the Tang period was explicitly taught as was the case in Korea and Japan. Henri Maspero

(1920) and Wáng Lì (1948) argue that the Cháng'ān dialect of Chinese was taught in Annam. Hashimoto Mantarō (1978) argues that a southern koine was taught in Annam instead. Pulleyblank (1984) reaffirms the northern dialect argument by claiming that LMC was the Tang literary standard based in Cháng'ān and it provided the basis for Sino-Xenic pronunciations. Formerly, Alves (2003: 2009) argued that Sino-Vietnamese was taught rather than acquired, though now he is more convinced of acquisitional origins. Zhèngzhāng (2010) also promotes the educational hypothesis, and argues that reading mistakes are the reason why *Rì* 日 initial syllables and some *Yǐng* 影 initial syllables both have palatal nasal initials. Wéi Shùguān (2004) considers Late Sino-Vietnamese to be taught as well and mentions the promotion of schools and the imperial examination in *Giao Chí* 交趾 (Wei 2004: 2-3).

John Phan (2013) challenges the educational hypothesis and argues for the existence of a bilingual community of Proto Việt-Mường and Annamese Middle Chinese AMC speakers that existed in the RRD during the Tang era. John Phan argues that the bulk of Sino-Vietnamese words come from this spoken language interaction rather than education. Phan's argument comes from characteristics of LSV that are not consistent with MC. This area at this time was more likely to be a trilingual environment, with Tai speakers among both the PVM and AMC.

There is evidence that some vocabulary was transmitted amongst the educated classes which implies the existence of schools or literary circles with influence on the wider population. For example, there are cases in LSV where pronunciation is based on graphic analogy from characters that have similar graphic components:

Yǐng 影 initial syllable:

灣 Mandarin: wān, Vietnamese: loan

巒 Mandarin: luán, Vietnamese: loan

鸞 Mandarin: luán, Vietnamese: loan

Tòu 透 initial syllable:

桶 Mandarin: tǒng, Vietnamese: dǔng

勇 Mandarin: yǒng, Vietnamese: dǔng

俑 Mandarin: yǒng, Vietnamese: dǔng

Xiá 匣 initial syllable:

話 Mandarin: huà, Vietnamese: thoại

舌 Mandarin: shé, Vietnamese: thiết

The above instances of graphic analogy are unique in the RRD, though the data in chapter VI shows that some instances of graphic analogy were common in the medieval southwest, and throughout the empire. Another important phenomenon of philological interference includes the prevalence of one *Guǎngyùn* pronunciation over another, which show possible *Qièyùn* preferences for scholars in the medieval southwest.

Tai presence and multilingualism in the medieval southwest

Phan and Hilario DeSousa (2016: 2022) discuss the features of AMC in the protectorate of Annam during the Tang period. According to Phan and DeSousa, this variety of MC was part of a larger continuum called Southwestern Middle Chinese SWMC, the ancestor of many southwestern Chinese varieties that are present today. This area in southern China and northern Vietnam was undoubtedly also home to many Tai speakers. Phan's evidence comes from features in the Southwestern Chinese varieties such as plain

stop initials for MC voiced initials in Xiāng and LSV. I will dedicate more attention to the hypothesized features of AMC in another chapter.

What evidence do we have of a trilingual presence in the RRD during the Annam period? Edward Schafer (1967) discusses the Hlai presence on the coast of Guǎngdōng and northern Vietnam, including inciting an insurrection in the Tongking (North Vietnam) area (Schafer 1967: 53). We have cognates in the Tày language, which show instances of overlapping pronunciation with Sino-Vietnamese:

Figure 47: Comparison between Late Sino-Vietnamese and Sino-Tày pronunciation

Chinese	Hexagraph	LSV	Sino-Tày
謝 <i>xiè</i> 'to thank'	假開三去禡邪	tạ	tạ
西 <i>xī</i> 'west'	蟹開四平齊心	tây	sây
賊 <i>zéi</i> 'thief'	曾開一入德從	tặc	sắc
數 <i>shù</i> 'number'	遇合三上麩生	số	số
絲 <i>sī</i> 'silk'	止開三平之心	ti	sơ
神 <i>shén</i> 'divine'	臻開三平真船	thần	thần
身 <i>shēn</i> 'body'	臻開三平真書	thân	thân
鮮 <i>xiān</i> 'fresh'	山開三平仙心	tươi	tươi
在 <i>zài</i> 'to be located'	蟹開一上海從	tại	tại
錢 <i>qián</i> 'money'	山開三平仙從	tiền	dền
面 <i>miàn</i> 'face'	山開四去霞明	diện	diện
點 <i>diǎn</i> 'point/dot'	威開四上忝端	điểm	tiểm

This correspondence of initials has interesting implications for contemporary language interaction. At a glance we see matches of initials for *Xīn* 心, *Shū* 書 and *Chuán* 船 initials, while we see a difference with *Duān* 端, *Cóng* 從 and *Xīn* 心 initials. The

corresponding features of LSV and Sino-Tày imply a trilingual environment with unique internal mutations for Vietnamese and Tày. A systematic comparison will be provided in the analysis of MC initials and will bring implications for AMC features that lead to unique and unusual features in LSV and Sino-Tày.

I hypothesize that during the medieval period, AMC was in contact with two languages in the area. These two languages are of the Tai and Vietic variety and have adopted some AMC words that are cognates to each other. A close examination of Southwestern Chinese varieties, the Nôm Tày script, and even Zhuang gives us clues for the degree of contact between the three groups during the LSV period. An examination of modern Tày, and the southwestern dialects will provide more contributions for our understanding of initials in AMC and the large continuum of SWMC.

The Period of Independence

In 938 CE the commander Ngô Quyền (897-944) defeated the Southern Han fleet at the Battle of Bạch Đằng River. This decisive battle broke the millennium long political domination by China and ushered in a long era of independence for Vietnam. Regular contact with China has been broken off for the Vietnamese and AMC was no longer the prestige language of the RRD. Instead, the local Chinese populations switched to the already Sinicized form of PVM, the ancestor of modern Vietnamese (Phan: 2010; 2013, Taylor: 2013). Following independence and the switch from AMC to the already Sinicized PVM, many LSV words became codified into PVM. We do not know if any Chinese speakers switched to Tai and integrated with the Tày in this period, though we do know that Tai in this area was also significantly Sinicized.

Centuries later, a new category of Sino-Vietnamese filtered into the Vietnamese language shortly after the fall of the Ming dynasty. Ming refugees fled to Vietnam and were granted amnesty by the Nguyễn polity (Phan 2013: 342). These refugees were speakers of Southern Chinese varieties such as Cantonese, Hakka, and Min. The Ming refugees brought new words with them that filtered their way into the culinary and cultural vocabulary.

利是 lì xì ‘red envelopes’
 豉油 xì dầu ‘soy sauce’
 叉燒 xa xiú ‘Chinese style barbeque pork’

This layer of vocabulary was strictly colloquial, and the pronunciation is based on the pronunciation of the contemporary Chinese varieties that carried these words. There is no evidence of these words being formally taught as opposed to some LSV words. Vũ Đức Nghiệu (2010) also notes that these loanwords were initially pronounced with a southern Vietnamese accent (Vũ 2010: 140), which is convincing for two reasons, one is geography, two is the d- initial in the modern Vietnamese orthography is pronounced as [j-] in Saigon.

Lexical Item	Cantonese	Mandarin	Vietnamese	Saigon IPA ³⁷	Hanoi IPA
豉油 ‘soy-sauce’	si jau	chǐ yóu	xì dầu	sɪjɿ jəwɿ	siɿ zəwɿ

In the 19th century, Japan noticed the shift of power away from China towards the west with the aftermath of the Opium Wars. In 1853, Commodore Matthew Perry visited Japan with his fleet to discuss trade agreements. Seeing that they were outgunned, Japan agreed to negotiate trade agreements with the United States. In the following decade, a civil war broke out between the Tokugawa shogunate and the patriots for the emperor who wanted to modernize the country. The patriots won, the capital was moved to Edo and

³⁷ Vietnamese IPA provided by Wiktionary.

changed its name to Tokyo, and the Meiji era (1868-1912) began. Since the Meiji era, Japan aimed at competing with the western powers, with language playing a vital role³⁸.

The Meiji period oversaw large-scale translation of western materials. This led to the translation of western science, politics, philosophy, and economics. These concepts were critical for Japan to compete with western powers, and to become a major power in its own right. After Japan defeated China in the Sino-Japanese war in 1895, and certainly after Japan defeated Russia in the Russo-Japanese war in 1905, East Asian intellectuals were eager to learn from Japan. Western concepts that were translated into Japanese eventually funneled into Chinese, Korean and Vietnamese, becoming cognates differing only in pronunciation once they entered each respective language.

Figure 48: Modern neologisms in languages of the East Asian Cultural Sphere

Term and Graph	Japanese	Mandarin	Korean	Vietnamese
Philosophy 哲學	てつがく tetsu gaku	zhé xué	철학 cheol hak	triết học
Science 科學	かがく Kagaku	kē xué	과학 gwa hak	khoa học
Society 社會	しゃかい shakai	shè huì	사회 sa hoe	xã hội

It is important to note that in Vietnamese, the LSV readings for the corresponding Sinograph was used for each term. Many of these compound terms existed in Classical Chinese texts but were reappropriated and redefined by Japanese intellectuals (Lydia Liu 1995: 390)³⁹. These concepts made their way through Chinese translations, then

³⁸ For more on the background of modernization and translation efforts in Japan, see Mutsuko Tsuboi, “Nationalism and Ethnicity in the Modern Japanese Context: Translation and Ideology in the late 19th Century.” CLINA vol. 5-1, 27-44. 2019.

³⁹ Lydia Liu also mentions that the word ‘culture’ 文化 is different from the original sinographic compound as it referred to literary refinement as opposed to military prowess (Liu 1995: 33).

Vietnamese intellectuals transcribed those neologisms in the Latinized quốc ngữ script (Vinh 1993: 10).

Recent Sino-Vietnamese can be understood as loanwords in the Vietnamese language with two different types of origin. The first origin type is of Southern Chinese with a pronunciation that matches the languages of Yue, Hakka and Hokkien. The second type of Recent Sino-Vietnamese is a series of lexical compound words based on Japanese translations of western concepts with Kanji that is read in the LSV way rather than how it sounded in Japanese or Chinese at the time.

Vietnam has a long-complicated history that is politically and linguistically intertwined with China's history. Northern Vietnam has also been the stage for linguistic diversity with Tai, Vietic and a small number of Chinese speakers existing in the Đông Sơn culture of the RRD. We have evidence of Tai loanwords in the Vietic language that suggests early contact periods as well as shared loanwords from Chinese in both Vietic and Tai. There is a likely case of cooperation between non-Sinitic languages and Chinese style administrations in Nam Việt and a well-established trilingual presence in the Han and Tang dynasties.

There is also a new understanding of Vietnam's linguistic history during the Tang period. Scholars in the 20th century have assumed that Sino-Vietnamese came from formal education efforts, teaching a northern or southern dialect of Chinese. This shift in historiography started to occur in the early 2010's with Phan's acquisition hypothesis. Phan has influenced other scholars such as Picus Ding, Andrew Chittick, Mark Alves and Hilario de Sousa. There is evidence for both acquisition and education with irregular sound changes found in regional Chinese varieties today, and Sino-Vietnamese pronunciations that are based on graphic analogy.

The Tày language will be of great importance for this research. The local script of Chử Nôm Tày can provide clues for degree of contact during this trilingual period and the implications it has on internal mutations of Vietic and Tai at the time of AMC. This interaction and close examination of Chử Nôm and Chử Nôm Tày scripts also bring further implications for the education vs acquisition hypothesis for Sino-Xenic transmission.

V: Southwestern Sino-Xenic Scripts:

We have established that Southwestern China and Northern Vietnam are linguistically diverse; this was the case from ancient times until today. This area is home to five major language families, one of them is Sino-Tibetan and the other four experienced frequent instances of language contact with Chinese. During the long period of contact with Chinese, the speakers of the other four language families were exposed to the Chinese script. Following exposure to the Chinese script, many of these speakers of local languages began to adopt and modify the script to better suit their own languages.

David Holm calls these modified forms of the Sinographic script Sino-Xenic scripts, which is the Chinese script that has been borrowed and modified by another language (Holm 2013: xi). This phenomenon of Chinese Character innovation is seen in Vietnamese with Chữ Nôm, in Tày with Chữ Nôm Tày, in Zhuang with the Sawndip script and even in Japanese with *kokuji* 国字 characters:

Tsuji 辻 つじ ‘crossroads’

Hatake 畑 はたけ ‘dry field’

Tōge 峠 とうげ ‘mountain pass’

Holm further adds that these Sino-Xenic scripts are important because they provide a key to phonological reconstruction. This chapter will discuss three types of Sino-Xenic scripts that are critical to understanding language contact in the medieval southwest. These scripts include Chữ Nôm which is used to write the Vietnamese language, Chữ Nôm Tày which is used to write the Tày language and the Old Zhuang Script Sawndip which is used to write the Zhuang language. All three of these writing systems contain graphs that are not

present in the mainstream Chinese script and contain clues for historical reconstruction in each language.

Chữ Nôm:

Chữ Nôm 字喃 can be understood as a Vietnamese writing system that adopts the principles of Chinese writing and simultaneously creates new graphs to write Vietnamese words that does not already exist in the Chinese script. It is a regional and colloquial expansion pack of the Chinese script, and it is understood to either mean “Southern Script”, according to Wáng Lì⁴⁰ (1948: 78) and Đoàn Thiện Thuật (1996), or “Vulgar Script” and “Vernacular” script (Phan 2013: 136; 2013.b: 1). The script resembles Chinese characters and Phan (2013.b) notes that it “imitates the principles of Han writing” (ibid: 1).

The approximate dates of origin for the Chữ Nôm script are contested, with ideas from the 13th and 14th century to examples that serve as precursors for the script dating all the way back to the Tang and even the Han period. Since the script did not gain the same prestige as Classical Chinese, Nôm was never standardized as there are graphic variations to write the same word, such as nhiều ‘many’ either written as 𠵹 or as 𠵹 (Handel 2019: 154).

There are however regular features of the script, and Zev Handel (2019) provides seven categories similar to the Liù Shū 六書 categories found in the mainstream Chinese script. Among the categories provided by Zev Handel (2019), there are words taken directly from the Chinese script such as tài 才 ‘talent’ and sách 冊 ‘book’, which Handel calls directly adapted logograms (Handel 2019: 140). Chữ Nôm additionally includes graphs that write Vietnamese morphemes that resemble the LSV sound of the corresponding Sinograph such

⁴⁰ 喃就是南 Nôm is Nan ‘south’ (Wáng Lì 1948: 78).

as một 沒 ‘one’ and biết 別 ‘to know’ (Ibid: 144). In these categories we see that Chữ Nôm uses already existing graphs in the mainstream Chinese script to write the Vietnamese language.

There are also many unique graphs that were invented for the purpose of writing certain Vietnamese words, combining both semantic and phonetic components. Handel again (2019) mentions innovative graphs with semantic and phonetic combinations, such as nhiều 𠵹 ‘many’ and ít 𠵹 ‘few’. Semantic combinations include Trời 𠵹 ‘sky’ as a combination of 天 ‘heaven’ and 上 ‘above’ and the graph for tuổi 𠵹 ‘age, year’ which is a combination of 年 ‘year’ and 歲 ‘season’ (Ibid: 148). These graphs use the Sinographic principles of xíngshēng 形聲 ‘phono-semantic compounds’ and huìyì 會意 ‘compound ideographs’.

The structure of certain graphs in the Chữ Nôm script can also give clues about earlier phonological stages of the Vietnamese language, such as Vietnamese consonant clusters. Take trăng 𠵹 ‘moon’, which is a combination of 巴 (HV ba) and 陵 (HV lǎng), which represents the Middle Vietnamese pronunciation blǎng with ba 巴 being used to represent the labial initial of the morpheme (ibid:150). Shimizu Masaaki (2011) also discusses the role Chữ Nôm plays as evidence for Vietnamese historical phonology. Shimizu supports Ferlus’s (1982) hypothesis on spirantization, saying that the Nôm script hints at the existence of former sesqui-syllabic words that have evolved into single syllable words.

Shimizu (2011) draws examples from the Vietnamese Nôm translation of the Buddhist text Phật thuyết 佛說大報父母恩重經 in defense of Ferlus’s (1982) spirantisation hypothesis. Shimizu discusses the process of Vietnamese words with a pre-initial syllable losing the pre-initial and causing lenition in the initial. Examples that Shimizu uses to

illustrate this point are digraphic 阿普 a vỗ and 阿批 a vè. In LSV, 阿普 is a phỏ and 阿批 is a phê. Both examples use two graphs for morphemes that are monosyllabic today, which suggests that Vietnamese at an earlier stage was sesqui-syllabic.

Phan (2019) also discusses the sesqui-syllabic nature of Vietnamese demonstrated in Chử Nôm. Phan (2019) draws examples of digraphic morphemes in the Nôm script from the Phậ thuyết text to demonstrate the former sesqui-syllabic nature in Ancient Vietnamese, drawing upon examples from Shimizu (1996; 2015) and Xun Gong (2017):

破散 OV *p-san rắn ‘snake’ (Shimizu 1996)

古弄 OV *k^h-lơng sống ‘live’ (Shimizu 2015)

舍美 OV *c-maj mới ‘new’ (Shimizu 1996)

(Phan 2019: 6)

In addition to the evidence provided by the Chử Nôm script, Vietic cognates from languages such as Thavưng and Rục also provide instances of sesqui-syllabic morphemes which is attested in Phan (2019) and Baxter & Sagart (2014). This textual and graphic analysis shows that the Chử Nôm script is helpful for historical linguists in our investigation of Ancient Vietnamese and Middle Vietnamese pronunciation.

Chử Nôm is additionally helpful for investigating the nuance of Sino-Vietnamese and its layers. Phan (2013) discusses wholesale loans from “unorthodox Sino-Vietnamese readings”, which are essentially ESV words such as the word bùa 符 ‘amulet’ (Phan 2013: 367). This means that the readings of Nôm graphs include those belonging to the lexical layer of ESV, which is perceived as a native word for modern day Vietnamese speakers. Another example is the graph 味; the LSV reading for 味 is vị with the meaning of ‘taste’, but as a Nôm graph, the pronunciation is mùi meaning ‘smell’. Pulleyblank (1984) mentions the occasional occurrence of nasal initials developing in *Yng* initial syllables and cites 因 nhân

and 咽 *niết* as examples. What is interesting about Pulleyblank's example is that *nhân* 因 is an attested LSV reading while *niết* 咽 is a reading affiliated with the Nôm script. By contrast, in the LSV pronunciation, the graph 咽 is pronounced *yết*.

Chữ Nôm Tày:

Chữ Nôm Tày is a Sino-Xenic script used to write the language of the Tày people, the largest ethnic minority in Vietnam. The long presence of Tày in modern day Northern Vietnam made it possible for a long history of contact with Chinese and Vietic languages. The Tày formerly used Chinese characters in their writing and Chữ Nôm Tày likely emerged from the 15th century long after receiving vocabulary from Chinese (Shimizu 2020b: 44).

Like the Vietnamese Chữ Nôm script, Chữ Nôm Tày uses graphs that are present in the mainstream Chinese script and innovates new graphs to write Tày words. Also like the Chữ Nôm script, Chữ Nôm Tày was never standardized and there are graphic variations to write the same word, such as the word *kin* 'to eat' which can be written with a combination of 食 and 堅, or a combination of 口 and 巾.

Chữ Nôm Tày uses graphs that are also present in the mainstream Chinese script. A single Sinograph can also be used to write different lexical items in the Tày language; for example, the graph 別 can be used to write the word *bít* 'to pick (flowers)' or *biệt* 'different'. The graphs can be used to write loanwords that come from Chinese, or they can be repurposed to write Tai words that are nearly homophonous to the Chinese word. For example, the graph 保 is used to write the word *bau* which means 'beautiful',

百景眉每式花保

(Tay Orth): Pác cảnh mì mọi thức hoa bau.

(Viet): Trăm cảnh khác nhau có đủ mọi thức hoa xinh đẹp.

‘Hundreds of scenes different from each other have all kinds of beautiful flowers.’
(Nôm Foundation: Từ Điển Chữ Nôm Tày)

Chữ Nôm Tày is also used to write words borrowed semantically and phonetically from Chinese, take the word for ‘money’ 錢 for example, in Sino-Vietnamese it is tiền, and in Sino-Tày it is dền. Other examples include the words for ‘western’ and ‘bandit’ 西 and 賊 which both have dental stop initials t-; they are pronounced as tây and tặc respectively. In Tày, the words ‘west’ and ‘bandit’ are pronounced with a voiceless dental and alveolar lateral fricative [t̪], written in the modern orthography as sây 西 and sặc 賊.

Chữ Nôm Tày is also useful for phonological reconstruction and comparing pronunciations with Sino-Vietnamese. Some words in Tày are cognate with Sino-Vietnamese words but have different initials like the aforementioned sây 西 and sặc 賊 with the voiceless dental and alveolar lateral fricative [t̪]. In Middle Chinese, *xī* 西 ‘west’ is a *Xīn* 心 initial syllable which is a fricative and *zéi* 賊 ‘thief’ is a *Cóng* 從 initial syllable which is an affricate. In LSV they are both pronounced as dental stops tây 西 and tặc 賊. These changes are likely to have occurred after borrowing from Annamese Middle Chinese. This brings implications of how internal mutations affected borrowed vocabulary in both Vietnamese and Tày.

The Old Zhuang Script Sawndip:

The Old Zhuang script or Sawndip is a Sinographic script used to write the Zhuang language; it is diverse with different variations used in different locations. Much of the work

of David Holm (2013) is based on graphs found in the traditional Zhuang manuscripts. Holm conducts interviews with people who speak the language and read the traditional Zhuang texts aloud; he is concerned with graphic variation for common words across Southwestern China and Northern Vietnam. Holm divides the principles of borrowing Sinographs to write the Zhuang script into twelve categories, which are also applicable for Chữ Nôm and Chữ Nôm Tày. I will provide a brief summary of each principle listed by Holm.

1. Semantic borrowing:

These are graphs that are borrowed based solely on meaning. The Sinograph for ‘moon’ is used to write the Zhuang word *dwen* 月 ‘moon’, and the Sinograph for ‘year’ is used to write the Zhuang word *bi* 年 ‘year’. This category is rare according to Holm.

2. Phonetic borrowing:

This is the most common way to read Chinese characters in Sawndip (Holm 2013: 53). Holm mentions that the pronunciations of these words closely resemble the pronunciation of MC and LHOC, which makes this category helpful for our purposes. The Zhuang word for ‘to hear’ for example, *nie?* is written using the Sinograph *yì* 議 ‘to discuss’. There is also correspondence with the EMC word *njǎ* and Li Fang-kuei’s reconstructed Proto-Tai word *hja* (ibid: 53).

3. Semantic/Phonetic Approximant

This category is similar to *xingsheng* 形聲 ‘semantic phonetic compound’ characters, with semantic and phonetic features provided in the graphs. For example, the Zhuang word *kun* ‘to eat’ is written with the Sinograph for mouth *kou* 口 and ‘trigram symbolizing a mountain’ *gen* 艮. The graph for ‘mouth’ has a semantic feature and the graph for

‘mountain in the trigrams’ has a phonetic feature. Another example is the Zhuang word for ‘meat’ *no* with phonetic *nu* 奴 ‘slave’ on top, and semantic *rou* 肉 ‘meat’, on the bottom.

4. Semantic Phonetic Borrowing

Holm states that there is a two-way process for this category of characters:

“In this category, characters are first read semantically and then borrowed phonetically.

請	仆	問	卡	結
ɕiŋ	pu:	ɕem	ka:	ke:t
Invite	CLF	silent	kill	trap

Invite the one who silently kills game with traps

In this line 問 *wen* ‘ask’ is read semantically as *ɕa:m* ‘to ask’ and then borrowed phonetically as *ɕem* ‘silently’, with a different vowel length.” (ibid: 54)

5. Phonetic Semantic Borrowing

These Sinographs are first read phonetically and then borrowed semantically. Holm discusses a disyllabic compound word 祿畜 *ruok ʔleiʔ* meaning ‘sparrow’. The Sinograph for livestock 畜 *chù*, corresponds with the pronunciation of *ɕo:k* ‘sparrow’, a Han loan from 雀 *què*, which later is replaced by the common Tai word for ‘sparrow’ *ʔlai* (ibid: 55).

6. Semantic Readings Borrowed Semantically

The Sinograph for ‘duck’ 鴨 can be read as *pit* in Zhuang, but it is also recited as *kei* ‘chicken’. Holm mentions that ‘ducks and chickens’ *pit kei* is a common phrase in spoken Zhuang. Ducks and chickens are in the same semantic field, which fits this principle because according to Holm “characters read semantically can be borrowed and read as a synonym or word in the same general semantic field” (ibid: 55).

7. Three stage borrowing

This is a rare category. The graph 埋 mai ‘to bury’ is commonly read in Zhuang texts with the initial f- or v-. The graph 埋 was borrowed to write the word for ‘cotton’ fa:i, but then it was used to write other words that are homophonous with fa:i (ibid: 56).

8. Part phonetic

Only part of a graph is read phonetically when borrowed. For example, the graph 禁 is read as ɣem, not because it is phonetically close to the word ‘forbidden’ jin 禁, but because it is phonetically close to the word ‘woods’ lín 林 lem in Late Han times (ibid: 57).

9. Simplex for compound phonetic

This principle uses simple graphs to write words that were originally compound Sinographs. These graphs are borrowed based on phonetic series in the Chinese script. The character 丑 *chou* is read as ʔdu: because of the phonetic series, 紐, 扭, 扭, which are all pronounced *niu* with an n- initial (ibid: 57-58). Holm also states that 丑 is an old borrowing that may go as far back as Old Chinese because of the pre-glottalized initial (ibid: 57).

10. Reanalyzed compounds

These graphs are repurposed with reanalyzed compounds according to the Zhuang language, regardless of Chinese pronunciation or meaning. The graph 吽 is read as naeuz in Zhuang and it means ‘to speak’. The Chinese pronunciation and meaning is hōng ‘used to transcribe Sanskrit *hum*’, ōu ‘sound of barking dogs’, and hou ‘to bellow’ (ibid: 58-59).

11. Graphic approximants

Holm speculates that character readings of this category come from scribes misreading or mis-copying a character. Take the graph 妥 for example, which means ‘appropriate’ in Chinese. In Zhuang, it is used to write the word for ‘appropriate’. Then, Zhuang scribes borrowed the character 妥 to write 愛 ‘to cherish’ (ibid: 59).

12. Disguised diacritics

This principle uses strokes on an already existing graph to indicate a diacritic that helps the reader with pronunciation. The graph 𠂇 is used to write the Zhuang word for ‘then’ ɕi. The pronunciation is closer to the reading for the graph 十 but with an additional stroke on top that hints at the tonal pronunciation (ibid: 60).

David Holm shows us several examples of how readings for the Old Zhuang script show us features of Middle Chinese at the time of borrowing. Categories two, three and eight are particularly interesting and helpful for our purposes. Phonetic borrowings, semantic/phonetic approximants, and part phonetics are helpful for our understanding of Zhuang principles of borrowing graphs as well as approximate pronunciation for words from Middle Chinese and later stages of Old Chinese.

I will compare readings of Sawndip with unique and unusual initial changes in LSV. Holm’s twelve principles will be applied when examining Sawndip graphs that are used to write cognates with Chinese loanwords or words that are phonologically inspired from the Chinese word. I will be using Su Yongqin’s (1989) Zhuang Character Dictionary as my main source of Zhuang pronunciations.

Sino-Xenic graphs as a tool for SV initial examination:

Southwestern China and Northern Vietnam are indeed the host of a vast domain of languages that adopted the Chinese script for their own respective purposes. The ancestors of Vietnamese as well as the Tai languages of Tày and Zhuang have borrowed characters from Chinese directly both semantically and phonetically; those kinds of borrowings can give

us clues of the phonological features that were present in the contemporary and local version of Middle and Old Chinese as well as the internal transformations that were taking place in each respective language. Perhaps this phenomenon is one of the factors that contributed to the so-called Taïzation of Southern Chinese varieties, including Annamese Middle Chinese.

Đoàn (1996) mentions that the Tày have been present in northern Vietnam since the third century BCE, meaning they too have been interacting with Chinese speakers during the first Chinese domination period *bắc thuộc*, borrowing words from at least that period. Holm (2013) has established that the Zhuang have been in contact with Chinese speakers since at least the Late Han period, since many of the characters in the Old Zhuang script use some pronunciations based on Late Han Old Chinese. Phan (2013) also shows us that Chữ Nôm is an expansion of the Chinese script and that it can help us uncover some words that are borrowed in the Han era such as *mùi* 味 ‘smell’ as opposed to *vị* 味 ‘taste’. A comparison of these three graphic systems may help us understand why some initials in Sino-Vietnamese are consistent yet unique, and it may also help us understand why there are some unusual initial features that are inconsistent with the initial category.

This array of different languages and complex Sino-Xenic writing systems bring implications for initial developments in Sino-Vietnamese, with such a diverse array of languages that host the developments of Sino-Xenic scripts, it is likely that language contact with other aerial languages was a contributing factor to the initial exceptions in various stages of Sino-Vietnamese. If for whatever reason, there is little to no impact of contact with Zhuang and Tày, then that also brings additional implications for the nature of contact between the local Chinese population and the Tai as well as Vietic language groups. Let us

test this multilingual interaction and philological interference by examining the initial correspondences in the various stages of Sino-Vietnamese.

VI: Sino-Vietnamese Initial Regular Correspondences and Exceptions

This chapter will demonstrate the corresponding initials for various stages of Chinese with their Sino-Vietnamese counterparts. A re-examination of Old Chinese and various stages of Middle Chinese is important because the timeline for introduction of Chinese vocabulary to their corresponding Southeast Asian languages is not exactly clear cut (Alves: 2018; Pittayaporn: 2014). The initial charts will be organized according to the following Early Middle Chinese initial types:

- Bāng Group 幫組 (Bilabials)
- Duān Group 端組 (Alveolar stops, nasals and laterals)
- Jiàn Group 見組 (Velars)
- Jīng Group 精組 (Alveolar fricatives, and affricates)
- Zhī Group 知組 (Retroflex stops and nasals)
- Zhuāng Group 莊組 (Retroflex fricatives and affricates)
- Zhāng Group 章組 (Palatal fricatives and affricates)
- Yǐng Group 影組 (Gutterals)
- Rì Group 日組 (Palatal nasals/Retroflex fricatives)

Each syllable will include an English gloss and the pinyin annotation for the modern standard Chinese pronunciation. The various stages of Chinese that will be presented in the charts include Old Chinese (B&S 2014; 2022), Late Han Old Chinese (Schuessler 2007; 2009), Early Middle Chinese (Pulleyblank 1991; Baxter 1992), and Late Middle Chinese (Pulleyblank 1991). Data for these historical Chinese reconstructions is from the aforementioned authors and the online Chinese historical reconstruction database called Archaic Sound Micro-Mirror kaom.net. The various stages of Sino-Vietnamese that will be presented include Han-era Early Sino-Vietnamese HESV, Jin-era Early Sino-Vietnamese JESV, Late Sino-Vietnamese LSV, and Hán Việt Việt Hóa HVVH or Nativized Sino-Vietnamese that underwent unique changes after borrowing.

ESV candidates are collected from the work of Mark Alves (2016; 2018; 2020; 2022), John Phan (2013), Chiang Chia-Lu (2011), Nguyễn Thanh-Tùng (2015) and Baxter & Sagart (2014: 2021). ESV candidates will be compared with their Old Chinese, Late Han Old Chinese, Early Middle Chinese and occasionally Middle Chinese Proper counterparts. ESV candidates will be identified as HESV or JESV on the basis of their initial, tone, final and historical context for each lexical item. I will also discuss loanwords that are categorized as HVVH “Nativized Sino-Vietnamese” in the Chinese and Vietnamese language literature and why they are not influenced by OC pre-initials. I also will provide commentary for the regular initial correspondence for ESV loans as well any irregular or unusual initial demonstrations.

Following each correspondence table, I will provide commentary for the regular and irregular initial changes that occur between MC and their LSV counterparts. I will explain why regular and irregular initial changes occurred as well as the implications they bring onto the hypothesis of a regional dialect and nuance to the education vs. acquisition hypothesis. In order to demonstrate features that are possibly from Annamese MC or SWMC, I will refer to modern Chinese varieties such as Xiāng, Píngguà, Mǐn and Yuè as well as data from Southeast Asian areal languages such as Zhuang, Tày, Proto-Tai and Proto Southwestern Tai.

Many unusual and unique initials in LSV are due to different types of graphic analogy, Vietic internal mutations and to features of Annamese Middle Chinese. Demonstrating the regular and irregular features of LSV will unlock new clues for phonological features of a contemporary medieval Chinese dialect and the role that other areal languages play in shaping LSV. Demonstrating regular and irregular features of ESV will also provide clues for understanding Early Sino-Vietnamese interaction as well as whether

or not we can provide a case for Han Era dialects or for an early medieval “Jiaozhounese” from the southern periphery of the Jiankang Empire hypothesized by Andrew Chittick.

The examination of the data will provide nuance to John Phan’s hypothesis and show that the Red River Delta was trilingual with Chinese, Tai and Vietic speakers. The exact degree of interaction between these three language groups is unclear, but cognates and phonologically close reading pronunciations in Chử Nôm Tày and Sino-Vietnamese show prolonged interactions of these groups with Chinese roughly in the same time and place. We must be cautious of cognates in LSV and Chử Nôm Tày that have pronunciations that are exactly identical. Shimizu (2020b) mentions that there was a gradual tendency for Chử Nôm Tày to rely on Vietnamese pronunciation due to Vietnamese and Tày interaction (Shimizu 2020b: 39-40); it may show a later stage of closer Vietic-Tai interaction following the independence of Vietnam in 938, the abandonment of Annamese Middle Chinese, and the switch to the Sinicized form of Proto Việt-Mường as the new prestige language.

IX.1 Middle Chinese Labial Initials

Bāng Initial group 幫組: Bilabials/Labiodentals

Bāng 幫/Fēi 非 bang/phi Initials

幫/非 bang/fei bang/phi	EMC p-	EMC p-	LMC p-	OC *C.p *mə.p *p	LHOC p-	HESV b-	JESV	LSV b- t- ph-	HVVH v-
邊 <i>biān</i> side/edge	pən	pen	pjian	*p ^c e[n]	pen	bên		biên	
本 <i>běn</i> root	pən	pwonX	pun	*C.p ^c ə[n]?	pən ^B			bản	vốn
筆 <i>bǐ</i> pen to write	pit	pit	pit	*p.[r]ut	pít			bút	viết
方 <i>fāng</i> square	puaŋ	pjang	fjyaŋ/ faŋ	*C-paŋ	puaŋ			phương	vuông
標 <i>biāo</i> mark	pjiaw	pjiaw	pjiaw	None	piau			tiêu	
變 <i>biàn</i> transform	pian	pjenH	pian	*pro[n]-s	pian ^c			biến/ biện	
補 <i>bǔ</i> to mend	pɔ	puX	puǎ	*[Cə]-p ^c a?	pɔ ^B			bổ	vá
板 <i>bǎn</i> plank	pɛ:n	paenX	pa:n	*C.p ^c ran ?	pan ^B			bản	ván
粉 <i>fěn</i> rice noodle powder	pun	pjunX	fjyn/ fun	*mə.pən?	pun	bún	phấn? rejected	phấn phấn	
壁 <i>bì</i> wall	pɛjk	pek	pjiajk	*C.p ^c ek	pek			bích	vách
斧 <i>fǔ</i> axe	puǎ	pjuX	fjyǎ/ fuǎ	*p(r)a?	puǎ ^B			phủ	

卑 <i>bēi</i> humble	pjiə /pji	pjie	pji	*pe	pie			ti	
扮 <i>bàn</i> disguise		pjun		*bənʔ	bən> bun			bán, phấn, ban	vận
必 <i>bì</i> certain	pjit	pjit	pjit	*pi[t]	pit			tất	
賓 <i>bīn</i> guest	pjin	pjin	pjin	*pi[n]	pin			tân thần	
餅 <i>bǐng</i> cake	pjiajŋ'	pjiengx	pjiajŋ'	*peŋʔ	péŋ pjéŋ	bánh		bính	

Old Chinese bilabial stops and bilabial stops with pre-initials develop into the Middle Chinese plain unaspirated bilabial stop known as the MC Bang initial p-. In both Early Sino-Vietnamese and Late Sino-Vietnamese, there is a regular demonstration of unaspirated bilabial stops. In Late Middle Chinese, closed lip *hékǒu* 合口 *Bāng* initial syllables with high front vowel medials *sānděng* 三等 develop labiodentals f- and became the Fei initial syllables. Late Sino-Vietnamese matches the correspondences in both *Bāng* and *Fēi* initials consistently. There is also fairly consistent demonstration of dental initials for *Chóngniǔ* 重紐 IV syllables. There is also a consistent demonstration of voiced labiodental syllables in syllables that underwent a nativizing process.

There is one ESV word with a labiodental fricative [f-] that is glossed as 'powder' *phấn* 粉. If this is an Early Sino-Vietnamese word, then it either corresponds with Old Chinese *mə.pənʔ, Late Han Old Chinese *pun*, Early Middle Chinese *pun* or at the very latest, Middle Chinese pjunX. This unusual ESV candidate is found in Alves (2022: 41) and there is no comment on the voiceless labiodental fricative initial [f-] ph-. If this is an ESV, then it was

likely borrowed during the late Jin or Sui period, during the Middle Chinese period and perhaps just before the Late Middle Chinese period when labiodentals were adopted. However, the likelihood of a labio-dentalized initial syllable being borrowed before the emergence of Middle Chinese labiodentals seems low, therefore I ultimately reject phấn ‘powder’ to be an ESV word, and instead, consider it to be a Late Sino-Vietnamese word.

For *Bāng* initial syllables, we have plain bilabial stops for both the Early Sino-Vietnamese and Late Sino-Vietnamese layer. As for initial v-, the following evidence supports initial v- being a feature of Nativized Sino-Vietnamese. Wáng Lì (1948) makes the case that some words with b- initials, especially *hékǒu* syllables, turn into voiced labiodentals v- in the following scheme: bw → w → v; Wáng’s explanation for voiced labiodentalization occurring in *kāikǒu* syllables is the merging of *Bāng* 幫, *Páng* 滂, *Fēi* 非 and *Fū* 敷 initials with *Wēi* 微 initials, thus we get words like *vách* 壁 ‘wall’ and *ván* 板 ‘plank’ (Wáng 1948: 553). The unlikely occurrence of consonant clusters or sesqui-syllables occurring in Old Chinese syllables during the Han and Jin periods also makes the impact of Old Chinese sesqui-syllables on Vietic spirantization to be unlikely. I would agree with Phan (2013) and Wáng (1948) that the initial v- came later in the Bang initial group is a feature of Nativized Sino-Vietnamese, not a feature of Early Sino-Vietnamese that inherited sesqui-syllables.

The Old Chinese bilabial stop initials are retained as bilabial stops in Early Sino-Vietnamese. According to Baxter & Sagart’s (2014) hypothesis, the ESV pre-initial preceding the labial stop initial becomes a voiced labiodental fricative v- after borrowing from Old Chinese. The Sino-Vietnamese *Bāng* initial syllables with a v- initial are identified as ESV loans by B&S and are used as ESV candidates in the work of Alves when identifying early loans that correspond to archeological material culture and ancient texts.

Scholars such as Chiang Chia-lu (2011), and Nguyễn Tài Cẩn (1979) argue or at least imply that the v- initial is a later development rather than a sign of ESV. One might point to the sesqui-syllabic languages of Rục or Thavưng for evidence of an Early Sino-Vietnamese loan, comparing Rục /kəpu:l/ to Vietnamese vôi ‘chalk’ (B&S 2014: 47). I do not deny that pre-initials were a significant factor behind the development of labiodentals, as it is attested in Ferlus (1982; 1992) and Shimizu (2011; 2015).

Many of the v- initial syllables are indeed loanwords from before Late Sino-Vietnamese because of their tonal correspondences. For example, the words ‘root’, ‘mend’, ‘plank’ and ‘disguise’ all have tones that would suggest a period of borrowing before the Tang. The words ‘mend’ 補 vá ‘plank’ 板 ván, and ‘disguise’ 扮 vậ all correspond with ESV loanwords coming from Shǎng tone glottal stop endings.

This does not automatically mean however, that the pre-initials in Baxter & Sagart’s reconstruction always have an impact on the development of labiodentals in Sino-Vietnamese words borrowed from an earlier time. The development of v- initials are different from an Early Sino-Vietnamese feature because the v- initials suggest a transformation that occurred after the loanwords entered into Late Sino-Vietnamese.

The Chử Nôm script shows the usage of two graphs for writing lexical items with sesqui-syllabic features that eventually become initial v-. Shimizu (2015) gives us the example of 阿盃 to write Ancient Vietnamese *a-bo:j ‘early’, which loses the pre-initial and becomes βo:j by the 17th century, then becomes vôi by the 20th century (Shimizu 2015: 140). Shimizu again uses Chử Nôm material to show that the modern Vietnamese v- in the Bang group is partially derived from pre-initials which turned into a labio-dental fricative /φ-/ in the 15th century, becoming a voiced bilabial fricative /β-/ in the 16th and 17th centuries, and then becoming a voiced labiodental fricative /v-/ (Shimizu: 2020a: 193). While other

scholars such as Gong Xun (2017) may argue that this phenomenon of labiodentalization supports pre-initials in Old Chinese, the likely loss of sesqui-syllables and clusters by the Late Han era implies a later development for this initial under different circumstances.

The problem with over relying on B&S's system for explaining labiodentals is the timeline for B&S (2014; 2021) and Alves's (2024) argument. Alves (2024) provides a robust examination of Vietnamese lenition and argues that some pre-initials were preserved in Old Chinese up until the Late Han era. I disagree with this argument on the basis of three phenomena, one is the disappearance of clusters by the Late Han, two is the fact that some of the *v*- initial syllables were borrowed after the Late Han, and three is that betacism has caused some MC labials to adopt labiodentals and caused some MC laryngeals (*Yún* 云) have adopted labial stops in Sino-Vietnamese, analogous to the allophones of /b-/ such as /v-/, /β-/, and /v-/ that occur in Chilean Spanish (Sadowsky 2010: 239). This betacism likely occurred in the era of Middle Vietnamese as well.

Alexander de Rhodes' dictionary DALL contains two b's that develop into the implosive b- and the other that is the voiced bilabial fricative /β-/ (Haudricourt 1974). Nguyễn Tài Cẩn also notes that the DALL shows a transition from b → v (NTC 1995: 61). The entry of 'to write' viết is interesting because it is a candidate for ESV, yet it contains a high front medial glide and has an initial b with a flourish in the DALL. The description of the two b's is as follows:

"There are two varieties of b. One of them is as in *ba* 'three'; this one is not exactly like ours, it is pronounced, not by emitting the breath, but rather by drawing it into the mouth. The other, *ḃ* is pronounced like the Greek β, as in *ḃěao* 'to enter', it is not, however, exactly like our consonant V: it is slightly aspirated, and is pronounced opening the lips, like a true labial, as in speaking Hebrew, and not as a labiodental."

(Rhodes 1651b:2-3) Translation provided by Alexis Michaud (Haudricourt: 1974: 4)

In the DALL, there are two letters that are used to transcribe the phoneme that becomes *v*-, there is the b with a flourish *ḃ*, used for words such as:

DALL: 𡗗iết ‘to write’ (deRhodes 1651: 69), Modern: viết ‘to write’, Chinese: 𦵑 *bǐ* 筆

DALL: 𡗗ổn ‘capital’ (deRhodes 1651: 72), Modern: vốn ‘capital (funds)’, Chinese: 本 *běn* 本

DALL: 𡗗uâng ‘square’ (deRhodes 1651: 73), Modern: vuông ‘square’, Chinese: 方 *fāng* 方

In the same dictionary, the letter u is used to write lexical items such as:

DALL: 𡗗uệç ‘work’ (deRhodes 1651: 868), Modern: việc ‘work’, Chinese: 役 *yì* 役

DALL: 𡗗uờn ‘garden’ (deRhodes 1651: 876), Modern: vườn ‘garden’, Chinese: 園 *yuán* 園

The lexical item ‘to write’ viết 筆 has the b with a flourish initial. As we can see in the comparison with the modern Vietnamese counterparts, Middle Vietnamese has phonological conditions that can cause occasional mix ups between b- and v- through b with a flourish. In addition to the spelling in the DALL, the lexical item ‘to write’ viết is also unlikely to be an ESV item because of the lack of medial glides in the OC form *p.[r]ut 筆 bi.

In both the MC and LSV form there is a lack of medials:

筆 OC: *p.[r]ut MC: pit LSV: bút

For the lexical item ‘pen’, the Old Chinese form *p.[r]ut seems to be closer to the LSV form bút. This could imply that at the tail end of the OC or in the EMC period the word for ‘pen’ was borrowed before a front vowel medial developed. Alves (2018) briefly discusses the phenomenon of ESV words becoming standard readings for LSV lexical items, using 粉 粉 as an example for an LSV reading based on another ESV pronunciation (Alves 2018: 16). I hypothesize that the word for ‘pen’ bút 筆 went through a similar process; it was exposed to Vietic at an earlier period, yet became codified as a Hán-Việt LSV pronunciation. This word was likely codified as a standardized reading and was taught in the education system well throughout the Annam period.

The word for 'square' *vuông* 方 is another syllable that Mark Alves assigns as an ESV word affected by OC pre-initials. I disagree because of the time of borrowing and the lack of medials in the OC form. Medials did not appear for the Chinese word for 'square' until the Late Han period with the form *puɑŋ* by Schuessler (2009). If this syllable was an ESV, then it was borrowed either during the Late Han, or during the Jin period when medials formed and OC pre-initials already disappeared. The word 'square' was borrowed into the late stage of Vietic or Proto Việt-Mường when it was interpreted as having a *p- initial *buông*, then through betacism in the Middle Vietnamese period, merged with /β-/, becoming *vuông*.

Alves (2016) suggests that these loanwords with v- initials appeared during the Han or the Jin period and that it can be attested by the material culture from archeological findings. I would agree with Alves that a good amount of these v- initial loanwords are earlier loanwords but are unaffected by OC pre-initial materials. By the Han period there are bound to be changes to OC, and as Schuessler (2009) suggests, there were no consonant clusters during the Middle and Late Han period, providing examples of transcriptions such as *shī lì* 師利 *si-li* for Sanskrit 'Śrī', and *pó luó mén* 婆羅門 *bâ-lâ-mən* for Sanskrit 'brahmana' (Schuessler 2009: 29). Borrowings from the Jin period would likely resemble Middle Chinese which means that Chinese would already form the familiar template of tones, reduced codas and a complete lack of pre-initials and consonant cluster initials.

We have one example of a labialized pre-initial that develops into an Early Sino-Vietnamese labial stop, *bún* 粉 'rice noodle'. Alves (2022) claims that 'rice noodle' might be borrowed in the beginning of the EMC stage and notes that B&S's preinitial would have caused the initial to become a voiced labiodental. As Alves might imply, Pulleyblank's EMC reconstruction *pun* matches with *bún* 粉, as there is no medial glide development yet at this stage, as is seen in Baxter's 1992 reconstruction *pjunX* 粉.

It is also possible that the word ‘rice noodle’ was borrowed at the end of the Old Chinese stage as well. In Schuessler’s (2009: 331) Late Han reconstruction, we have pun^B, which suggests that this word resisted betacism in Middle Vietnamese and is likely to be a late Han borrowing into ESV without effects from OC pre-initials. Alves also lists another word being Early Sino-Vietnamese *phấn* 粉 for ‘powder’; he also suggests that this is another ESV pronunciation for ‘noodles’ that became a standard LSV reading (Alves 2018: 16). I accept the word *phấn* 粉 as being Chinese in origin but I reject the label of ESV because of the labiodental fricative initial; these initials would not develop until the Late Middle Chinese stage, which is way over the timeline for ESV.

Most *Chóngniǔ* 重紐 IV initial syllables in the *Bāng* group consistently demonstrate dental initials t-. Mineya Tōru (1972) shows us that this mutation is not absolute as there are many examples retaining their labials (Mineya 1972: 290-292). There are, of course, enough examples of *Chóngniǔ* IV dentals to have puzzled linguists for over a century. Chiang Chia-lu and Nguyễn Tài Cẩn show us that Vietnamese initial t- comes from Proto-Vietic *s- (Chiang 2011: 82). Michel Ferlus (2009b) further argues that *Chóngniǔ* IV initials were interpreted as being sesqui-syllabic. I add to this by stating local interpretation defines whether a *Chóngniǔ* IV syllable becomes a dental or a labial.

Mineya (1972) shows us the mutations of -j- medials for *Chóngniǔ* IV labials developing into t-, th- and d-. Throughout Mineya’s book, lower case letters are used for Middle Chinese and upper case letters are used for Sino-Vietnamese:

Middle Chinese		Sino-Vietnamese
pj-	→	T /t-/

bj-	→	T /t-/
p'j-	→	T' /t ^h -/
mj- J	→	J /z-/

(Mineya 1972: 293)⁴¹

Nguyễn Tài Cẩn (1979) shows us what he considers to be the process of bilabials becoming dentals, with the *ps- initial being an intermediate stage (NTC 1979: 188).

幫 *pj- > *pj- > *ps- > *s- > t- (Figure from Chiang Chia-lu 2011: 82)

並 *bj- > *pj- > *ps- > *s- > t- (ibid: 82)

Phan (2013) suggests that the exceptions to this *Chóngniǔ* IV pattern came from prestigious pronunciation forms during the Ming occupation of Vietnam (Phan 2013: 355-356), Meier and Peirot (2017) suggest that some of the non-dentalized forms were borrowed earlier and some were borrowed later (Meir & Peirot 2017: 14).

Some *Chóngniǔ* IV words also demonstrate doublets with a dentalized and non-dentalized form such as *tǐ* and *bǐ* 比. The non-dental form demonstrates a scenario of dialect interaction; in some Việt-Mường communities, the *pj- *bj- and *mj- initials were interpreted as sesqui-syllabic just like in Ferlus's (1986) scenario, and in others, they were interpreted as non-sesqui-syllabic *pi-, *bi- and *mi- instead. This difference in phonological interpretation led to *Chóngniǔ* labial and dental doublets for the same syllable. Later, both versions became standardized.

Sino-Tày demonstrates a labial form for the same syllable *pǐ* 比, and in Zhuang we see the form *pei* (Su 1989: 18). *Chóngniǔ* IV syllables in both Sino-Tày consistently demonstrate labial initials so it serves as evidence that *Chóngniǔ* dentalization did not occur

⁴¹ Mineya Tōru compares initials, finals and tones in Ancient Chinese AC (Middle Chinese) with Sino-Vietnamese SV. For the Middle Chinese initials Mineya uses lower case letters and for Sino-Vietnamese initials Mineya uses upper case letters.

in AMC around the RRD. *Chóngniǔ* IV syllables in Zhuang also consistently demonstrate labials, which shows that in SWMC in general *Chóngniǔ* dentalization was not a feature. There is no variety of Chinese that demonstrates dentals as a reflex for *Chóngniǔ* labials for *Bāng* initial syllables.

bì 必 ‘must’

Píng huà 平話

Nán níng: pit Bīn yáng: pit Téng xiàn: pit

Xiāng 湘

Cháng shā: pi Shuāng fēng: pi

bīn 賓 ‘guest’

Píng huà 平話

Nán níng: pen Bīn yáng: pən Téng xiàn: pən

Xiāng 湘

Cháng shā: pin Shuāng fēng: piɛn

biāo 標 ‘mark; treetop’

Píng huà 平話

Nán níng: piu Bīn yáng: piu Téng xiàn: piu

Xiāng 湘

Cháng shā: p/p^hiau Shuāng fēng: piɿ

(Data collected from Xiǎo xué táng 小學堂)

Chóngniǔ dentals in the *Bāng* initial group is not a Chinese feature, nor is it an areal feature. The above data shows that Chinese and Tai languages like Tày and Zhuang both lack

such demonstrations as well. Phan (2013) would be correct to say that *Chóngniǔ* dentals in grade IV is a phenomenon acquired through the spoken language, but unlike his hypothesis, *Chóngniǔ* demonstration of dentals for labials is uniquely Vietnamese, not a feature of AMC.

The only truly unusual Sino-Vietnamese Bang initial is the aspirated form for ‘guest’ 賓 旻. The unaspirated form 旻 is common in the spoken language and used for words like Phi Luật Tân 菲律賓, an old name for the Philippines, now called Phi-líp-pin. The graph 賓 can sometimes be used to write 旻 擯 旻 ‘to discard’ according to the ừ điển trích dẫn⁴²:

Một âm là “旻”. (Động) Khước đi, vứt bỏ, ruồng bỏ. Thông 擯. “One reading is 旻, (Verb) to discard, to rid, to abandon, interchangeable with 擯”

(Author’s translation: from Ừ ĐIỂN HÁN NÔM)

Strangely, the word for ‘discard’ is also a *Chóngniǔ* IV syllable with a *Bāng* initial. This mixup may be due to the aspirated vs. unaspirated mismatch that occurred in AMC labial initials. The pj- in MC might have been interpreted as p^hj- in AMC, then interpreted as sesqui-syllabic p^h.j- in PVM. The -j- medial in the aspirated pre-initial became an s-, the aspirated pre-initial dropped, then the s- became an aspirated dental.

None of the Sino-Vietnamese initials from the MC Bang initial group are out of the ordinary. Some of the features unique in SV compared to other Sino-Xenic and modern Chinese varieties include dental demonstrations in *Chóngniǔ* IV syllables; this of course is due to some PVM speakers interpreting those syllables as sesqui-syllabic, while other *Chóngniǔ* IV syllables that retained labials were interpreted as being monosyllabic. Syllables with the initial v- were likely borrowed before the Annam period due to their medials and

⁴²Ừ điển Hán Nôm <https://hvdic.thivien.net/whv/%E8%B3%93> accessed on 02/26/2025.

tones, but they were unaffected by OC pre-initials; instead they were interpreted as *p- and underwent a mixup in Middle Vietnamese where some labial stops became labiodental fricatives and vice versa via merger with the voiced bilabial non-sibilant fricative [β-].

Páng 滂/Fū 敷 bàng/phu Initials

滂/敷	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV b-, ph- s-, t- th-	HVVH v- x-
破 <i>pò</i> break	p ^h a ^h	phaH	p ^h ua	*p ^h aj-s	phâih >p ^h ai ^c			phá	vỡ
偏 <i>piān</i> slant	p ^h jian	phjien	p ^h jian	*p ^h e[n]	phen> p ^h ian			thiên	xiên
騙 <i>piàn</i> trick	p ^h jian	phjienH	p ^h jian	*p ^h en(?)s	None		phỉnh ⁴³	biển/ phiến	
肺 <i>fèi</i> lung	p ^h uaj	phjojH	fjyaj /fji	*p ^h ɛ[a][t]-s	phats > p ^h uas		phổi	phế	
品 <i>pǐn</i> class	p ^h im	phimX	p ^h im	*p ^h r[ə]m?	phrəm? >p ^h im ^B			phẩm	
片 <i>piàn</i> partial	p ^h ɛn ^h	phenH	p ^h jian	*p ^h ɛ[n]- s	phêns> p ^h en			phiến	
沛 <i>pèi</i> full	p ^h aj ^h	pajH	p ^h uj	None	phâts > p ^h as			bái/ phái	
聘 <i>pìn</i> invite	p ^h jiaj ^h	phjiengH	p ^h jiaj ^h	*p.lɛŋ-s	phenh> p ^h ien ^c			sính/ tính	
匹 <i>pí</i> equal	p ^h jit	phjit	p ^h jit	*p ^h i[t]	phit> p ^h it			thất	

⁴³ Baxter & Sagart 2021

辟 pì open	p ^h jiak	phjiek	p ^h jiak	*[N]-pek	pek> piek			thích bích phích thí	
譬 pì simile	p ^h jiǎ/ p ^h ji	phjieH	p ^h ji	*p ^h ek-s	phekh >p ^h ie			thí/ sí	ví

Labial initials, initial clusters and labials with pre initials become the Middle Chinese Pang initial. Only two Early Sino-Vietnamese candidates have been found, both of which with labiodental fricatives ph- [f-]. This suggests that the transition from aspirated labial stop p^h- to labiodental fricatives were regular in the early stage of borrowing. I would also hypothesize that the labiodental fricatives show that these lexical items encountered Vietic relatively late, perhaps at the end of the Jin period. For Late Sino-Vietnamese, we see that there are five types of initials, the bilabial stops and fricatives are regular changes attested in previous research. Dental initials are a *Chóngniǔ* IV reflex.

These *Chóngniǔ* syllables in grade IV have caught the attention of Sinologists and Linguists for over a century. Compared to other Sino-Xenic pronunciations, the demonstration of dentals in MC labial syllables is quite an anomaly. It is important to note that this change is not Sinitic in origin. There is no variety of Chinese that demonstrates dental initials as a *Chóngniǔ* reflex. There are cases of Middle Chinese labials turning into dental syllables in some Chinese varieties such as the Wénxǐ 聞喜 dialect of Shānxī 山西 (Higuchi 2000), however, in the case of Wénxǐ, the demonstration of dentals occurs in labials in general, not as a *Chóngniǔ* reflex. The demonstration of dentals in MC labials is a phenomenon that occurred in Proto Việt-Mường after borrowing took place.

The syllable 聘 sính, as in sính lễ ‘wedding gift’, is interesting because it is a *Chóngniǔ* IV syllable with a voiceless alveolar fricative initial [s-] instead of a stop initial. Mineya Toru

(1972) includes a dental stop doublet *tính* alongside *sính* on his Sino-Vietnamese *Chóngniǔ* chart (Mineya 1972: 70-72). The fact that Mineya provides a form with an unaspirated dental stop is also intriguing because as a *Chóngniǔ* IV MC Pang initial syllable, we would expect to see an aspirated dental form *thính*. I have yet to find a Sino-Vietnamese dictionary that includes a Hán-Việt pronunciation of *tính* for 聘.

Chiang Chia-lu (2011) suggests that this may be due to graphic analogy, deriving from the reading of the character 騁 *sính* ‘to gallop’ (Chiang 2011: 157). In terms of initial correspondences, graphic analogy makes sense. Xián Mǎnxuě (2016) brings a different suggestion for the origin of this initial *s-*. Xián draws on Nguyễn Tài Cẩn (1995) to suggest an interruption in the *Chóngniǔ* process from labial to alveolar fricative to alveolar stop **p’j- > *p’s- > *s- > *th-* (Xián 2016: 85). Xián also cites a pronunciation of *sính* for 聘 and *sí* for 譬. However, *sính* is a Nôm pronunciation and not an LSV pronunciation, and the pronunciation *sí* for 譬 is not common in dictionaries.

Xián suggests that the *Chóngniǔ* pronunciation of *sính* 聘 could suggest a trace of an earlier pronunciation before the formation of a dental stop. Meier and Peirot (2017) suggest that a retention of labial initials be a result of introduction before or after the dentalization distinction was made. I do not think that this word *sính* 聘 can give us clues on how to chronologically categorize *Chóngniǔ* IV bilabial loans that retain bilabials, it would only tell us that an **s-* was retained after borrowing.

I also find it unlikely that the dichotomy of labialized and dentalized *Chóngniǔ* IV syllables suggest a period of borrowing before or after independence. What likely happened is that some *Chóngniǔ* IV syllables were interpreted as being sesqui-syllabic by Proto Việt-Mường speakers, developing dentals, and others were interpreted as monosyllabic, thus

retaining labials. Following Ferlus' (2009b) model, the *Chóngniǔ* IV syllables that were interpreted as sesqui-syllabic had the medial -j- turn into an -s-, after the p. pre-initial dropped, the s- then turned into a t- initial. We have evidence from Chữ Nôm Tày that the labials did not dentalize in *Chóngniǔ* IV syllables. As intriguing as Xián Mǎnxuě's hypothesis is, I would have to tentatively support Chiang Chia-lu's argument that the pronunciation *sính* 聘 emerged through graphic analogy.

The lexical item for 'to break' 破 *pò* has an aspirated labial initial in Old Chinese and the Early Sino-Vietnamese candidate form is a voiced labiodental *vở*, used in the modern Vietnamese word *phá vỡ* 'to break'. The curious thing is that there is no pre-initial for the Old Chinese form, yet there is an initial *v-* for the Early Sino-Vietnamese form. This candidacy to ESV is proposed by Alves, as Baxter & Sagart have not made any explicit affiliation between the Old Chinese and Early Sino-Vietnamese forms. In Alexander de Rhodes's dictionary, *vở* 'to break' is written with a flourished *b* as *ḃở* 'quebrar'/'to break' (de Rhodes 1651: 70). This may suggest a later development for the initial *v-* rather than a borrowing into Early Sino-Vietnamese. The two loans that can confidently be called Early Sino-Vietnamese demonstrate labiodental fricatives, which suggests a process of labiodentalization from aspirated labial stops.

In the Nativized Sino-Vietnamese layer, we have an example of initial *x-* for a *Páng* initial word *xiên* 偏. This word *xiên* is found as a Nativized Sino-Vietnamese word in contrast with its Late Sino-Vietnamese form *thiên* by Hoàng Trọng Canh (2018: 54). Though Hoàng does not explicitly state the corresponding Chinese word, it is likely that Hoàng is referring to *piān* 偏 'slant'. The pronunciation *xiên* 偏 is also attested in Chữ Nôm dictionaries, with the meaning *xiên xẹo*, 'crooked', compared to the HV definition *thiên* 偏 'one-sided'. This

makes the identity of xiên and thiên as piān 偏 more plausible than qiān 扞 which also has a HV pronunciation of thiên and a Nôm pronunciation of xiên; this is because thiên 扞 ‘object like a stick’⁴⁴, and xiên 扞 ‘to make a bad turn’ do not have a clear semantic connection to the word “one-sided”.

Nguyễn Tài Cẩn shows us that Vietnamese x- has origins from th- and tsh- in Middle Chinese, words such as xe 車 ‘car’ are derived from the Middle Chinese *Chāng* 昌 initial group; words such as xanh 青 ‘green’ are phonologically derived from *thanh*, which has a *Qīng* 清 initial (NTC 1995: 86-87). Xiên may originally be a *Páng* 旁 initial syllable but it is a *Chóngniǔ* 四 syllable that demonstrates dental initials th-. Ferlus (1992) shows us the transition from th- to x- in the following scheme: t^h- → tʃ- → x- (Ferlus 1992: 115). This might imply that the dentalized initial of thiên eventually became xiên.

Of course, why does a change from an aspirated dental stop to a palatal fricative happen in just one *Chóngniǔ* syllable instead of in multiple syllables in a systematic process? This syllable might not be common when it was first borrowed into Proto Việt-Mường. The syllable 偏 ‘uneven, crooked’ was adopted into the written language and was pronounced as a sesqui-syllabic word *ph.jian; this syllable later developed dental initials after losing the pre-initials. This syllable then became commonly used after the dentalization took place and became later colloquialized by general speakers, developing palatal fricatives.

The syllable 辟 ‘to open’ has different attested forms in the *Guǎngyùn*; there is a *Bāng* 幫 initial form, a *Páng* 旁 initial form and a *Bìng* 柄 initial form. There are also different tones associated with this syllable, which are *Qù* 去 and *Rù* 入. The syllable ‘to open’ has two different *Chóngniǔ* 四 forms and has two different bilabial forms. Two *Chóngniǔ* 四 forms include tích and

⁴⁴ Definitions from the Nôm foundation https://www.nomfoundation.org/nom-tools/Nom-Lookup-Tool/Nom-Lookup-Tool?input_type=rqn_or_hn&inputText=%E6%89%A6&GO=GO . Accessed 03/14/2025.

thí. The aspirated *Chóngniǔ* form has a dropped coda, likely because it is the *Rù* tone form. The bilabial forms include *bích phích*. The character 辟 is used to write different words that have *Bāng*, *Páng* and *Bìng* initials, thus leading to different labial forms.

We also see examples of un-aspirated and aspirated doublets that are both labeled as Late Sino-Vietnamese words. The words ‘copious’ 沛 *bái/phái* and ‘to trick’ 騙 *biển/phiến* have plain and aspirated forms. The word ‘copious’ has both a *Bang* initial entry and a *Páng* initial entry in the *Guǎngyùn*, so naturally one is pronounced as *bái* and another as *phái*. The presence of an aspirated and unaspirated form in the word ‘copious’ has nothing to do with the aspirated vs. unaspirated mismatch in AMC, rather it came from both *Guǎngyùn* entries being accepted into the spoken language of AMC, then filtering into PVM.

The word ‘to trick’ 騙 *piàn* has tonal differences between the cognates *biển/phiến*. This is a *Qù* tone word which has the corresponding *sắc* tone in LSV; perhaps the form *biển* is an early loanword that has been codified into the LSV lexicon because OC *Qù* tones correspond with ESV *hỏi* and *ngã* tones. The form *phỉnh* as in *phỉnh gạt* ‘to cheat’ is an ESV according to B&S (2021) and that would make sense when examining the tones; this would not be a Han era loanword though because of the labiodental initial.

The form *phỉnh* is also puzzling because of the coda *-nh*, which comes from Chinese loanwords with *-ŋ* codas. One might say that *phỉnh* is not cognate with ‘to cheat’ in Chinese because *piàn* 騙 has alveolar nasal codas in MC and (?-) in OC. There is no form provided by Schuessler in Late Han Old Chinese but Mǐn dialects seem to suggest that a *-ŋ* coda is possible at the time of borrowing. The Mǐn dialects have alveolar nasal and velar nasal codas for the word ‘to cheat’ 騙: the Mǐnběi dialect of Jiànyáng 建陽 it is pronounced as *p^hieŋ* and

in the Mǐnzhōng 閩中 dialect of Sānmíng 三明 it is pronounced as p^haiŋ⁴⁵. The early OC or

EMC form that came in contact with VM or PVM might have this velar nasal coda that

follows a high front vowel, leading to a palatal nasal coda in Vietnamese.

Bìng 並/Fèng 奉 tình/phụng Initials

並/奉 bìng/fèng tình/phụng	EMC b-	MC b-	LMC p ^h - f ^h -	OC *b *mə *C.b	LHOC b-	HESV b-	JESV	LSV b- ph- t-	HVVH v-
步 <i>bù</i> step	bɔ	buH	p ^h uǎ	*mə-b ^h a-s	bâh >ba ^c			bộ	vã
婦 <i>fù</i> woman	buw	bjuwX	f ^h jyw/ f ^h uw	*mə.bəʔ	*bjəʔ >bəʔ> buə> bu	b ^h ua 'widow'		ph ^h u 'lady'	v ^h ợ 'wife'
比 <i>bǐ</i> compare	pji	bjij	pji	*C.pijʔ *bjijs	piʔ >pi			tỷ	ví
符 <i>fú</i> sign	buǎ	bju	f ^h jyǎ/ f ^h uǎ	*[b](r)o	bo > buo	b ^h ua		ph ^h u	
平 <i>píng</i> flat	biaŋ	bjien	p ^h iaŋ	*breŋ	breŋ > biɛŋ	b ^h ǎng		bình	
縛 <i>fù</i> to bond	buak	ba/ bjak	f ^h jyak/ f ^h ak	*bak	bak> buak	b ^h uộc		ph ^h ọc, ph ^h uợc	
煩 <i>fán</i> trouble	buan	bjon	f ^h jyan/ f ^h an	*[b]a[n]	ban > buan	b ^h uòn 'sad'		ph ^h iền 'irritate'	
房 <i>fáng</i> room	buaŋ	bjang	f ^h jyaŋ /f ^h aŋ	*[Cə-N-]paŋ	baŋ > buaŋ	b ^h uồng 'chamber'		ph ^h òng 'room'	
避 <i>bì</i> avoid	bjiǎ /bji	bjieH	p ^h ji	*[b]ek-s	bekh > bie ^c			tị	

⁴⁵ Data from Xiǎoxué táng 小学堂 <https://xiaoxue.iis.sinica.edu.tw/minyu?kaiOrder=5031> accessed on 02/11/2025.

便 <i>biàn</i> advantage	bjian	bjien	phjian	*[b]e[n]-s	bens > bian	bèn		tiện biền	
幣 <i>bì</i> currency	bjiaj	bjiejH	phjiaj	*[b]e[t]-s	bets > bias			tế	
伴 <i>bàn</i> partner	ban	banX	phuan	*[C.b]ʃanʔ	bânʔ > ban			bạn	
俸 <i>fèng</i> salary	buawŋ ^h	bjowngH	fhjyawŋ`/f həwŋ`	po:ŋʔ ⁴⁶	buoŋ ^c			bổng	

For Old Chinese we see a diverse array of pre-initials. Old Chinese labial initials and pre-initials with labial initials develop into the Middle Chinese *Bing* initial type. For Early Sino-Vietnamese, the initials consistently render to bilabial initial stops. The OC plain initial stops are retained in the ESV vocabulary, for example, *buồn* 煩 from OC [b]a[n], *buộc* 縛 from OC *bak, and *bùa* 符 from OC *[b](r)o. Some of the ESV loans match more precisely with Schuessler or even Starostin’s reconstruction compared to Baxter & Sagart such as Schuessler’s *buo* 符 compared to B&S’s *[b](r)o.

Interestingly, the majority of OC words with pre-initials lose them and only retain labial stop initials when borrowed into Vietnamese. Three loans, *vã* 步 ‘walk’, *vợ* 婦 ‘wife’ and *ví* 比 ‘compare’ have voiced labiodental v- fricatives. In Alexander de Rhode’s Dictionary, *ví* 比 is transcribed with a flourished b as *ḃí* (deRhodes 1651: 68). No flourished b- entry has been found for the word ‘to walk’ *vã*. In the same dictionary, the word ‘wife’ or ‘married woman’ 婦 *vợ* is written as *ḃợ* ‘married woman’ (ibid: 70).

Tonal correspondences show that these three words are not simply colloquial pronunciations of Chinese character readings borrowed in the Tang period, instead, they are

⁴⁶ Reconstruction by Zhèngzhāng Shàngfāng (2003), obtained from Kaom.net.

Han era loanwords. The *Hòu Hàn Shū* 後漢書 makes mention of introducing, and prescribing Chinese-style marriages into Jiāozhǐ 交趾, or modern day North Vietnam⁴⁷:

光武中興，錫光為交趾，任延守九真，於是教其耕稼，制為冠履，初設媒媾，始知姻娶，建立學校，導之禮儀。

“When Emperor Guangwu regained power, Xiguang served as administrator to Jiaozhi and Renyan to Jiuzhen. Thereupon, they taught them farming (plowing and sowing), mandated clothing (hats and shoes), initiated matchmaking processes, let them know of marriage, established schools, and guided them in proper behavior (ritual and righteousness).” (Translation by Mark Alves 2016: 279)

This phenomenon of mandating Chinese style marriages makes the adoption of vocabulary words such as 妻 婦 ‘wife/young woman’, very likely, in fact, Phan (2013) cites another form of this word as 寡 婦 ‘widow’, which he identifies as being ESV. Both the words ‘widow’ and ‘wife’ are Han loanwords but from different periods. The reference to Guāng Wǔdì 光武帝, who reigned from 25-57 CE, suggests a late stage in Old Chinese, perhaps corresponding closely to Schuessler’s Middle or Late Han Chinese instead of B&S’s form with pre-initials *mə.bəʔ. The form 寡 婦 likely corresponds to the the LHOC form 寡 婦 and the form 妻 婦 corresponds with the Han Chinese form *bjəʔ or *bəʔ.

Baxter & Sagart’s system is meant to reconstruct a pre-Qin stage of Old Chinese, and vocabulary introduced during the age of Guang Wudi suggests a gap of over two centuries. Even if such pre-initials existed for the word ‘wife’, they would have been lost by the time of the Han period and certainly would have been lost by the Jin period. Schuessler’s form bəʔ seems to be the likely candidate for the origin of 妻 婦. The word 妻 婦 ‘wife’ is also not a colloquial pronunciation of a word borrowed from AMC; it was likely borrowed as a *p-initial syllable during the Han period due to the vowel correspondence. The labial stop initial likely underwent betacism in the Middle Vietnamese period, as /β-/ became the intercessor

⁴⁷ Mark Alves (2016) cites the *Hòu Hàn Shū* in reference to Chinese marital practices that includes vocabulary corresponding to the Early Sino-Vietnamese candidates in his study.

for labials and labiodentals to occasionally mixup, gaining words like vợ 'wife' instead of bợ and bưu điện 'post office' instead of vưu điện.

Few corresponding *Chóngniǔ* syllables are available in Tày dictionaries, but there is a curious form for the syllable *Bing* 並 tịnh/tính. The syllable *Bing* 並 tịnh/tính in Chữ Nôm Tày is téng. The final has a preserved velar nasal and the initial is the same as the Sino-Vietnamese form, though we should not assume that the *Chóngniǔ* dentalization phenomenon happened in Sino-Tày in the exact same way as Sino-Vietnamese. We have another example of a *Chóngniǔ* word that does not demonstrate labio-dentalization 名 mình which means tiếng tăm 'fame'. What likely happened is that the dentalized form came after intense contact with Việt-Mường following the independence from Chinese polities.

We have one syllable that became a labiodental in Late Middle Chinese and modern varieties including Mandarin, rendered into a glottal fricative in hō 俸 in Japanese *Kan'On* 漢音 but in Sino-Vietnamese it is a labial stop 俸 bổng. Sino-Tày also uses the same graph 俸 to write the words búng 'place' and boong 'associates'. There are two *Guǎngyùn* pronunciations of 'salary' 俸, one in a homophonous group with 琫, containing the *Qièyùn* formula 邊孔切 MC puwngX LMC pəwŋʹ. The other *Guǎngyùn* pronunciation contains the *Qièyùn* formula 扶用切 MC bjowngX LMC fhjyawŋʹ/ffəwŋʹ.

Many Southwestern Chinese varieties prefer the labiodental pronunciation there are a few examples of the same syllable preferring the syllable with the *biān* 邊 upper speller, such as Píng huà phoŋ in Líng guì 臨桂 and pɔŋ in Lóng zhōu 龍州. Different pronunciations of the word 'salary' likely existed in many SWMC dialects during the Late Middle Chinese period. The variety with the labial stop initial likely became commonly used in Annamese Middle Chinese and impacted Late Sino-Vietnamese as well as Sino-Tày. The word 'salary' is

another example of how one *Guǎngyùn* pronunciation can take precedence over another in the spoken language.

Míng 明/Wēi 微 míng/vi Initials

明/微	EMC m-	MC m-	LMC m- u-	OC *C.m *m	LHOC m-	HESV m-	JESV m- b-	LSV m-, v- d-	HVVH
墓 <i>mù</i> tomb	mɔ	muH	muǎ	*C.m ^ʰ ak-s	Mâkh >ma	mả	mồ	mộ	
梅 <i>méi</i> plum	məj	mwoj	muaj	*C.m ^ʰ ə	mê/mê ? mə	mơ		mai	
巫 <i>wū</i> magic	muǎ	mju	ujyǎ /buǎ	*C.m(r)[o]	ma > mua	mo		vu	
舞 <i>wǔ</i> dance	muǎ	mjuX	ujyǎ /buǎ	*k.m(r)aʔ	maʔ > mua ^B	múa		vũ	
磨 <i>mó</i> grind	ma	ma	mua	*m ^ʰ aj	Mâi >mai	mài		ma / má	
襪 <i>wà</i> socks	muat	mjot	ujyat/ ua:t	*C.m[a]t	mat> muat		bít	vạt/ miệt	
網 <i>wǎng</i> net	muaŋ	mjangX	ujyaŋ uaŋ	*maŋʔ	maŋʔ> muaŋ	mạng		võng	
晚 <i>wǎn</i> late	muan	mjonX	ujyan ua:n	*m[o][r]ʔ	maŋʔ > muan ^B	muộn		vãn	
味 <i>wèi</i> flavor	muj	mj+jH	uji	*m[ə]t-s	məs> mus		mùi smell	vị 'taste'	
民 <i>mín</i> folk	mjin	mjin	mjin	*mi[ŋ]	min >min			dân	
面 <i>miàn</i> face	mjian	menH	mjian	*C.me[n]-s	mens >mian			diện	
滅 <i>miè</i> destroy	mjiat	mjiat	mjiat	*[m]et	met> miat			diệt	

名 <i>míng</i> fame/name	mjiajŋ	mjieng	mjiajŋ	*C.meŋ	meŋ> mieŋ			danh	
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The reconstructed Old Chinese pre-initials seem to have a small effect on the corresponding Early Sino-Vietnamese loanwords. For the words ‘grave’, ‘shaman’, and ‘plum’ we have pre-initial consonant C. and there is a consistent demonstration of voiced bilabial nasal initials [m-]. One of the Early Sino-Vietnamese candidates shows an exception to this rule, ‘socks’ *C.m[a]t 襪 demonstrates a bilabial stop bit. The reconstructions of Axel Schuessler show no pre-initials for Han period Chinese, showing a closer resemblance to the Early Sino-Vietnamese forms. The word ‘socks’, might possibly show a process of denasalization with an initial [m-] becoming an initial [b-]. This syllable 襪, is also denasalized in Mǐn dialects such as Xiàmén 廈門, Jìnjiāng 晉江 and Nán’ān⁴⁸ 南安, pronounced as beʔ/buat, beʔ and beʔ respectively.

In Late Sino-Vietnamese, the word ‘socks’ still demonstrates an interesting doublet feature between miệt and vạt 襪, both of which are attested in Sino-Vietnamese Hán Việt dictionaries. It is possible that this word was introduced twice during the Annamese Middle Chinese period, once during the Early Middle Chinese period with miệt corresponding to Early Middle Chinese muat (Pulleyblank 1991) or mjot (Baxter 1992), and vạt corresponding to Late Middle Chinese vjyat/va:t. This double borrowing might also imply an existence of doublets for everyday items during the period of Annamese Middle Chinese. This phenomenon might also imply a possible clue for features of Annamese Middle Chinese that correspond with the changes between Early and Late Middle Chinese. The Sino-Tày form also brings interesting implications, the word for ‘socks’ in Sino-Tày is mảt 襪 that lacks a

⁴⁸ Data collected from Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/> date accessed: 04/24/2024

medial yet retains a bilabial nasal. Perhaps the Sino-Tày word for socks was borrowed during an intermediate stage between Early Annamese Middle Chinese and Late Annamese Middle Chinese before the development of labiodentals.

The word for grindstone is also interesting because it shows two Late Sino-Vietnamese forms and a high front vowel coda for the Early Sino-Vietnamese form. The two tonal forms in Late Sino-Vietnamese is likely due to semantic differences *mó* 磨 ‘to grind’, and *mò* 磨 ‘millstone’. The corresponding Sino-Tày form implies the same period of borrowing, demonstrating the form *mà* 磨. The high vowel coda ending for the Early Sino-Vietnamese form *mài* shows that this word was likely borrowed in the Middle of the Han period, back when the Chinese syllable still had a high front vowel coda as *mâi* or *mai*.

Nguyễn Tài Cẩn shows us the transition from labial nasals to voiced alveolar fricatives in the following scheme: *mj* → *j* → *ʝ* → *ð* → *d /z-/* (NTC 1979: 206). Mineya shows us that some labionasal *Chóngniǔ* syllables remained as labial nasals. Like the bilabial *Chóngniǔ* IV stops that developed dental initials, labionasal *Chóngniǔ* IV syllables either lost or retained their labio-nasals, depending on how PVM speakers interpreted each syllable. In the case of the syllable ‘people’ *dân* 民, it was interpreted as sesqui-syllabic **m.j-* leading to a spirantized initial, whereas the syllable for ‘cotton’ *miên* 綿 was interpreted as non sesqui-syllabic **mi-/ *mj-*, thereby retaining the labionasal initial.

There is only one *Chóngniǔ* IV labiodental syllable with a listed Tày pronunciation, *mình* 名 which is glossed as ‘fame’. Other *Chóngniǔ* syllables are found in Tày dictionaries, but they match the LSV pronunciations: ‘surface’ and ‘people’ are both pronounced as *diện* 面, *dân* 民 respectively. The complete match with LSV implies a Tày trend of using SV

pronunciation for Chữ Nôm Tày after independence in 938 AD, thus the dentalized forms do not give us any information about *Chóngniǔ* distinction in Sino-Tày.

We have further evidence from Zhuang that *Chóngniǔ* IV labiodental initials spirantized only in Vietnamese, not by a Chinese or areal feature. The Zhuang reading for the graph 面, used to write ‘side’ is pronounced as mi:n (Su 1989: 326) and the graph 名, used to write the word ‘you’ is pronounced as muŋ (ibid: 336). Additionally, the graph 民 is used to write several words that are pronounced as *man*, including ‘sweet potato’ and ‘able’; the graph 名 can also be used to write the word ‘he/him’, pronounced as *min*. The retention of labio-nasals for these syllables indicates that when Chinese characters were introduced to Zhuang speakers in the medieval southwest, the graphs 名, 面, and 民 were all pronounced with labiodental initials and not with a /z-/ or /j-/.

The timeline of borrowing for most of the Early Sino-Vietnamese words corresponds to the Later Han and the Jin period. This timeline of borrowing is attested in the previous research but the correspondence of Old Chinese pre-initials with Early Sino-Vietnamese candidates with spirantized initials is problematic. Baxter & Sagart’s system makes claims of Old Chinese pre-initials leading to Vietic spirantization, yet their system is meant to reconstruct a pre-Qin variety of Old Chinese, which suggests a gap of at least a century. Schuessler makes it clear that there are no consonant clusters in the Han period, which suggests that by the time of borrowing into Vietic, the Old Chinese pre-initials would have been dropped already. It is reasonable to say that a regional variety of Old Chinese during the Han period would lack pre-initials. Thus, we can say that for the Bang initial group, Early Sino-Vietnamese initials are plain, non-spirantized stops and sonorant initials. The

labiodental initial *v-* is clearly a later development that we can consider a Nativizing process and add as a feature of Nativized Sino-Vietnamese.

Late Sino-Vietnamese initials in the Bang group include dentalization of *Chóngniǔ* IV syllables, a feature that was proposed as being a part of Annamese Middle Chinese by Phan (2013), but later retracted, perhaps temporarily, by DeSousa and Phan (2022) by noting that they have yet to find a Southwestern variety that retains an initial distinction for *Chóngniǔ* III and IV. I agree with Ferlus (2009b) and consider *Chóngniǔ* dental initials to arise from Việt-Mường assimilation when AMC *pj-, *phj- *bj- and *mj- were interpreted as sesqui-syllabic. The process of Proto Việt-Mường assimilation of Middle Chinese phonology discussed by Phan and Ferlus may well be interrupted when *sính* 聘, a *Chóngniǔ* IV initial, was introduced; that is of course, if the pronunciation *sính* was not due to graphic analogy. This interruption, noted by Xián (2016), reveals a timeline of labial, to palatal labial, to alveolar fricative, to alveolar stop [t-].

As far as we know, there is not a single contemporary Chinese variety that shows a *Chóngniǔ* contrast with labials and dentals in the Bang group. The *Chóngniǔ* cognates with Sino-Tày words are considerably rare but show additional hints that the dentalization of labials is not an inherited feature of Annamese Middle Chinese. Some *Chóngniǔ* IV syllables were interpreted as sesqui-syllabic, leading to dentalization and palatalization. Some Việt-Mường speakers interpreted *pj-, *bj-, and *mj- as *pi-, *bi-, and *mi- instead, thus leading to retained labials.

Duān 端 initial group

Duān 端 đòan Initial

端 Duān đòan	EMC t-	MC t-	LMC t-	OC C.t-/t-	LHOC t-	HESV đ-	JESV đ-	LSV đ-	HVVH d-
刀 <i>dāo</i> knife	taw	taw	taw	*C.t ^h aw	tau			đao	dao
斗 <i>dǒu</i> dipper	təw	tuwX	təw	*t ^h oʔ	to ^B		đấu	đấu	
點 <i>diǎn</i> dot	təm	temX	tiam	*t ^h emʔ	tem	đốm		điểm	
氏 <i>dī</i> bottom		tej		*t ^h ijʔ	tei ^B	đáy		để/ê	
帶 <i>dài</i> belt	taj	taj	taj	*C.t ^h a[t]-s	tas		đai đới	đái	dái
凍 <i>dòng</i> freeze	təwŋ	tuwng	təwŋ	*t ^h oŋ-s	toŋ ^c		đông	đống	
店 <i>diàn</i> shop	təm	temH	tiam	*t ^h em-s				điểm	
篤 <i>dǔ</i> firm	təwk	towk	təwk	*t ^h uk	touk			đốc	đốc ⁴⁹

Correspondences for Sino-Vietnamese *Duān* initial syllables are fairly normal. *Duān* initial syllables consistently demonstrate đ- initials in Early and Late Sino-Vietnamese. Sino-Vietnamese words in the *Duān* initial group have spirantized cognates with their Late Sino-Vietnamese counterparts. These spirantized forms were borrowed at a different period than

⁴⁹ Lenition example extracted from Nguyễn Thanh-Tùng 阮青松 (2015:85).

the Tang or they were colloquial pronunciations of formalized Chinese character pronunciation.

The word ‘knife’ dao 刀 with a spirantized initial is often claimed by B&S and Alves to be an ESV word that underwent lenition due to the OC pre-initial consonant *C.tʰaw. There is another ESV form, đai ‘belt’, which comes from another . The word for strip in Vietnamese dải 帶 is another softened form that has pre-initials in B&S’s Old Chinese counterpart *C.tʰa[t]-s. The word for ‘firm’ 篤 in LSV is đốc, and has the cognate đốc; this spirantized form could not have come from pre-initial consonants in an early loanword because B&S’s OC reconstruction for this syllable lacks pre-initial consonants *tʰuk.

One of the earliest documents that was written in the Latinized Vietnamese Alphabet is the *Dictionarium Annamiticum Lusitanum et Latinum Từ Điển Việt-Bồ-La*. Alexander deRhodes and his team of Catholic missionaries use two d’s. According to Haudricourt (1949), the letter Đ/đ was made for a sound not found in Europe, the pre-glottalized alveolar stop [d̚-]. The slash on the letter is a reference to its similarity with the letter T (Haudricourt 1949: 2). The d- without a slash is used to transcribe a phoneme that is similar to a voiced dental fricative [ð-]⁵⁰, although Haudricourt himself says that it sounded like a palatalized d-.

Alexander de Rhodes’ dictionary writes ‘knife’ dao as dăo ‘faca’, ‘knife’ (deRhodes 1651:165). John Phan (2013) suspects that the spirantization may be due to a palatalizing medial effect, citing the examples from Alexander de Rhodes’s transcription dăo. This medial with a brev -ě- commonly appears with the spirantized d- in the Việt-Bồ-La

⁵⁰ Alexis Michoud makes corrections to Haudricourt’s paper in addition to translation.

dictionary; there are several additional examples of this medial in Alexander de Rhodes' dictionary, from Sino-Vietnamese and Vietic etyma alike:

DALL: dĕạy 'ensinar', 'to teach' Modern: dạy (Alexander de Rhodes 1651: 164)

DALL: dĕấu as in dĕấu thánh 'reliquia' 'relic' Modern: dấu thánh

(Alexander de Rhodes 1651: 166)

DALL: dĕơi 'morcego' 'bats' Modern: dơi (Alexander de Rhodes 1651: 168)

DALL: dĕài 帶 as in thịt dài 'sausage', likely means strip of meat, modern dải (Alexander de Rhodes 1651:168)

The transcriptions in Alexander de Rhodes dictionary also suggest that the medial process was ongoing. Doublets include entries with the medial -ĕ- as well as counterpart entries that are identical to modern Vietnamese words:

Dĕính, see dính (DALL 1651: 167)

Dĕối, see dối (ibid: 168)

Dĕười, see dưới (ibid: 170)

Dĕốc, see dểốc (ibid: 176)

John Phan suspects that Alexander de Rhodes' transcription suggests a palatalizing medial effect for the spirantized d- initial (Phan 2013: 131). So far there is no clear indication that this medial -ĕ- is either a close-mid front unrounded vowel [-e-] as in modern Vietnamese lễ 'ceremony/ritual', or an open-mid front unrounded vowel [ɛ-] as in modern Vietnamese xe 'car'. If this medial has a palatalizing effect, then we can assume that the medial -ĕ- is a high front vowel.

The palatalizing medial effects that occurred in Vietnamese is analogous to the spirantizing phenomenon in other languages such as Greek, Arabic and Japanese. The Greek letters Beta B/β, Delta Δ/δ and Gamma Γ/γ were formerly voiced stops, but then became voiced fricatives. Geoffrey Horrocks (1997) covers phonological change in the Greek

language and cites Gignac (1976) and Teodorsson (1977) in his brief discussion on the importance of medials and how these three phonemes went from voiced stops to fricatives:

“Friction affected the labial /b/ by the first century AD, again except after nasals, and finally the dental /d/ (the pronunciation [ð-]) occurring first before [j], i.e., prevocalic /i/, from the first century AD, then before /i/ generally from the third century, and eventually in all positions, other than after nasals, from the fourth century onwards.” (Horrocks 1997: 112)

In Tày, the graph 刀 is pronounced as *đeo*, the graph 篤 is pronounced *đoóc* and *đúc*, and the graph 帶 is pronounced as *tải*. Alexander de Rhode’s dictionary and the examples in Tày can show us clues for medial activity that influenced lenition for Sino-Vietnamese *Duān* initial syllables. Japanese phonological history also follows a similar trend of lenition. Notice the phonology for the *ta* row *ta gyō* た行 for Japanese hiragana: *ta* [ta] た, *chi* [tɕi] ち, *tsu* [tsu] つ, *te* [te] て, *to* [to] と. In Old Japanese, these syllables were pronounced as [ta], [ti], [tu], [te], [to], all with consonant stop initials. Old Japanese t- and d- eventually became affricates before the vowels -i- and -u- by the late Muromachi 室町 period (1336-1573) (Miyake 2003: 75).

The Arabic letters *dāl* and *dād* give us more clues for the palatalization process of *t>d>dz>th>z*. The letter *dāl* د is usually transliterated as *dh-* in English language writing. For example:

Dhikr ذكْر ‘remembrance of God (in Islam)’

Adhan أذان ‘The Islamic call to prayer’

In contemporary Arabic dialects, there is variation for the pronunciation of *dāl* as [ð], [d] and [z] (Alqarhi 2019: 14). This analogous phenomenon of stops becoming fricatives in languages such as Greek, Japanese and Arabic make the nativizing effect of Sino-Vietnamese without consonant clusters or pre-initials all the more plausible. Spirantization in Sino-Vietnamese dentals likely occurred due to a high front vowel medial. Building from Phan’s

observation, and Haudricourts' as well as Michaud's description of the letter d-, the Vietnamese d- underwent a similar change, first from a stop t-, then became a voiced interdental fricative before a prevocalic high vowel medial, finally before assimilating to become a voiced alveolar fricative.

Therefore, dải 帶 'strip', dừng 停 'stop', dốc 篤 'firm' and dao 刀 'stop' are due to high front vowel medials rather than signs of Early Sino-Vietnamese borrowed from Old Chinese consonant clusters. This was a sporadic phenomenon because instead of a consistent change like we see in Arabic dialects and Greek, this only appears in a few words in Sino-Vietnamese. The medial phenomenon is interesting because the spirantized forms do not have high front vowel medials at any stage of Chinese. Perhaps the high front vowel medial arose from different dialects of Anamese Middle Chinese or Proto Việt-Mường after independence in the 10th century. Pre-initial consonants are possible in Old Chinese *Duān* initial syllables but are not a feature that caused spirantization.

The regular correspondence for Middle Chinese to Late Sino-Vietnamese is the voiced dental initial ɖ-. One of the notable exceptions pointed out by Chiang Chia-lu (2011) is an affricate ch- initial. To Chiang this phenomenon is due to graphic analogy, for example, 佔 *chiêm/chiếm* was perceived to be phonologically analogous with 占 *chiêm/chiếm*. The syllable *tem* 佔 has a *Duān* initial and the syllable *tsyem* 占 has a *Zhāng* 章 initial. Both of these syllables are homophonous in Mandarin and nearly homophonous in Cantonese, differing in tone: zim1 占 vs zim3 佔. A similar situation can be found in a Píngguà variety called Xiāngnán Tǔhuà located in Jiāngyǒng Chéngguān: 占 tɕiŋ vs. 佔 tɕiŋ. In Late Sino-Vietnamese, Píngguà, Cantonese and Mandarin these two syllables are either homophonous or nearly homophonous.

The syllable *tiêm* from ‘store’ *diàn* 店 is obviously Chinese in origin, but not Early Sino-Vietnamese due to the presence of a medial, and not nativized because there is a retained stop. Vũ Đức Nghiệu (2010) says the word *tiêm* comes from Southern Chinese varieties (Vũ 2010: 140). I would say that Yuè is not the most likely origin of RSV *tiêm*, though Ēnpíng from the Sìyì (Seiyap) dialects would be the only variety that matches the medial and coda types since it is pronounced as *tiəm*⁵¹. Several dialects of Hakka and Mǐnběi are likely candidates for the origin of RSV *tiêm* due to the cognates in the dialects of both languages consistently matching consonant initials and medials with the RSV form⁵²:

Zhāng pǔ 漳浦: *tiam* Jiēyáng 揭陽: *tiam*
 Shàntóu 汕頭: *tiam* Hǎifēng 海豐: *tiam*

(Data from Xiǎoxué táng 小學堂)

Tòu 透 thǎu Initial

透 tòu thǎu	EMC t ^h -	MC th-	LMC t ^h -	OC *t̪-, *t̪ʰ-, *t̪ ^h -	LHOC t̪-, t̪ ^h -	HESV th- s-, l-	JESV th-	LSV th- s-, đ-	HVVH
蝮 <i>tùi</i> shed	t ^h waj	thwajH	t ^h uaj	*t̪ ^h ot-s	ɬwās ⁵³	lốt		thuế	
舔 <i>tián</i> to lick	NONE	themX	NONE	*t̪ ^h [i]m?	t ^h em	liếm		thiếm	
鐵 <i>tiě</i> iron	t ^h et	thet	t ^h iat	*t̪ ^h ik	t ^h et ⁵⁴	sắt		thiết	
桶 <i>tǒng</i> bucket	t ^h əwŋ	thuwnŋX	t ^h əwŋ	*t̪ ^h oŋ?	t ^h oŋ ^B	thống	thùng	dũng	

⁵¹ Source from Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/yueyu?kaiOrder=865> accessed on 02/26/25

⁵² Source from Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/minyu?kaiOrder=865> accessed on 02/26/25

⁵³ Eastern Han reconstruction by Starostin, obtained from kaom.net

⁵⁴ Starotín’s reconstruction contains a voiceless lateral fricative [t̪-], which is identical to B&S’s reconstruction. Ibid.

兔 <i>tù</i> rabbit	t ^h ɔ ^h	thuH	t ^h uǎ	* ^ʕ a-s	t ^h ɑ ^c		thỏ	thố	
炭 <i>tàn</i> coal	t ^h an	thanH	t ^h an	*[t ^h]ʕa[n]-s	t ^h ɑn ^c	than		thán	
嘆 <i>tàn</i> sigh	t ^h an	than	t ^h an	* ^h ar-s	t ^h ɑn ^{c55}	than		thán	
替 <i>tì</i> replace	t ^h ɛj	thejH	t ^h iaj	* ^h i[t]-s	t ^h es		thay	thế	
推 <i>tuī</i> push	t ^h wəj	thwoj tsyhwij	t ^h uaj	*t ^h ɤuj	t ^h uəi			suy thôi	
廳 <i>tīng</i> hall	t ^h ɛjŋ	theng	t ^h iajŋ	lhe:ŋ ⁵⁶	none			sảnh thinh	
套 <i>tào</i> cover	t ^h aw ^h		t ^h aw [`]					sáo	
榻 <i>tà</i> couch	t ^h ap	thap	t ^h ap	none				tháp	
塌 <i>tā</i> collapse	t ^h ap	none	t ^h ap	none				tháp	
台 <i>tái</i> platform	t ^h əj	thoj	t ^h aj	*lə	t ^h ə			đài	
踏 <i>tà</i> to step	t ^h əp/ t ^h ap	thop	t ^h ap	none				đạp	

Most of the Old Chinese initials that develop into the Middle Chinese *Tòu* initial are voiceless alveolars /|^ʕ-/ and /^h/. Almost none of the examples from Baxter & Sagart's Old Chinese reconstruction have aspirated initials with the exception of *tàn* 炭 'coal' *[t^h]ʕa[n]-s. The ESV counterparts have at least three different types of initial features, which are l-, th-, and s-. The most common of these ESV initials is the aspirated dental th-, there are also examples of a lateral developing from the voiceless alveolar lateral seen in 𧈧 蜎 and 𧈧 𧈧.

⁵⁵ Starostin's reconstruction keeps the voiceless alveolar nasal [ŋ].

⁵⁶ Zhèngzhāng Shàngfāng 鄭張尚芳, obtained from kaom.net

The most interesting of these loans is ‘iron’ *sắt* 鐵, perhaps this is an earlier loan from the Warring States period, or as Alves suggested, perhaps this was borrowed into another language group first, then into Vietic (Alves 2016: 266). Shimizu and Phan (2019) present the word for ‘iron’ in Chữ Nôm, *khả liệt* 可列. It is interesting to note the disyllabic nature of this word for ‘iron’, as it would imply sesqui-syllabic features from the Old Chinese. Given the language diversity of Southern China and modern-day northern Vietnam up until this day, it is certainly possible that loan word reached Tai or Hmong first before Vietic. However, in Proto-Tai *hlekd* and Proto Southwestern Tai *hlekd*, laterals are preserved, whereas in Vietic, there is a velar initial *k-*. By the late Han period, this voiceless lateral had already developed into an aspirated dental stop. It is possible that there was a velar reflex that came from Proto Tai *hl-*.

The word *than* 炭 is likely to be a Late Han word because of the aspirated dental stop in both the ESV and OC initial 炭 **[tʰ]ʰa[n]-s* vs. *than*. Schuessler’s reconstruction for the Late Han reconstruction also matches neatly with the Early Sino-Vietnamese form. The word ‘to sigh’, *tàn* 嘆 is also a Late Han Early Sino-Vietnamese word because of its match with Schuessler’s reconstruction. The word for bucket is interesting, because there are two Early Sino-Vietnamese forms, *thống* and *thùng*. The syllable *thống* is likely to be a borrowing from the Han Era due to its match with Schuessler’s Late Han reconstruction and due to the tonal correspondence. The word *thùng* on the other hand is likely a Jin loanword due to its phonological match with Early Middle Chinese and Middle Chinese forms. The *huyền* tone for *thùng* 桶 is noteworthy though because the usual Early Sino-Vietnamese tonal correspondence is *sắc-nặng* for Old Chinese glottal stop codas. Perhaps this word was

borrowed after the loss of the glottal stop coda and shortly before the development of the Shǎng tone in Middle Chinese.

The Late Sino-Vietnamese form *dǔng* for ‘bucket’ 桶 is also interesting because of the spirantized medial. This is possibly due to a reading mistake, assuming that ‘bucket’ 桶 is homophonous with *yǒng* 甬 *dǔng* ‘bell handle’. The same graph for bell handle is used for other graphs that have other homophonous Sino-Vietnamese pronunciations, such as:

‘brave’ 勇 LSV: *dǔng*
‘gushing’ 涌 LSV: *dǔng*
‘gushing’ 湧 LSV: *dǔng*
‘burial figurine’ 俑 LSV: *dǔng*
‘pupa’ 蛹 LSV: *dǔng*

This implies that the Late Sino-Vietnamese form for bucket ‘*dǔng*’ was not colloquial during the era of Annamese Middle Chinese and was transmitted via graphic analogy in an educational setting. The people who transmitted this term must have assumed that the character for ‘bucket’ belongs to a homophonous set with the graph ‘bell handle’ 甬.

The l- initials indicate a Han or even pre-Han era of borrowing. The th- initial indicates Late Han or Jin era borrowings for Early Sino-Vietnamese. The distinctions between HESV and JESV with th- initials are made through the analysis of the tonal and rime correspondences to their Chinese counterparts. For Late Sino-Vietnamese, Vietnamese th- is the regular correspondence for *Tòu* 透 initial syllables, the spirantized initial d- for ‘bucket’ is due to graphic analogy.

Late Sino-Vietnamese *Tòu* initial syllables occasionally demonstrate s- initial syllables. Chiang Chia-lu notes that there are 16 s- initial syllables, many among them have alternate *Qièyùn* readings. Xián Mǎnxuě (2016) mentions only 6 syllables that demonstrate s- initials. The syllable ‘to push’ 推 is common in modern Vietnamese, being used for words

such as suy luận 推論 ‘inference’. The syllable ‘to push’ 推 has a *Chāng* 昌 initial reading as well. There is limited data on the other s- initial examples but what likely happened to ‘to push’ is that the *Chāng* initial reading got mistaken with the *Tòu* initial reading and the affricate tsyh- in Middle Chinese dropped so a fricative and became s-. The syllable for ‘hall’ 廳 also demonstrates an s- initial as a standard Late Sino-Vietnamese pronunciation *sảnh*, as in *sảnh đường* ‘hallway’; this syllable must have been borrowed in the old Chinese period but became a codified standard pronunciation, the voiceless alveolar lateral approximant must have merged into an alveolar fricative in the following scheme: ʃ → s.

There are two *Tòu* initial syllables that demonstrate voiced dental implosives *đài* 台 ‘platform’ and *đạp* 踏 ‘to step’. The graph 台 has many different entries in the *Guǎngyùn*, among them are *Tòu* initial and *Dìng* initial entries. The *Tòu* initial entry matches with the Sino-Vietnamese syllable semantically such as *sān tái xīng* 三台星 ‘a constellation with three deities’, and *tiān tái shān* 天台山 ‘Mount Tiantai’ but phonetically, *đài* matches the *Dìng* initial entry. For the case of ‘platform’, scholars prescribed the *Dìng* initial pronunciation across the Red River Delta.

The syllable ‘to step’ uses this graph 踏 with the meaning ‘to plant on the ground’ has the *Tòu* initial, the other graph 蹋 with the meaning ‘step’ has the *Dìng* initial. Both graphs have the reading *đạp* in Late Sino-Vietnamese but for some reason, the graph 蹋 with the *Dìng* entry also has an aspirated dental initial pronunciation in LSV *tháp*. Scholars perhaps mixed up these two entries so both are pronounced as *đạp* and the *Dìng* initial syllable now has an additional aspirated dental initial.

Dìng 定 ðìng Initial

定 ðìng ðìng	EMC d-	MC d-	LMC tʰ-	OC	LHOC d-	HESV d-	JESV	LSV đ-	HVVH d-
脰 <i>dòu</i> neck	dəw	duwH	tʰəw	*kə.dʰok-s	do ^c	dọc		đậu	
定 <i>dìng</i> set	dɛŋ	dengH	tʰiaŋ	*m-tʰeŋ-s	deŋ ^c			định	
肚 <i>dù</i> stomach	dɔ	duxH	tʰuǎ	*m-tʰaʔ	dɑ ^B			đỗ	dạ skin
豆 <i>dòu</i> bean	dəw	duwH	tʰəw	*[N.t]ʰo-s	do ^c	đỗ		đậu	
舵 <i>duò</i> helm	da	daX	tʰa	*lʰajʔ	dai ^B	lái		đà	
頭 <i>tóu</i> head	dəw	duw	tʰəw	*[m-t]ʰo	do		đầu	đầu	
停 <i>tíng</i> stop	dɛŋ	deng	tʰiaŋ	*Cə.[d]ʰeŋ	deŋ		đừng	đình	dừng

Middle Chinese *Dìng* initial syllables consistently demonstrate voiced dental stop initial đ- throughout Late Sino-Vietnamese. There are only three identified Early Sino-Vietnamese words with *Dìng* initial syllables and each has a different initial, l-, đ- and d-. The Old Chinese reconstruction of ‘rudder/helm’ includes a lateral initial according to Strostin,

Baxter & Sagart, and Pān Wùyún and Schuessler. This also may be a sign of lateral preservation that is seen in the Wǎxiāng dialect 瓦鄉話.

田 B&S: *lʰiŋ, Schuessler Old Chinese to Late Han: lînᵛden

同 B&S: *lʰoŋ, Schuessler Old Chinese to Late Han: dônᵛdoŋ

代 B&S: *lʰək-s, Schuessler Old Chinese to Late Han: *lâkh ᵛ dâc

大 B&S: *lʰat-s, Schuessler Old Chinese to Late Han: *lâtsᵛdâsᵛ das/dah

So far there are no other Early Sino-Vietnamese Ding initial syllables with an l- initial borrowed from Old Chinese l-. What we can hypothesize is a borrowing of *lái* 舵 ‘rudder’ that dates earlier than the late Han period.

The Sino-Vietnamese word for stomach dạ 肚 (although it means ‘skin’ in Vietnamese), demonstrates the same medial ẽ that appears in Alexander deRhode’s dictionary, dặ ‘barriga’ ‘stomach’. This medial might have caused the initial to spirantize. This is also likely to be a nativized form for an Early Sino-Vietnamese word borrowed during the Han period because of the vowel type. However, the medial -ẽ- indicates that the word ‘stomach’ or ‘skin’ in modern Vietnamese was not spirantized from pre-initial consonants.

Wáng Lì considers the word dừng ‘to stop’ to be a Nativized form of the Late Sino-Vietnamese word đình 停 (Wáng 1948: 554). John Phan (2013) has commented on the strange vowel shift from -i- to -u- and how it prevented palatalization of the velar nasal coda (Phan 2013: 130). I am not convinced that dừng is the Nativized form of đình, but rather that dừng ‘to stop’ is the nativized form of đừng ‘do not’. This would be a case of Early Sino-Vietnamese words becoming Nativized, and Phan comments on the phenomenon of Nativization, especially with spirantization, happening to either Early Sino-Vietnamese or Late Sino-Vietnamese words (ibid: 162). Since there is a possibility of Nativization change happening to an earlier layer of vocabulary, I think it is more likely that Nativization happened to the early Sino-Vietnamese word đừng ‘do not’. The word for ‘stop’ dừng in the

imperative form is not a large semantic stretch from ‘stop’ or ‘halt’ *dừng*. The word *đừng* qualifies as an Early Sino-Vietnamese word, and one from the Han era because it matches with the Late Han Old Chinese form from Schuessler’s reconstruction *deŋ*. The word *đừng* is unlikely to be a Jin-Era Early Sino-Vietnamese word due to the Early Middle Chinese forms having a high front vowel before the coda, which likely contributed to the palatal nasal coda in the LSV form.

Ní 泥 nê Initial

泥 ní/nê	EMC n-	MC n-	LMC n-	OC n- C.n-	LHOC n-	HESV n-	JESV n-	LSV n-	HVVH
難 <i>nán/nàn</i> ‘difficult’	nan	Nan	nan	*n ^ʰ ar *n ^ʰ ar-s	nâns >nan	dàn		nạn	
念 <i>niàn</i> ‘sentiment’ ‘recite’	nem	nemH	niam	*n ^ʰ im-s	nîms >nəm ^c		niềm	niệm	
弩 <i>nǚ</i> ‘crossbow’	nɔ	nuX	nuǎ	*C.n ^ʰ aʔ	nâʔ >nɔ ^B	ná	nỏ	nỗ	
納 <i>nà</i> ‘hand-in’	nəp /nap	nop	nap	*n ^ʰ [u]p	nəp	nộp		nạp	

There is nothing out of the ordinary in Sino-Vietnamese *Ní* initial syllables. Alveolar nasals are present throughout every stage of Chinese and every stage of Vietnamese. There is a consistent pattern of Old Chinese alveolar nasals being retained in Early Sino-

Vietnamese. There also seems to be no Nativizing effect that causes any significant phonological changes to initials in the *Ní* initial syllables.

The word for Crossbow is interesting, because we see two different early Sino-Vietnamese candidates. Alves (2016) points out that the vowel -a makes the word ná ancient. This observation holds up when compared to Schuessler's Late Han reconstruction: *na*. The crossbow is a weapon that was well known in China and Southeast Asia. In Proto-Tai we have *hnaa, in Khmer we have *snaa*, and in Bahnaric we have *sena* (Schuessler 2009: 58). Pittayaporn (2009; 2014) provides us with reconstructions for 'Crossbow' in Proto Southwestern Tai and for Proto Tai as *na and *nwɣ:C respectively.

Crossbows hold legendary significance in Vietnamese history, as Thục Phán or An Dương Vương, the ruler of Âu Lạc, wielded a legendary crossbow. This wide use of the crossbow in the region, the pre-initial s- in languages like Khmer and PVM, bronze crossbow bolts being found in the Cổ Loa archeological site (Alves 2016: 286; Kim et al 2010: 1026), and the legend of An Dương Vương suggest a pre-Qin exposure to this device. It is difficult to verify with certainty the direction of borrowing for this device. The ethnic identity of An Dương Vương, the king who wielded the magic crossbow, is uncertain and it is possible that he may be of Tai background (Kim 2015; Đoàn 1996). It is safe to assume that this word entered the Vietic language before the Qin era, whether directly with Sinitic or via intercession by other areal languages, is yet to be known. The wide use of crossbows as well as the unclear identity of An Dương Vương's ethnic and language background are testament to the linguistic and ethnic diversity of Âu Lạc and Nam Việt.

The word 'crossbow' has another Early Sino-Vietnamese form, *nỏ*. This word is identified to be Early Sino-Vietnamese by Nguyễn Thanh-Tùng 阮青松 (2015) by citing Hoa Ngọc Sơn 花玉山 (2005). The word *nỏ* is interesting because the vowel matches with

Pulleyblank's Early Middle Chinese form *no* and is the modern Vietnamese word for crossbow. This vowel similarity suggests a clear southward, unidirectional Jin era Early Sino-Vietnamese reborrowing, during a stage in the Chinese language when the vowel *-a* was still forming a medial *-u-*. Perhaps this word was introduced by the Jin era refugees or by northern elites and soldiers. The *hỏi* tone also indicates a Middle Chinese period of borrowing after Vietic tonogenesis.

The word for 'sentiment' *niệm* 念 has two different pronunciations and meanings in Vietnamese, *niềm* meaning 'sentiment' as in *niềm tin* 'confidence' and *niệm* meaning 'to recite' as in *niệm kinh* 'recite a sutra'. Alves (2018) claims that *niềm* is an Early Sino-Vietnamese word due to tonal correspondences. In terms of tone correspondences *niềm* seems to be a likely candidate for Early Sino-Vietnamese, however, I would have to disagree on the grounds of medial formation. Medials for this syllable in Chinese did not develop until the Late Middle Chinese period, which would make the borrowing with the medial *-i-* as an Early Sino-Vietnamese word, even in the Jin era, very unlikely. I tentatively list *niềm* to be a sign of Nativization Hán-Việt Việt-Hóa.

Lái 來 lai Initial

來 <i>lái/lai</i>	EMC l-	MC l-	LMC l-	OC: *C.r-, k.r.-, [N-k.]r-, r-	LHOC r->l-	HESV r- ch- s-	JESV l-	LSV l-	HVVH n/a
冽 <i>liè</i> cold	liat	ljiet	liat	*C.r[a]t	rat>liet	rét		liệt	
郎 <i>láng</i> Young man	laŋ	lang	laŋ	*C.r ^ʰ aŋ	râŋ>laŋ	chàng		lang	
藍 <i>lán</i> blue	lam	lam	lam	*[N-k.]r ^ʰ am	râm>lam	chàm		lam	
朗 <i>lǎng</i> bright	laŋ	langX	laŋ	*k.r ^ʰ aŋ?	râŋ?>laŋ ^B	sáng	láng	lǎng	
龍 <i>lóng</i> dragon	luawŋ	ljowŋg	lywŋ	*[mə]-roŋ	roŋ>lioŋ	ròŋg		long	
籠 <i>lóng</i> 'cage'	ləwŋ	luwŋg	ləwŋ	*k.r ^ʰ oŋ	rôŋ>loŋ	chuồŋg	lồŋg	lung/ lộŋg	
力 <i>lì</i> power	lik	lik	liək	*k.rək	rək>lik	súc		lực	
蓮 <i>lián</i> lotus	len	len	lian	*k.[r] ^ʰ e[n]	rên/len	sen		liên	
闌 <i>lán</i> railing	lan	lan	lan	*[r] ^ʰ an	rân/lan	ran		lan	
離 <i>lí</i> leave	liə/li	lje	li	*raj-s *raj	rai > lai	rã ⁵⁷ ròi	lià	ly	
梁 <i>liáng</i> beam	liəŋ	ljang	liəŋ	*raŋ	raŋ > liəŋ	rườŋg		lươŋg	
簾 <i>lián</i> curtain	liam	ljiem	liam	*rem		rèm		liêm	

⁵⁷ Baxter & Sagart 2021 'repudiate one's wife'.

冷 <i>lěng</i> cold	lajŋ	leng	la:jŋ		rêŋʔ/leŋ ^B		lạh	lãnh	
爐 <i>lú</i> stove	lɔ	lu	luǎ	*[r]ʰa	râ/la		lu	lô	
縷 <i>lǚ</i> silk	luǎ	ljuwX	lyǎ	*[r]oʔ	roʔ>lio ^B		lạ	lũ / lâu	
斂 <i>liǎn</i> gather	liam	ljemX	liam	*[r][a]mʔ	ramʔ>liam ^B	?	lựm	liễm	?
臘 <i>là</i> Sacrifice	lap	lap	lap	*C.rʰap	râp > lap	chạp	?	lạp	?
攔 <i>lán</i> obstruct	lan	lan	lan		rân > lan	chặn	?	lan	?
羅 <i>luó</i> net	la	la	la	*rʰaj	râi lai > la	chài reject	?	la, là	?
臘 <i>là</i> wax	lap	lap	lap	*k.rʰap	râp ⁵⁸	sáp	?	lạp	?

Late Sino-Vietnamese *Lái* initial syllables consistently demonstrate l- initials. Old Chinese initial r- and initial r- with pre-initials assimilate to Middle Chinese *Lái* initials. Early Sino-Vietnamese words demonstrate a diverse set of initials, we see r-, l-, ch- and s- initials, all of which hold implications for the period of borrowing. Southwestern Middle Chinese and Annamese Middle Chinese both demonstrated laterals for *Lái* initial syllables during the medieval period. Areal languages show a regular matching correspondence between Southwestern Chinese varieties, Sino-Vietnamese, Sino-Tày and Sino-Zhuang. Sino-Tày syllables with *Lái* initials have laterals that match with their Late Sino-Vietnamese counterparts:

⁵⁸ Reconstruction provided by Starostin, obtained from Kaom.net.

Sino-Tày

來 lai, lài 離 ly 冷 lẹng 羅 la 連 liễn

Sino-Zhuang

六 lok (de Sousa 2020: 273) 羅 la (ibid: 277) 鑼 la (ibid: 277)

灵 lij (Su 1989: 288) 冷 le:ŋ (ibid: 283)

Southwestern Chinese varieties also consistently demonstrate lateral initials but there are rare instances of l- mixing up with n-. For example, in the Píngguà dialects of Língchuān Tánxià 靈川潭下, the pronunciation of ‘to come’ 來 is nai, ‘six’ 六 is niu, and ‘net’ 羅 is nuə (data from Xiǎoxué táng). In both Chinese and Vietnamese, there are occasional l- and n- mixups, in some Southwestern dialects ‘cow’ *niú nǎi* 牛奶 becomes *liú lǎi* and ‘lemon’ *níng méng* 檸檬 becomes *líng méng*. In Vietnamese, one can ask the question em là người nước nào ‘what country are you from’ as em là người lược nào. I am convinced that Annamese Middle Chinese in the Red River Delta consistently demonstrated laterals for MC *Lái* 來 initial syllables, though it is likely that a mixup with alveolars did occur in some dialects of the Southwestern Middle Chinese continuum across the regions of modern day Guǎngxī, Húnán and western Guǎngdōng.

Lateral initials start appearing in Sino-Vietnamese vocabulary since the Early Middle Chinese period around the Jin era. We see four examples of Early Sino-Vietnamese loanwords with lateral initials. Early Sino-Vietnamese words with r- initials are most likely Han-era borrowings before OC *r- became Late Han and Middle Chinese *l-. ESV *l- most likely demonstrates Jin era borrowings that correspond with the EMC period.

The most interesting of the Sino-Vietnamese *Lái* initials are the s- and ch- initials. Wáng Lì (1948) and many Vietnamese scholars suggest that the s- initial comes from a Nativizing effect, while Pān Wùyún (1987) and Baxter & Sagart (2014) suggest a consonant cluster origin from Old Chinese. Pān Wùyún also suggests that the ch- *Lái* initial also comes from consonant clusters in Old Chinese; those loanwords are likely much older because the origin of many Vietnamese s- initials are consonants with a medial -r-. Schuessler (2009) also mentions Chinese loanwords of areal significance with cognates found in Austro-Asiatic and Kra-Dai languages, thus implying small scale pre-Qin contact.

The data includes three syllables with initial ch- that are Early Sino-Vietnamese. Initial ch- corresponds with Old Chinese pre-initial k.- as in *k.r^hoŋ for chuồng 籠, unidentified consonant C.- as in *C.r^haŋ for chàng 郎, and pre-initial nasal as in *[N-k.]r^ham for chàm 藍. Xián Mǎnxuě (2016) includes additional *Lái* initial syllables with the ch- initial, chia 離 ‘to separate’, chạp 臘 ‘new year sacrifice’ and chặn 攔 ‘to block’. Xián also suggests that the ch- initial is a result of Old Chinese pre-initials. The ch- initial in Early Sino-Vietnamese is not mentioned by Baxter & Sagart (2014), and the syllables with Old Chinese pre-initials also demonstrate initial s- in some Sino-Vietnamese layers.

Alves (2022) provides a doublet for the word ‘cage’, chuồng and lồng both coming from Chinese long 籠 *k.r^hoŋ. Schuessler (2007) suggests that this word for cage is likely to be an area word for Austroasiatic (Schuessler 2007: 167):

Old Khmer: kruŋ ‘to cover, shelter, protect, to pen animals’, truŋ ‘coop for birds’
 Written Burmese: khruŋ ‘cage for birds’
 Proto-Tai: *kroŋ ‘cage’
 Austronesian: *kuruŋ ‘cage’
 (Ibid: 167)

The word for cage is seen in many Southeast Asian languages and this range suggests small scale contact. The word for ‘cage’ *lóng* 籠 is also attested in Chinese sources from the Warring States period such as the Zhuangzi 莊子 text. In the Zhuangzi text, the word *lóng* 籠 means ‘cage’.

夫得者困，可以為得乎？則鳩鴉之在於籠也，亦可以為得矣。

“What they have hit on (only) leads to distress - can they have hit on what is the right thing? If they have, we may say that the dove in a cage has found the right thing for it.”

(Text from Ctext.org, translation provided by James Legge)

It is plausible that bird cages have been a commodity of trade between Chinese polities in the Warring States period and contemporary Southeast Asian communities.

Charles Higham & Rachanie Thosarat (2012) note that there was trade between the state of Chu and Southeast Asia as far back as the 4th and 3rd centuries BCE (Higham & Thosarat 2012: 224). We can safely conclude that this ch- initial for ‘cage’ is a sign of pre-Qin borrowings.

Alves (2016) suggests that the initial l- for Early Sino-Vietnamese is an indication of a later borrowing, perhaps during the Jin period or later. The other word for ‘cage’ in Early Sino-Vietnamese is *lồng* with a lateral initial, indicating a later borrowing than the affricate initial counterpart. The phonological resemblance of *lồng* with one of the Late Sino-Vietnamese forms *lộng* also suggests borrowing from the Early Middle Chinese period. The only difference between the two forms is tonal, which shows periods of borrowing before and after Vietic tonogenesis.

It is also interesting to note that ‘cage’ in Late Sino-Vietnamese has two forms, *lộng* and *lung*. Perhaps one form is older than the other. It is likely that the form *lộng* is older due to its vowel resemblance to *lồng*, though the *nặng* tone suggests that this was a borrowing

of a similar word with a different tone that is akin to Mandarin long3 instead of lóng. This *Shǎng* tone borrowing perhaps happened before the Late Sino-Vietnamese period but became codified into the Late Sino-Vietnamese pronunciation system. The ngang tone form of *lung* is normal for Chinese *Píng* tone words and might reflect a contemporary colloquial Annamese Middle Chinese word.

The word for 'indigo' 藍 shows a similar phenomenon to the word for 'cage.'

Schuessler suggests that basket is also an arial word with the following forms:

Baxter & Sagart: *k.r^hoŋ

Baxter's Old Chinese 1992: *g-ram

Austronesian: *tayum 'indigo'

Proto-Tai: *gram 'indigo'

Written Tibetan: rams 'indigo'

Mru: Charam 'indigo'

Proto Hmong-Mien: *ŋglam 'indigo' (Ratliff 2010: 257)

Sino-Vietnamese: (màu) chàm 'indigo'

(Schuessler 2009: 347)

The arial significance for the word 'indigo' suggests an ancient borrowing for a term that circulated around the region before the Qin period. There is no other Early Sino-Vietnamese form for 'indigo' and the Late Sino-Vietnamese form matches with the Middle Chinese counterparts as *lam*.

Wáng Lì and Pān Wùyún both comment on the s- initial. Wáng Lì suggests that initial s- comes from consonant clusters such as tl- and tr, though Wáng Lì himself is not sure how to explain how l- could form tl- and then form s- (Wáng 1948: 555). Perhaps if we follow Wáng Lì's schema of tl- → s- or tr → s-, then s- would have emerged from a merger like that of the *Chè* 徹 triêt initial syllables with some retroflexes merging into s-. Pān Wùyún (1987) on the other hand, argues that initial s- for *Lái* initial syllables comes from OC consonant

clusters, drawing an examples of ‘lotus’ sen 蓮 coming from Old Chinese *Cren, and Pan also claims that there were pre initials for ‘wax’ sáp 蠟, ‘power’ sức 力, and ‘bright’ sáng 亮.

Chiang Chia-lu (2014) further pries into Pān Wùyún’s Early Sino-Vietnamese candidates and suggests instead that the s- initial for *Lái* initial syllables does not necessarily suggest a single period of borrowing. Chiang considers sáng ‘bright’ to not be cognate with Chinese at all, sáp and sức to be early loan words, and sen and sóng to be later loanwords. The word for ‘wax’ according to Chiang sáp does not demonstrate traces of Old Chinese phonology and suggests that the word là 蠟 for ‘wax’ does not appear until the Six Dynasties era. Joseph Needham (1986) on the other hand suggests a much earlier textual attestation for ‘wax’ 蠟 found in the Chin Shu 金書 and suggests that wax was used across the central plains region in the Warring States period (Needham 1986: 79-80).

Nguyễn Tài Cẩn (1979; 1995) demonstrates the origin of s- in Vietnamese coming from Vietic consonant cluster with an *-r- medial. I am convinced that the s- initial syllables for MC *Lái* initials are indeed from Early Loanwords from the Old Chinese era. The ESV syllables that demonstrate s- perhaps became affricates after borrowing and then became alveolar fricatives. Dialect layering likely fostered the development of s- initials in some syllables while fostering the preservation of affricates in other syllables.

The word for separate 離 shows several different SV forms. There are two initial r- forms, two initial l- forms and one initial ch- form. The initial r- forms rạ̃y and ròi both suggest Han era borrowings, but the difference in rime and tone suggest slight chronological and semantic differences in borrowings. The ngã tone and meaning ‘repudiate one’s wife’ in rạ̃y suggests a borrowing of the word ‘to differentiate’ lì *rajs 離 while the huyền tone in ròi suggests a borrowing of ‘to separate’ lí *raj 離. The vowel difference suggests a

chronological difference in borrowing as well. Chiang suggests that the borrowing *ròi* is likely to be a later OC borrowing (Chiang 2011: 150). Although Chiang provides no elaboration on why this is a later borrowing, the form *ròi* is a later borrowing than *rãy* because it resembles the early middle Chinese final, yet it must have been borrowed before the formation of lateral initials. If the initial *ch-* for *chia* as in *chia tay* ‘to separate’ is indeed Sino-Vietnamese, then it would imply an older Pre-Qin period of borrowing.

ESV *Lái* initial syllables demonstrate *r-* initials in the Han Era layer, and *l-* in the Jin era layer. The *ch-* initial words are likely to be much older since they are areal terms for Southeast Asian languages such as Tai and Austroasiatic. However, B&S do not mention the initial *ch-* in Sino-Vietnamese explicitly. The *s-* *Lái* initial syllables indicate a further development from affricates after borrowing consonant cluster **-r-*.

Some syllables for the *Lái* initial group also include quadruplets, such as ‘cage’ that has two ESV forms and two LSV forms, as well as ‘separate, differentiate’ that has three ESV forms and one LSV form. There are instances where *ch-* and *s-* come from the same OC source which is the *k.r-* initial, ‘cage’ 籠 **k.r^hoŋ* must have developed into *ch-* instead of *s-* due to dialect and multilingual layering, possibly interpreting the pre-initial **k* as a different consonant. Sino-Vietnamese *Lái* initial syllables show a history of diverse language interaction and the consistency of *Lái* initials in LSV demonstrate the degree of change that occurred in Chinese.

Zhī 知 Initial Group

Before we examine the data and comment on the *Zhī* initial group, it is important to review the origin of the retroflex initials represented by the tr- initial in the Vietnamese orthography. Alexander de Rhodes' dictionary shows several examples of words that use tl- and bl- to write words that are written with tr- today. Many examples include native Vietnamese words unrelated to any layer of Sino-Vietnamese such as 'buffalo' *tâu* and 'heaven/God' *blời*. There are rare examples of Sino-Vietnamese words that demonstrate Sino-Vietnamese words with tl- initials such as *tlường* 場 'hall'; it is also important to note that the majority of Sino-Vietnamese words with tr- initials today were transcribed with tr- in Alexander de Rhodes' dictionary such as 知 *Trī* 'to know' (DALL 1651: 832).

The environment that Sino-Vietnamese emerged from is also rich in palatals and scarce in retroflex initials, which begs the question of where exactly these retroflex initials in Sino-Vietnamese came from. Retroflex initials were not present in Proto Vietic and they did not appear naturally in Proto Việt-Mường. During the Jin, Sui and Tang periods there were several waves of Chinese migrations from the north due to crises in the north, the convenience of travel to the Red River Delta through the Húnán Guǎngxī corridor and the construction of the Plum Gate Pass *méi guān dào* 梅關道 which allowed more people in China to travel to Guǎngdōng (de Sousa 2020).

Retroflex initials began to appear in Chinese by the Late Han period but by the Early Middle Chinese period, Việt-Mường exposure to these initials became more common and the local Chinese varieties of Annamese Middle Chinese as well as Southwestern Middle Chinese retained these retroflex initials. This of course, does not mean that retroflex initials in Late Sino-Vietnamese words were preserved perfectly, as the data shows, many LSV words in the Zhi initial group have initials ch-, s- and x- in accordance with Vietnamese orthography. Some scholars such as Chiang Chia-lu (2011) insist that the usage of ch- for tr-

words is due to an orthographic mixup because Northern Vietnamese varieties cannot distinguish between the two sounds.

I argue that the ch-, tr- mixup in the *Zhī* initial group is not simply due to an orthographic mixup, but due to the phonological environment of Sino-Vietnamese and Southwestern Middle Chinese. Areal languages such as Zhuang, Southwestern-Tai and Tày all lack retroflex initials and use palatals instead. This areal feature as well as the merger of the *Zhuāng* 莊 initial group and the *Zhāng* 章 initial group are the primary reasons why Middle Chinese retroflex initials are not always consistent. There are of course, additional interesting correspondences that are visible in earlier historical layers of Sino-Vietnamese down below.

Zhī 知 tri Initial

知 zhī tri	EMC tr-	MC tr-	LMC	OC	LHOC	HESV	JESV	LSV tr- ch-	HV VH
張 <i>zhāng</i> spread	triaŋ	trjang	triaŋ	*C.traj	traŋ > t̚iaŋ	giương		trương/ trưởng	
謫 <i>zhé</i> reprove	trəijk/ trɛ:jk drəijk/ drɛ:jk	treak	tra:jk	*C.tʰrek	trêk, drêk > dɛk, t̚ɛk	dức		trích	
肘 <i>zhǒu</i> elbow	truwʰ	trjuwX	triwʰ	*t-[k]uʔ	t̚u ^B			chủ trủ	
綴 <i>zhuì</i> connect	trwiaj ^h	trjwejH	tryaj`	*trot	t̚yas			truyết chuyết	
貯 <i>zhù</i>	none	trjoX	none	traʔ ⁵⁹	t̚ia ^B			trữ	

⁵⁹ Reconstruction by Schuessler (2009), obtained from kaom.net.

hoard									
株 <i>zhū</i> trunk	truə	trju	tryə	*tro	ɬio			chu châu	
中 <i>zhōng</i> middle	truwŋ	trjuwŋ	triwŋ	*truŋ	ɬuŋ	đuŋ		trung trúŋ	
追 <i>zhuī</i> pursue	trwi	trwij	tryj	*truj	ɬui	đuối		truy	
轉 <i>zhuǎn</i> turn	trwian'	trjwenX	tryan'	*mə-tron?	ɬyan ^B			chuyển chuyển	

The regular correspondence for Middle Chinese *Zhī* initial syllables in Late Sino-Vietnamese is tr-. Scholars have pointed out the exceptions to this pattern such as the demonstration of ch- initials and the frequent alternation between ch- and tr- in Late Sino-Vietnamese *Zhī* initial syllables. Mineya Tōru argues that the ch- initial emerges from specific MC medial types. Mineya and Chiang Chia-Lu note that the MC *Zhī* initials that demonstrate ch- initials are grade three syllables with high vowel medials, specifically in the syllables with -ia-/-jua- medials (*má* 麻, *jì* 祭, *xiāo* 宵, *yán* 鹽, *xián* 仙, *gēng* 庚, *qīng* 清) (Mineya 1972: 77; Chiang 2011: 63). Chiang Chia-lu discusses the phenomenon of Vietnamese speakers having difficulty interpreting Chinese dental and retroflex initials and that the ch- may result from phonological confusion or a misinterpretation of the Middle Chinese retroflex initial (Chiang 2011: 64). Chiang also speculates that this phenomenon may also result from modern dialects but is inconclusive about the timeline for the borrowing of ch- initial syllables. Xiāng and Píngguà dialects often demonstrate the palatal affricate initial tç- for *Zhī* initial syllables.

zhǒu 肘 'elbow'

Xiāng 湘

Chángshā 長沙: tsəu
Shuāngfēng 雙峰: tɕiɔ

Píng huà 平話

Lóngshèng 龍勝: t^heu
Guìlín 桂林: tsau
Línguì 臨桂: tɕau

zhui 綴 ‘to connect’

Píng huà 平話

Língchuān 靈川: tɕy
Yǒngfú 永福: tsy

Annamese Middle Chinese likely had retroflex Zhi initials that were preserved into the 15th century and into the modern day, but they were also likely influenced by their palatal rich environment. The syllable ‘elbow’ demonstrates both tr- and ch- initials in LSV. The plurality of initial demonstration could also reflect the heterogeneity of Annamese Middle Chinese, which likely demonstrated retroflex initials for the majority of *Zhī* syllables but occasionally also demonstrated palatal or postalveolar affricates as well in different local dialects of AMC.

The two fricative examples are provided by B&S (2021). The word ‘to spread’ 張 *giuong*, as Baxter & Sagart argue, likely arose from the pre-initial consonant for *C.trəŋ. The word ‘reprove’ 譴 *dúc* also likely emerged from the pre-initial consonant for *C.t^hrek as Baxter & Sagart argue as well. These spirantized forms are likely pre-Han borrowings that were borrowed into Vietic either during Zhao Tuó’s reign over Nam Việt or earlier.

In the Han period, it is likely that the LHOC retroflex initials developed into alveolar stops. According to Vũ Đức Nghiệu (2010), the ESV counterpart for the LSV *Qù* tone syllable *trúng* 中 *zhòng* ‘hit the mark’ is *đúng* as in *đúng rồi* ‘correct’ (Vũ 2010: 137). Vũ also shows another example for the syllable meaning ‘to pursue’ *zhuī* 追 *truy*, which is *đuổi* in ESV. Vũ

provides these two syllables as ESV words in order to show a regular correspondence between ESV voiced dental stop *ḍ-* and LSV retroflex initial *tr-*. The syllable 'to pursue' 追 is curious because of the tonal correspondence; this is a *Píng* tone syllable but displays a *hỏi* tone. The initial and final correspondence still makes 追 a legitimate candidate for HESV, but the tone correspondence remains a mystery for now.

Tày and Zhuang cognates and phonetic borrowings also show consistent palatalization. In the Tày orthography, both the biography *ch-* and *tr-* are used to demonstrate voiceless palatal plosives /*c-*/. In Chữ Nôm Tày, the graph 轉 is pronounced as *chuyển* and 知 is pronounced as *tri*, both are pronounced with palatal plosives. Other examples in Tày include the graph 追 pronounced as *truy* and the graph 中 pronounced as *trung/trúng* and *tung*. In Zhuang, the graph 中 is used to write words that are pronounced as *ɕuŋ*. The same graph 中 is also used as a phonetic component for many unique Zhuang characters pronounced as *ɕuŋ*, including:

疒+中 = *ɕuŋ* 'heavy illness'

彳+中+冫 = *ɕuŋ* 'to charge'

土+中 = *ɕuŋ* 'a large pickle jar with a small lid opening'

(Su 1989: 89)

Other Zhi initial graphs used in the Old Zhuang script include:

卓 = *ɕo:k* (Ibid: 82) 'will, auxiliary'

口+专 = *ɕi:n* (ibid: 73) 'transmit'

The above examples in Tày and Zhuang show further evidence that the Red River Delta and the Medieval Southwest is abundant in palatal initials. This scarcity of retroflex initials in Tai languages were influential for the pronunciation of Zhi initial syllables in Sino-Vietnamese.

Some Zhi initial syllables in Annamese Middle Chinese must have become palatal initials after a long period of contact with Vietic and Tai speakers.

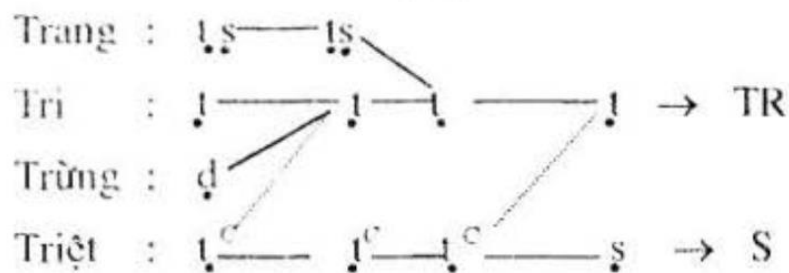
Chè 徹 triệt Initial

徹 <i>chè</i> triệt	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV s- tr- ch- x-	HVVH
諂 <i>chǎn</i> flatter	tr ^h iam'	trhjemX	tr ^h iam'	*q ^h rom?	rham?/ krham? >ɬam			xiêm	
盅 <i>zhōng</i> cup	tr ^h uwŋ ; druwŋ	trhjuwng	tr ^h iwŋ	None	thruŋ> ɬ ^h uŋ			chung trung	
偵 <i>zhēn</i> scout	tr ^h iajŋ	trhjeng	tr ^h iajŋ	None	trenj> ɬienj			trinh	
超 <i>chāo</i> super	tr ^h iaw	trhjew	tr ^h iaw	*t ^h r[a]w	ɬ ^h iau			siêu	
丑 <i>chǒu</i> ugly		trhjuwX		*[ŋ]ru?	ɬ ^h u ^B			sửu xú	
畜 <i>chù</i> animal	tr ^h uwk	trhjuwH	tɕ ^h iwk	*q ^h uk-s	ɬ ^h uk			súc	
抽 <i>chōu</i> draw	tr ^h uw	trhjuw	tr ^h iw	*!ru	ɬ ^h u			trừu	
祉 <i>zhǐ</i>	tri' /tri'	trhiX	tri'	*[t ^h]rə?	ɬ ^h iə ^B			chỉ	

luck									
覘 <i>chān</i> observe	tr ^h iam	trhjem	tr ^h iam	none	ʈ ^h am			chiêm siêm	
恥 <i>chǐ</i> shame	tr ^h ɨ' /tr ^h ɨ'	trhiX	tr ^h ɨ'	*ŋrəʔ	ʈ ^h ia ^B			sỉ	
徹 <i>chè</i> penetrate	tr ^h iat	trhjet	tr ^h iat	*m-[t ^h]ret *t ^h ret	ʈ ^h iat			triệt	

The *Chè* initial syllables in Late Sino-Vietnamese demonstrate a diverse set of initials. Xián Mǎnxuě (2016) and Nguyễn Tài Cẩn (1979) both point out that the majority of *Chè* syllables demonstrate s- initials. Chiang Chia-lu asserts that the regular correspondence for *Chè* initial syllables is Vietnamese s- (Chiang 2011). Mineya Toru (1972) and Nguyễn Tài Cẩn (1979) show that tr- and s- are both normal changes for *Chè* initial syllables. Nguyễn Tài Cẩn shows that initial s- is the most common initial for MC *Chè* initial syllables but a small number of *Chè* initial syllables merge with zhi initial syllables. Nguyễn Tài Cẩn's scheme is shown below:

Figure 49: Retroflex mergers according to Nguyễn Tài Cẩn



Gloss: Trang 莊 *zhuāng*, tri 知 *zhī*, trùg 澄 *chéng*, triệt 徹 *chè* (MC initials)

Underscore dot is a retroflex and superscript c- means aspiration.

(NTC: 1979: 195)

Shimizu shows that by the 15th century, MC *Chè* initial syllables demonstrate fricatives (Shimizu 2020a: 192). The shift to fricatives must have been a change that occurs

after independence from Chinese polities, modern Chinese varieties consistently demonstrate affricate and stop initials. There are no traces of fricative initials found in Píng huà, Xiāng or Yuè dialects, therefore it is likely that Annamese Middle Chinese and its dialects had affricate initials for *Chè* initial syllables, these syllables were mostly aspirated but underwent aspirated/unaspirated mismatches then merged with *Zhī* initial syllables.

The *ch-* initials are likely to be a result of graphic analogy because there is a lack of evidence for the pronunciation of modern Chinese southwestern varieties and the syllables that demonstrate *ch-* initials are esoteric, so they are likely not in common use during the medieval period. There is one syllable *chān* 覘 meaning ‘to observe’ and has two pronunciations, *chiêm* and *siêm*, the pronunciation *chiêm* seems to be due to graphic analogy, assigning the same initial as the *Zhāng* 章 initial syllable *chiêm* 占 ‘occupy’/ ‘to divinate’. The pronunciation *siêm* likely arose from the contemporary spoken language and now both *siêm* and *chiêm* are codified into LSV.

The LSV *x-* initial likely emerged from the spoken language of the medieval period. Nguyễn Tài Cẩn shows that *Chè* initial syllables sometimes merge with *Chāng* initial syllables before demonstrating fricatives. Shimizu’s 15th century reconstruction of Sino-Vietnamese initials shows a demonstration of retroflex fricatives for *Chè* initial syllables and palatal fricatives for *Chāng* initial syllables. The mix up of *x-* and *s-* initial syllables has two different possibilities of origin, which are affricate merging and fricative merging. Nguyễn Tài Cẩn (1995) and Michel Ferlus (1992) show that Vietnamese *x-* initial comes from Proto Việt-Mường *tʃ-*, which may have been mixed up with AMC retroflex affricates. Another possibility is a merger between fricatives; in the environment of Annamese Middle Chinese, the surrounding languages such as Tày, Proto Việt-Mường and Zhuang lack retroflex fricatives. This phenomenon of affricate or fricative merging is a testament to the heterogeneous

nature of Annamese Middle Chinese and the environment that lacks retroflex initials in the areal languages belonging to Vietic and Tai.

Chéng 澄 trǔng Initial

澄 chéng trǔng	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV tr- ch-	HVVH
椎/槌 <i>zhūī</i> <i>chuí</i> hammer	drwi	drwij	trhɣj	*k.druj	ɖui		chù y	trùy/ chuy	dùy
濁 <i>zhúó</i> muddy	draiwk/ drœ:wk	draewk	trhá:wk	*[N-tʰ]rok	drôk > ɖok	ɖuc		trọc/ trạc	
治 <i>zhì</i> govern	driʰ/driʰ	drijH	trhi`	*lra-s	drəh >ɖiə		chǔa	trị	
箸 <i>zhù</i> chopsticks	driǎʰ	droH	trhyǎ`	*[d]<r>ak-s	drah >ɖiaʰ	đũa		trú/ trữ	
住 <i>zhù</i> reside	druǎʰ	drjuH	trhyǎ`	*dro(?)s	droh >ɖio	đỡ		trú/ trụ	
茶 <i>chá</i> tea	drai/ drɛ:	drae	trhá:	None	r-lâ> dra> ɖa		chè	trà	
丈 <i>zhàng</i> measure adult	driaŋʰ	drjangX	trhian`	*[d]raŋʰ	ɖiaŋ ^B			trượng	dượng
除 <i>chú</i> to rid	driǎ ;dri ǎʰ	drjo	trhiǎ/ trhyǎ	*[l]<r>a	r-la> dra ɖia		chǔa	trừ	
池 <i>chí</i> pond	driǎ/dri	drje	trhi	*Cə.lraj	ɖiai	đìa		trì	
蟄 <i>zhé</i> hibernate	drip	drip	trhip	*[d]rip	ɖip			trập chập	

橙 <i>chéng</i> orange	drəiŋj/ drɛ:ŋj	dreang	trɦa:ŋj	*[d]ʳrəŋ	ɖɦəŋ ⁶⁰			tranh chanh	
錘 <i>chuí</i> awl	drwiə/ drwi ;drw iə ^h /drwi ^h	drjwe	trɦyj	*m-toj	ɖyai			chuy	

The *Chéng* initial syllables in Sino-Vietnamese demonstrate Vietnamese retroflex tr- initials. There are a few cases of doublets present in LSV. The word for ‘hammer’ 椎 has two forms in Late Sino-Vietnamese, trùy and chuy. The word chùy ‘hammer’ with a huyền tone is an Early Sino-Vietnamese word likely borrowed from the Jin period. Due to the initial, the form chuy 椎 is likely to be an earlier form that has been codified into Late Sino-Vietnamese. Two other syllables demonstrate ch- initials alongside tr- initials, 蟄 trập/ chập and 橙 tranh/ chanh. These syllables likely have two forms that have both been codified as LSV, the tonal correspondences between the doublets show that ch- was from the Early Middle Chinese era, yet it became a standard reading for LSV as well as the tr- initial versions. The syllable ‘awl’ *chuí* 錘 is strange because there is only a ch- initial and no tr- alternative initial; this syllable perhaps has a codified LSV ch- initial without developing a tr- initial in the LSV period.

Alves and Phan use these ch- initial syllables as candidates for Early Sino-Vietnamese, with Phan (2013) asserting their affiliation with the Jin layer. Chiang Chia-lu discusses the likelihood of ch- initials originating from an earlier layer than tr- initial syllables, and also implies the likelihood of ch- initials being loanwords from the Early Middle Chinese era. Xián Mǎnxuě (2016) also discusses the ch- initials in *Chéng* initial syllables and suggests that in the *Zhī* initial category, ch- is older because in the EMC period,

⁶⁰ Reconstruction by Starostin, found on Kaom.net http://www.kaom.net/ny_word8.php accessed 03/14/25

Zhī initials were undergoing initial change (Xián 2016: 109); on the same token, this was happening in the *Chéng* initial syllables as well, with a change from *dr-* → *tr-* in Pulleyblank's reconstruction. The *ch-* initial in *Chéng* initials reflect Jiaozhounese phonology of Jiànkāng imperial Early Middle Chinese, some of their pronunciations became codified into educated circles and became a part of Late Sino-Vietnamese readings.

The initial correspondences for Late Sino-Vietnamese is mostly homogeneous with variations due to medial, vowel and tonal types. The word for 'muddy' *zhuó* 濁 has two forms in Late Sino-Vietnamese, *trạc* and *trọc*. Pulleyblank's Early Middle Chinese reconstruction for the word 'muddy' shows a linear progression of vowels and medial transformation; the syllable *draiwk* changes to *drœ:wk*. There is only one form in the era of Middle Chinese proper and Late Middle Chinese, but it is likely that both forms from the Early Middle Chinese period were exposed to the local population in the era of Jiànkāng imperial Jiaozhounese and Annamese Middle Chinese. The form *trọc* is common for everyday spoken language in modern Vietnamese today and the pronunciation *trạc* is glossed as having a legitimate vowel.

The syllables meaning 'to live' *zhù* 住 and 'chopsticks' *zhù* 箸 have tone doublets in their LSV forms. Both 'to live' and 'chopsticks' are *Qù* tone syllables with the Old Chinese *-s* coda. The syllable meaning 'to live' 住 has two forms that adhere to normal Late Sino-Vietnamese correspondences, *trú* and *trụ*, which likely means that these were contemporary varieties from different local pronunciations of Annamese Middle Chinese. The word for 'chopsticks' in Late Sino-Vietnamese is interesting because the form *trứ* is normal for a *Qù* tone syllable while the form *trữ* with a *ngã* tone is strange for a *Qù* tone syllable in LSV. The *ngã* tone however is a regular corresponding tone with Old Chinese *Qù*

tone syllables, so the form trǔ likely contains traces of an earlier pronunciation in a codified LSV pronunciation.

The words ‘measure’ and ‘adult male’ *zhàng* 丈 have spirantized initial forms which raises the question of when was it borrowed and what caused lenition. I consider the d- [d-] initial in *Chéng* initial syllables to be a result of HVVH or Nativized Sino-Vietnamese.

Nativized Sino-Vietnamese includes words that were borrowed during the Han or Tang period, but underwent further phonological changes. One might argue that the word ‘hammer’ *dùy* 椎 is an earlier loanword from the Han because Baxter & Sagart’s reconstruction uses the form *k.druj with a pre-initial consonant and that the merging of the pre-initial caused lenition. I will not completely deny the possibility of *dùy* being borrowed from the Han period, but there is an alternative explanation to lenition rather than pre-initials.

There are two possible sources for lenition, one is an ESV cause for lenition and an LSV cause for lenition. An ESV cause for lenition would be a transition from stops, to affricates to fricatives. The syllables for ‘knife’ 刀 and ‘stop’ 停 from the Ding initial group were originally stops at the time of borrowing. However, we see in the DALL dictionary that there were medials that might have caused lenition *deao* → *dao*. There are also Yuè dialects that demonstrate affricates for ‘knife’:

dāo 刀 ‘knife’

Shātián zhèn hǎibiān huà 沙田鎮海邊話 tsau

Yíngpán zhèn wǎ huà 營盤鎮佢話 tsau

(Source: Xiǎoxué táng 小學堂)

This change that happens from stops to affricates shows that it is possible that an early Sino-Vietnamese word that demonstrated a stop initial could have undergone a similar change to an affricate, then changed from an affricate to a fricative.

On the other hand, data in modern Chinese varieties also shows that a change from a retroflex affricate to a retroflex fricative then an alveolar fricative is also likely. The syllables for ‘adult male’ and ‘hammer’ demonstrate stop, affricate and fricative initials in Yuè, Píngguà and Xiāng dialects:

zhuī 椎 ‘hammer’

Yuè:

Pínglè 平樂: jui

Línguì 臨桂: tui

Huíjí 懷集: tsoi

Xiāng:

Quánzhōu 全州: dzui

Guànyáng 灌陽: zuei

Píngguà:

Guìlín 桂林: ty

Mǎshān 馬山: tsoi

Pínglè 平樂: ɬoi

zhàng 丈 ‘adult male’

Yuè:

Fēngkāi 封開: tiuŋ

Yùnán 郁南: tseŋ

Zēngchéng 曾城: soeŋ

Xiāng:

Shuāngfēng 雙峰: doŋ

Quánzhōu 全州: dziãŋ

Guànyáng 灌陽: ziaŋ

Pínghuà:

Guìlín 桂林: tiaŋ

Língchuān 靈川: tsɑŋ

Téngxiàn 藤縣: ɕEŋ

(Data from Xiǎoxué táng 小學堂)

This diversity in initial demonstration for Middle Chinese retroflex initials shows that changes from retroflex affricates to alveolar affricates and then changes to fricatives are likely to have occurred in Sino-Vietnamese as well. I am more inclined to consider the d-initial syllables to have come from Middle Chinese retroflex initial syllables, then they became alveolar affricates, then became alveolar affricates in the following scheme:

椎 tʂui → tsui → zui (dùy)

丈 tʂaŋ → tsiaŋ → zəaŋ → zuəŋ (dượng)

The above demonstration of initials for ‘adult male’ and ‘hammer’ also shows palatal initials as well. This change also shows the impact the palatal rich areal environment has on Southwestern Chinese varieties as well as Annamese Middle Chinese. The palatal rich environment affected Annamese Middle Chinese, which caused some words that originally had retroflex initials to demonstrate palatal initials. The palatal rich environment also likely affected some retroflex initial words after being borrowed from Annamese Middle Chinese. The words ‘adult male’ and ‘hammer’ were borrowed from Annamese Middle Chinese but then developed alveolar initials, which means the palatal rich environment contributed to the suppression of retroflex initials.

Tày and Zhuang

A few of the Zhuang cognates and phonetic borrowings demonstrate palatal fricatives. In Zhuang, 錘子 ‘hammer’ is pronounced as ɕu:i (Su 1989: 88). The phonetic borrowing 除, used to write the words ‘kitchen’ is cawz, pronounced as ɕaw (ibid: 65). There are two attested pronunciations of ‘tea’ 茶 in Su Yongqin’s 1989 Zhuang dictionary, there is the palatal initial pronunciation ɕa as in caz noengz 茶浓 ‘strong tea’ (ibid:384), the other word for ‘tea’ in Zhuang is gyaz [kja] which uses the grass semantic component 艸 on top of phonetic *jia* 甲. Although the velar initial is intriguing, what is crucial for our purposes is that neither word for tea in Zhuang has a retroflex initial. Specifically in Tày there are two spellings for ‘tea’ 茶 in the orthography, chà and trà, both are pronounced with a palatal affricate /c-/. Also in Tày, the syllable meaning ‘to summon’ is pronounced as chiệu with a palatal affricate /c-/.

Why are retroflex initials still prevalent in Late Sino-Vietnamese *Chéng* initial syllables even though the environment of Vietic and Việt Mường is rich in palatals and scarce in retroflexes? This is because Old Chinese developed retroflex initials in the Late Han period, and ever since the defeat of the Trưng sisters, Chinese speakers from the north came in waves. Retroflex initials were also prevalent in syllables from the Middle Chinese Zhi initial group during the Jin period, and voiced quality of these retroflex stops allowed the retroflexes to be retained. This retention of LSV retroflexes also shows that Tày, Việt Mường and Chinese were not evenly distributed communities despite the RRD being trilingual; Annamese Middle Chinese most definitely interacted with Tày but it seems that the contact with Vietic and Việt Mường was more intense. There is one Middle Chinese retroflex initial type that completely disappeared in Late Sino-Vietnamese, *Niáng* 娘, and it likely disappeared during the time of Annamese Middle Chinese as well. Retroflex nasals were interpreted as alveolar nasals or in some cases, palatal nasals, in the medieval Southwest.

Niáng 娘 nương Initial

娘 niáng nương	EMC nr-	MC nr-	LMC nr-	OC nr-	LHO C ṛ-	HESV n-	JESV	LSV n- nh-	HVVH
娘 <i>niáng</i> maiden	nr̥i̯aŋ	nr̥jaŋ	nr̥i̯aŋ		ṛaŋ ⁶¹	nàng		nương	
女 <i>nữ</i> woman	nr̥i̯əʔ	nr̥joX	nr̥i̯əʔ/ nr̥y̯əʔ	*nraʔ	ṛia ^B			nữ	
糶 <i>róu</i> mix	nruw ^h	nr̥juwH	nr̥iw`	none	ṛu ^c			nhữu	

⁶¹ Reconstruction provided by Starostin, found on Kaom.net http://www.kaom.net/ny_word8.php Accessed 03/14/25

賃 <i>lin</i> rent	nrim ^h	nrimH	nrim`	none	ńim ^c			nhǎm nhǎm	
鬧 <i>nào</i> noise	nraiw ^h /nrɛ:w ^h	nraewH	nra:w`	none	none			nháo náo	
尼 <i>ní</i> nun	nri	nrij	nri	*nrəj	ɲi			ni nê	
聶 <i>niè</i> surname	nriap	nrjep	nriap	*nrɛp	ɲap			niếp nhiếp	
匿 <i>nì</i> conceal	nrik	nrik	nriǎk	*nr[ə]k	ɲik			nặc	

We see common demonstrations of alveolar nasals and palatal nasals for *Niáng* 娘 initial syllables in LSV. Mineya Tōru (1972) and Chiang Chia-lu (2011) consider the palatal nasal demonstrations to be largely due to graphic analogy with characters that have Ri initial syllables. Mixing palatal nasals with retroflex nasals could easily happen in the spoken language. Chiang Chia-lu does suggest that some of the palatal nasal initial syllables arose from the influence of spoken language, citing examples such as palatal nasal demonstrations in the Guǎngxī Yuè dialect of Língshān 靈山 county (Chiang 2011: 68).

Chiang provides the examples 鬧 聶 and 攝, which all have palatal nasal initials in Lingshan county. Chiang however, insists that palatal nasal pronunciations are due to recent reliance on recent southern Chinese pronunciation systems. For the syllable 鬧, Chiang was referring to this pronunciation in Lingshan county: 鬧 ɲau (Chiang 2011: 68).

It is unlikely that *Niáng* initial syllables ever developed as retroflex nasals in Annamese Middle Chinese for a couple of reasons. The first reason is that there is a complete lack of retroflex nasals in any of the other areal languages such as Zhuang, Tày, Proto Việt-Mường and Proto Vietic; these languages have velar nasals, alveolar nasals and

palatal nasals. It is likely that Annamese Middle Chinese was influenced by the areal languages. Another reason why retroflex nasals were likely absent in AMC is because Niang, Ni, and even some Ri initial syllables merged. Chiang Chia-lu is right to suggest influence from the spoken language, and in addition to Guǎngxī Yuè a similar phenomenon of palatal nasal initials occurring in MC retroflex nasal syllables. This phenomenon of palatalization is likely to be a trace of a feature that occurred in AMC and was normal for the areal languages in the medieval Southwest.

We see examples of Southwestern Chinese varieties demonstrating palatal nasal initials for *Niáng* initial syllables:

女 ‘woman’

Chángshā 長沙: ηy
 Shuāngfēng 雙峰: ηy

娘 ‘bride’

Chángshā 長沙 : ηian
 Shuāngfēng 雙峰 : $\eta i\eta$

紐 ‘button’

婁底 : $\eta i\omega$
 長沙 : $\eta i\alpha u$
 雙峰 : $\eta i\sigma$

聶 ‘to whisper’ a surname

長沙 : ηie
 雙峰 : $\eta i\tilde{e}$

Syllables with high front vowel medials were likely to merge into palatal nasals first. Early Medieval Southwestern Chinese varieties were likely influenced by the surrounding languages and by the Jiankang period, the local Jiaozhounese variety in the Early Middle Chinese period likely lost the retroflex nasals and merged with alveolar nasals. We have one

example of a *Niáng* initial syllable borrowed in the Han period that does not demonstrate retroflex nasals either *nàng* 娘 ‘maiden’. The change can be illustrated in the scheme below:

$\eta i/j- \rightarrow ni/j- \rightarrow \eta-$

Annamese Middle Chinese was likely not homogenous, the dialects of AMC in the Red River Delta and Northern Vietnam never demonstrated retroflex nasals because they mostly merged with alveolar nasals and occasionally with palatal nasals. One dialect perhaps pronounced a *Niáng* syllable with an alveolar nasal initial, while another dialect pronounced a *Niáng* syllable with a palatal nasal initial. After independence, these two pronunciations became codified as LSV in the Vietnamese language but some forms remain in the spoken language such as *nháo* in *nháo nhiệt* 鬧熱 ‘bustling’.

Pulleyblank discusses the possible merger of retroflex nasals with alveolar nasals during the Late Middle Chinese period, saying that such a change already occurred in some varieties of Late Middle Chinese (Pulleyblank 1991:7). Although we only have one example of a Han era Early Sino-Vietnamese *Niáng* initial syllable *nàng* 娘 ‘maiden’, we can safely speculate that such a merger occurred as early as the Han period for Chinese dialects in northern Vietnam. By the Middle Chinese period, there were no traces of retroflex nasals because they either have merged with alveolars or palatal nasals.

Jiàn 見 Initial Group

The Middle Chinese velar initials belong to the *Jiàn* 見 group, they consist of plain, unaspirated velar initials *Jiàn* 見 k-, voiceless aspirated velars *Xī* 溪 kh-, voiced velars *Qún* 群 g-, and velar nasals *Yí* 疑 ng-. Late Sino-Vietnamese neatly corresponds to these four initial types, with the exception of *Qún* 群 initials merging with *Jiàn* 見 initials. Exceptions to these correspondences as well as cognates in Tai languages like Tày and Vietic languages like Mường bring interesting implications of initial changes during the era of Annamese Middle Chinese and afterwards.

As a general rule, Late Sino-Vietnamese Jian initial group syllables do not demonstrate voiced stops. A special phenomenon has taken place that caused some Sino-Vietnamese words to gain voiced initials. Wáng Lì calls this phenomenon “plain stops becoming voiced” *qīng yīn zhuó huà* 清音濁化; which is a key feature of Hán Việt Việt Hóa 漢語越化. Wáng Lì considers these voiced initials to be colloquial pronunciations of Chinese character readings. This hypothesis is supported by Nguyễn Tài Cẩn (1979) and Xián Mǎnxuě (2016). In the last decade, scholars such as Baxter & Sagart (2014), Gong Xun (2017) and Mark Alves promote the hypothesis that the voiced feature for Sino-Vietnamese Jian group stops come from Old Chinese pre-initial consonants rather than colloquial pronunciations of unvoiced HV words; Alves goes as far as to claim that some of the pre-initial material existed in Old Chinese as late as the Eastern Han period (Alves: 2024).

The *Jiàn* initial group includes syllables with voiced initial g- and spirantized gi-. Mark Alves argues that at least some Old Chinese pre-syllables lasted into the Eastern Han period (25-220 CE) (Alves 2024: 12). The claim made by Alves is at odds with Schuessler’s (2009) reconstruction without disyllabic features as well as Schuessler’s assertion that clusters had all but disappeared, using Buddhist transcriptions as evidence. We know from several publications such as Coblin (1983: 19) that Eastern Han Old Chinese was diverse, with

contemporary works such as *Fāngyán* 方言 showing us different varieties of Chinese at the time. Mǎ Yuán's soldiers came from several areas throughout the empire so in the early stages of his conquest and administrative campaigns, the Chinese spoken in the area was representative of northern and southern varieties; this would mean that a preservation of pre-initials in Late Han Old Chinese would not simply be a feature of a southern variety but for all of Late Han Old Chinese. Alves suggests that Chinese has retained pre-initials up until sometime after 220 CE (Ibid: 12).

There are a few voiced syllables that show features that imply borrowing during or just before the Early Middle Chinese period, which would present an alternative explanation for the cause of lenited initials. Alves discusses the words *gươm* 劍 'sword' and *gương* 鏡 'mirror' being borrowed in between the loss of Chinese final codas and the development of Chinese and Vietnamese tones (Alves 2018); this explains why those two syllables have ngang tones and it also brings implications for initial developments, such as the lack of pre-initial consonants. There are several examples of voiced Chinese syllables from the Early Middle Chinese period matching with their Jin Era Early Sino-Vietnamese counterparts. Some Proto-Vietic plain stops develop into modern Vietnamese voiced initials and Proto-Việt Mường has voiced onsets so there would be no problem with interpreting voiced initials in EMC as voiced initials in Proto Việt-Mường.

The *Jiàn* initials are plain unaspirated velars and often appear as so in Late Sino-Vietnamese. However, *Jiàn* initials are not limited to plain unaspirated velars. In fact, *Jiàn* initial syllables demonstrate lenited velars, velar fricatives and palatal approximants as can be seen in the table below:

Jiàn 見 kiến Initial

見 jiàn kiến	EMC k-	MC k-	LMC k-	OC *Cə.k-, *s-k ^ɕ - *k-, *kr-	LHOC *k- *kr-	HESV g- k-, q-	JESV k- c-	LSV c-, gi- q-, k- kh-, y-	HVVH g-, kh- gh-
錦 <i>jǐn</i> brocade	kim	kimX	kim	*Cə.k(r)[ə]m?	kəm? >kim ^B	gǎm		cǎm	
假 <i>jiǎ</i> false	kai' /kɛ:'	kaeX	kja:'	*Cə.k ^ɕ ra?	ka ^B	gá		giá	
嫁 <i>jià</i> to marry	kai ^h /kɛ: ^h	kaeH	kja:˘	*s-k ^ɕ ra-s	ka	gǎ		giá	
裹 <i>guǒ</i> to wrap	kwa	kwaX	kua	*s.[k] ^ɕ o[r]?	kôi? >kuai ^B	gói		khóa	
筋 <i>jīn</i> tendon	kɪn	kj+n;	kin	*C.[k]ə[n]	kɪən	gân		cân	
鋼 <i>gāng</i> steel	kaŋ	kang	kaŋ	*C.k ^ɕ aŋ	kaŋ ^ɕ	gang		cương	
肝 <i>gān</i> liver	kan	kan	kan	*s.k ^ɕ a[r]	kan			can	gan
劍 <i>jiàn</i> sword	kɪam ^h	kjaemH	kiam˘	*s.kr[a]m-s	kɪam ^ɕ			kiếm	gươm
腳 <i>jiǎo</i> foot	kɪak	kjak	kiak	*[k]ak	kɪak	gốc		cước	
卦 <i>guà</i> trigram	kwaɪ ^h /kwɛ: ^h	kweaH	kwa:j˘	*[k] ^{wɕ} re-s	kuɛ	quẻ		quái	
膠 <i>jiāo</i> glue	kaiw /kɛ:w	kaew	kja:w	*[k] ^ɕ riw	kɔu ^B		keo	giao	
貴 <i>guì</i> 'expensive' 'honoured'	kuj	kjw+jH	kyj	*kuj-s	kus		củi	quý	

柬 <i>jiǎn</i> choose	kəin' /kɛ:n'	keanX	kja:n'	*k ^r [a]nʔ	kɛn	kén		giản	
金 <i>jīn</i> metal	kim	kim	kim	*k(r)[ə]m	kim		kim	kim	
解 <i>jiě</i> untie	kaij' /kɛ:j'	keaX	kja:j'	*k ^r reʔ	kɛ		cởi	giải	
芥 <i>jiè</i> cabbage	kaij ^h /kɛ:j ^h	keajH	kja:j`	*k ^r [e][t]-s	kɛs		cải	giới	
膾 <i>kuài</i> mincemeat	kwaj ^h	kwajH	kuaj`	*C.[k] ^r [o][p]-s	kuas	gỏi		quái khoái	
夾 <i>jiā</i> flank	kəip/ kɛ:p	keap	kja:p	k ^r rep	kɛp	kặp		giáp	
叫 <i>jiào</i> call/cry	kɛw ^h	kewH	kjiaw`	*k ^r ewk-s	keu ^c			khiếu	
緊 <i>jǐn</i> tight	kjin'	kjinX	kjin'	C.qinʔ	kin ^B			khẩn	
巾 <i>jīn</i> napkin	kin	kin	kin	*krən	kɪn			cân	khăn
揭 <i>jiē</i> lift	kɪat	kjot	kiat	*m-[k]at	kɪat			yết	
羯 <i>jié</i> ram	kɪat	kjot	kiat	*kat	kɪat			yết	
記 <i>jì</i> record	kɪ ^h /kɪ ^h	kiH	ki`	*C.k(r)ə(ʔ)-s	kɪə ^c			kí	ghi
几 <i>jǐ</i> chair	ki'	kijX	ki'	*C.kr[ə]jʔ	kɪ ^B	ghế	cơ	kỉ	
鏡 <i>jìng</i> mirror	kiaj ^h	kjaengH	kiaj ^h	*C.qraŋʔ-s	kreŋh		cảnh	kính	gương
激 <i>jī</i> intense	kɛjk	kek	kjiak	*[k] ^r ewk	kek			khích kích	

Late Sino-Vietnamese *Jiàn* initial syllables often demonstrate the voiceless unaspirated velar stop /k-/ written with c-/q-/k-, and gi- initials. There are quite a few examples of unexpected aspirated initials such as the velar fricative kh- initial that came from aspirated velar stops. We see the kh- initial in the syllable 'to wrap' *khỏ* 裹, *khóai* 膾

‘mince meat’ and the syllable for ‘tighten’ 緊 緊. The word *khoái* is common in Vietnamese, being used in words for dishes such as *bánh khoái*, an omelet dish that is popular in central Việt Nam. In *Chữ Nôm Tày*, the syllable 緊 is read as *khǎn*, they both have a common initial yet have a slightly different vowel. Chiang Chia-lu claims that this phenomenon of aspirated initials is due to graphic analogy and Southwestern reading pronunciations:

本文認為這些讀成 kh 的見母字，扣除人為類推的因素之外，很可能反映出南方漢語方言見母字送氣的讀法，與現代的粵語、客語、平話方言各自保留了若干音讀，相當珍貴

“Besides graphic analogy, we consider the kh- initial readings of *Jiàn* initial syllables to possibly be a reflection of aspirated readings of *Jiàn* initial syllables from Southern Chinese dialects. This phenomenon is as important as the sporadic pronunciations in Yuè, Hakka and Píng huà varieties” (Chiang 2011: 55, translation by this author).

Chiang Chia-lu (2011) takes note of this phenomenon of aspirated *Jiàn* initial syllables occasionally occurring in Southwestern Chinese varieties. Chiang proposes the possibility of graphic analogy for these aspirated syllables such as 概 *khái* possibly being analogous with 慨 *khái*. Chiang notes that this syllable is aspirated in Píng huà and Yuè varieties (Chiang 2011: 55). Aside from Píng huà, this initial aspiration is also not only common, but consistent in Tǔ huà and Xiāng, which implies a southwestern medieval phenomenon of Annamese Middle Chinese and Southwestern Middle Chinese aspirated vs. unaspirated mismatches:

Píng huà 平話

Nán níng 南寧 *k^hai*
 Níng yuán 寧遠 *k^hai*
 Guí lín 桂林 *k^he*

Xiāng 湘

Quán zhōu 全州 *k^hāi*
 Guàn yáng 灌陽 *k^hai*

Tǔhuà 土話

Zhōngshān 鍾山 k^hai

Hèzhōu 賀州 k^hai

Fēngyáng 豐陽 k^hai

We can say with confidence that the aspirated unaspirated mismatch occurred in Annamese Middle Chinese and that the syllable “concept” *khái* 概 was an aspirated velar initial syllable. This syllable feature is consistently kept in Southwestern Chinese varieties so it shows an aspirated feature that has been preserved since medieval times.

Chiang Chia-lu also implies that the syllable for 薑 ‘ginger’ *khương* has an aspirated initial because it is analogous with the character 姜 *khương* ‘surname Jiang’ (Chiang 2011: 55). Both of these syllables have the same phonological value according to the rime books and rime tables. It would make more sense if the syllable ‘ginger’ or ‘surname Jiang’ was analogous with the syllable *qiāng* MC: *khjang*, V: *khương* 羌 meaning ‘Qiang people’. The syllable meaning ‘ginger’ 姜 is not consistently aspirated in Southwestern varieties, but it is present in a few dialects nonetheless. The syllable Qiang as in Qiangic people is identical to many of the aspirated forms but also demonstrates unaspirated forms:

姜 *khương*

Xiāng 湘

Quánzhōu 全州 : tɕ^hiǎŋ (compare with 羌 tɕ^hiǎŋ)

Píng huà 平話

Róngshuǐ 融水 : k^hiŋ (compare with 羌 k^hiŋ)

Guìlín 桂林 : ts^hiaŋ (compare with 羌 ts^hiaŋ)

Tiándōng 田東 : k^hEŋ (compare with 羌 k^hEŋ)

(Xiǎoxué táng 小學堂)

It appears that the syllable for ginger was not consistently aspirated across the Southwestern Middle Chinese dialect continuum but its appearance in Píng huà and Xiāng dialects suggest that this was a spoken language phenomenon that occurred during the time of Annamese Middle Chinese. If this was a phenomenon of graphic analogy with the word Qiang as in the ‘Qiang people’, then Annamese Middle Chinese was following a philological trend that had already occurred in the medieval southwest.

Xiè Qíyǒng (2010) describes a process of uncommon initial demonstrations taking place in Tuhua Jian initial syllables including voiced initials and aspirated initials. Xiè calls these initials *tè zì* 特字 “special character readings”. Some examples of Xiè’s “special character readings” with aspirated Jian initial syllables are provided below:

各 k’- 会 k’-

卷 k’- 概 k’-

(Xiè 2010: 103)

It seems that this *tè zì* 特字 “special character reading” phenomenon may have taken place in some Annamese Middle Chinese as well. The process of *Jiàn* initial syllables may have undergone a process as follows:

MC: k → AMC syllable: k’ → PVM: k’ → Mod VN: x-

The syllable for ‘intense’ demonstrates a doublet kích and khích 激. This doublet demonstration shows us that there were Annamese Middle Chinese dialects that pronounced this syllable as aspirated and the other syllable as unaspirated.

The most common initial for Han Era Sino-Vietnamese words is the voiced initial g-. Unvoiced initials are not common for Han-era Early Sino-Vietnamese and the chart shows one syllable with a k- initial and one q- initial; both of which match with Schuessler’s Late Han Old Chinese reconstruction. It is well established that a common cause for voicing and

lenition in Vietnamese is pre-initial consonants (NTC 1995; Ferlus 1982). Most of the g-initial data above shows Old Chinese counterparts with the unknown pre-initial consonant. There is substantial evidence to suggest that pre-initial consonants played a significant role in Vietnamese voicing (Ferlus 1982; Shimizu 2015), but in the case of Early Sino-Vietnamese, especially for syllables from the Middle and Late Han era, we cannot over-rely on Baxter & Sagart's pre-initial consonants for ESV voicing. Alves (2022; 2024) also shows us that Proto Vietic includes voiced *g initials and Ferlus (2009a) shows us that Proto Việt-Mường *g-initials correspond to Vietnamese g- initials, some of the Early Sino-Vietnamese initials are also borrowed from the end of the Eastern Han and in the early Medieval period, which would be a time when sesqui-syllables have already disappeared in Chinese varieties.

The Early Middle Chinese loans with high front vowel endings are Jin-era Sino-Vietnamese words because high front vowel codas for Chinese syllables have not yet developed in the Late Han period, but are indeed present by the Early Middle Chinese period. The lenition of velar initials is crucial for Phan's hypothesis of Annamese Middle Chinese. We have clear evidence that this feature coincides with Late Middle Chinese high vowel medials. For example, the syllable 'to marry' ESV gả/ LSV giá 嫁, in the Early Sino-Vietnamese form, coincides with the Late Han Old Chinese form ka. This syllable could have had a voiceless velar initial that later developed into a voiced initial; there are examples of voiceless *k- developing into voiced g- in Vietic such as Proto Vietic *ka:wʔ developing into Vietnamese gáo 'gourd/cabbage' (Alves 2024: 36). The syllable 'to marry' could have gone through a similar process in Early Sino-Vietnamese instead of being caused by Old Chinese pre-initials from B&S's *s.kʰra-s. Chinese high front medials do not appear until the Late Middle Chinese period and in Late Sino-Vietnamese, the high front medial contributes to the initial spirantization, giá [za].

Xián Mǎnxuě (2016) also claims that there is a phenomenon of *Jiàn* initial syllables demonstrating retroflex tr-, such as trao 交 and tran 間 (Xián 2016: 151). Xián considers trao to be from Chinese *jiāo* 交 ‘to cross’ because of a semantic connection with trao cho ‘to hand over’ and that it must have been borrowed after the middle Chinese period. We do see glosses from Alexander DeRhode’s dictionary that shows trao to mean ‘hand over’: tiao ‘entregar’ (DALL 1651: 805). There is a lack of evidence from Modern Chinese varieties that would suggest a change to retroflex initials, so I consider the tr- initial syllables trao 交 and tran 間 to either not be cognates with Chinese, or to develop from different dialect varieties after independence from China. Sino-Tày can show us how it is possible for the word ‘exchange’ could develop retroflex initials; Sino-Tày đả has a voiced postalveolar fricative initial /ʒ-/ which could have been interpreted as a voiceless retroflex affricate in Vietnamese. It is more likely that the pronunciation of trao came from contact between Tày and Vietnamese than being inherited from Southwestern Chinese varieties.

Most of the voiced initial Early Sino-Vietnamese syllables are Early Sino-Vietnamese syllables borrowed from the Han era. Gong Xun (2017) claims that sesqui-syllabic features of Chữ Nôm support Baxter & Sagart’s pre-initial reconstruction of Old Chinese; one of the main examples in Gong Xun’s argument is the word ‘mirror’ 鏡, which he reconstructs as *s-kwəŋ, which turns into gương ‘mirror’. Gong Xun uses philological evidence from the Phật Thuyết to show monographs and digraphs displaying sesqui-syllabic features. The syllable 司 ‘superintendent’ in Old Chinese has a pre syllabic initial *s- (*s-lə), in Early Sino-Vietnamese it is pronounced as tư, coming from an earlier s- initial form. Gong Xun argues

that the graph 司 is used to indicate a pre-initial for the contemporary Ancient Vietnamese form.

The other examples of words with pre-initials that Gong Xun uses in his hypothesis are the Old Chinese syllables 邊 ‘side’ and 拭 ‘to apply’; in the *Phật Thuyết*, there are disyllabic forms for 多邊 ‘side’ and 巴拭 ‘to apply’ (Gong 2017: 8-9). Other examples that are used include pre-initial *sī* 司 include *sī* 司 and *bēi* 盃 to make *vui* ‘happy’ (ibid: 7). I am still not convinced that the graph 𪛗 represents a sesqui-syllabic form for two main reasons; one, most of the sesqui-syllabic forms in Gong Xun’s work are composed of two graphs, and secondly, the tonal correspondence suggests that the syllable for mirror *gương* was borrowed in the Early Middle Chinese period, when sesqui-syllabic features in Chinese were already dropped. The only possible way that the graph 𪛗 would be sesqui-syllabic is if sesqui-syllables in Chinese were preserved up until the early medieval period; this of course is highly unlikely.

Lenition of Jiàn 見 initial syllables in Grade II

Shimizu (2020a) implies that lenition of *Jiàn* initial syllables comes from *kj-* from at the latest during the 15th century and the initials started to undergo lenition by the 17th century. The conditions for lenition have begun taking place during the time of Annamese Middle Chinese and Jiaozhounese. Phan and de Sousa (2022) mention the dialect of Binyang demonstrating initial lenition for grade II *Jiàn* initial syllables. Binyang is the only dialect that

we know of that demonstrates lenition for the syllable ‘to marry’ specifically, but other varieties of Píng huà demonstrate lenition for other grade II syllables such as ‘to exchange’ in Níng yuǎn, Líng chuān, Guì lín, and of course, Bīn yáng:

jiāo 交 *giao* ‘intersect, exchange’

Píng huà 話

Níng yuǎn: *tsiao*

Líng chuān: *tɕiao*

Guì lín: *tsiao*

Bīn yáng: *tsau*

The Tǔ huà dialect of Jiāng yǒng Chéng guān 江永城關 also demonstrates lenition for grade II velars and it is consistently demonstrated in Xiāng dialects such as in Cháng shā 長沙, Shuāng fēng 雙峰, Quán zhōu 全州 and Guàn yáng 灌陽:

Húnán Tǔ huà 湖南土話

Jiāng yǒng Chéng guān 江永城關 *tɕiou*

Xiāng 湘話

Cháng shā 長沙 *tɕiau*

Shuāng fēng 雙峰 *tɕiv*

Quán zhōu 全州 *tɕiau*

Guàn yáng 灌陽 *tɕiau*

Phan and de Sousa seem to underestimate the amount of lenition that occurs in Píng huà and other Southwestern varieties, as they state, “... Grade II nasal and velar palatalization of initials is most robustly evidenced in Bīn yáng Píng huà amongst the Sinitic languages in the region.” (Phan & DeSousa 2022: 74). Quite a few additional dialects of Píng huà aside from Bīn yáng demonstrate this innovation.

Jiàn 見 Grade II in Sino-Tày

There is a regular correspondence with Sino-Tày ch- and Late Sino-Vietnamese gi- for grade II *Jiàn* initial syllables.

解 ST chải vs. LSV giải

價 ST chá vs. LSV giá

假 ST chá vs. LSV giả

奸 ST chan vs. LSV gian

江 ST chang vs. LSV giang

講 ST chảng vs. LSV giảng

降 ST chảng vs. LSV giảng

A question arises on how the initials became affricates. In the Latinized Tày orthography, the initial; ch- is a voiceless palatal plosive /c-/; which brings implications of change for Annamese Middle Chinese grade II initials. The AMC grade II *Jiàn* syllables softened and later turned into plosives in Sino-Tày, followed by changing to fricatives in Late Sino-Vietnamese.

kj- → dj- → jj- (Modified from Nguyễn Tài Cẩn 1979: 213)

Nguyễn Tài Cẩn (1995) notes that Vietnamese gi- comes from palatal *c- (NTC 1995:65). Nguyễn (1995) discusses correspondences between Vietnamese gi- and Mường ch-. Sino-Tày must have interpreted Annamese Middle Chinese softened velar initials in the second grade as voiced palatal implosives which then leads to palatal affricates which leads to current Sino-Tày ch- /c-/. The initial types in Sino-Tày, Mường, Southwestern Chinese varieties and Late Sino-Vietnamese show us that Annamese Middle Chinese must have

already had softened initials for grade II *Jiàn* initial syllables similar to Nguyễn Tài Cản's reconstructed dj-.

There are Grade II *Jiàn* initial syllables that are also written with Latinized initials d- and gi- in Sino-Tày;

Sino-Tày 家 gia, 加 gia vs. Late Sino-Vietnamese 家 gia 加 gia

Sino-Tày 皆 giai, 間 gian vs. Late Sino-Vietnamese 皆 giai 間 gian

Sino-Tày 交 dảo, 教 dảo vs. Late Sino-Vietnamese 交 giao 教 giáo

The expected Sino-Tày pronunciation would be the palatal ch- /c/, but the initials d- and gi- are likely a result of limited influence from Late Sino-Vietnamese pronunciations. It is important to remember that the similar Latinized orthography for Tày d- /ʒ-/ and gi- /ʒ-/ does not indicate a direct correspondence with modern Vietnamese d- /z/ or gi- /z/. The trend to copy Sino-Vietnamese pronunciations has not led to an exact match of pronunciation but another historical layer of Sino-Tày with interesting historical implications. The Sino-Vietnamese pronunciation perhaps resembled a voiced palatal plosive which was then interpreted as a voiced palatal implosive in Tày, then the voiced palatal implosive became a voiced postalveolar fricative in Sino-Tày.

Step I: Change from Annamese Middle Chinese to Late Sino-Vietnamese

kj- → dj- → jj- (Modified from Nguyễn Tài Cản 1979: 2013)

Step II: Change from Late Sino-Vietnamese to Sino-Tày

jj → ʃj- → ʒ- gi-

Chữ Nôm Tày also reveals a correspondence of *Jiàn* initial syllables with plain velar stops.

Sino-Tày 緊 khăn, 巾 khăn vs Late Sino-Vietnamese 緊 khăn, 巾 cân/khăn

Sino-Tày 高 cao, 古 cổ vs Late Sino-Vietnamese 高 cao, 古 cổ

Much of the Sino-Tày pronunciations are based on the Late Sino-Vietnamese and Chữ Nôm pronunciations. Though there are instances of *Jiàn* initial syllable pronunciations that differ from Late Sino-Vietnamese final pronunciations:

見 kền compare with LSV kiến

歸 quây compare with LSV quy

梗 cáng compare with LSV cánh

We can confidently say that Sino-Tày *Jiàn* initial syllables that were interpreted as plain velar stops when borrowed from Annamese Middle Chinese. The pronunciation of 見 kền represents an Early Middle Chinese layer due to the lack of high front vowel medials. It is difficult to determine if the syllable cáng 梗 is older or more recent than the Late Sino-Vietnamese pronunciation due to the regular correspondence of LSV -nh codas and Sino-Tày -ng codas:

丁 Sino-Tày téng, LSV địn̄h EMC: teŋ, LMC: tiaŋ

爭 Sino-Tày cheng, LSV tranh EMC: tʂəiŋ/tʂɛ:ŋ, LMC: tʂa:iŋ

冷 Sino-Tày lẹng, LSV lạn̄h EMC: laŋ', LMC: la:iŋ

並 Sino-Tày téng, LSV tịn̄h EMC: bɛiŋ', LMC: pɦiiaŋ`

正 Sino-Tày chiêng, LSV chín̄h EMC: tɕiaŋ^h, LMC: tɕiaŋ`

The above examples are from the Middle Chinese geng 梗 rime group. The reconstructions of both Early and Middle Chinese show -j- before the velar nasal coda. In both cases of Early Middle Chinese and Late Middle Chinese borrowings, the -j- is dropped in Sino-Tày and the velar nasal coda is preserved. In the case of Late Sino-Vietnamese, the -j- merged with the velar nasal coda and became a palatal nasal coda. A Sino-Tày cognate with

a velar nasal coda that corresponds with Late Sino-Vietnamese palatal codas shows a preservation of Middle Chinese coda features. Annamese Middle Chinese had velar nasal endings for the *geng* 梗 rime group when it came into contact with Proto Việt-Mường and Tày

Grade II *Jiàn* initials in Sino-Zhuang

Lenition of Grade II *Jiàn* initial syllables is not a phenomenon found in Zhuang words of Chinese origin. The work of de Sousa (2020) and Su Yongqin's dictionary shows us that Grade II *Jiàn* initial syllables consistently demonstrate velar stops with high front glides -i- or -j-. For example, the syllables 'cross' 交 *kja:u* in de Sousa (2020) retains the velar stop. The other examples are Sinoxenic words and phonetic graphs from Sū Yǒngqín (1989):

虫+交 *kja:u* versus LSV: *giao*

目+降 *kja:ŋ* versus LSV: *giáng*

門+江 *kja:ŋ* versus LSV: *giang*

In most dialects of Southwestern Middle Chinese, the *Jiàn* initial syllables in grade II are demonstrated as velar stops with a high front vowel glide *kj-*. In the Red River Delta, these velar syllables underwent lenition and gave rise to the phonological conditions that led to Late Sino-Vietnamese developing voiced alveolar fricatives and Sino-Tày developing palatal affricates for *Jiàn* initial syllables in grade II.

Initial *y-* in *Jiàn* Initials

The syllable meaning ‘to lift’ or ‘to raise’ has a Vietnamese y- initial 揭 yết. Chiang Chia-lu notes that this could possibly be a case of graphic analogy because there are a few syllables with a similar graph used to write *Yǐng* 影 initial syllables (Chiang 2011 57):

謁 yět ‘pay homage to someone’ 喝 yět ‘suffer sunstroke’

We cannot completely rule out the possibility of change through the spoken language. Both the syllables are grade III syllables with -j- medials in LMC. One possibility of natural language change with this syllable is a dialect reflex of both syllables losing their initials and the palatal glide became the initial instead. Modern SW Chinese varieties show a diverse demonstration of initials for the syllable ‘to reveal’ 揭

揭 yět ‘to pay homage to someone’

Guànyáng Xiānghuà 灌陽湘話 zie Níngyuǎn Píng huà 寧遠平話 ciE

Húnán Tǔ huà 湖南土話 xie Bǎo'ān Tǔ huà 保安土話 hi

Sháoguān yuèyǔ 韶關粵語 hip

Being a grade III syllable, palatalization occurred in some Píng huà dialects as well as Mandarin. In other dialects such as Tǔ huà and Yuè, the initial changed from a velar stop to a velar fricative and a glottal fricative in some cases. In the case of Late Sino-Vietnamese, Annamese Middle Chinese dialects possibly had glottal fricatives that had high front vowel medials. Dialect layering and assimilation perhaps caused the initial of this syllable to drop through the following process:

羯 揭 MC kjot → AMC Dialect A xjat → AMC Dialect B hjat → PVM jat → VN yết

Another possible spoken language scenario is that these two syllables were pronounced as sesquisyllabic by some Proto Việt-Mường speakers after borrowing from Annamese Middle Chinese. In a similar process with *Chóngniǔ* IV bilabials, the initial k- was

perhaps interpreted as a pre-initial while the medial -j- was interpreted as the main initial consonant. Such a change would also imply that most dialects of SWMC would preserve the initial k-. The following change for these two syllables are illustrated below:

羯 AMC kjot → PVM k.jat → VN yết 揭 AMC kjot → PVM k.jat → VN yết

Xī 溪 khê Initial

溪 xī khê	EMC kh-	MC kh-	LMC kh-	OC *kh- *[k ^{wh}] _ɿ -	LHOC kh-	HESV kh-	JESV kh-	LSV kh-, x- gi-,th-,s-	HVVH
誇 <i>kuā</i> boast	k ^h wai/ k ^h wɛ:	khwae	k ^h wa:	*[k ^{wh}] _ɿ ra	khwrâ >k ^h ua		khoe	khoa	
巧 <i>qiǎo</i> skill	k ^h aiw'/ k ^h ɛ:w'	khaewX	k ^h ja:w'	*[k ^h] _ɿ ru?	khru? >k ^h ɿu ^B		khéo	xảo	
苦 <i>kǔ</i> bitter	k ^h ɿ'	khuX	k ^h uǎ'	*k ^h ɿa?	khâ? >k ^h ɿ ^B		khó	khổ	
溪 <i>xī</i> creek	k ^h ɛj	khej	k ^h jiaj	*k ^h ɿe	>khê >k ^h e	khe		khê	
確 <i>què</i> solid	k ^h aiwk/ k ^h œ:wk	khaewk	k ^h ja:wk	*[k ^h ɿ] _ɿ rawk	khrau ^k >k ^h ak			xác	
企 <i>qǐ</i> tiptoe	k ^h jiǎ'/ k ^h ji'	khjieX	k ^h ji'	*k ^h ɿe?	khe? >k ^h ie ^B			xí	
腔 <i>qiāng/ kòng</i> tune	k ^h aiwŋ/ k ^h œ:wŋ	khaewng	k ^h ja:wŋ	*khro:ŋ ⁶²				xoang khang	
揩 <i>kāi / jiá</i> rub	k ^h əij/ k ^h ɛ:j	kheaj;	k ^h ja:j	krî ⁶³	kɛt			khai giai	
愜 <i>qiè</i> satisfy	k ^h ɛp	khep	k ^h jiap	khêp ⁶⁴	k ^h ep			khiếp thiếp	
刊 <i>kān</i> cut	k ^h an	khan	k ^h an	khân	k ^h an			khan san	
敲 <i>qiāo</i> knock	k ^h aiw/ k ^h ɛ:w	khaew	k ^h ja:w	none	k ^h au			xao	

⁶² Reconstruction provided by Zhèngzhāng Shàngfāng, from KAOM.net

⁶³ Reconstruction provided by Schuessler, from KAOM.net

⁶⁴ Reconstruction provided by Schuessler, from KAOM.net

杞 <i>qí</i> wolfberry	k ^h i'/k ^h i'	khiX	k ^h i'	none	k ^h iə ^B			kỷ	
縷 <i>quǎn</i> curl up	k ^h uan'	khjwonX	k ^h yan'	none	kyan ^B			quyển	
窟 <i>kū</i> cave	k ^h wət	khwot	k ^h ut	*[k ^h]ʼut	k ^h uət			quật	
詰 <i>jié</i> ask	k ^h jit	khjit	k ^h jit	*[k ^h]i[t]	k ^h it			cật	

Early Sino-Vietnamese syllables show consistent kh- initials that are velar fricatives in modern Vietnamese but were aspirated velar initials during the time these words were borrowed. The Late Sino-Vietnamese syllables regularly demonstrate two types of fricatives, x- and kh-. Nguyễn Tài Cẩn (1979) explains the phenomenon of Vietnamese kh- initials occurring. Some of the interesting *Xī* initial syllables in the above chart have two different pronunciations. For example, the syllable 'to wipe' 揩 has two pronunciations in Vietnamese, khai and giai. This dual glossing is curious because it leads to two implications. Khai is an expected pronunciation from Middle Chinese *Xī* 溪 initial syllables, while the spirantized giai is unusual. It is obvious that giai is based on a graphic analogy for giai 皆 'all' which is a grade II *Jiàn* 見 initial syllable with an expected spirantized initial. Late Sino-Vietnamese is not the only variety that pronounces the graph 揩 with a *Jiàn* initial, in Mandarin, another possible reading is *jiá*. However, this graphic analogy phenomenon was not a part of a wider Southwest Middle Chinese phenomenon because Yuè, Pínghuà, Tǔhuà and Xiāng consistently demonstrate aspirated velar initials.

The syllable for ‘tune’ *qiāng* 腔 is also interesting because there are two different readings, xoang and khang. In the *Xī* initial syllables we find syllables with two different Late Sino-Vietnamese pronunciations. It is well established in the Sino-Vietnamese literature that Late Sino-Vietnamese x- initials come from aspirated velars with -j- medials (Mineya 1972; NTC 1979). Chiang Chia-lu mentions that Karlgren and Mineya Tōru discuss the spirantization phenomenon occurring in grade II syllables (Chiang Chia-lu 2011: 57). Shimizu (2020a) proposes that the *Xī* initial syllables with the x- initials emerged from aspirated velar initials with -j- medials *k^hj-* in the 15th century. Shimizu proposes that that the *k^hj-* initials turn into affricates *tʃ-*, then the fricative *ç-*, then the fricative *s-* represented by the Quốc Ngữ letter x- (Shimizu 2020: 194). The syllable *qiāng* 腔 is a grade II syllable which become softened alongside grade III *Xī* initial syllables. The two different pronunciations could bring chronological implications; the pronunciation khang is an earlier loanword that became codified into the Hán-Việt pronunciation system, and the pronunciation xoang is a Late Sino-Vietnamese pronunciation that was borrowed when Annamese Middle Chinese developed softened initials for grade II *Xī* initials.

There are forms in the data that show Late Middle Chinese *khj-* initials not developing x- initials and some Late Middle Chinese *kh-* initial syllables without the medial -j- still developing x- initial syllables. Some of the initials above also hold implications of which historical stage of AMC words were borrowed into Proto Việt-Mường. There are three syllables that do not demonstrate Middle Chinese *kj-* as Vietnamese x-, ‘stream’ *khê* 溪, ‘satisfied’ *khiếp* 愜, and ‘rub’ *khai* 揩 as well as a doublet form of ‘tune’ *khang* 腔. The Sino-Vietnamese syllables ‘stream’ *khê* 溪 and ‘rub’ *khai* 揩 correspond more neatly to the Early Middle Chinese and Baxter’s Middle Chinese forms rather than to the Late Sino-Vietnamese forms that would become palatalized. This phenomenon implies that these *kh-* initials are

borrowed from Annamese Middle Chinese when the syllables ‘stream’ 溪 and ‘rub’ 揩 have not yet developed high front vowel medials.

Pronunciations in Chữ Nôm Tày also bring interesting implications. In the Tày language, the syllable ‘to knock’ 敲 is pronounced as *khao* as opposed to Vietnamese *xao*. Many *Xī* initial syllables in Sino-Tày demonstrate *kh-* and *x-* like their early and late Sino-Vietnamese counterparts. In Sino-Tày the graph 敲 is used to write *khao* as in *khao khát* ‘to aspire’, in Vietnamese Chữ Nôm the graph 敲 is only used to write syllables with initials *x-* and *s-*. The initial *kh-* for ‘to knock’ was likely borrowed into Sino-Tày before the palatalization process took place in Late Sino-Vietnamese. The syllable meaning ‘shortage’ 缺 is pronounced with an aspirated initial in Late Sino-Vietnamese *khuyết*, but with an unaspirated velar initial in Sino-Tày *quyết*. Sino-Tày was either influenced by a dialect of AMC that experienced the aspirated/unaspirated mismatch, or Tày speakers interpreted the aspirated initial as unaspirated.

The Sino-Vietnamese syllable *san* 刊 is the only *Xī* initial syllable that demonstrates an *s-* initial. Xián Mǎnxuě (2016) hypothesizes that this reading is possibly due to a reading mistake based on graphic analogy with the character character 刪⁶⁵ (Xián 2016: 154). Mineya and Chiang have also made the argument that the syllable meaning ‘cut’ likely has an *s-* initial due to graphic analogy. However, one should not rule out the possibility of *san*, a grade I syllable merging with other grade II *Xī* initial syllables.

This possible merging of grade I and grade II *Xī* 溪 initials caused a palatalization process for ‘to cut’ 刊 similarly to other syllables such as *xảo* 巧 and *xác* 確. The *s-* initial is perhaps a reflection of modern Vietnamese orthography using *x-* and *s-* for the same

⁶⁵ The character 刪 is pronounced as *san* in Late Sino-Vietnamese and pronounced as *shān* in Mandarin.

phoneme in Northern Vietnamese. This phenomenon of palatalization for the syllable ‘to cut’ is likely to have occurred exclusively in the Red River Delta because there are no other Southwestern Chinese varieties that demonstrate such a change for this syllable. The pronunciation of *san* for ‘to cut’ is either a phenomenon of graphic analogy that is unique to the RRD, or a palatalization phenomenon that is also unique to the RRD.

Early Sino-Vietnamese *Xī* initial syllables consistently demonstrate velar fricatives that come from aspirated velar initial stops. The syllables for ‘to boast’, ‘skill’ and ‘bitter’ all match the final forms of their EMC counterparts. There is one ESV word that is likely a Late Han borrowing, *xī* ‘creek’ 溪 *khe*, matching the LHOC reconstruction *k^he*. We should not however, completely rule out the possibility of ‘creek’ being a Jin era borrowing, because the final -j in the MC proper form and the LMC form is dropped for LSV *khê*; therefore, it is also possible for ‘creek’ to be borrowed from Early Middle Chinese *k^hej*.

There is a consistent correspondence between velar fricatives *kh-* emerging from aspirated velar initials as well as palatal fricative initials *x-*. Chiang Chia-lu has identified unaspirated initial syllables such as *kỷ* 杞, *quật* 窟, *cật* 詰 and *quyển* 縵. Chiang Chia-lu considers the majority of these unaspirated syllables to be a result of graphic analogy from the following graphs:

‘wolfberry shrub’ 杞 <i>kỷ</i> ← 己 <i>kỷ</i>	‘cave’ 窟 <i>quật</i> ← 崛 <i>quật</i>
‘interrogate’ 詰 <i>cật</i> ← 媾 <i>cật</i>	‘twist’ 縵 <i>quyển</i> ← 卷 <i>quyển</i>

(Chiang 2011: 57).

However, it is important to note that SW Chinese varieties such as Tǔhuà, Xiāng, Píngguà and even Mǐn demonstrate unaspirated initials for most of these *Xī* initial syllables as well, for example:

‘wolfberry shrub’ 杞 *kỷ*

湘 Xiāng

灌陽 Guànyáng: tsɿ

土話 Tǔhuà

賀州 Hèzhōu: ki, 富川 Fùchuān 八都話 Bādūhuà: tsi, 鍾山 Zhōngshān: ki

平話 Pínghuà

龍騰 Lóngténg: ki, 桂林 Guìlín: tɕi, 永福 Yǒngfú: ki

‘cave’ 窟 quæt

平話 Pínghuà

龍騰 Lóngténg: kuə

土話 Tǔhuà

富川 Fùchuān 八都話 Bādū Huà: kua, 富川 Fùchuān 七都話 Qīdū Huà: ky

湖南 Húnán 道縣 Dàoxiàn kua

‘interrogate’ 詰 cæt

Mǐn 閩語

寧德 Níngdé: kek, 建陽 Jiànyáng: ki

The presence of an aspirated / unaspirated mismatch Even though the possibility of graphic analogy can not be completely ruled out, it would not be unique to Late Sino-

Vietnamese. A more likely scenario is that these unaspirated vocabulary words were unaspirated when they came into contact with Proto Việt-Mường in the Red River Delta.

Qún 群 quàn Initial

群 qún quàn	EMC g-	MC g-	LMC kh-	OC *s-N-k- *m-kr- *N-kʷ- *[g]- *gh	LHOC g-	HESV c-, g-	JESV g- gh-	LSV c-, q- k-	HVVH
近 <i>jìn</i> near	gin ^h	gj+nH	khin`	*s-N-kərʔ-s	gɨən ^c	?	gàn	cận	
競 <i>jìng</i> compete	giajŋ ^h	gjaeng H	khiajŋ`	*m-kraŋʔ-s	giaŋ ^c	?	ganh	cạnh	
舊 <i>jiù</i> old	guw ^h	gjuwH	khiw`	*N-kʷəʔ-s	gu ^c	cũ	?	cựu	
櫃 <i>guì</i> cabinet	gwi ^h	gwiH	kyj`	*[g]ruj-s	guɨs	cũi	?	quỹ cự	
橋 <i>qiáo</i> bridge	giaw	gjew	khiaw	*[g](r)aw	gɨau	cầu	?	kiều	
求 <i>qiú</i> seek	guw	gjuw	khiw	*[g](r)u	gu	cầu	?	câu	
舅 <i>jiù</i> uncle	guw'	gjuwX	khiw`	*[g](r)uʔ	gu ^{B66}	cậu	?	cữu	
健 <i>jiàn</i> healthy	gian ^h	gjonH	khian`	*ghĩăn-s	gian ^c		ghiền	kiện	
強 <i>qiáng</i> strong	giaŋ	gjang	khiaŋ	*ghaŋ	ghaŋ ₆₇	gǎng	gượng	cường	
屐 <i>jī</i>	giajk	gjaek	khiajk	*Cə.[g]rek	giak	guốc		kịch	

⁶⁶ Starostin provides the reconstruction gəw, which has a similar medial to cậu.

⁶⁷ Reconstruction by Starostin, received from Kaom.net

clogs									
菌 <i>jūn</i> germs	gwin'	gwinX	khyn`	*[g]runʔ	guin ^B			khuẩn	
圈 <i>quàn</i> pig sty	guan ^h k ^h uan	gjwonX	khyan` k ^h yan	*[g](r)onʔ	gyan k ^h yan			quyển khuyên	

There are no voiced initials for the *Qún* initial syllables for Late Sino-Vietnamese; the Quốc Ngữ initials c-, k- and q- all represent the same phoneme. Nguyễn Tài Cẩn (1995) discusses the source of g- initials in Quốc Ngữ. Two possible sources of Vietnamese g- include voiceless *k- and voiced *g- (Nguyễn Tài Cẩn 1995). Baxter & Sagart as well as Mark Alves and Gong Xun say that voicing and lenition in Early Sino-Vietnamese comes from Old Chinese pre-initials, though Alves has also included voiced stops in his more recent publications on Proto-Vietic initials (Alves 2022: 2024). There is a nearly consistent demonstration of plain stops in Early Sino-Vietnamese compared to their Old Chinese counterparts.

Some of the Early Sino-Vietnamese words in the data above show nearly identical final forms with their Late Sino-Vietnamese counterparts. The syllable ‘to compete’ or ‘to emulate’ 競 has the Early Sino-Vietnamese form ganh according to Baxter & Sagart (2021). The syllable ‘to compete’ is a *Qù* tone syllable with a coda -s in Old Chinese. Middle Chinese *Qù* tone syllables in Late Sino-Vietnamese either demonstrate sắc or nặng tones. The syllable meaning ‘to emulate’ ganh has a ngang tone as opposed to the hỏi or ngã tone, meaning that this syllable was likely borrowed after tonogenesis in Chinese but before tonogenesis in Vietic. Schuessler’s Late Han Old Chinese form and Pulleyblank’s Early Middle

Chinese forms both demonstrate voiced velar stops g-. Proto Vietic and Proto Việt-Mường sources for the modern Vietnamese initial g- include sesqui-syllables and initial ʼg-. Since sesqui-syllables were long gone by the post Han period, the syllable ganh was likely interpreted as an initial with a voiced velar fricative g-.

Three additional Early Sino-Vietnamese syllables with g- appear as well as one syllable with gh- appears in the data above. The syllables ‘strong’ and ‘healthy’ both lack reconstructions from B&S. Supporters of Baxter & Sagart as well as Alves’ hypothesis on preinitial origins for lenited initials would add pre-initial consonants to Starostin’s reconstructed forms. The medial and final form of the syllable ‘strong’ suggests a borrowing at the early stage of Early Middle Chinese, which matches Pulleyblank’s reconstruction.

The syllable meaning ‘fungus’ 菌 *khuẩn* has a velar fricative kh- initial which emerged from aspirated velar initials. When the syllable *jūn* 菌 was borrowed into Proto Việt-Mường, the initial kh- was possibly interpreted as an aspirated velar initial k^h-. Another likely scenario for this syllable is the aspirated unaspirated mismatch, there are Píng huà and Tǔ huà dialects that pronounce this syllable with an aspirated initial:

jūn 菌 *khuẩn* ‘fungus’

Píng huà 平話

Líng guì Liǎng jiāng 臨桂兩江 k^hia, Lóng zhōu 龍州 k^hwen

Tǔ huà 土話

Xīng zǐ 星子 k^huai, Lián zhōu 連州 k^huAn

(Xiǎo xué táng 小學堂)

The Yuè 粵 dialects show a consistent demonstration of aspirated initials for the syllable ‘fungus’ 菌 *khuẩn* in the Guǎng fǔ 廣府, Gāo yáng 高陽, Sì yì 四邑, and Gōu lòu 勾漏

dialect groups. The prevalent demonstration of aspirated initials show that an aspirated unaspirated mismatch for the syllable ‘fungus’ within AMC is of a high possibility.

One must not also rule out the possibility that the velar fricative initial emerged from a graphic analogy part of a wider Southwestern phenomenon. The graph jūn 菌 ‘fungus’ is similar to the graph jùn 筍 ‘a type of bamboo’, which has two attested initials in the *Guǎngyùn*: Xī 溪 khwin and Qún 群 gwinX initials. It is very likely that the syllable for ‘fungus’ was transmitted via an educational route through scholars who thought the syllable for fungus should be pronounced with an aspirated velar or who have confused the graph for ‘fungus’ with the type of ‘bamboo’. This graphic analogy phenomenon also affected other dialects within the Southwestern Middle Chinese dialect continuum and is visible in modern dialects today.

Chiang Chia-lu (2011) notices that there are two attested Middle Chinese syllable pronunciations associated with the character for ‘pigpen’ 圈 quān, which is attested in Pulleyblank’s Middle Chinese reconstruction and Schuessler’s Late Han Old Chinese reconstruction. Chiang Chia-lu however considers the aspirated initials to come from a pronunciation based on Modern Chinese varieties, calling it a late stage of borrowing (Chiang 2011: 58). It is important to note that Pulleyblank (1991) provides aspirated and unaspirated initials for his EMC and LMC, the aspirated form khuyên 圈 has the gloss ‘ring’ or circle’ (Pulleyblank 1991: 261). The unaspirated form quyên has the gloss ‘pen for animals’ and corresponds to the Mandarin pronunciation juàn (Pulleyblank 1991: 166). The LSV pronunciation khuyên brings an interesting implication; the syllables khuyên and quyên were likely borrowings from two different morphemes that were associated with the same graph, in other words, 圈 is a ‘polyphonous character’ 多音字.

The syllable ‘strong’ or ‘forced’ 強 has three Sino-Vietnamese forms with tones that bring interesting historical implications: gǎng, gượng and cường. The *Guǎngyùn* tells us that the graph 強 is interchangeable with the graph 疆. The *Shuowen Jiezi* tells us that the graph 疆 means ‘to pull a bow with force’ 說文曰弓有力也⁶⁸. The *Guǎngyùn* has three distinct pronunciations associated with the graph 疆 :

疆 cương / cường / cưỡng

宏開三平陽群 gjang 宏開三上養群 gjangX 宏開三去漾見 khiangH

One of the attested pronunciations in the *Guǎngyùn* has a *Shǎng* tone which corresponds to ESV sắc and nặng. The Sino-Vietnamese words gǎng and gượng are likely based off of the word that means ‘forced’ that is the *Shǎng* tone pronunciation of the word affiliated with the graph 疆, which is interchangeable with 強. The word gượng meaning forced is an ESV word from the Jin era that demonstrated an expected nặng tone for Middle Chinese gjangX. The Sino-Vietnamese word gǎng as in cố gắng ‘phrase for encouraging perseverance’ is likely a Late Han borrowing due to the lack of a medial high front vowel.

The word gần 近 meaning close is often glossed as a HVVH word and as an ESV word by supporters of B&S’s OC reconstruction. The tonal correspondence does not resemble ESV *Qù* tone features from the Han era or even in EMC. Old Chinese *Qù* tone syllables develop into hỏi and ngã tones in Vietnamese and after the period of tonogenesis in Chinese before the LMC era, the loss of -s and -h finals led to an interpretation of ngang and huyền tones. During this period of final coda -s and -h loss, OC pre-initials would have been long gone at that point. EMC gɨn^h could have easily been interpreted as having a voiced initial because

⁶⁸ *Yùndiàn Wǎng* 韻典網 <https://ytenx.org/zim/?dzih=%E5%BD%8A&dzzen=1&jtkb=1&jtkd=1&jtdt=1&jtgt=1>
 Accessed 03/14/2025

both Proto Vietic and Proto Việt-Mường have voiced velar initial g-. The word gần 近 ‘close’ is an Early Sino-Vietnamese word, but it does not have a voiced initial because it inherited OC pre-initial syllables, rather because the Proto Vietic and Proto Việt-Mường speakers were able to interpret the Chinese voiced initial *g- syllables as initial *g-.

Yí 疑 nghi Initial

疑 yí nghi	EMC ng-	MC ng-	LMC ng-	OC ng-, C.ng- [m].qh-	LHOC ng-,ngr-	HESV ng-	JESV ng-	LSV ng-, nh- ngh-	HVVH ?
瓦 wǎ tile	ŋwai’/ ŋwɛ:’	ngwaeX	ŋwa:’	*C.ŋ ^w ra[j] ?	ŋrôi?> ŋɔi ^{B69}	ngói		ngõa	
藕 ǒu lotus root	ŋəw’	nguwX	ŋəw’	*C.ŋ ^r (r)o?	ŋhwá ⁷⁰	ngó		ngǎu	
牙 yá tooth	ŋai/ ŋɛ:	ngae	ŋja:	*m-ŋ ^r a	ŋrâ> ŋa	ngà		nha	
艾 ài mugwort yì mow	ŋaj ^h	ngajH	ŋaj`	*C.ŋ ^r a[t]-s	ŋâs> ŋas		ngải	ngê	
逆 nì transgress	ŋiajk	ngjaek	ŋiajk	*ŋrak	ŋrak> ŋiak	ngược		ngịch	
午 wǔ 7th earthly branch	ŋɔ’	nguX	ŋuǎ’	*[m].qh ^r a?	ŋâ?> ŋɔ ^B	ngựa		ngọ	
銀 yín	ŋin	ngin	ŋin	*ŋrə[n]	ŋrən> ŋin		ngần	ngân	

⁶⁹ Schuessler also provides the reconstruction ŋuai^B.

⁷⁰ This reconstruction is from Starostin. No reconstruction provided by Schuessler.

silver									
樂 <i>yue</i> music	ŋaiwk/ ŋœ:wk	ngaewH	ŋja:wk	ŋ ^ɚ rawk	ŋɔk			nhạc	
顏 <i>yán</i> face	ŋain/ ŋɛ:n	ngaen	ŋja:n	C•ŋ ^ɚ rar	ngān ⁷¹			nhan	
眼 <i>yǎn</i> eye	ŋəin’/ ŋɛ:n’	ngeanX	ŋja:n’	*[ŋ] ^ɚ ə[n]ʔ	ŋɛn ^B			nhãn	
鼻 <i>yì</i> cut nose	ŋi ^h	ngijH	ŋi`	*[ŋ]rə[t]-s	ŋis			nhị tị	
雁 <i>yàn</i> goose	ŋain ^h / ŋɛ:n ^h	ngaenH	ŋja:n`	*C.[ŋ] ^ɚ rar-s	ŋan ^c	ngan		nhạn	
咬 <i>yǎo</i> to bite	kaiw/ kɛ:w ŋaiw’/ ŋɛ:w’	kaew ngaewX	kja:w ŋja:w’	none	ŋau ^B ʔau kau			giảo	

Sino-Vietnamese pronunciations for *Yí* initial syllables are fairly consistent in each phonological layer without many exceptions. Early Sino-Vietnamese forms have velar nasal initials and Late Sino-Vietnamese syllables have velar nasals as well as palatal nasal initials. Palatalization of velar nasals is important for John Phan’s hypothesis. According to Phan, in Late Sino-Vietnamese and Annamese Middle Chinese, palatal nasal initials occur in MC velar nasal initial syllables.

The Early Sino-Vietnamese form for ‘goose’ 雁 *ngan* 雁 as in *bún ngan* ‘goose noodle soup’ was likely a borrowing from the Eastern Han period as it matched with Schuessler’s reconstruction ɲan^c. The syllable meaning ‘horse’ 𤝵 coming from the Chinese term for the 7th earthly branch 午 is identified to be an Early Sino-Vietnamese word by Mark Alves (2022: 27). Alves compares the Vietnamese form 𤝵 with B&S’s Old Chinese form

⁷¹ This is a modified reconstruction based on Starostin’s reconstruction of Ngrān. During the late Han period, there are likely no consonant clusters, so the -r- medial must have dropped.

*[m].q^haʔ and the Proto-Vietic form *m-ŋəʔ (ibid: 27). This syllable is likely to be a borrowing from before the Eastern Han period because of the medial and final correspondences with the Chinese forms. The centralized vowel and the glottal stop ending was perhaps interpreted as a centralized medial and final vowel, eventually resulting in the form ngɤa.

The Early Sino-Vietnamese syllables for ‘ivory’ ngà 牙, ‘tile’ ngói 瓦, ‘lotus root’ ngó 藕 and ‘transgress’ ngược 逆 all demonstrate velar nasal initials and consistently correspond to Shuessler’s Late Han Old Chinese reconstruction. The pre-initials proposed by Baxter & Sagart in these syllables have likely disappeared by the time of borrowing. Baxter & Sagart (2014) reconstruct ‘ivory’ with the pre-initial *m- in order to account for the phonetic components of the syllables ‘awry’ 邪, ‘to give’ 與 and ‘to raise’ 舉.

Baxter & Sagart also consider pre-initials to cause the high register tones for Vietnamese ngói ‘tile’ and ngó ‘lotus root’. Indeed, lotus roots and tiles were ancient loanwords that pre-date the Han. The archeological site of Cổ Loa built around the third century BCE, although a city constructed indigenously⁷², used Chinese materials that were traded with Vietic speakers such as tiles. Still, if Baxter & Sagart’s reconstruction is correct, then there were likely to be pre-initials for these velar nasal syllables before the Han period. There is a lack of evidence from other areal languages to suggest that the high register tone is due to pre-initials.

Palatalization of nasals in Grade II

⁷² See Nam Kim (2015), *The Origins of Ancient Vietnam* for an in-depth look at Early Vietnamese History and how Cổ Loa was a mark of indigenous Vietnamese civilization.

Phan hypothesized this feature to be one of the features of Annamese Middle Chinese that affected the variety of Proto Việt-Mường in the Red River Delta. Phan and DeSousa (2022) also consider this feature to be possibly present in the larger dialect continuum of Southwestern Middle Chinese. Phan and DeSousa present data from Píngguà and Yuè varieties as evidence for a palatal nasal feature in Yi initial syllables in Grade II. For example, the syllable *yá* 牙 ‘tooth’ demonstrates palatal nasal initials in Late Sino-Vietnamese *nha*, Nánning Píngguà [ɲa], Bīnyáng Píngguà [ɲa] and Yùlín Yuè [ɲa]. This phenomenon occurred during the era of Late Middle Chinese because of the high front vowel medial glide present with the velar nasal *ŋj*-.

The phenomenon of nasal palatalization occurred in cognates in other languages in the medieval southwest. The Zhuang script Sawndip shows us that the syllable 牙 ‘tooth’ also demonstrates a palatal initial /ɲa/ (Su et al 1989: 394). In Sino-Tày the syllable ‘tooth’ is also pronounced as *nha* /ɲa/; even though there is a phenomenon of Tày using Chữ Nôm and Hán Việt pronunciations for Nôm Tày characters, the fact that palatal nasals are common in Zhuang and SW Chinese varieties show that the reading of *nha* for Tày could be based on a wider phonological phenomenon instead of a LSV pronunciation. A similar phenomenon across areal languages occurred with the syllable for ‘goose’ *yàn* 雁 as well. In LSV the syllable ‘goose’ *yàn* 雁 is pronounced as *nhạ̄n*. In Tày, ‘goose’ is pronounced as *nhạ̄n* 雁 and in the Zhuang Sawndip script, the reading for ‘goose’ is [ɲa:n] 雁 (ibid: 392).

In Sino-Tày, like in most Chinese varieties and Sino-Xenic pronunciations, the graph 樂 has two attested pronunciations for different words ‘music’ with a nasal, and ‘happy’ with a lateral. The Sino-Tày pronunciation for 樂 has one l- initial pronunciation *lạ̄c*, for the word *khoái lạp* ‘happy’. In Late Sino-Vietnamese the syllable for ‘music’ is *nhạ̄c* 樂 and in

many Southwestern Chinese varieties have palatal nasal and velar nasal initials for the same syllable. Sino-Tày has a palatal nasal pronunciation for ‘music’ as well, *nhác* as in *nhảm nhác* ‘rác rưởi (trash)’ (Hoàng 2003: 372). The tonal correspondence suggests that the syllable is not based on the Chữ Nôm or Hán-Việt pronunciation of the graph 樂, rather, the association of this graph with softened velar nasals might suggest that Annamese Middle Chinese velar nasal grade II initials were softened.

There are a few examples of Graphic analogy that are unique to Sino-Vietnamese. The character 鼻 has two Late Sino-Vietnamese pronunciations, which are *tị* and *nhị*. The pronunciation *nhị* is consistent with the Middle Chinese reconstructions and the palatalization phenomenon in Annamese Middle Chinese. The pronunciation of *tị* however is not expected and is obviously due to graphic analogy with ‘nose’ 鼻 *tị* which is a *Chóngniǔ* IV syllable with a labial stop initial.

The character for ‘to bite’ 咬 demonstrated nasals and other *yi* initial reflexes in Mandarin, Cantonese, Pínghuà and Tǔhuà. Late Sino-Vietnamese demonstrates the spirantized velar initial *gi-* *giảo*. Upon first glance and through comparison with Chinese varieties it may seem obvious that the pronunciation for ‘bite’ is based off the pronunciation for ‘exchange’ *giao* 交. The *Guǎngyùn* 廣韻 however shows a *Jiàn* 見 and an *Yí* 疑 initial pronunciation:

咬 *giảo* ‘to bite’

效開二平肴見 *kaew* ‘the sound of a bird’ 鳥聲, 效開二平肴影 *ʔaew* ‘wanton sound’ 淫聲
 效開二上巧疑 *ngaewX* ‘gnaw’ 齧也

The spirantized velar initial for Sino-Vietnamese *giảo* is not likely due to graphic analogy because there is already a grade II velar initial syllable affiliated with this graph. This

phenomenon is another example of one *Guǎngyùn* pronunciation taking over at the expense of the rest. The pronunciation for ‘bird sound’ dropped its onomatopoeic usage and was used for the word ‘to bite’.

Jīng 精 Initial Group

In Middle Chinese the *Jīng* initial group consists of affricates and fricatives. However, in Sino-Vietnamese, syllables in the *Jīng* initial group regularly demonstrate dental stops. This feature has puzzled linguists for nearly a century. Hashimoto Mantarō (1978) compared this phenomenon with Southwestern Chinese varieties and hypothesized that dental stop initials for the *Jīng* initial syllables were perhaps a feature of a medieval Southwestern Chinese Koine. John Phan (2013) accepts the hypothesis of an areal koine, but rejects the idea that dental stops in the *Jīng* group are a feature of this Koine. Phan (2013) insists that *Jīng* initials rendering to stops is an areal feature found in other southeast asian languages, and not based on genetic language relationships. I agree that this is not a feature of a local medieval Chinese dialect; Phan and Nguyễn Tài Căn (1995) demonstrate that *s- → t- is a regular change in Vietnamese, for example, *sit > thịt ‘meat’ (Phan 2013: 65).

New evidence from Sino-Tày suggests that there was a local Tai language in modern day Northern Vietnam and the Red River Delta at the time of borrowing Middle Chinese affricate and fricative initial syllables, these syllables underwent changes in both Proto Việt-Mường and Tày. In Sino-Vietnamese, affricate loanwords from the *Jīng* initial group became fricatives in Ancient Vietnamese (Shimizu: 2020a), then became stops by the sixteenth century. In Sino-Tày, these initials became fricatives such as the belted l- and stops similar to those in Late Sino-Vietnamese. After independence from China in 938 and the

abandonment of Annamese Middle Chinese as the prestige language, contact between Tày and the sinicized Proto Việt-Mường became more frequent, and as Shimizu mentions, there was a gradual shift amongst Tày speakers from Sino-Tày pronunciation to Sino-Vietnamese pronunciation, meaning many readings of Chữ Nôm Tày are based on Sino-Vietnamese instead of Sino-Tày (Shimizu 2020b: 39). We should proceed with caution when encountering cognates in Sino-Tày with identical pronunciation to that of Sino-Vietnamese, though there are syllables that show different layers of borrowing, and reveal hints of language change in Sino-Vietnamese vocabulary.

Jīng 精 tinh Initial

精 jīng tinh	EMC ts-	MC ts-	LMC ts-	OC	LHOC ts-	HESV t- gi- ch- s-	JESV t-	LSV t- th-	HVVH
箭 <i>jiàn</i> arrow	tsian	tsjenH	tsian	*[ts]en-s	tsens >tsian	tên		tiển /tiển	
井 <i>jǐng</i> well	tsiajŋ	tsjengX	tsiajŋ	*C. tseŋ?	tseŋ? > tsieŋ	giếng		tĩnh	
節 <i>jié</i> season	tset	tset	tsiat	*ts ^h ik	tsît >tset		tết	tiết	
奏 <i>zòu</i> rhythm	tsəw	tsuwH	tsəw	*ts ^h o(?)s	tsôh >tso		tâu	thấu /tấu	
載 <i>zài</i> ride	tsəj	tsojX	tsaj	*[ts] ^h əj-s	tsêh >tsə	chở		tái /tạ	
姊 <i>zǐ</i> elder sister	tsi	tsijX	tsz	*[ts][i]j?	tsi? >tsi	chị		tỉ	

紫 <i>zǐ</i> purple	tsiä /tsi	tsjeX	tsz		tseʔ >tsie	tiá		tử	
將 <i>jiàng</i> commander	tsiaŋ	tsjang	tsiaŋ	tsaŋs	tsiaŋ ^c			tương thương	
浸 <i>jìn</i> to soak	tsim ^h	tsimH	tsim`	tsəms	tsim ^c		thâm	tắm	
煎 <i>jiān</i> panfry	tsian	tsjen	tsian	tsen	tsian	chiên		tiên	
纂 <i>zuàn</i> silk belt	tswan'	tswanX	tsuan'	*[ts]ʰo[n]ʔ	tʂ ^h uan ^c	soạn		toản	
醉 <i>zuì</i> intoxicate	tswi ^h	tswijH	tsyj`	*Cə.tsu[t]-s	tsuis		say	tuý	

The usual correspondence for Late Sino-Vietnamese *Jīng* 精 initial words is a plain unaspirated dental stop t-. Nguyễn Tài Cẩn (1979) shows us that the t- initial for *Jīng* initial syllables comes from a process of Middle Chinese affricates becoming fricatives, then fricatives becoming stops: ts→s→t (Nguyễn 1979: 188). Annamese Middle Chinese must have had affricate initials that became fricatives in Vietnamese (Shimizu 2020a: 192), then became dental stops after the 15th century. Occasionally *Jīng* initials also demonstrate aspirated dental initial stops.

The character 將 has three different LSV readings attributed to it: tương, tướng and thương. Chiang Chia-lu (2011) considers that the pronunciation thương 將 is likely from graphic analogy, primarily from the characters 鏘 and 蹺 that are also read as thương in LSV (Chiang 2011: 69). The character 將 does have an aspirated initial morpheme associated with the character as well. For example, in modern mandarin, a possible reading of the

character is qiāng meaning ‘to ask’, take this line from the Book of Poetry *Shī Jīng* 詩經 for example:

將子無怒 qiāng zǐ wú nù ‘I pray you be not angry’

(Mang 氓⁷³, Translation by James Legge)

In Sino-Vietnamese, thương 將 means mong, xin, ‘to inquire’, with a reference to the same line from the book of poetry⁷⁴. However, there is no Middle Chinese attestation of an aspirated pronunciation for 將, neither is there any Southern Chinese variety that demonstrates an aspirated initial for this character. The Mandarin pronunciation qiāng is likely a pronunciation from the Hongwu Zhengyun 洪武正韻. We are left with two possibilities for the origin of this aspirated pronunciation in Vietnamese, it is either based on the Hongwu Zhengyun pronunciation that was acquired during the Ming occupation period, or it is indeed graphic analogy for 鏘 or 蹻.

Another character that shows aspiration is ‘play music, hasten forward’ zòu 奏, read as tấu or thấu. In the Nguyễn Quốc Hùng dictionary entry for thấu with an aspirated initial, it is simply another reading of tấu without a separate meaning⁷⁵. This alternate LSV reading of the character 奏 is possibly due to confusion with the pronunciation of the character còu 湊 ‘to gather’, pronounced as thấu in LSV. Another possibility is that this syllable was borrowed twice in the medieval period, once aspirated and once unaspirated. In the Xiāng dialect of Lóu Shào 婁邵 in Guànyáng 灌陽 there is an aspirated form of 奏 pronounced as ts^həu. Since this phenomenon happens in Southwestern Chinese varieties such as Xiāng, a

⁷³ See CTEXT <https://ctext.org/book-of-poetry/mang> Accessed 03/14/2025

⁷⁴ See the entry from Từ Điển Hán Nôm <https://hvdic.thivien.net/hv/th%C6%B0%C6%A1ng> accessed 03/14/2025

⁷⁵ 奏 Thấu tụ hợp lại, một âm là thấu <https://hvdic.thivien.net/whv/%E5%A5%8F> accessed 03/14/2025

potential descendant of AMC, then it is likely that Annamese Middle Chinese had aspirated and unaspirated mismatches in MC *Jīng* initial syllables.

Jīng initials in ESV demonstrate t- ch- and gi- initials, these different initials might imply a difference in historical layers within ESV. The word for ‘well’ 井 *giěng* is likely to be an ancient borrowing from either the Western Han or the Pre-Han period, back when OC had pre-initial consonants. Xun Gong (2017) uses a disyllabic Chữ Nôm entry *k-ciěng 𠂔正 ‘well’ to support Baxter & Sagart’s pre-initial hypothesis for OC (Gong 2017: 11). In addition to the textual evidence of pre-initials, there seems to be an introduction of wells to Vietic speakers either during the Western Han, or even before Han domination in Northern Vietnam (Alves 2016: 280-281). It is also safe to assume that Zhào Tuó built wells throughout Nam Việt and it is probable that this word was introduced when it still retained consonant clusters; however, a claim directly about wells in Nam Việt specifically requires more archeological evidence.

There are two syllables that demonstrate ch- initials as well, *chị* ‘elder sister’ 姊 and *chở* 載 ‘to ride’. Alves (2016) claims that ESV ch- initials in general are due to OC complex initials (Alves 2016: 272). However, both the syllables for ‘elder sister’ and ‘to ride’ lack consonant clusters and pre-initials, pronounced as *[ts][ij]ʔ and *[ts]ʼəʔ-s respectively in B&S’s system. Though I agree that these syllables are ESV words, OC reconstruction shows that there was no involvement with complex onsets. What likely occurred is that these syllables were borrowed when the LHOC ts- initials were interpreted as palatals, leading to the ch- initials in Vietnamese. These words were likely borrowed during the Han period and at a later stage than the word ‘well’ *giěng* 井.

Early Sino-Vietnamese *Jīng* initial syllables also demonstrate t- initials similarly to their LSV counterparts. These t- initial syllables were likely borrowed during the Jin era. There is only one clear candidate for a Han ESV word with unaspirated plain dental stops ‘arrow’ tên 箭. The word ‘arrow’ was likely borrowed during the Western Han period due to a lack of high front vowel medials. It is important to note however, that this *Qù* tone syllable demonstrates a ngang tone instead of an expected *hỏi* or *ngã* tone for an ESV term from the Han era; it was likely borrowed during the Han period but just before medials were developed and after the coda -s was dropped, so that it may be interpreted as a *Píng* tone syllable.

The finals for tết 節 in the LHOC and EMC forms match neatly so it is also possible that this word was borrowed as early as the Late Han Era. In The Jin era there is an additional syllable with the plain initial t- ‘offer, make music’ 奏 *tâu*. The form *tâu* 奏 is likely to be a Jin ESV word due to the matching initial and final form, as well as the lack of Han ESV tonal correspondence. The syllable 奏 *tâu* is a *Qù* tone word and the ESV form demonstrate a ngang tone, which means that the coda -s has been dropped and tonogenesis has not been realized yet in Proto Việt-Mường.

We also have an aspirated initial for JESV for the word ‘soak’ *thâm* 浸. This is a JESV word that has undergone an aspirated unaspirated mis-match. This syllable demonstrates aspirated forms in both Xiāng and Píng huà. For example, in the Xiāng dialects in Chángshā and Shuangfeng there are aspirated initials, pronounced as tɕ^hin in Chángshā and tɕ^hien in Shuangfeng. According to data found in Xiǎoxué táng 小學堂, this aspiration is also shown in several dialects of Píng huà, such as in Níng yuǎn 寧遠, Líng chuān 靈川, Guì lín 桂林, Líng guì 臨桂, Yǒng fú 永福 and Róng shuǐ 融水.

jìn 浸 ‘to soak’

Níngyuǎn 寧遠: tɕʰin Língchuān 靈川: tsʰə Guìlín 桂林: tsʰen

Línguì 臨桂: tsʰan Yǒngfú 永福: tsʰeŋ Róngshuǐ 融水: tɕʰəm

Based on the data from the modern Southwestern Chinese dialects above, we can assume that this phenomena of aspiration and aspiration mis-matches happened in the Jin era when a diverse community of Chinese speakers lived in the Red River Delta.

Xián Mǎnxuě (2016) claims that *Jīng* initial syllables also demonstrate s- alveolar fricatives. Two examples that Xián mention are ‘drunk’ say 醉 and ‘red silk band’ soàn 纂. The word for ‘drunk’ say is likely to be a Jin ESV due to its lack of a sǎc or nặng tone and soàn is likely to be a Han ESV due to the nặng tone. Xián argues that the cause for this s- initial is a trace of earlier pronunciation that did not form into a dental stop (Xián 2016: 119). This alveolar fricative demonstration must have happened for syllables borrowed from the Jin and the Tang period alike. If we are to use Xian’s model, then the s- initials do not necessarily show when a word was borrowed but what features remained from an earlier period.

This of course raises the question of how some s- initials did not form into dental stops. This phenomenon likely arose from initial layering rather than simply a delayed language change. Late Han Old Chinese ts- and Middle Chinese ts- could have been interpreted as a voiceless postalveolar affricate tʃ- by some speakers of Proto Việt-Mường. Ferlus and Nguyễn Tài Cẩn show us that voiceless postalveolar affricates tʃ regularly turn into a voiceless alveolo-palatal fricative ɕ-, represented by x- in the Vietnamese orthography. The voiceless postalveolar affricate then developed into a palatal in

Vietnamese and later merged with alveolar affricates in Vietnamese, thus demonstrating an s- initial instead of an x- initial in the Vietnamese orthography.

The syllable ‘to fry’ *chiên* 煎 is regarded to be an RSV word by Phan (2013: 342) and an ESV word by Alves (2022: 47). Phan considers this word to be brought over by Yuè or Mǐn speaking immigrants during the 17th century. In the Yuè dialects there is one example that matches the medial type from Enping, pronounced as *tsian*. Other Yuè dialect groups demonstrate post alveolar affricate *tʃ* initials. Alves uses textual data to argue for an ESV candidacy. Alves mentions that the word ‘to fry’ *jiān* 煎 appears in the *Lǐ Jì* 禮記 which he also mentions is a text from the Warring States (475-221 BCE) period (ibid: 47). Alves continues to argue that the palatal initial and medial make this syllable appropriate for ESV candidacy (ibid: 47). The medial would make *chiên* a likely candidate for a loan from the EMC or LHOC periods. However, at this time it is unlikely that palatal initials would emerge this late, therefore I am inclined to categorize this as an RSV word.

To summarize, we can say that in the Pre-Han or Early Han period, Old Chinese initial clusters gave rise to Vietnamese fricatives, as is the case for ‘well’ *giếng* 井. In the Han period, some *Jīng* initials were interpreted as palatals and gave rise to *ch-* initials as is the case with ‘elder sister’ *chị* 姊 and ‘to ride’ *chở* 載. By the Jin and the Tang period, Vietic speakers interpreted *Jīng* loanwords from the local Chinese dialects as mostly unaspirated affricates, then eventually became dental stop *t-* in Vietnamese, with some exceptions of demonstrating aspirated doublets *th-*.

Qīng 清 thanh Initial

清 qīng thanh	EMC ts ^h -	MC tsh-	LMC ts ^h -	OC	LHOC ts ^h -	HES V th- x- đ-	JESV t-	LSV th- t- x-, s-	HVVH x-
草 <i>cǎo</i> grass	ts ^h aw'	tshawX	ts ^h aw'	*[ts ^h]ʰu?	tshû?> ts ^h ou ^B	tháu		thảo	?
焯 <i>cuì</i> temper	ts ^h wəj ^h	tshwojH	ts ^h uaj`	*[ts ^h]ʰu[t]-s	tshûts> ts ^h uəs		tôi	thối	?
青 <i>qīng</i> green	ts ^h ɛjŋ	tsheng	ts ^h iajŋ	*[s.r]ʰɛŋ	tshêŋ> ts ^h ɛŋ	xanh	?	thanh	
寢 <i>qǐn</i> sleep	ts ^h im'	tshimX	ts ^h im'	*[ts ^h]im?	ts ^h im ^B			tắm	
侵 <i>qīn</i> invade	ts ^h im	tshim	ts ^h im	*[ts ^h][i]m	ts ^h im			xâm	
猜 <i>cāi</i> guess	ts ^h əj	tshoj	ts ^h aj	none	ts ^h ə			sai thai	xai
親 <i>qīn</i> intimate	ts ^h in	tshin	ts ^h in	*[ts ^h]i[n]	ts ^h in			thân	
粲 <i>càn</i> bright	ts ^h an ^h	tshanH	ts ^h an`	*[ts ^h]ʰar-s	ts ^h an ^c			xán sán	
餐 <i>cān</i> to eat	ts ^h an	than	ts ^h an	tshân ⁷⁶	ts ^h an			xan san	
搓 <i>cuō</i> rub	ts ^h a	tsha	ts ^h a	shla:l ⁷⁷ / shāj ⁷⁸	shāj> shā ⁷⁹			xe xoa sai tha	
籤 <i>qiān</i> bookmar k	ts ^h iam	tshjem	ts ^h iam	shem	shjam ⁸⁰			thiêm tiêm	
鞦 <i>qiū</i> swingset	ts ^h uw	tshjuw	ts ^h iw	shuw ⁸¹	none	đu		thu	
秋	ts ^h uw	tshjuw	ts ^h iw	*ts ^h iw	ts ^h iu			thu	

⁷⁶ Reconstruction by Schuessler (2009), obtained from kaom.net

⁷⁷ Reconstruction by Zhèngzhāng Shàngfāng (2003), obtained from kaom.net

⁷⁸ Reconstruction by Sterostin (Babeltower Starlink) <https://starlingdb.org/cgi-bin/query.cgi?basename=\data\china\bigchina&root=config&morpho=0> accessed 03/14/25

⁷⁹ Reconstruction by Sterostin (Babeltower Starlink)

⁸⁰ Reconstruction by Sterostin (Babeltower Starlink)

⁸¹ Reconstruction by Zhèngzhāng Shàngfāng (2003), obtained from kaom.net

<i>qiū</i> autumn									
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There are almost no *Qīng* initial syllables in Early Sino-Vietnamese. There are only three candidates, *tháu* 草 ‘grass’, *tôi* 焯 ‘to temper’, and ‘swingset’ 鞦韆 *đu*. The syllable *tháu* 草 ‘grass’ can easily be identified as a Han era Sino-Vietnamese word, due to the tone correspondences; HESV loanwords with glottal stop endings develop into *sắc* or *nặng* tones in Vietnamese. The ESV candidate *tôi* 焯 ‘temper’ as in *tôi thép* ‘to temper steel’ is from Alves (2018), what is strange about this syllable is the lack of aspirated initials; the LSV, the Old Chinese as well as Late Han Old Chinese forms all show aspirated initials. One possible explanation for this lack of aspirated initials is that this form was mixed with the reading of other similar graphs such as *zùi* 晬 ‘first birthday of a child’, read as *tối* in LSV and *tôi* in Nôm ESV. If this phenomenon of graphic analogy is the case for this syllable, then this implies that the literary hypothesis or educational hypothesis has a kernel of truth as far back as the Han period. This lack of aspiration also brings implication for prescriptive readings being given as far back as the Han period.

Another more likely possibility for the lack of aspiration is that when the word ‘to temper steel’ 焯 *tôi* was introduced, there was no aspirated initial for this word in the local variety of Old Chinese. There are aspirated initial syllables with unaspirated initials in modern Chinese varieties. For example, in the *Téngxiàn* 藤縣 and *Tiándōng* 田東 dialects of *Píngguà*, the syllable *cū* 粗 ‘course, rough’ has unaspirated initials, pronounced *tsɔ* in *Tiándōng* 田東, and *tu* in *Téngxiàn* 藤縣. In the *Mǎshān* 馬山 dialect of *Píngguà* 平話, the syllable ‘autumn’ 秋 is unaspirated, pronounced as *tsou*. It is just as likely that this ESV word was introduced through the spoken language, yet it lacked aspiration in that particular variety of Chinese by the time it reached Vietic speakers.

The syllable ‘swingset’ 鞦韆 was identified as a Sino-Vietnamese word by Chiang Chia-lu but without a clear chronological category. It may be the case that this syllable was interpreted as being voiced at the time of borrowing, though it is unlikely since this syllable is homophonous with ‘autumn’ 秋 and there is no modern variety of Chinese that demonstrates a voiced onset for MC aspirated syllables. It is more likely that ‘swingset’ was confused with ‘worry’ 愁 during the late Han period, which was pronounced approximately as dzu at the time. The affricate then could have dropped into a voiced stop in the following scheme: dz- → d-.

Late Sino-Vietnamese *Qīng* initial words also develop into fricatives x- and s-. The syllable ‘to guess’ and ‘to rub’ both have alveolar fricative s- initials. Nguyễn Tài Cẩn (1995) shows us that th- initials in Vietnamese come from fricative ś-, which is close to s- (NTC 1995: 84-85). Nguyễn Tài Cẩn mentions the Vietic dialects that still demonstrate s- initials; for example, the word for ‘meat’ thịt is pronounced with s- initials in Sách, Rục, Mày, Mã Liêng, Khạ, Phụng and Pakatan (NTC 1995:85). There is also a rare occurrence of fricative demonstration in LSV *Qīng* initial syllables. The syllable ‘to eat’ or ‘meal’ 餐 has the LSV reading san and xan. Chiang Chia-lu mentions that these readings are not due to graphic analogy (Chiang 2011: 69); these pronunciations, although unusual, are not simply sporadic. Instead, Chiang (2011) considers this phenomenon to be a reflection of initial mergers that occur in modern Chinese varieties, though is unsure about the exact historical layer of these features (Chiang 2011: 69-70). Wáng Lì (1948) considers these *Qīng* initial x- and s- words to have traces of Early Sino-Vietnamese (Wáng 1948: 22). We have no data for ESV words in this initial category that demonstrate such features, though I do agree with Wáng Lì that this is a trace of earlier pronunciation.

Sino-Tày readings might give us a clue for these curious fricatives. *Qīng* initial syllables are regularly read as fricatives in Sino-Tày unless they have been Vietnamized or are in the process of Vietnamization. For example, take the syllable meaning ‘clear’ *qīng* 清, in Sino-Tày there are three readings: xeng, thênh, and thanh, the pronunciation xeng is likely to resemble the form for Sino-Tày during the time of borrowing from Annamese Middle Chinese. The pronunciations of thênh and thanh for 清 are likely to be due to later Vietnamese influence. In Tày, the pronunciations xạm and dặm are attributed with the character 侵, both with fricatives. Perhaps these fricatives in the *Qīng* initial group demonstrate an older form of pronunciation that has not yet been demonstrated as a dental stop t-.

There are also unaspirated dental stops found in two syllables, ‘to sleep’ tằm 寢 and ‘mark’ tiêm 籤. The syllable ‘mark’ tiêm 籤 is an unaspirated doublet with its aspirated form thiêm; in modern Píngguà dialects, there are unaspirated forms of this syllable, pronounced as tçim in Téngxian 藤縣. The syllable for ‘to sleep’ also has unaspirated forms in Píngguà, pronounced as tsem in both Mǎshān 馬山 and Fúsū 扶綏 counties in Guǎngxī near the modern Vietnamese border. This demonstration of de-aspiration in Píngguà shows that it is completely possible that it also occurred in Annamese Middle Chinese at the time of borrowing those words via spoken language.

There are two cases of Hán Việt Việt Hóa, xanh ‘green’ 青 and xai ‘to guess’ 猜. Hán Việt Việt Hoá is the Vietic colloquialization of Sino-Vietnamese words. According to Wáng Lì (1948) Nguyễn Tài Cẩn (1979) and Trần Trí Dõi (2011), the process of Hán Việt Việt Hóa occurs when Vietnamese speakers encounter Chinese words that have been written down and have a prescribed pronunciation. Alves (2020) claims that the word xanh ‘green’ 青 is an

ESV word and compares it to Proto-Vietic * $\zeta\eta$ with a palatal fricative. Wáng Lì (1948)

mentions that this process occurs with words that were borrowed before the Tang or after the Tang. It is likely that this word was borrowed early and became spirantized in Vietic. The word xai 猜 must've derived from the aspirated th- initial form in the following scheme: th → \acute{s} → x- (Modified from NTC 1995: 300).

Cóng 從 tùng Initial

從 cóng tùng	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HVVH
賊 zéi bandit	dzək	dzok	tshǎək	*k.dz ^ɸ ək	dzək >dzək	giặc		tặc	
賤 jiàn lowly	dzian	dzjenH	tshian	*[dz][a][n]-s	dzans >dzian	hèn		tiện	
鑿 zào zuó chisel	dzak	dzuwk	tshak	[dz] ^ɸ awk	dzâuk >dzak	đục		tạc	
層 céng layer	dzəŋ	dzong	tshǎəŋ	*N-s-t ^ɸ əŋ	dzəŋ >dzəŋ		tùng	tằng	
蠶 cán larvae	dzəm	dzom	tsham	*C.[dz] ^ɸ [ə]m	dzəm >dzəm		tằm	tàm	
在 zài located	dzəj ^ʰ	dzojX	tshaj ^ʰ	*[dz] ^ɸ əʔ	dzə ^B			tại	
絕 jué cut off	dzwiat	dzjwet	tshyat	*[dz]ot	ʒ(h)wat > ʒ(h)jwat	đứt		tuyệt	
睜 zhēng open eyes	none	dzjengX	none	none	none			tranh tĩnh	
字	dzi ^h /dzi ^h	dziH	tshz ^ʰ	*mə-dzə(?) ^ʰ -s	dziə ^c	chữ		tự	

zì Chinese character									
座 zuò seat	dzwa ^h	dzwaX	tshua`	*[dz]ʰo[j]ʔ-s	none			toạ	
錢 qián money	dzian	dzjen	tshian	*N-ts[a][n]	dzian			tiền	
情 qíng situation affection	dziajŋ	dzjeng	tshiajŋ	*[dz]eŋ	dzieŋ			trình	

Nguyễn Tài Cẩn shows us the process of how *Cóng* initial syllables became plain dental stops in LSV as follows dz- → ts- → s- → t- (NTC 1979: 188). However, according to Pulleyblank's reconstruction, by the Late Middle Chinese period these initials became devoiced already. We can safely assume that *Cóng* initial syllables likely had voiceless fricatives before demonstrating s- initials as we see in Shimizu's reconstruction (Shimizu 2020a: 192).

Early Sino-Vietnamese demonstrates the syllables t-, h-, đ-, ch- and gi-. The ch- initial is mostly likely due to the dz- initial in Late Han Old Chinese being interpreted as a palatal initial *c-. The h- initial is interesting because for the syllable *Jiàn* as well as all *Cóng* initials in general, the initial demonstration for most stages of Chinese is a dental affricate, which would not usually merge into a glottal fricative under normal circumstances. Yet, semantically, *hèn* matches the word for 'low' or 'mean' 賤. The Nôm script contains a few graphs that are read as *hèn*, all meaning 'low, mean'

亻+賢
亻+賢
賢+小

What these graphs all have in common is the usage of the Chinese graph 賢 which is pronounced as *xián* in Mandarin, *hen* in Middle Chinese, and as *hièn* in HV and *hèn* in Nôm. Despite using different graphs than 賤, there is an obvious semantic connection.

The lack of a high front medial that has been present in Chinese pronunciations since the Han times shows that this word was borrowed at an early period, either before the Eastern Han or before the Han in general. In Baxter & Sagart's reconstruction, there are brackets that indicate possibilities of different initials. Either the initial was interpreted as a glottal or a velar by Vietic speakers or the regional form of Old Chinese had a glottal or velar initial for 'mean, low' 賤.

Perhaps the initial for this syllable was interpreted as a voiced palatal plosive /ɟ/, this is a possible middle path between dentals and velars. For a modern example, let's take the Arabic graph *jīm* ج, which is pronounced in a variety of different ways depending on the dialect of Arabic to write a variety of phonemes, as Janet C.E. Watson (2002) shows us. Watson shows that this phoneme was used to write a voiced palatal stop or voiced palatal velar stop in early classical arabic. It is realized as a voiced post alveolar affricate *dʒ-* in Bedouin, Syrian, Jordanian, Mesopotamian, northern Yemen and Palestinian dialects. It is realized as a voiced velar stop /g-/ in Ta'izz. It is also realized as a voiced palatal stop in /ɟ-/ Sudan, Upper Egypt and Yemen (Watson 2002: 15-16). If 'low' was interpreted as a voiced palatal implosive, then the change to h- must have been like this:

ɟ- → dʒ- → g- → k- → x- → h.

Another possibility is that the affricate turned into a stop and then into a glottal. Consider the changes made in the Toisan dialect as an analogous example. Toisan *Tòu* 透 initial syllables are pronounced with glottal fricatives h- instead of aspirated dental stops tʰ:

tǒng 桶 hǒŋ tiào 跳 hiau (Zeng 2013: 51).

Toisan *Jīng* initial syllables also render to unaspirated stop t- and *Qīng* initial syllables render to aspirated dental stops t^h (ibid: 51). Perhaps it is possible that there was an aspirated unaspirated mismatch when the syllable 賤 was introduced, then underwent a similar process of dentals becoming glottals similarly to *Tòu* initial syllables in Toisan. The change could be described in the following scheme: ts/ts^h- → t^h- → h-. This unusual initial change may be a testament to the aspirated/unaspirated phenomenon as well as the diverse range of Old Chinese speakers that migrated to the area of Northern Vietnam.

There are two Jin ESV words that match with their LSV counterparts in tone and in initial, ‘layer’ *tùng* vs LSV *tăng* 層 and ‘larvae’ *tằm* vs. *tàm*. The identical tones and initials make them candidates for Jin Early Sino-Vietnamese, making them contemporaries of Early Middle Chinese or Middle Chinese proper. The syllable for ‘bandit’ demonstrates a gi- initial 賊 *giặc*. Baxter & Sagart (2014) argue that this word came from Old Chinese *k.dz^hək, comparing it to cognates, comparing it with cognates in Lakkia *kjak*, and Rục *kəcák* (B&S 2014: 97). If there were no consonant cluster, then the Old Chinese syllable would likely turn into a voiced dental stop đ- instead. Higham and Thosarat (2012) also show us that pre-Qin trade occurred between Chinese states and Southeast Asian language groups, and there were likely to be bandits on those trade routes. Therefore, it is reasonable to assume that the word for bandit came from Chinese. Early Sino-Vietnamese *Cóng* initial syllables that demonstrate đ- initials likely arose from the process of a voiced fricative becoming a stop dz → đ, thus we get *đứt* 絕 ‘cut’ and *đục* 鑿 ‘chisel’ from Old Chinese *[dz]ot and *[dz]awk respectively.

Data from In Sino-Tày shows interesting implications for Annamese Middle Chinese. Middle Chinese *Cóng* initial syllables develop voiced post-alveolar fricatives ʒ-. Examples include the words for ‘graph’, ‘seat’, ‘money’ and ‘affection/situation’:

zì 字 ‘graph/Chinese character’

Hán-Việt: tự

Sino-Tày: dử

zuò 座 ‘seat’

Hán-Việt: toạ

Sino-Tày: soá (house in Tày)

qián 錢 ‘money’

Hán-Việt: tiền

Sino-Tày: dèn

qíng 情 ‘affection/situation’

Hán-Việt: tình

Sino-Tày: đình

The above data reaffirms that Middle Chinese syllables in the *Jīng* initial group 精組 do not collapse into dental stops as proposed in Hashimoto’s hypothesis for a Southwestern Koine. Tày also does not display stops but fricatives, which means that after the Annamese Middle Chinese affricates were borrowed into Proto Việt-Mường, they only collapsed into stops in modern day Sino-Vietnamese initials. However, when Annamese Middle Chinese affricates were borrowed into Tày they later collapsed into fricatives instead. Annamese Middle Chinese *Cóng* initial syllables most likely retained affricates.

Xīn 心 tâm Initial

心	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HVVH
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<i>xīn</i> tâm									
箱 <i>xiāng</i> box	siaŋ	sjang	siaŋ	*C.[s]aŋ	saŋ> siaŋ	rương		tương /sương	
散 <i>sàn</i> disperse	san	sanX	san	*mə-s'a[n]ʔ-s	sâns> san ^c	rân		tán tản	
燥 <i>záo</i> dry	saw	sawX	saw	C.s ^f awʔ	sâuh> sau ^c	ráo		táo	
噪 <i>zào</i> noise	saw	sawX	saw	C.s ^f aw-s	sâuh> sau ^c	rao		táo	
絲 <i>sī</i> silk	si/si	si	sɿ	*[s]ə	sə> siə> sɿ	tơ		ti	
選 <i>xuǎn</i> choose	swian	sjwenX	syān	*[s]o[n]ʔ	sonʔ >syān	chọn		tuyển/ tuyển	
繡 <i>xiù</i> embroider	suw	sjuwH	siw	*[s]iw(k)-s	siuh >siu	thêu		tú	
訊 <i>xùn</i> ask	sin	sinH	sin	*[s]i[n]-s	sins >sin	tin		tấn	
睜 <i>zhēng</i> wink	none	none	none	none	none			tranh tĩnh	

Baxter & Sagart (2014) argue that the initial r- is in Early Sino-Vietnamese words from Chinese words that had an unidentified pre-initial *C.s- (B&S 2014: 169). Baxter & Sagart (2014) and Nguyễn Tài Cẩn (1995) use Vietnamese examples răng 'tooth' from Proto-Vietic *ksang and rắn 'snake' from *psanh (NTC 1995: 296); Alves supports this interpretation in his work. Xián Mǎnxuě takes an interesting approach and considers r- to be a midway point between initial s- and t- in the following scheme: s → r → t (Xián 2016: 123). Xian's interpretation implies that for these words, pre-initials are not involved. Though

it is true that t- derives from s-, Nguyễn, Alves, Baxter & Sagart's assertion that r- derives from unidentified pre-initials is far more convincing.

Nguyễn Tài Cẩn shows us that ch- comes from Proto Vietic palatals *c- and *j-, for example chim 'bird' is reconstructed as *cim and chạy 'to run' as *jǎlʔ (NTC 1995: 48). In B&S's Old Chinese 選 is *[s]o[n]ʔ with a likely s- initial but could be perceived as a palatal by the Vietic speakers. Shchuessler's system for the Late Han period shows a close front rounded vowel medial: syan. During the Old Chinese period, the initial for syllable 'to choose' must have been perceived as a voiceless palatal fricative *c-.

There is also a consistent demonstration of r- initials in *Xīn* initial ESV words. According to Nguyễn Tài Cẩn and to Mark Alves, Vietnamese r- initials come from consonant clusters with *-r- medials. B&S's Old Chinese forms that correspond to the r- initial ESV words consistently demonstrate consonant clusters. There is one aspirated syllable meaning 'to embroider' 繡 thiêu that is likely a Jin ESV. This syllable is aspirated in the Fúsūi 扶綏 Xiāng dialect, pronounced as tʰəu. It is likely that this aspiration was due to an aspirated unaspirated mis-match.

There are two Late Sino-Vietnamese syllables with unusual initials. The syllable for 'box' 箱 demonstrates two different pronunciations which are tương and sương. Chiang Chia-lu argues that s- initial comes from graphic analogy, where scholars confused tương 箱 'box' with sương 霜 'frost'. We must again remember that Vietnamese t- initials derive from s- initials. I would say that the initial s- for sương 箱 'box' is likely to be based on an earlier form of pronunciation that became codified into the language.

In Sino-Tày, the word for silk is sớ 絲, with a fricative initial, compared with ESV tở or LSV ti. The Sino-Tày forms and the unusual LSV forms show earlier signs of pronunciation as

well as traces of language contact. The word for ‘to wink’ 睜 has two forms in Sino-Vietnamese, *tĩnh* and *tranh*. As a *Cóng* 從 initial syllable, *tĩnh* would be the usual form and the form *tranh* is likely due to graphic analogy with other characters such as 爭 *tranh*. It is also important to note that this phenomenon happened in Mandarin as well, which pronounces 睜 as *zhēng*.

Below are more examples from Tai languages like Zhuang and Tày that show how their demonstration of *Xīn* initial syllables diverged from their LSV counterparts:

Tày

西 *sây* ‘west’ 四 *sí* ‘four’ 心 *sim / sãm* ‘heart’ 散 *sán* ‘disperse’

s- in the Tày orthography is [ʈ]

Zhuang

四 ‘force’ [θei] (Sū Yǒngqín 1989: 43) 𠩺+相 ‘box’ θi:ŋ (ibid: 458)

𠩺+星 ‘Han Chinese that live amongst the Zhuang’ [θe:ŋ] (ibid: 455)

Some of the examples above are clearly cognates with Middle Chinese words such as the word for ‘box’ in Zhuang and ‘west’ in Tày, others use the Sinographs for phonetic purposes. These examples show how LSV developed dental stop initials t- from alveolar fricatives s- with little influence from areal Tai languages. This process of producing dentals out of alveolar fricatives must be unique for Vietic languages in the Red River Delta. John Phan (2013) is right that s- turning into t- does not come from Chinese, but we cannot exclude the possibility that this feature impacted some dialects of SWMC. An examination of Yuè and Píng huà dialects also show that the Tai features of interdental fricatives [θ] and voiceless dental, alveolar lateral fricatives [ʈ] were likely present in some dialects of Southwestern Middle Chinese outside of the Red River Delta.

Xié 邪 tà Initial

邪 xié tà	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HVVH
謝 <i>xiè</i> decline	zia	zjaeH	shia	*sə-lAk-s	s-lakh >za	giã		tạ	
羨 <i>xiàn</i> admire	zian	zjenH	shian	*s-N-qa[r]-s	lhanh >zhanh 82	ghen		tiền	
似 <i>sì</i> similar	zi /zi	ziX	shẓ	*sə.ləʔ	s-ləʔ >ziə		tợ	tự	
序 <i>xù</i> sequence	ziǎ	zjoX	shiǎ /shyǎ	*[sə.l]aʔ	s-laʔ >ziə ^B		tựa	tự	
寺 <i>sì</i> temple	zi ^h / zi ^h	ziH	shẓ`	*s-[d]əʔ-s	ziə ^c			tự	
旬 <i>xún</i> ten days	zwin	zwin	shyn	*s-N-q ^w i[n]	zuin		none	tuần	
習 <i>xí</i> practice	zip	zip	ship	*s-G ^w əp	zip		none	tập	
祀 <i>sì</i> sacrifice	zi'/zi ^h	ziX	shẓ`	*s-[G]əʔ	zi ziə ^B			tự	
松 <i>sōng</i> pine tree	zuawng	zyowng	shywn̄	*sə.ɡoŋ	zioŋ		thông	tông tung tùng	
祠 <i>cí</i> venerate	zi'/zi ^h	zi	shẓ`	*sə.lə	ziə		thờ	từ	
隰 <i>xí</i> swamp	zip	zip	ship	*s-N-qip	zip			thấp	

⁸² Starostin (Towerbabel Starlink) <https://starlingdb.org/cgi-bin/query.cgi?basename=\data\china\bigchina&root=config&morpho=0> accessed 03/14/25

Late Sino-Vietnamese words consistently demonstrate plain stop initials. This is because in Middle Chinese *Xié* initials were voiced alveolar and alveolar fricatives, NTC shows us that upon being borrowed into Việt-Mường, *Xié* initials were interpreted as alveolar fricatives. Alveolar fricatives in Vietnamese turn into dental stops. There is one LSV *Xié* initial word that demonstrates an aspirated dental stop, 隰 thấp. Chiang Chia-lu (2011) argues that this is due to graphic analogy, being analogous with thấp 濕 ‘wet’. Maybe this syllable also underwent the aspirated/unaspirated mismatch, but due to the lack of data from modern Chinese varieties, I will tentatively say this is due to graphic analogy.

The Early Sino-Vietnamese words for ‘similar’ 似 *tợ* and ‘sequence’ 序 *tự* both have unaspirated dental stops and matching tones with their Late Sino-Vietnamese counterparts. We have an aspirated initial for ‘pine tree’ thông 松 which is the everyday Vietnamese word for ‘pine tree’ cây thông. It is highly unlikely that this aspiration came from graphic analogy because the phonetic component of the graph is 公 *kuwng*. There are at least three Píngguà dialects that have an aspirated form for 松, pronounced as tɕ^hyE in Níngyuǎn 寧遠, ts^huŋ in Yǒngfú 永福 and ts^hoŋ in Héngxian 橫縣. This again, is an example of an aspirated unaspirated mismatch.

Baxter & Sagart (2014;2021) claim that the words ‘to admire’ 羨 *ghen* and ‘to decline’ 謝 *giǎ* are ESV words with initial features that derived from OC pre-initials. B&S proceed to argue that “non-pharyngealized *-l- preceded by a loosely attached preinitial to become the voiced palatal fricative zy- in MC” (B&S 2014: 182). However, the phonological conditions for the ESV initial changes may not need to be so complicated. The LHOC forms seem to match the spirantized forms neatly enough to assume a later period of borrowing.

The words ‘to admire’ and ‘to decline’ are likely borrowings from the Han period, where *giã* was borrowed from LHOC za 謝 and *ghen* was borrowed from LHOC zhanh 羨.

The author has found no data on how Sino-Tày pronounces *Xié* initial syllables without a reliance on Sino-Vietnamese pronunciation. There are examples of Sino-Tày entries of *Xié* initial syllables such as 席 tiệc 謝 tạ. There is also one example of a *Xié* initial syllable being used for phonetic purposes to write ‘thúc giục (to urge)’ 逐 dộc, with a fricative initial. One example is clearly insufficient for a strong hypothesis, but I am left to speculate that *Xié* initial syllables would have been interpreted as fricatives by Tày speakers. There are not many *Xié* initial syllables to begin with, so it may be of no surprise that there is scarce information on *Xié* initial pronunciation in Sino-Zhuang as well. Su Yongqin’s dictionary has no entries of cognates or phonetic borrowings that use *Xié* initial syllables.

The *Jīng* initial group provides significant historical linguistic information on Sino-Vietnamese. The *Jīng* initial group mainly demonstrated dental stops, though there are several exceptions to that rule. There are several examples of graphic analogy for syllables that demonstrate initials that could not conceivably adhere to normal linguistic change. There is also an aspirated unaspirated mis-match that also occurs in modern Píngguà and Xiāng dialects, which implies that a similar phenomenon occurred during the periods of Sino-Vietnamese interaction and during the period of Annamese Middle Chinese. There are also traces of earlier pronunciation in Late Sino-Vietnamese that did not become dental stops and these types of words that are also present in Sino-Tày. These exceptions to the phonological rules give clues to discover the complicated nature of the medieval period and how there is a nuanced relationship between education, acquisition and multilingualism as the backdrop of these unusual initial changes.

MC Retroflex and Palatals Zhuāng 莊 and Zhāng 章:

Language change, migration and language contact affected the development of retroflex and palatal initials for Chinese communities in the RRD as well as Vietic and Viet-Mường speakers. Throughout the Chinese speaking world a merger of palatals and retroflex initials occurred between the stages of EMC and LMC. This merger led to the development of LMC initials that are distinct from Early Middle Chinese. These unique LMC initials are *Zhào* 照 tʂ-, *Chuān* 穿 tʂʰ-, *Chuáng* 床 dʒ-, *Shěn* 審 ʂ-, *Shàn* 禪 dʒ-; these initials appear on the second and third row of the rime tables. The EMC initials retroflex initials *Zhuāng* 莊 tʂ-, *Chū* 初 tʂʰ-, *Chóng* 崇 dʒ-, *Shēng* 生 ʂ- and *Sí* 俟 ʒ- merged with palatal initials *Zhāng* 章 tʃ-, *Chāng* 昌 tʃʰ-, *Chuán* 般 ʒ-, *Shū* 書 ʃ- and *Shàn* 禪 dʒ-.

Pulleyblank notes that in the Middle Chinese period this merger perhaps happened at a slower pace in the south, and notes that LSV follows the pronunciation of LMC “very faithfully” (Pulleyblank 1984: 66). As a general rule, Pulleyblank’s statement is mostly true, though this merging of EMC and LMC has implications on how LSV initials developed and how exceptions for the retroflex and palatal series might have emerged. Some of the factors that affected the speed of the retroflex and palatal merger is the lack of palatals in languages of the surrounding area. Tai and Vietic languages in the Red River Delta as well as the general area of Guǎngxī, Yúnnán, Húnán and Guǎngdōng completely lack retroflex initials and the only reason Sino-Vietnamese had retroflex initials in the first place, is because of constant Chinese migration from the Jin period throughout the Tang period.

It is evident that Early Sino-Vietnamese in both the Han and Jin era consistently demonstrates ch- as opposed to Late Sino-Vietnamese tr-. For the Han, Jin and Tang periods, local Chinese dialects emerged from an environment filled with languages that lacked retroflex initials such as Tai and Vietic and unlike Chinese communities from the Jin and Tang periods, the introduction of retroflex initial words were not systematic during the Late Han period. Vietnamese tr- comes from Vietic clusters *bl- and *tl- in addition to medieval Chinese loanwords that almost exclusively use the retroflex initials as Shimizu (2020a) notes. When Chinese traders from the Pre-Qin period arrived to the RRD, their Old Chinese retroflex initials were likely interpreted as palatals by the Tai and Vietic speaking population.

Since the defeat of the Trưng sisters during the Han and up in the Jin era, in what Andrew Chittick calls the Jiankang empire, Chinese speakers continued to move in and establish communities in the RRD around Jiāozhǐ. Chittick also mentions that the Southern peripheries of the empire were filled with vernacular languages such as the vernacular Wú Yǔ 吳語 or Jiāngdōng Yǔ 江東語 cited by Guō Pú 郭璞 (276-324) (Chittick 2020: 88-89).

These southern vernacular languages interacted with Tai and Vietic languages and were impacted by their phonological systems. More migrations from the north following the Yongjia rebellion and the establishment of Annam as a protectorate take place and these communities eventually develop into the SWMC dialect continuum during the Tang era.

When Southwestern Middle Chinese developed as a dialect continuum in the Medieval Southwest and Anamese Middle Chinese developed as a dialect group in the Red River Delta, they brought retroflex syllables from the North that were either non-existent in the languages of earlier Chinese communities or were never interpreted as retroflex initials by speakers of the non-Chinese languages. The heterogeneous nature of Southwestern

Middle Chinese led to the development of different pronunciations of cognates and exceptions to initials in Late Sino-Vietnamese. There are also syllables that were assigned a pronunciation due to graphic analogy and other syllables that had two attested pronunciations in the *Guǎngyùn* 廣韻, but one pronunciation was chosen and the other was disregarded by the educated people who prescribed those readings.

In this section I will present data from the Middle Chinese *Zhèngchǐ* 正齒 initial syllables, the significance of the EMC and LMC mergers for LSV initials and discuss the heterogeneous nature of SWMC. Some pronunciations of LSV words that are not as regular are due to certain SWMC dialects that preserve palatal or retroflex features after the merger occurred with the Chinese speaking communities in the medieval Southwest. This partial preservation and mixup is due to language contact and the EMC, LMC merger. Data from SW Chinese varieties such as Píng huà, Xiāng, and Tǔ huà show palatal, retroflex and alveolar merging, thus providing clues for changes that happened in AMC dialects.

This section will also discuss initial features for ESV words. The data supports the hypothesis that ESV was borrowed in an environment void of retroflex initials. Proto-Tai and Proto-Vietic did not have retroflex initials so they interpreted the initials differently during the period of borrowing. The regular ESV demonstrations include aspirated dentals th-, voiced dental stops ḍ- and palatal fricatives ch-. Spirantized fricatives have been controversial, as d- and gi- initials have been regarded as ESV words influenced by OC pre-initials, though I will show that is only partially the case, as there are other explanations for gi- that occur in Zhèngchǐ initials.

Zhuāng 莊 Initial Group

Zhuāng 莊 trang Initial

莊 zhuāng trang	EMC tʂ-	MC tsr-	LMC tʂ-	OC *s-tʂʳ *tsr-	LHOC tsr- tʂ-	HESV d- ch-	JESV	LSV tr-	HV VH
責 zé blame demand	tʂəijk /tʂɛ:jk	tsreak	tʂa:jk	*s-tʂʳek	tsrêk> tʂɛk	dúrc		trách	
斬 zhǎn to chop	tʂəim' /tʂɛ:m'	tsreamX	tʂa:m'	*[ts]ramʔ	tsrâmʔ> tʂɛm ^B	chém		trảm	
盞 zhǎn small bowl	tʂəin' /tʂɛ:n'	tsreanX	tʂa:n'	*[ts]rarʔ	tsrênʔ> tʂɛn ^B	chén		trản	
菹 zū salted vegetables	none	tsrjo	none	none	tʂa	dưa		trư'	
齋 zhāi abstain	tʂəij /tʂɛ:j	tsreaj	tʂa:j	*tʂʳ[ə]j	tʂɛi	chay		trai	
爭 zhēng struggle	tʂəijŋ /tʂɛ:jŋ	tsreang	tʂa:jŋ	tsʳreŋ				tranh	
蘸 zhàn dip	tʂəim ^h /tʂɛ:m ^h	tsreamH	tʂa:m [`]	none		chám		trám	
詐 zhá swindle	tʂai ^h / tʂɛ: ^h	tsraeH	tʂa: [`]	*[ts]ʳak- s	tʂa ^c			trá	

Middle Chinese *Zhuāng* 莊 initial syllables consistently demonstrate tr- initials in LSV. ESV *Zhuāng* 莊 initial syllables often demonstrate ch- initials, which is pointed out by Vũ (2010), Alves (2018), Chiang (2011), Xián (2016) and Phan (2013). Chiang Chia-lu (2011) frequently mentions the difficulty Vietnamese speakers have with distinguishing aspirated affricates and retroflex initials and mentions that ch- for *Zhuāng* initial syllables developed from a misinterpretation of retroflex affricates. Chiang Chia-lu also discusses the phenomenon of ch- and tr- mixups being a result of Northern Vietnamese accents and orthographic errors, for example, Hanoi tr- is also read as ch- (Chiang 2011: 64). The above ESV syllables with the ch- initials are conventionally regarded as ESV.

Historically, retroflex initials have been foreign to many languages of the RRD, including Vietic, Proto Việt-Mường and Tai languages. Many of the soldiers that were brought to the Jiaozhi commandery during the Han were from Northern Chinese areas, especially after the defeat of the Trưng Sisters by Ma Yuan. If the loanwords from these northerners had retroflex initials in their dialects of LHOC, then they were interpreted as palatal affricates by the Vietic speakers. It is also possible that after settling in the RRD, some of the local varieties of LHOC lost retroflexes entirely, which is certainly the case for loanwords from what Phan calls Jiazhounese, the local EMC variety.

For example, the words 盞 chén ‘small bowl’ (LSV trản) and 蘸 chắm ‘to dip’ are common words in everyday Vietnamese that come from this period. Culinary vocabulary is the subject of discussion for Han vocabulary being introduced to the RRD during Ma Yuan’s sinicization period. Another example of ch- initials in Han era ESV words is chém 斬 ‘to behead’ (LSV trảm). I am not familiar with the history of capital punishment in Vietnam, though the initial and tonal feature as well as the semantic connection with Chinese *zhǎn* 斬

‘to behead’ implies an introduction of Chinese style beheading as a form of capital punishment during Han domination of Northern Vietnam.

If beheading was a practice observed in Zhào Tuó’s kingdom of Nam Việt, then it is conceivable that this practice was introduced before the Han period, when the syllable more closely resembled B&S’s reconstruction *[ts]ramʔ. If the word ‘to behead’ was introduced during the period of Old Chinese that closely resembled B&S’s reconstruction, then it would not have been introduced as a palatal in the first place. These loanwords in the ESV layer all lack retroflex initials and the consistent demonstration of ch- initials for ESV as opposed to tr- initials in their LSV counterparts shows that historically, the phonology of Chinese loanwords were affected by the surrounding environment.

There are two ESV words that demonstrate the Vietnamese d- initial. Mark Alves as well as Baxter & Sagart claim that the d- initial demonstration in *Zhuāng* 莊 initial syllables comes from consonant clusters. Alves (2022) identifies an ESV candidate with a d- initial for the word ‘salted vegetables’ dưa 菹 as in dưa chua ‘pickles’. Alves supports the B&S hypothesis of OC pre-initials and clusters developing into ESV spirants, though there is no explicit argument for the spirantized d- in Alves’s inclusion of dưa 菹 ‘salted vegetables’ as an ESV. Alves includes Schuessler’s (2009) reconstruction of ‘salted vegetables’ *tsra*, perhaps because there is yet to be a reconstruction for this word in B&S’s system. If the word for pickle spirantized as a result of OC pre-initials, then that would imply an pre-Qin loanword reflecting culinary trading activities, with a proposed reconstruction of *s-tʰra 菹.

Chū 初 sɔ̄ Initial

初 chū sɔ̄	EMC tɕʰ-	MC tsrh-	LMC tɕʰ-	OC	LHOC tɕʰ-	HESV x-	JESV x-	LSV s- tr-	HV VH
初 <i>chū</i> beginning	tɕʰiǎ	tsrhjo	tɕʰǎǎ /tɕʰuǎ	*[tsʰ]ʰra	tshra> tɕʰa		xura	sɔ̄	
察 <i>chá</i> examine	tɕʰait /tɕʰɛ:t	tsrheat	tɕʰa:t	*[tsʰ]ʰret	tshrêt > tɕʰɛt	xét		sát	
楚 <i>chǔ</i> a state thorns	tɕʰiǎʹ	tsrhjoX	tɕʰǎǎʹ /tɕʰuǎʹ	s•raʔ	tɕʰa ^B			sỏ	
差 <i>chà</i> <i>chāi</i> differ dispatch	tɕʰai/tɕʰɛ: tɕʰaiʰ/tɕʰɛ: ^h tɕʰəij, tɕʰaij/tɕʰɛ:j tɕʰiǎ/tɕʰi	tsrhje tsrhea tsrheaj tsrhae tsrheaH	tɕʰa: tɕʰa` tɕʰa:j tɕʰɿ	*tɕʰraj	tɕʰai			sa, sái trại, trái	
創 <i>chuàng</i> begin	tɕʰiaŋʰ	tsrhjangH	tɕʰa:ŋ`	*[tsʰ]raŋ-s	tɕʰaŋ ^c			sáng	
測 <i>cè</i> examine	tɕʰik	tsrhik	tɕʰǎǎk	*[tsʰ]ræk	tɕʰik			trắc	
策 <i>cè</i> plan	tɕʰəijk/ tɕʰɛ:jk	tsrheak	tɕʰa:jk	*[tsʰ](ʰ)rek	tɕʰɛk			sách	
插 <i>chā</i> insert	tɕʰəip/ tɕʰɛ:p	tsrheap	tɕʰa:p	*mə-[tsʰ]op	tɕʰɛp			tráp sáp tháp	
琤 <i>chēng</i> sound of jade	none	tsrhaeng	none	none	none			tranh	

In Late Sino-Vietnamese *Chū* 初 initials usually develop into alveolar fricative s- initials, though there are instances of retroflex affricates tr- developing as well, Chiang Chia-

lu considers that the tr- initials possibly arose from graphic analogy, but does not completely disregard the possibility of change based on the spoken language (Chiang 2011: 79). For example, Chiang proposes that the words 測 trắc is analogous to 側 trắc and 琤 tranh is analogous to 爭 tranh (Ibid: 79). Nguyễn Tài Cẩn (1979) mentions that *Chè* 徹 and *Chū* 初 initials merged into aspirated retroflex stops. Middle Chinese *Chè* 徹 initials mostly develop alveolar fricative initials but with a few plain retroflex stops as well.

According to Nguyễn Tài Cẩn's scheme of tr- and s- syllable developments, the merging of *Chè* and *Chū* initials resulted in some *Chū* syllables developing retroflex stops instead of alveolar fricatives. I agree with both NTC that the occurrence of tr- initials in *Chū* initial syllables developed naturally through spoken language and Chiang Chia-lu on the possibility of palatal and retroflex mixups. This merger occurred amongst the Chinese communities that spoke the Jiaozhounese and AMC dialects and affected pronunciations that would become LSV standard pronunciations. Some of the dialects preserved the retroflex affricates from MC while others rendered to fricatives.

Modified Scheme from Nguyễn Tài Cẩn (1979:198):

Chè 徹 / *Chū* 初 → AMC tr^h → tr^h → Viet TR-/S-

The data also shows instances of multiple pronunciations for the same syllable. The syllable meaning 'to insert' 插 shows three different initials in the LSV layer, tráp, tháp, and sáp. Both sáp and tráp are normal demonstrations that developed from language change, dialectal pronunciations of SWMC and the merging of MC *Chū* and *Chè* initials, the phenomenon of two coexisting pronunciations suggests that some SWMC dialects pronounced the syllable 'to insert' as tráp and other dialects pronounced it as sáp. The aspirated dental initial suggests a dialectal pronunciation that involves an aspirated retroflex stop becoming an aspirated dental stop.

This phenomenon of *Chū* 初 and *Chè* 徹 initial syllables developing aspirated dentals is possible for Annamese Middle Chinese because there are cases of *Chū* 初 initial syllables and *Chè* 徹 initial syllables becoming aspirated dental stops in Tǔhuà 土話 dialects:

Chū 初 initial syllables:

Guìdōng Guìběi Tǔhuà 桂東桂北土話：楚 t^hu-
Xiǎnglín pǔ 祥林鋪：創 t^h-
Báimáng yíng 白芒營：楚 t^h-
Lánjiǎoshān 嵐角山：差，楚，吵，炒，插，纏，鏟，襯，瘡 t^h-
(Xiè Qíyǒng 2010: 89)

Chè 徹 initial syllables:

Dào xiàn 道縣：椿 t^h-
Xiǎnglín pǔ 祥林鋪：椿 t^h-
Lěngshuǐ tān 冷水灘：趁，拆，畜 t^h-
Lánjiǎoshān 嵐角山：趁，拆，畜 t^h-
(ibid: 85)

There must have been mergers that occurred in dialects across the Southwestern Middle Chinese continuum, which led to occasional aspirated dental stops. It is possible that one of the SWMC dialects in modern day Northern Vietnam the syllable for ‘to insert’ developed dental initials or initials that would eventually develop into aspirated initials in Vietnamese such as alveolar fricatives.

There are two ESV *Chū* initial syllables that have x- initials. The tones for the ESV words are identical to their LSV counterparts so we must look at the medials and vowels. If these loanwords were borrowed during the Han era, then x- initial may be a result of Vietic speakers interpreting retroflex initials as palatals. If these loanwords were Jin Era ESV words, then this may be a result of borrowing from a local form of Jiaozhounese Middle Chinese that lacked retroflex initials. John Phan (2013) argues that the word meaning ‘beginning’ xūa 初 is a Jin era Early Sino-Vietnamese word due to the rime criteria (Phan

2013: 170). The word for ‘beginning’ 初 *xūa* has a medial and final feature that matches with Pulleyblank’s Early Middle Chinese reconstruction so I agree with Phan that this is a Jin era ESV word.

Phan also argues that the word ‘examine’ *xét* is a Jin Era Sino-Vietnamese word as well. The word for ‘examine’ 察 *xét* has a vowel structure that is more similar to the Eastern Han Old Chinese reconstructed -ε- as opposed to EMC -əi- or ε: , so the word ‘examine’ is more likely to be a Han Era Early Sino-Vietnamese word. The retroflex affricates in Old and Early Middle Chinese were reinterpreted then lost their affricate features as they became fricatives.

Chóng 崇 *sùng* Initial

崇 <i>chóng</i> <i>sùng</i>	EMC dz-	MC dzt-	LMC tʂh-	OC	LHOC	HESV	JESV	LSV s- tr-	HVVH
牀 <i>chuáng</i> bed	dʒian	dztjan g	tʂha:ŋ	*k.dztan	dztan > dʒan			sàng	giường
士 <i>shì</i> expert	dʒi' /dʒi'	dztix	tʂhɿ	*[m-s]rəʔ	s-rəʔ > dʒiə ^B > ʒə	thợ		sĩ	
事 <i>shì</i> matter	dʒi ^h / dʒi ^h	dztih	tʂhɿ ^h	*[m-s]rəʔ-s	dʒiə ^c			sự	
助 <i>zhù</i> assist	dʒiə ^h	dztjoH	tʂhəə ^h	*[dz]ra-s	dʒa ^c			trợ	
狀 <i>zhuàng</i> situation	dʒian ^h	dztjangH	tʂa:ŋ ^h	*[dz]ran-s	dʒan ^c			trạng	
查 <i>chá</i> examine	dʒai/ dʒɛ:	dztrea	tʂai/ tʂɛ:	*zra	none			tra	
棧 <i>zhàn</i>	dʒəin' /dʒɛ:n	dztreaX	tʂha:n ^h	*[dz]r[a][n]-s	dʒan ^c			sạn chấn	

tavern	' ;dzja n'								
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The most common demonstration of Chóng 崇 initial syllables in LSV is the alveolar fricative s-. Nguyễn Tài Cẩn notes that some *Chóng* initial syllables demonstrate retroflex initial affricates. Chiang Chia-lu notes that this phenomenon could not be simply attributed to graphic analogy. Mineya Tōru mentions the occasional demonstration of tr- initials in *Chóng* initial syllables though Mineya is unclear why. Mineya does suggest however that some *Chuāng* 牀 initial syllables such as 琿 tranh to be graphically analogous with 爭 tranh (Mineya 1972: 87). Wáng Lì (1948) suggests that these syllables were borrowed after the Song period and that these retroflex initials are a reflection of early Mandarin; thus according to Wáng Lì, these tr- initial syllables are RSV words instead of LSV. However, it is likely that some of the SWMC dialects, AMC and Sinicized Proto Việt-Mường dialects preserved their LMC retroflex affricates after MC palatals and retroflex initials merged.

Nguyễn Tài Cẩn (1979: 198) and Xián Mǎnxuě (2016) discuss the merging of *Chū* 初 and *Chóng* 崇 syllables with *Zhuāng* 莊 syllables. Xián (2016) considers this merger to be a result of misreading *Chóng* 崇 initial syllables as *Zhuāng* 莊 initial syllables (Xián 2016: 126). There are a few problems with Xian’s argument, one is that Wáng Lì, Chiang Chia-lu and Mineya mention the usage of the graph trợ 助 by phonetic extension to write ‘market’ 市 chợ (Mineya 1972: 88). This suggests that by the time that the graph 助 was used to write ‘market’ 市, the word trợ 助 ‘assist’ was pronounced with an affricate.

The other problem with Xián Mǎnxuě’s argument is that there are no obvious characters that could be analogous to the tr- initial syllables. It is more likely that there was a merger that happened with some syllables in SWMC dialects via the spoken language that

led to the development of affricates. The usage of ch- for ‘tavern’ chǎn 棧 could be due to a merger of retroflex, palatal or postalveolar affricates. It is also likely that the word for tavern is an earlier loanword that became codified into LSV, since it has a ngang tone and is a Chinese Qù tone syllable, implying that this word is technically an ESV that was borrowed prior to tonogenesis in Vietic.

The only ESV candidate for the Han layer found in *Chóng* initial syllables is ‘expert’ 士 thợ from Alves (2018); the tonal correspondence suggests that the word for ‘expert’ to be a Han era ESV word. The loss of medials in the LHOC form implies that this word was introduced to Vietic speakers in the Eastern Han period. By the time this syllable reached Vietic speakers in the Han era it lost its affricate features; it then became an aspirated dental stop because Vietic has no retroflex initials. The initial for the syllable for ‘expert’ 士 thợ must have been interpreted as either an alveolar or a palatal, thus a process of alveolar fricatives becoming stops took place.

There is also one pre-Qin Early Sino-Vietnamese candidate which is for ‘bed’ giường 床 from Baxter & Sagart (2014). The candidacy of the syllable ‘bed’ is based on the hypothesis of OC pre-initials and consonant clusters. B&S mention cognates from other Vietic languages such as Rục which demonstrate sesqui-syllabic features for ‘bed’: kəc̥i:ŋ. Consonant clusters were lost by the Han period, so if this is truly an ESV word, then it would be borrowed before the Han. The final for this syllable does make its candidacy for ESV dubious though, as B&S’s and Schuessler’s reconstruction both lack medials. The current form for the spirantized ‘bed’ resembles Pulleyblank’s EMC reconstructed medial -iə-. If Vietnamese giường and Rục kəc̥i:ŋ are not cognates, then it is possible that the word for bed was a vocabulary word borrowed around the Jin era of but became nativized through spirantization of the EMC affricate initial, thus dʒiəŋ became giường 床.

Shēng 生 sinh Initial

生 shēng sinh	EMC ʃ-	MC sr-	LMC ʃ-	OC	LHOC sr- ʃ-	HESV r- ch-	JESV	LSV s-	HV VH
灑 sǎ sprinkle	ʃaɪ' / ʃɛ:' ʃaɪj', ʃiǎ'	srjeX	ʃa:'	*Cə.sər?/ *Cə.sər?-s	srê?> ʃɛ ^B	rây		sái	
曬 shài shine	ʃaij ^h / ʃɛ:j ^h ; ʃiǎ ^h	srjeH	ʃa:j`	*Cə.sre	sreh> ʃie ^c	rây		sái	
蝨 shī flea	ʃit	srit	ʃət	*srik	ʃjət> ʃət	chét		sát	
所 suǒ place	ʃiǎ'	srjoX	ʃəǎ' / ʃuǎ'	*s-q ^h a? / *q ^h a?	sra?> ʃɑ ^B		thừa	sở	
孿/孿 luán twin	ʃwian ^h , ʃwain ^h / ʃwɛ:n ^h	none	ʃwa:n`	*[s.r]on-s	ʃuan ^c			loan luyên	
崽 zǎi son	none	srea sreaj	none	none	none			tể tải	
省 shěng province				*[s]eŋ?	sreŋ?			tĩnh sảnh	

Middle Chinese *Shēng* initial syllables usually develop into Vietnamese s- initials in Late Sino-Vietnamese. There are a few notable exceptions to this rule, there are cases of t- initials and l- initials being demonstrated. The syllable for ‘twins’ loan 孿 has two attested *Guǎngyùn* pronunciations, both having upper spellers *Shēng* 生 and *suǒ* 所. The graph 孿 has the component on top that is usually associated with syllables that demonstrate l- initials:

鸞 MC Iwan, Viet: loan 鸞 MC Iwan Viet: loan 鸞 MC Iwan Viet: loan

It also seems that this phenomenon of graphic analogy for the word for ‘twins’ has affected Mandarin as well.

The syllables with a t- initial are also due to graphic phonology such as the syllable for ‘son’ 𢆶 / 𢆶 𢆶 likely being analogous with 𢆶 𢆶. The only way that the word for ‘son’ would develop from the spoken language is if the retroflex fricative was pronounced as an alveolar fricative by an AMC dialect in the Red River Delta. It is also worth noting that the word ‘son’ 𢆶 𢆶 has the hỏi tone in both forms, despite being a *Píng* tone syllable in both *Guǎngyùn* entries. In terms of philological resources, it is possible that the tones have been influenced by the Hongyun, therefore being a Recent Sino-Vietnamese tone. However, the initial is likely to be a result of changes or analogies from the Annamese Middle Chinese period.

The Proto-Vietic source for the r- initial in Vietnamese largely comes from Vietic initial clusters with the -r- medial (NTC 1995: 116).

The word for province in LSV has a dental stop. The *Guǎngyùn* has two attested pronunciations, one with a *Xīn* initial and another with a *Shēng* initial. The *Shēng* initial pronunciation is for the word ‘province’ and the *Xīn* initial pronunciation is for the word ‘to examine’. What likely happened is that both pronunciations existed in the medieval Southwest but in the Red River Delta the *Xīn* initial pronunciation became more common, thus leading to the development of dental stops for this *Shēng* initial syllable.

The Early Sino-Vietnamese r- initials for *Shēng* 生 initial syllables indicate the presence of consonant clusters in the loanwords from the donor language. Nguyễn Tài Cẩn also shows us that loanwords from the Western Han period had clusters with the -r- medial and that r- initial syllables from the *Lái* initial type are from the Eastern Han. If the Old

Chinese words for ‘sprinkle’ and ‘shine’ had consonant clusters at the time of contact with Vietic, then these belong to an older layer of loanwords from either the early Western Han period, or possibly the pre-Qin period.

The word ‘flea’ *chét* as in *bọ chét* has the initial *ch-* which is regular for Early Sino-Vietnamese retroflex initial syllables. It is likely that this syllable was borrowed during the Han period due to the centralization of the vowel *ɬjət > ɬət* 蝨. The retroflex fricative was reinterpreted as a palatal and eventually developed into an affricate.

Vũ Đức Nghiệu (2010) considers *thửa* 所 to be a Vietnamized Sino-Vietnamese word (Vũ 2010: 139); I find this unconvincing because although *s → th* is a regular sound change in Vietnamese, the sudden emergence of the medial makes its candidacy for HVVH unlikely. Wáng Lì and John Phan discuss the possibility of this word being an Early Sino-Vietnamese candidate and John Phan rejects the idea entirely. John Phan rejects the candidacy of ‘plot (of land)’ *thửa* 所 being an Early Sino-Vietnamese word mainly because of the matching tone correspondence (Phan 2013: 120-121). It would certainly be problematic if the word *thửa* was a candidate for Han era Early Sino-Vietnamese because it would have to demonstrate a *sắc* or *nặng* tone. The Old Chinese and Late Han Old Chinese reconstructions also make this problematic because of the lack of medials. If ‘plot’ *thửa* 所 is an ESV, then this is more likely to be a late Jin era loanword due to its resemblance to Pulleyblank’s reconstruction of the EMC vowels and the tonal correspondence.

Sì 俟 *sĩ* Initial

俟 <i>sĩ</i>	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HV VH
俟 <i>sì</i>	<i>zɿ’ / zɿ’</i>	<i>zriX</i>	<i>ɬhɿ`</i>	<i>*s-[ɣ]rəʔ</i>	<i>dʒiə^B</i>	none	none	<i>sĩ</i>	

𣪗 <i>sī, chí, lí</i> 'to go with the current' 'dragon spit'	zì/zì	zri	ʃhɿ	s-rə ⁸³	dziə	none	none	ly	
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This syllable type is incredibly rare with only one syllable that belongs to this syllable type, *chí* 𣪗 which either means 'to go with the current' or 'dragon spit'. The Late Sino-Vietnamese reading for this character is *ly* which is obviously due to graphic analogy. Pulleyblank (1991) points out that this graphic analogy phenomenon even happens in Mandarin with this syllable, having three different pronunciations including *lí* (Pulleyblank 1991: 55). Mandarin and Vietnamese both have an *l*-initial for 𣪗 because similar characters with the graphic component 𣪗 have *l*-initials:

lí 𣪗 'mark' VN: *ly* *lí* 𣪗 'widow' VN: *ly* *lí* 𣪗 'a unit of measurement' VN: *ly*

The initial type *sì* 俟 is incredibly rare and one out of the two syllables has an assigned pronunciation from graphic analogy that even affected Cantonese, Mandarin and Min.

Figure 50: Graphic Analogy for *Sì* Initial Syllables

Graph/Pronunciation	Cantonese	Mandarin	Southern Min ⁸⁴
𣪗	lei, ci	lí, chí, sī	sîr, lî, lâi

⁸³ Reconstruction by Schuessler (2009), obtained from www.kaom.net accessed 03/14/2025

⁸⁴ Data for Cantonese, and Southern Mǐn pronunciations from Wiktionary <https://en.wiktionary.org/wiki/%E6%BC%A6> accessed 03/14/25

Shimizu (2020a) has no data for *S* initial syllables in the 15th century. The *S* initial itself is also controversial and may not have a unique initial in Annamese Middle Chinese. If the *S* initial did exist in Annamese Middle Chinese, then the only thing we can say is perhaps it had a fricative initial that was preserved into Modern Vietnamese.

Zhāng 章 Initial Group

Zhāng 章 chương Initial

章 zhāng chương	EMC	MC	LMC	OC	LH OC	HESV ch- đ-	JESV	LSV ch- gi-	HVVH gi- gh-
遮 zhè cover	tɕia	tsyae	tɕia	*tA	ta>tɕa	che		già	
正 zhèng just	tɕiaŋ	tsyeng	tɕiaŋ	*C.tɛŋ	teŋ> tɕeŋ			chính	giềng
主 zhǔ lord	tɕuǎʔ	tsyuX	tɕyǎ	*toʔ	toʔ> tɕoʔ ^B	chúa		chủ	
眾 zhòng crowd	tɕuɔŋ ^h	tsyuwŋ	tɕiwŋ`	*tuŋ-s	təuŋ ^h > cəuŋ ^h <small>85</small>	đông		chúng	
箴 zhēn needle	tɕim	tsyim	tɕim	*t.[k]əm	kim> tɕim	găm reject		châm	
種 zhǒng seed	tɕuawŋʔ	tsyowŋX	tɕyiwŋʔ	*k.tɔŋʔ	tɔŋʔ> tɕɔŋʔ ^B			chủng	giống
紙 zhǐ paper	tɕiǎ/tɕiʔ	tsyeX	tɕiʔ	*k.teʔ	tɕai ^B			chỉ	giấy
燭 zhuó candle	tɕuwk	tsyowk	tɕywk	*tok	tok> tɕok	đuốc		chúc	

⁸⁵ Reconstruction by Starostin, obtained from kaom.net http://www.kaom.net/ny_word8.php accessed 02/15/2025.

torch									
隻 <i>zhī</i> single	tɕiajk	tsyek	tɕiajk	*tek	tek> tsek		chiếc	chíc	
針 <i>zhēn</i> needle	tɕim	tsyim	tɕim	*t.[k]əm	kjəm ⁸⁶	kim reject		châm/ trâm	ghim reject
酌 <i>zhuó</i> pour wine	tɕiak	tsyak	tɕiak	*tewk	kiauk >tiauk >tɕak	chuốc		chưóç	
鐘 <i>zhōng</i> bell	tɕuawŋ	tsyowng	tɕyŋ	*toŋ	toŋ> tsoŋ	chuôn g		chung	
者 <i>zhě</i> nominal marker	tɕiaʼ	tsyaeX	tɕiaʼ	*tAʔ	tɕa ^B			giả	
驚 <i>zhé</i> fear	none	tsyep	none	none	none			triệp	

The most common initial demonstration for Middle Chinese *Zhāng* 章 initial syllables in Late Sino-Vietnamese is ch-. The nominal marker *zhě* 者 is one of the most commonly used particles in Classical Chinese. There is no way that the gi- initial in *zhě* 者 is due to graphic analogy. There are two other syllables with gi- initials from the Late Sino-Vietnamese period, *già* 遮 and *giêng* 正. The syllable *già* 遮 ‘to cover’ is not used often in Modern Vietnamese, unlike its Early Sino-Vietnamese counterpart *che* which means ‘to cover’. These syllables in Middle Chinese Zhang initial syllables must have palatalized from palatal /tɕ-/ to the fricative /z-/ in some Annamese Middle Chinese dialects since they all have high front vowels, which caused initial lenition. The words for ‘seed’ and ‘paper’ could have easily been spirantized from medial influence instead of pre initial consonants from the Old Chinese period. The tonal correspondence of the syllables suggest earlier periods of

⁸⁶ Reconstruction by Starostin, obtained from kaom.net http://www.kaom.net/ny_word8.php accessed 02/15/2025.

borrowing but this could also imply an earlier borrowing from the Eastern Han or Early Middle Chinese period that was later nativized by medials.

There is a chronological problem with the Old Chinese pre-initial argument for spirantized gi- for ‘paper’ 紙. There is a lack of records containing the word ‘paper’ or the graph 紙 in the pre-Qin texts and according to Wilkinson (2012), paper did not spread to Vietnam until the third century (Wilkinson 2012: 909). Paper did reach the Tày speaking population as well in the medieval period, the Sino-Tày word *chỉa* 紙 for ‘paper’ has the expected LSV initial but also has a glide and final vowel combination. The Sino-Tày pronunciation matches with Pulleyblank’s Early Middle Chinese reconstruction tciǎ whereas the dominant Late Sino-Vietnamese pronunciation lost the central vowel final. The syllables ‘seed’ and ‘paper’ spirantized in a similar way to how ‘cover’ and the nominal marker *zhě* 者 spirantized. The spirantized LSV syllables are grade III syllables, which by itself does not say much because many *Zhāng* syllables that do not spirantize are grade III syllables. Spirantizing effects likely happened in some dialects of Anamese Middle Chinese and after independence some traces of those dialects remained in some syllables in the Vietnamese language.

There are two *Zhāng* 章 initial syllables have the voiced alveolar stop ɗ- ɗōng 眾 and đuốc 燭. In the Old Chinese periods *Zhāng* initial syllables mostly had alveolar stops. Before these stops became affricates or palatals they were borrowed into Vietic languages during the Western Han period. The Early Sino-Vietnamese words with affricate ch- initials were likely borrowed later in the Eastern Han period upon the development of affricates.

The word for ‘needle’ 針 demonstrates velar initials for kim and ghim. There is an attested *Guǎngyùn* pronunciation for ‘needle’ that is in the *Qún* 群 initial syllable group. Jin

era Early Sino-Vietnamese *Qún* initial syllables demonstrate gh- as in *ghiêm* ‘healthy’ 健 and Late Sino-Vietnamese *Qún* initial syllables demonstrate k- as in *kiện* ‘healthy’ 健. It is likely that these syllables are *Qún* initial syllables, thus are not early demonstrations of the *Zhāng* initial syllable for ‘needle’.

The *Zhāng* syllable ‘fear’ *zhé* 讐 has the initial tr- instead of ch-; this could not be due to graphic analogy because neither components have retroflex initials, the top component has the pronunciation *lǒng* 龍 ‘dragon’ and the bottom component has *ngôn* 言 ‘speech’. One of the possibilities is that the tr- initial arose from an orthographic mistake. Another possibility is that this is a result of palatal and retroflex mergers that occurred in the Early and Late Middle Chinese periods.

Chāng 昌 xương Initial

昌 chāng xương	EMC tɕ ^h -	MC tsyh-	LMC tɕ ^h -	OC *t ^h , *t.q ^h -	LHOC th-, tɕ ^h -	HESV x- th-	JESV	LSV x- s-	HVVH
車 chē car	tɕ ^h ia	tsyhae	tɕ ^h ia	*[t.q ^h](r)A	tɕ ^h a	xe		xa	
尺 chí foot	tɕ ^h iajk	tsyhek	tɕ ^h iajk	*t ^h Ak	thak> tɕ ^h ak	thưóc		xích	
醜 chǒu ugly	tɕ ^h uw’	tsyhuwX	tɕ ^h iw’	*t.q ^h u?	k-hju> tɕ ^h u ^B	xấu		xú	
穿 chuān penetrate	tɕ ^h wian	tsyhwen	tɕ ^h yan	*t ^h o[n]	tɕ ^h uan			xuyên	
鴞 chī scops owl	tɕ ^h i	tsyhij	tɕ ^h i	*t ^h ij	tɕ ^h i			si	

推 <i>tuī</i> push	tɕ ^h wi	tsyhwij	t ^h uaj	*t ^h ɕuj	tʂ ^h ui			suy	
充 <i>chōng</i> fill	tɕ ^h uwnɲ	tsyhuwng	tʂ ^h iwnɲ	*t ^h uŋ	tʂ ^h uŋ			sung	
處 <i>chǔ/chù</i> place	tɕ ^h iǎʔ tɕ ^h iǎ ^h	tsyhoX tsyhoH	tʂ ^h iǎʔ / tʂ ^h yǎʔ tʂ ^h iǎʔ / tʂ ^h yǎʔ`	*t.q ^h aʔ *t.q ^h aʔ-s	tʂ ^h a ^B tʂ ^h a ^C			xǔ xǔ	
綽 <i>chuò</i> nickname	tɕ ^h iak	tsyhak	tʂ ^h iak	*t ^h awk	tʂ ^h ak			xuó ^c	

For Late Sino-Vietnamese, the regular demonstration of *Chāng* initial syllables is x-. There are examples of Chang initial syllables that are written with an s- in the Vietnamese orthography, such as suy 推 in suy luận 推論 ‘inference’ and súng 銃 ‘firearm’. Mineya Tōru (1972) considers the s- initials to be a result of modern Vietnamese x- mixing with s- in the orthography, since some dialects of modern Vietnamese like Hanoi do not distinguish between x- and s-. Another possibility that Chiang Chia-lu mentions is the mixup of dental consonant *Chǐyīn* 齒音 syllables (Chiang 2011: 75). There is a high possibility that the x- and s- initial is a result of the merger of *Chāng* 昌 and *Chū* 初 syllables into *Chuān* 穿 syllables. In the Píngguà dialects there are several examples of *Chāng* initial syllables demonstrating alveolar affricates and palatal affricates:

chōng 充 ‘to fill’

Língchuān 靈川 : tʂ^huŋ Guìlín 桂林 : tʂ^hɔŋ
Nán níng 南寧 (Tingzi 亭子) : tɕ^hɔŋ Téngxiàn 籐縣 (Téngchéng 藤城) : tɕ^huŋ

chù 處 ‘place’

Lóngténg 龍勝 : tʂ^hu Guìlín 桂林 (Chaoyang 朝陽) : tʂ^hy

Língguì: 臨桂 (五通) : tɕ^hou Pínglè: 平樂 : tɕ^hy

chuān 穿 ‘to wear/to penetrate’

Lóngzhōu 龍州 : ts^hun Tiándōng 田東 : ts^hun Téngxiàn 藤縣 : tɕ^hyn

Nánning 南寧 (亭子) : tɕ^hyn

chǐ 尺 ‘measuring ruler’

Fúsūi 扶綏 : ts^hek Lóngzhōu 龍州 : ts^het Yùlín 鬱林 : tɕ^hek Téngxiàn 藤縣 : tɕ^hek

(Source: Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/>)

After the merger in Early and Late Middle Chinese, some *Chāng* initial syllables must have become retroflex affricates or alveolar affricates in AMC dialect pronunciations.

There are only three Early Sino-Vietnamese candidates in the *Chāng* initial group, two of which have x- initials and one of which has an aspirated stop initial th-. The x- initials came from the process of palatal affricates becoming palatal fricatives. The th- initial for Early Sino-Vietnamese likely came from a merger of palatal and alveolar affricates either through dialect merging or language contact, thus the s- initial became a th- initial.

Shàn 禪 thièn Initial

禪 Shàn thièn	EMC dz-	MC dzy-	LMC ʃh-	OC	LHOC dʒ-	HESV ch-	JESV th-	LSV th- x-	HVVH
辰 <i>chén</i> star sign	dʒin	dzyin	ʃhin	*[d]ər	dən> dʒin		thìn	thìn thần	
市 <i>shì</i> market	dʒi' /dʒi'	dzyiX	ʃhi`	*C.[d]əʔ	dəʔ> dʒə ^B > dʒi ^B	chợ		thị	
時 <i>shí</i> time	dʒi /dʒi	dzyi	ʃhi	*[d]ə (~ *[d]əʔ)	dʒə			thời thì	
鱸	none	dzyowng	none	none	none			dong	

yōng róng carp		yowng							
贍 shàn provide	dziam ^h	dzyemH	ʃhiam`	*[d]am-s	dzam ^c			thiêm	
腫 zhǒng chòng swell		dzyowngX			dzɔŋ ^B			thũng	
提 tí lift	dz4iǎ/ dzi	dzye	ʃhi	*[d]e	de te ^B dže			thì	
匙 shí / chí spoon	dziǎ/dzi	dzye	ʃhi	*dje			thìa	thi	
社 shè shrine	dzia'	dzyaeX	ʃhia`	*m-t ^h A?	dza ^B			xã	
承 shèng/ chéng transmit	dziŋ	dzying	ʃhiǎŋ	*[m-t]əŋ	dziŋ			thừa tặng chúng	
慵 yōng lazy	dzuawŋ	dzyowng	ʃhywŋ	none	none			thung dung	
闍 shé acarya	dzia	dzyae	ʃhia	none	zá			xà	

The regular demonstration for Late Sino-Vietnamese *Shàn* initial syllables is the Vietnamese aspirated dental stop th-. There is only one clear Han-Era Early Sino-Vietnamese syllable that demonstrates ch- initials but it makes sense that Vietnamese ch- initials would emerge from Late Han Old Chinese palatal initials. There are two examples of Jin-era Early Sino-Vietnamese which are thìa 匙 'spoon' and thìn 辰 'star-sign', these two match with their Early Middle Chinese medial counterparts.

There are examples of syllables in this group that demonstrate Late Sino-Vietnamese ch-, d- and x- initials. The syllable for 'carp' 鱖 has a primary *Shàn* initial reading according to the *Guǎngyùn*:

鱸 ...蜀庸切又音庸

“‘Carp’ ... it has the initial of *Shǔ* (a state name) and the final of *yōng* (ordinary), it is also homophonous with *yōng* (ordinary).”

In the Annamese Middle Chinese period, the primary reading with the *Shàn* initial was likely abandoned. The *Yǐ* 以 initial reading for ‘carp’ is in the *róng* 容 homophone group, it has a *Guǎngyùn* gloss that reads:

魚名又音慵

“It's the name of a fish, it is also homophonous with *Yōng* (to be lazy).”

The syllable *yōng* 慵 ‘to be lazy’ is homophonous with the Shan initial reading of ‘carp’ *yōng* 鱸. There are also two different readings for ‘lazy’ in LSV, *thung* and *dung*. The reading *thung* is regular for Shan initial syllables and *dung* is due to graphic analogy. In the case of *yong* ‘carp’ in Late Sino-Vietnamese and Mandarin, the *Yǐ* 以 initial reading became used as an attested pronunciation while the attested primary reading was abandoned. In the case of Sino-Vietnamese and perhaps also in Mandarin, the pronunciation of ‘lazy’ did not develop from an alternative attested pronunciation from philological materials, but resulted from graphic analogy by looking at the graph and the already accepted colloquial reading without much regard for the *Guǎngyùn*.

Two syllables have palatal fricative initials, 社 *xǎ* and 闍 *xà*, both are used in the spoken language of Vietnamese, with *xǎ* being common in everyday vocabulary as in *xǎ hội* ‘society’ and *xà* being used in words like *a-xà-lê* 阿闍梨 which is a Dharmic, particularly Buddhist term *acarya* ‘teacher instructor’; it is used in spoken language but perhaps not a common word in the secular life. These two syllables carry clues for the Late Middle Chinese merger of palatals and affricates which became indistinguishable in the rime tables such as

the *Yùnjìng* 韻鏡. These two syllables came from preserved palatal fricatives while the remaining Shan initial syllables merged with retroflex initials, became alveolar fricatives, then became dental stops.

There is another syllable ‘to carry’ *chéng* 承 which has three different Late Sino-Vietnamese pronunciations, *thừa*, *tặng* and *chửng*. The unaspirated *tặng* is due to an aspirated and unaspirated mismatch, which could also be found in Píngguà dialects:

chéng 承 ‘to carry’

Níngyuǎn 寧遠: ts^hən Lóngshèng 龍勝 : tsən

(Data from Xiǎoxué táng 小學堂)

Chiang Chia-lu argues that the *ch-* initial is due to graphic analogy with ‘to steam’ 蒸, although it is also likely that either the *ch-* initial emerged from a preserved palatal affricate pronunciation from an AMC dialect, or the *ch-* initial is an older pronunciation like how the EMC pronunciation of market *chợ* displays palatal initials for Late Han Old Chinese *dž-*.

The Sino-Tày pronunciation of the graph 承 is *súra*, with a lateral fricative initial corresponding with the Middle Chinese palatal Shan initial. It makes sense that there is a coda drop in Sino-Tày because like Sino-Vietnamese, the pronunciation changed due to a character taboo with the Vietnamese ruler Trần Thừa 陳承 (1183-1234).

Shū 書 thư Initial

書 shū thư	EMC ɕ-	MC sy-	LMC ʃ-	OC	LHOC h-, ʃ-, lh-, nh-	HESV th-	JESV	LSV th-	HVVH
鑠 shuò fuse	ɕiak	syak	ʃiak	*ɾewk	hjak >śak	thuốc		thước	
試 shì try	ɕi ^h /ɕi ^h	syiH	ʃi ^h	*lək-s	lhəkh >śə ^c	thử		thí	
屍 shī corpse	ɕi	syij	ʃi	*l[ə]j	lhi>śi	thây		thi	
嬖 shěn aunt	ɕim ^h	none	ʃim ^h	None	təm >ćəm	thím		thảm	
攝 shè grab	ɕiap	syep	ʃiap	*kə.ɳep	nhep> śap			nhiếp	
勝 shèng victory	ɕiŋ ^h	syiŋH	ʃiəŋ ^h	*ləŋ-s	śiŋ ^c			thánh	
詩 shī poem	ɕi/ɕi	syi	ʃi	*s.tə	śə	thơ		thi	
叔 shū uncle	ɕuwk	syuwk	ʃiwk	*s-tiwk	śuk	chú ?		thúc	
收 shōu collect	ɕuw	syuw	ʃiw	*s-kiw	śu			thu	thua

The data shows that there is a consistent correspondence of aspirated dental initials in both Late Sino-Vietnamese and Early Sino-Vietnamese. The Early Sino-Vietnamese syllables in the above data all belong to the Han layer due to medial and tonal features. All of the confirmed Early Sino-Vietnamese candidates have changed from palatal fricatives from the late Han period to aspirated dental stops.

There is a graphic analogy phenomenon across the Southwest for the graph 攝, which according to the *Guǎngyùn* is a *Shū* initial syllable with the *Fǎnqiè* formula 書涉切 nep. In many dialects of Xiāng, Píngguà, Yuè, Mǐn, and Late Sino-Vietnamese there is an assumption that the graph 攝 is a *Ní* initial syllable with many of these dialects demonstrating nasal initials:

Xiāng 湘

Guànyáng 灌陽: nie Quánzhōu 全州: ɕiɛ Chángshā 長沙: sɿ
Shuāngfēng 雙峰: Literary ɕia, Colloquial se

Píngguà 平話

Língchuān 靈川: nie Bǎisè 百色: sip Lóngzhōu 龍州: tsʰip Téngxiàn 藤縣 ɕip

Yuè 粵

Ēnpíng 恩平: ʰdip Guǎngníng 廣寧: nit Àomén 澳門: sip Yīngdé 英德: lip

Liánshān 連山: ʰip

Mǐn 閩

Cháoshān 潮汕: niəp Fú'ān 福安: niak Fúzhōu 福州: nie? Zhāngzhōu 漳州: siap

Xiàmén 廈門: liap

(Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/>)

Across the Southwest there is a wide range of initials that include alveolar nasals, laterals, affricates, alveolar fricatives, palatal fricatives and voiceless dental and alveolar lateral fricatives. The syllable ‘to take in’ 攝 has a *Ní* initial *Guǎngyùn* reading as well, 攝奴協切. It seems that throughout the Chinese speaking world, one *Guǎngyùn* pronunciation has taken precedence over another. In some dialects, the pronunciation with the nasal became dominant while the palatal fricative pronunciation became obsolete. A similar situation

happened in AMC where the *Ní* initial took precedent for the syllable ‘to take’ 攝 *nhiếp*. The change from an alveolar nasal to a palatal nasal has been interpreted by Mineya Tōru as a case of graphic analogy with the graph 躡 which has the pronunciation of *nhiếp* and *niếp* (Mineya 1972 :76). One of Schuessler’s reconstructions of the Old Chinese form has the palatal nasal *nh-* initial, indicating a palatal nasal presence for the Middle Chinese alveolar nasal initial *Ní* 泥. There might have been a merger with *Ní*, *Niáng* and *Rì* initials in the colloquial pronunciation of an AMC dialect that interpreted the high front vowel medial with an alveolar nasal as a palatal nasal.

There are two familiar terms for ‘aunt’ and ‘uncle’ in the above chart. Both terms can be found in Alves (2017), we can confidently say that the word for aunt *thím* is from Han era Old Chinese because it shows a palatal fricative initial from Old Chinese merging into an aspirated dental stop. The word for ‘uncle’ *chú* in Vietnamese is not likely to be an Early Sino-Vietnamese word because of the affricate initial and the dropped coda. The tonal correspondence of *chú* and *thúc* still match with each other. It may be possible that the syllable *chú* ‘uncle’ was an early loanword into Vietic from a local Chinese dialect for *śuk* 叔 that was affected by other areal languages that caused the coda to drop. In that particular dialect of Han era Old Chinese the palatal fricative must have developed into a palatal affricate. Alves’ (2017) candidate is not likely, but not impossible. If the syllable *chú* for ‘uncle’ is indeed from an Old Chinese dialect then the affricate initial would serve as an exception to the aspirated dental pattern in Early Sino-Vietnamese *Shū* 書 initials.

The remaining Early Sino-Vietnamese syllables likely were palatal fricatives that merged with alveolar fricatives then became dental stops. The diverse demonstration of Old Chinese initials and pre-initials as well as the consistent demonstration of aspirated dental stops in the Han era Early Sino-Vietnamese layer implies a lack of involvement with Old

Chinese pre-initials and clusters. Late Han Old Chinese initials consisted of palatal fricatives which develop naturally into Vietnamese th-. The syllable for ‘attempt’ thử 試 demonstrates a lack of codas which means the process of borrowing occurred after codas were dropped from Old Chinese *ʃək-s and Western Han lhək and the syllable resembled the Eastern Han form 試 śə̃.

In the Sino-Tày it appears that *Shū* palatal initials consistently demonstrate lateral fricative initials. For example, the graph 書 is written as sʉ (Hoàng 2003: 476) with the gloss of chũ ‘written graph’ and thʉ ‘book’. The Sino-Tày pronunciation for the graph 守 is transcribed as sʉ with the gloss đʉng ‘to contain’ (ibid: 475). Additionally, the graph 收 has the transcription sua with the gloss thua ‘to receive’. Sino-Zhuang also consistently demonstrates fricative initials. The graph meaning ‘you (plural)’ is written with a combination of 𠄎 and 收 and is pronounced as [θou] (Su 1989: 469). Also in Sino-Zhuang, the graph 守 is used as a phonetic component for two words meaning ‘to shake’ and ‘to do’, both pronounced as [θou] (Ibid: 470). Like Middle Chinese retroflex initial syllables, Middle Chinese palatal *Shū* initial syllables demonstrate voiceless dental fricatives in Zhuang. This phenomenon further shows that Middle Chinese palatal fricatives turning into dental stops is a phenomenon not shown in Annamese Middle Chinese and it seems to not be a phenomenon in Southwestern Middle Chinese either, rather this is a phenomenon unique in Vietic.

Chuán 船 thuyền Initial

船 chuán thuyền	EMC z-, ɕ-	MC zy-	LMC ʃh-	OC	LHOC	HESV th-	JESV th- x-	LSV th- x-	HVVH
蛇 <i>shé</i> snake	zia	zyae	ʃhia	*Cə.lAj	m-lai >zái >zá		xà	di xà	
剩 <i>shèng</i> remain	ziŋ ^h	zyingH	ʃhiǎŋ	*Cə.ləŋ-s	none			thặng /thừa thừa	
繩 <i>shèng</i> rope	ziŋ	zying	ʃhiǎŋ	*Cə-m.rəŋ	m-ləŋ > zíŋ	thùng		thằng	
舌 <i>shé</i> tongue	ziat	zyet	ʃhiat	*mə.lat	zat			thiệt	
紓 <i>shū</i> relax	ɕiǎ ; z iǎ'	zyoX	ʃiǎ/ʃy ǎ	*Cə.la? *l̥a	zá			thư	
贖 <i>shú</i> to save	zuawk	zyowk	ʃhywk	*Cə.lok	zók			thục	
舐/舐 <i>shì</i> lick	ziǎ' / zi'	zyeX	ʃhi`	*Cə.le?	ze ^B			chỉ, thỉ thị, để	
神 <i>shén</i> deity	zin	zyin	ʃhin	*Cə.li[n]	zín			thần	
射 <i>shè</i> shoot	zia ^h	zyaeH	ʃhia`	*Cə.lAk-s	zá ^c			xạ	
乘 <i>chéng</i> <i>shèng</i> ride	ziŋ ziŋ ^h	zying zyingH	ʃhiǎŋ ʃhiǎŋ`	*Cə.ləŋ *Cə.ləŋ-s	dzíŋ			thặng thừa thừa	
麝 <i>shè</i> musk	zia ^h	zyaeH	ʃhia`	none	zá ^c			xạ	
盾 <i>dùn</i> shield	zwin' dwən'	zywinX	ʃhyn` tʃun`	*l̥u[n]?	duən ^B zúin ^B			thuấn	
脣 <i>chún</i> lips	zwin	zywin	ʃhyn	*sə.dur	zúin			thần	

Palatal fricatives in Late Han Old Chinese and Middle Chinese almost consistently develop into aspirated dental stops. Wáng Lì (1948), Shimizu (1999) and Chiang Chia-lu (2011) discuss the phenomenon of x- initials appearing in Late Middle Chinese *Shàn* 禪 initials, which include Early Middle Chinese *Chuán* 船 initials. Wáng Lì (1948) and Shimizu (1999) consider the x- initial phenomenon to be a result of palatalization in the *má* 麻 rime syllables. The *má* rimes might have played a role in the initial developments, however, a more likely cause of the palatal initials is the Early and Late Middle Chinese mergers of palatals and retroflex initials that gave rise to the possibility of post-merger remnants of palatals in the *Chāng* and *Chuán* initial syllables. It is also possible that some local Chinese dialects preserved their palatal initials during the time of Annamese Middle Chinese.

Baxter & Sagart (2021) include *xà* 蛇 ‘snake’ as a Vietnamese word that is affected by Old Chinese pre-initial features. They imply that x- is affected by Old Chinese pre-initials *Cə.lAj. The match with the Late Sino-Vietnamese form *xà* makes the candidacy for an ESV from this early unlikely. Although it is not explicitly stated, perhaps Baxter & Sagart imply that the spirantized x- initial is a result of pre-initials and should be regarded as an ESV instead of an LSV word. It is possible that palatal fricatives would emerge from an earlier borrowing, but it is likely to be from at least the Eastern Han period instead of the Western Han and earlier. I am still convinced that *xà* is an LSV but if *xà* is also an ESV, then it would be from the late Jin period or at the very earliest the Eastern Han because the x- initial could not possibly be affected by Old Chinese pre initials.

In Mandarin, the regular correspondence with *Chuán* initials is ch- or sh- but the word for ‘shield’ 盾 is also a *Chuán* 船 initial syllable. The *Guǎngyùn* pronunciation for

‘shield’ 食尹切 is preserved in Sino-Vietnamese and is not in Mandarin, in Mandarin the *Guǎngyùn* pronunciation would be *shǔn* instead of *dùn*. Instead, the Mandarin pronunciation follows an alternate *Fǎnqiè* spelling 徒捐切, which is the pronunciation used for graph in the name 趙盾 Zhào Dùn. The word contradiction *mâu thuẫn* 矛盾 is a common word in Vietnamese today, though the *Chuán* initial pronunciation for the word shield is not common in Southwestern Chinese dialects as there are only a few examples in Yuè and Xiāng dialects:

Yuè 粵:

Xīnhuì 新會: sæn

Bǎo’ān 寶安: sen

Xiāng 湘:

Chángshā 長沙: cyn

Shuāngfēng 雙峰: suan

(Source: Xiǎoxué táng 小學堂)

It is likely that the palatal *Chuán* 船 pronunciation for the word ‘shield’ *thuǎn* 盾 was common in the spoken language across the Red River Delta but the dentalized *Dìng* 定 initial pronunciation became common in the rest of the medieval southwest, as well as the majority of Chinese varieties in general.

The syllable for ‘grab with the tongue’ has four different pronunciations, two of which have aspirated dental stop *th-* initials which are regular for Sino-Vietnamese *Chuán* initial syllables. The other two initials *ch-* and *đ-* are quite unusual for this syllable type. The *ch-* affricate initial could be due to a dialect pronunciation that demonstrated an affricate

instead of a palatal fricative. The graph 舐 has two allographs: 舐 and 舐⁸⁷, all meaning ‘to lick’ according to the *Guǎngyùn*. The pronunciation ể arose from graphic analogy for one of the variants; the ones who assigned the pronunciation likely mistook the component *shì* 氏 ‘clan’, which is a *Shàn* 禪 initial syllable with *dī* 氐 ‘bottom’, which is a *Duān* 端 initial syllable. Graphic analogy also seems to occur when a component of a character is analogous to an additional character.

The syllable for ‘ride’ or ‘vehicle’ 乘 has two pronunciations for Late Sino-Vietnamese, *thặng* and *thừa*. One of the pronunciations has an unexpectedly dropped coda and is used for Vietnamese words such as *tiểu thừa* 小乘 ‘Hineyana or Therevada Buddhism’ and *Đại thừa* 大乘 ‘Mahayana Buddhism’. These dropped codas are likely from colloquial pronunciations that became codified into Late Sino-Vietnamese and the preserved coda is considered the orthodox pronunciation. Coda dropping for the syllable ‘to ride’ *chéng* 乘 is common in several dialects of Píng huà⁸⁸:

Líng chuān 靈川 sai Guì lín 桂林 sai Yáng shuò 陽朔 swə Píng lè 平樂 ɿE

During the Anamese Middle Chinese period there must have been a phenomenon of coda dropping similarly to Píng huà in some local AMC dialects. This syllable with a dropped coda then became codified into Hán-Việt. Another syllable which means ‘to remain’ 剩 has also experienced a phenomenon of coda deletion. The coda deletion phenomenon has also occurred in Píng huà as well⁸⁹:

Líng chuān 靈川: sai Guì lín 桂林: sai Yáng shuò 陽朔: sa Píng lè 平樂: ɿã

⁸⁷ Pronunciation ể meaning ‘to lick’ obtained from *Từ Điển Hán Nôm* <https://hvdic.thivien.net/whv/%E8%88%90> accessed 02/17/2025.

⁸⁸ Source Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/pinghua?kaiOrder=1504> accessed 03/08/2025.

⁸⁹ Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/pinghua?kaiOrder=2467> accessed 02/15/2025.

The loss of codas according to Shimizu Masaaki (2010) is because they were taboo characters. Trần Thái Tổ's 陳太祖 given name was Trần Thừa 陳承 (1183-1234), but to avoid a taboo in the 13th century, they dropped the coda pronunciation of the above characters (Shimizu 2010: 7). The narrative of John Phan is that after independence in 938, the Chinese community switched to a sinicized form of Proto Việt-Mường. The Píngguà pronunciations of these taboo characters may be a sign of those Chinese speaking communities in the Red River Delta holding off until at least the 13th century. If these coda changes are due to avoiding a taboo for a Vietnamese ruler, then it would not make sense if this happened in Chinese communities in southern China independently from Vietnam since taboo for a now foreign ruler would be of no concern to them. It is likely that the syllables with dropped codas became taboo, then it implies that after 938, the breakoff from the north was not sudden and small scale migration from outside Vietnam into China occurred.

In the Red River Delta, Chinese palatal and retroflex initials experienced changes from a variety of factors. In the OC and EMC periods, the surrounding languages of Tai and Vietic were void of retroflex initials, thus there was a consistent correspondence of palatal affricates with LSV retroflex affricates. Some ESV words demonstrate borrowing in the Western Han such as r- initials in *Shēng* 生 initial syllables and ġ- initials in Zhang initial syllables. Some initials such as the spirantized d- and gi- imply pre-initials from Old Chinese in the Early Han or Pre-Han period. Spirantized gi- initials do not all belong to an ESV layer as several examples demonstrate gi- initials in Late Sino-Vietnamese words such as giả 者 and other borrowings such as 'bed' giường 床 that became Vietnamized.

Late Sino-Vietnamese initials in the *Zhāng* 章 and *Zhuāng* 莊 initial groups were affected by the migration of Chinese languages with retroflexes in the Red River Delta, the palatal rich environment of MSEA, as well as the merger of EMC and LMC palatals and

retroflex initials. This merger affected the occasional demonstration of x- and s- for *Chāng* 昌 initial syllables, x- and th- for *Chuán* 船 initial syllables, and ch- and tr- for *Zhāng* 章 initial syllables. Instances of graphic analogy also occurred such as for ‘twin’ and the graphic analogy for alographs such as ‘to lick’.

These phenomena illustrate a dynamic and diverse medieval southwest with education systems that influence the pronunciation of syllables that are still visible in modern SW Chinese varieties. LSV words were later changed for political reasons, as some syllables were homophonous for the names of Vietnamese rulers and became taboo. The lack of codas in modern Píng huà varieties for the Sino-Vietnamese taboo characters raises questions about the survival and migration of the hypothesized AMC communities; it is possible that the AMC dialects were still in use following independence in 938 CE and small scale migration or contact of those Chinese speakers across the new Vietnamese border for the Trần dynasty must have happened as late as the 13th century.

Yǐng 影 Initial Group

Yǐng 影 ảnh Initial

影	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HVVH
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yǐng ảnh	ʔ-	ʔ-	ʔ-	ʔ-, Cə.q- *q ^w ʔ-, *ʔʔ- *q ^w -, *q-	ʔ-	gh- 0-	nh-	0-, n- nh-	
倚 yǐ rely	ʔi/ ʔiä	ʔjeX	ʔi	*Cə.q(r)ajʔ	ʔaiʔ> ʔiai ^B	ghé		ỷ	
印 yìn print	ʔjin	ʔjinH	ʔjin	*[ʔ]iŋ-s	ʔins> ʔin ^c	in		ấn	
恩 ēn grace	ʔən	ʔon	ʔən	*ʔ ^c ə[n]	ʔên> ʔən	ơn		ân	
一 yī one	ʔjit	ʔjit	ʔjit	*ʔi[t]	ʔit			nhất	
因 yīn cause	ʔjin	ʔjin	ʔjin	*ʔi[n]	ʔin			nhân	
姻 yīn marriage	ʔjin	ʔjin	ʔjin		ʔin			nhân	
咽 yè choke	ʔet	ʔet	ʔjiat	*ʔ ^c i[n]-s				yết nhiết	
咽 yàn gulp	ʔen	ʔen	ʔjian	ʔ ^c ins	ʔen			yên	
萎 wěi wilt	ʔwiä/ ʔwi	ʔjwe	ʔyj	ʔoi	ʔyai			nuy	
倭 wō japan/ dwarf	ʔwa	ʔjwe	ʔua	ʔoi	ʔyai			nụy uy	
矮 ǎi short	ʔaij’/ ʔɛ:j’	ʔeaX	ʔja: jə	none	none			nụy uy	
痿 wěi paralysis	ʔwiä’ /ʔwi’	ʔjwe	ʔyj’	none	ʔyai			nuy	
透 wēi winding	ʔwiä/ ʔwi	ʔjwe	ʔyj	none	ʔyai			uy	
黧 zhěn/yā n black	tɕin’	ʔean tsyinX	tɕin’	none	tɕin ^B			chấn	
娟 juān graceful	ʔjwian	ʔjwien	ʔjyan	none	none			quyên	
迂 yū bend	ʔuä ;w uä ʔuä’	ʔju hju	ʔyă	*q ^w (r)a	none			vu	

幼 <i>yòu</i> small	ʔjiw ^h	ʔjiw ^H	ʔjiw [`]	*[ʔ](r)iw-s	ʔiu ^c		nhỏ	ấu	
厭 <i>yàn</i> loath	ʔjiam ^h	ʔjiem ^H	ʔjiam [`]	*ʔem	ʔjam		nhàm	yếm áp	
污 <i>wū</i> dirty	ʔɔ	ʔu ʔu ^H	ʔuǎ	*q ^w ra	ʔua		nhọ	ô	
陰 <i>yīn</i> dark	ʔim	ʔim	ʔim	*q(r)um	ʔim			âm nham	
鴉 <i>yā</i> crow	ʔai/ʔɛ:	ʔae	ʔja:	*q ^r ra	ʔa			nha	

The regular correspondence of *Yǐng* initial syllables in Late Sino-Vietnamese is zero initial, as is the case for Sino-Korean, Sino-Japanese and most modern Chinese varieties. Pulleyblank (1984), Ferlus (2009b), Chiang Chia-lu (2011), Zhèngzhāng Shàngfāng (2010), and Xián Mǎnxuě (2016) and Grainger Lanneau (2020) discuss the occasional initial nasalization of Middle Chinese glottal stop initial syllables in Late Sino-Vietnamese.

Chiang Chia-lu (2011) discusses the effect of modern dialects on initial nasalization. Chiang also includes four additional syllables, 'dirty' 污 nhọ, 'small' 幼 nhỏ, 'dark' 陰 nham, and 'to loath' 厭 nhàm. Lanneau (2020) verifies the Chinese origin of these syllables due to their semantic value and labels these syllables as alternative development based on Chiang Chia-lu's idea of *yì dú zì* 異讀字 'alternate reading'. The author of this present dissertation considers that some of these alternate pronunciations with palatal nasals came from different SWMC dialects that filtered their way into the Red River Delta.

One of these syllables, nhọ 污, meaning 'dirty' has a graph with five attested pronunciations in the *Guǎngyùn*. The more familiar Late Sino-Vietnamese pronunciation of the the character 污 is ô as in ô nhiễm 'pollution'. One of the attested *Qièyùn*

pronunciations for the same character is 一故切, gù 故 cǒ is a *Qù* tone syllable and another reflex for LSV *Qù* tone syllables is the nặng tone, therefore the nasalized form nhọ must have come from this pronunciation from another SWMC dialect that used the *Qù* tone pronunciation. The syllable for ‘small’ nhỏ 幼 must have been an Early Sino-Vietnamese word due to tonal correspondence with the Chinese *Qù* tone counterpart.

Zhèngzhāng Shàngfāng (2010) discusses the process of zero initials developing nasals across Chinese varieties. His work is not limited to nasal developments in the *Yǐng* initial group, but he also discusses diverse demonstrations of zero initial syllables from *Yǐ* 以 and *Yún* 云 initial syllables in modern Chinese varieties and Sino-Xenic pronunciations.

Zhēngzhàng mentions the establishment of schools in the Tang protectorate of Annam and the pronunciations of nhật 日 and nhân 仁 being mixed up with nhất 一 and nhân 因 (Zhèngzhāng 2010: 314). Zhèngzhāng Shàngfāng implies a merger that occurred in an educational setting between Ri initial syllables and *Yǐng* initial syllables.

Lanneau (2020) adds nuance to Zhèngzhāng Shàngfāng’s observation of the Sino-Vietnamese phenomenon and proposes a colloquial merger that might have occurred in the medieval period with *Rì* and *Yǐng* initial syllables in grade III, followed by nasalization in other grade syllables. This *Yǐng* initial nasalization phenomenon is seen in Tǔhuà, Xiāng and Pínghuà dialects to this day, some examples include:

yīn 因 ‘cause’

Gǎngdōng Xiāng 崗東湘話: ŋje

Lǎojiē Lóudǐ 老街婁底: nin

yā 榷 ‘fork of a tree’

Tíngzi Pínghuà 亭子平話 : ŋa Nàbì Tuhà 那畢土話 : ɲa

Chéngguān Xiānghuà 城關湘話 : η⁹⁰

ǎi 矮 ‘dwarf’

Chéngguān Xiānghuà 城關湘話: ŋǎ Tánshì Xiāng 潭市湘話: ŋǎ

yā 鴉 ‘crow’

Shíbù Píng huà 石埠平話 : ŋa Qújiù Báihuà 渠舊白話 : ŋa

(From Lanneau 2020: 31-32, data from Jiǎng Jūnfēng 2010 and Coblin 2011)

Lanneau notices that no modern southwestern dialect thus far has a nasal initial pronunciation for the syllable ‘one’ yī 一. Lanneau concludes that dialect layering has obscured the direct connection between Sino-Vietnamese *Yǐng* initial nasals and *Yǐng* initial nasals found in Southwestern Chinese dialects (ibid: 78). Some syllables demonstrate nasals in both Southwestern Chinese varieties and Late Sino-Vietnamese such as ‘cause’ 因, other syllables like ‘one’ 一 demonstrate nasals in Late Sino-Vietnamese but not in Southwestern Chinese dialects. There are also syllables that demonstrate nasals in Southwestern Chinese varieties but not in Late Sino-Vietnamese *Yǐng* initial syllables. For example, the following *Yǐng* initial words demonstrate nasals in Xiāng dialects but not in Late Sino-Vietnamese:

ài 愛 ʔojH ‘love’

Chénxī Xiāng 辰溪 : ŋai

ān 安 ʔan ‘secure’

Chénxī Xiāng 辰溪 : ŋε

ēn 恩 ʔon ‘grace’

Chénxī Xiāng 辰溪 : ŋei

(Lanneau 2020: 35, data from South Coblin 2011)

⁹⁰ Only the initial is provided by Jiǎng Jūnfēng (2010).

Pulleyblank and Ferlus consider this phenomenon to be a reflection of Sino-Vietnamese interpretation of grade III syllables that have high front vowel medials. Two notable examples of initial nasalization are the syllables for ‘one’ nhất 一 and for ‘cause’ nhân 因. Both Pulleyblank and Ferlus discuss the medial -j- in Middle Chinese grade III syllables and the effects it has on the host language. Ferlus (2009b) in particular, argues that the Proto Việt-Mường speakers interpreted the *Yǐng* initial syllables with the glottal stop and medial -j- as a voiced palatal implosive, causing a change of ʃ → ɲ (nh); therefore, according to Ferlus’ hypothesis, nhất ‘one’ was initially pronounced as ʃət and nhân ‘cause’ was initially pronounced as ʃən (Ferlus 2009b: 26).

Ferlus’ interpretation is convincing for the case of syllables ‘one’ 一 and ‘cause’ 因 in particular. The presence of nasal initials in modern southwestern varieties do however imply demonstrations of nasals for *Yǐng* initials in Annamese Middle Chinese. The phonology of Proto Việt-Mường and its interaction with AMC likely led to the nasalization of *Yǐng* initial syllables with high front vowel glides; this is perhaps due to the close interaction between Proto Việt-Mường speakers and AMC speakers. The Proto Việt-Mường speakers perhaps interpreted the syllables ‘one’, ‘cause’ and ‘marriage’ as voiced palatal implosives, then in turn were reinterpreted as palatal nasals in AMC dialects and Proto Việt-Mường:

AMC ‘cause’ 因 ʔjin → PVM Dialect A ʃən → PVM Dialect B/ SWMC Dialect B ɲən

The pronunciation for ‘to choke’ 咽 *nhiết* is present in Chữ Nôm dictionaries, meaning that this syllable is usually interpreted as a *thuần việt* “native Vietnamese” word and not as a Hán-Việt borrowing. This syllable for ‘choke’ is, however, not likely to be an ESV loanword because of the lack of high front vowel medial glides in the EMC, LHOC and OC reconstructions. The syllable to ‘choke’ likely developed after the syllable became codified in

the Hán-Việt. Because the palatal nasal form is not seen as Hán-Việt, and the earlier Chinese forms lacked the means to form palatal nasals, the palatal nasal form is likely to be a result of a dialect that got codified into Hán-Việt or Hán Việt-Việt-Hóa Vietnamization.

There are examples of Late Sino-Vietnamese words that do not demonstrate palatal nasals and are in the grade three. Take the syllables ‘shadow’ ảnh 影 and ‘hero’ anh 英 for example; these syllables do not develop palatal nasals and instead, demonstrate the expected zero initial syllables; this implies that not all grade three *Ying* initial syllables were interpreted as palatal nasals in PVM and AMC all dialects, it also implies that dialect layering over the centuries obscured the palatal nasal features of these *Ying* initial syllables as mentioned by Lanneau (2020: 78-86). Ferlus’ argument of voiced palatal plosive interpretation still holds merit when comparing the phenomenon of *Ying* interpretation in Sino-Vietnamese with Sino-Tày. In Chữ Nôm Tày 因 ‘cause’ is pronounced as giển as in giển vì 因為 ‘because’ with a spirantized palatal initial, the graph 姻 which originally means ‘wedding’ is also pronounced with the palatal spirantized initial giân and the graph for ‘throat’ that is used to write the Tày word for ‘cold’ is pronounced as 咽 giân/dân.

The initials gi- and d- in the Tày orthography are used to write a voiced postalveolar fricatives /ʒ-/ (Shimizu 2020b: 42). The fricative initial for the Sino-Tày pronunciation brings implications for how Việt-Mường and Tày both interpret the glottal stop and high vowel glide combination. In the case of the ancestor of Tày, the Middle Chinese glottal stop and high front vowel combination could have been interpreted as a voiced palatal plosive /tʃ-/. Pittayaporn (2009) explains that in most Tai varieties the voiced palatal plosive became devoiced, and common reflexes of that Proto-Tai initials are the affricate /ts-/, the palatal fricative /ç-/, and in Cao Bằng it retains the voiced features with a voiced alveolar fricative /z-/ initial (Pittayaporn 2009: 112-113).

Cao Bằng is one of the major Tày speaking areas in modern day Northern Vietnam. This indicates that the Middle Chinese glottal stop initial and high front vowel glide ʔj- was interpreted as a voiced palatal plosive, then retained the voiced feature in Sino-Tày. The dialect of Annamese Middle Chinese that was exposed to the Tày did not have a nasalized initial, the syllable ‘cause’ 因, ‘marriage’ 姻 and ‘throat’ 咽 must have had a pronunciation closer to ʔjin than njin in other dialects of Annamese Middle Chinese. The glottal stop and high vowel medial was then interpreted as a voiced palatal plosive in Sino-Tày, then it must have demonstrated the voiced alveolar fricative /z-/ and the voiced post-alveolar fricative ʒ-. The exposure of grade III *Yǐng* initial syllables such as 因 to Tai and Proto Việt-Mường reveals a difference in how the glottal stop initials with high front vowel glides were interpreted during the early stage of AMC contact with Tai and Proto Việt-Mường:

AMC Dialect A: ʔjin → PVM ʃən → Việt nhân 因

AMC Dialect A: ʔjin → P-Tai ʃən → Tày giển 因

Another prominent Late Sino-Vietnamese *Yǐng* initial syllable with a palatal nasal is the character for ‘crow’ or ‘raven’ nha 鴉, which is a grade II initial syllable. Xián Mǎnxuě (2016) claims that this syllable has a palatal nasal because of graphic analogy with the syllable for ‘tooth’ nha 牙 (Xián 2016: 159). It is perfectly plausible that the palatal initial for the syllable ‘crow’ emerged naturally through the spoken language of Annamese Middle Chinese dialects. Zhèngzhāng Shàngfāng points out that some Shaanxi dialects pronounce the syllable ‘crow’ as nia (Zhengzhang 2010: 316). In the Xiāng dialect of Shuāngfēng, the colloquial pronunciation of ‘crow’ is ɲa. Lanneau (2020) also points out that grade II initials are affected by merges with grade III syllables and developed palatal nasals after grade III palatal nasals developed in *Yǐng* initial syllables.

There is also a presence of alveolar nasals n- in Late Sino-Vietnamese *Yǐng* initial syllables. In Lanneau (2020) I argue that these alveolar nasals first developed into zero initials, then into velar nasals, then into alveolar nasals 0- → ŋ- → n; Lanneau's hypothesis is based on a similar phenomenon that occurs with Chinese varieties as seen in Zhèngzhāng (2010):

Tiānjīn 天津:

歐 ou → ŋou → nou 奧 ao → ŋou → nau 安 an → ŋan → nan

(Modified from Zhengzhang 2010: 316)

The author acknowledges that there is another possible graphic analogy phenomenon that could explain these alveolar nasals. The graphs 倭 and 矮 share resemblance with 魏 which is a Middle Chinese velar nasal Yi 疑 initial syllable with velar nasals and has the pronunciation *nguy* or *ngųy*. Several scholars including Xián Mǎnxuě (2016) point out the fact that a nasalized and a non-nasalized pronunciation exist side by side for the syllables 'Japan' *nuy uy* 倭 and 'short' *nuy uy* 矮 in Late Sino-Vietnamese. The alternative pronunciation is perhaps a reflection of Annamese Middle Chinese dialects. If this change for the syllables 'short' and 'Japan' only happened through the spoken language, then the glottal stop initials dropped to zero, then changed to velar nasals and then finally to alveolar nasals. If graphic analogy was involved, then one of the assigned readings must have been a velar nasal initial then it dropped from a velar nasal to an alveolar nasal.

There is one syllable that demonstrates a voiced labial fricative v- initial. Xián Mǎnxuě claims that the v- initial for the syllable 'bend, roundabout' 迂 *vu* is likely to be a misreading based on graphic analogy with the graph 于 *vu* (Xián 2016: 161). On the contrary, the voiced labiodental initial is likely due to the fact that the *Guǎngyùn* has two

attested pronunciations for ‘roundabout’, a *Yǐng* 影 initial pronunciation ʔju and a *Yún* 云 initial pronunciation hju. In fact, the *Guǎngyùn* states that the syllable 迂 is homophonous with the character 于 hju. The v- initial is not a mistake, but an existing pronunciation that became common in Late Sino-Vietnamese; the pronunciation with the Middle Chinese glottal stop initial simply became obsolete.

The syllable meaning ‘beautiful’ or ‘graceful’ *juān* 娟 has a *Jiàn* initial velar pronunciation for both Mandarin and Late Sino-Vietnamese. A velar stop pronunciation is also present in Cantonese *gyun*, as well as several varieties of Mǐn and Tǔhuà. Zero initial pronunciations are kept in Sino-Korean⁹¹ *yeon* 妍 and in Sino-Japanese is en エン and ken ケン⁹², a zero initial and velar pronunciation are both kept. The syllable ‘graceful’ does not have an attested *Jiàn* initial pronunciation in the rime books or the rime tables. The pronunciation of ‘graceful’ as a *Jiàn* initial syllable likely emerged from graphic analogy, but data from modern Chinese varieties and Sino-Japanese show that this phenomenon did not start with Annamese Middle Chinese or Late Sino-Vietnamese. The syllable ‘graceful’ was likely a syllable spoken with a velar stop in many dialects of Middle Chinese already and Annamese Middle Chinese was simply another set of dialects that followed this trend.

Xiǎo 曉 hiéu Initial

曉 xiǎo hiéu	EMC x-	MC x-	LMC x-	OC	LHOC h-	HESV h-	JESV	LSV h-	HVVH
飲 <i>hē/xiá</i> drink	none	xop	none	*q ^{hʳ} [ə]p	hêp> həp	hóp		həp	

⁹¹ Naver Hanja Dictionary <https://hanja.dict.naver.com/#/main> accessed on 03/10/2025

⁹² Kanjipedia <https://www.kanjipedia.jp/kanji/0001918000> accessed on 03/10/2025

希 <i>xī</i> hope	xij	xjij	xi	*q ^h əj	hii			hy	
休 <i>xiū</i> rest	xuw	xjiu	xiw	*q ^h (r)u	hu			hư	
血 <i>xuè</i> blood	xwet	xwet	xyat	*m̥ ^h ik	huet			huyết	
海 <i>hǎi</i> sea	xəj'	xojX	xaj'	*m̥ ^h əʔ	hə ^B			hải	
興 <i>xìng</i> rise	xij xij ^h	xing	xiəŋ xiəŋ`	*q ^h (r)əŋ	hiŋ hiŋ ^c			hưng	
擘 <i>huì</i> sharp	none	xwejH	none	*q ^{wh} ci[t]-s	hues			huế	
獐 <i>yì</i> a name	hjwi	xwijH 'ejH	ʔej	none	none			ế	
灰 <i>huī</i> dust	xwəj	xwoj	xuaj	*m̥ ^h ə	huə			hôi khôi	
嗅 <i>xiù</i> smell	xuw ^h	xjuwH	xiw`	*q ^h u(ʔ)-s	hu ^c			khứu	
豁 <i>huò</i> pardon	xwat	xwat	xuat	none	huat			hoát khoát	

The usual demonstration for *Xiǎo* initial syllables in Late Sino-Vietnamese is a voiceless glottal fricative. Pulleyblank (1984) comments on how the Middle Chinese Kan'on demonstrates velar stops for MC *Xiǎo* initial syllables and how Sino-Vietnamese and Sino-Korean demonstrate glottal fricatives instead (Pulleyblank 1984: 64-65). Indeed, the mainstream Middle Chinese dialects in the north were likely velar fricatives /x-/ and it was likely interpreted as a glottal fricative in Late Sino-Vietnamese and perhaps even in Annamese Middle Chinese. Modern Vietnamese phonology does have voiced and voiceless

velar fricatives, but the voiceless velar fricatives are from aspirated velar stops kh- and the voiced velar fricatives are from voiced velar stops g-.

There are some exceptions to the pattern of velar fricatives turning into glottal fricatives, Xián Mǎnxuě (2016) finds three and Chiang Chia-lu finds seven examples. The words for ‘dust’ 灰 khôi, ‘smell’ 嗅 khứu and ‘pardon’ 豁 khoát all have aspirated velar stop alongside glottal fricative pronunciations. A similar phenomenon has taken place in contemporary Southwestern Chinese varieties. Pínghuà and Xiāng dialects also occasionally demonstrate velar stops for *Xiǎo* initial syllables:

huò 豁 ‘pardon’

Xiāng 湘:

Shuāngfēng: k^hɥ Quánzhōu: ko

Pínghuà 平話:

Língchuān: k^ho Yǒngfú: k^ho Téngxiàn: kuk

(Xiǎoxué táng 小學堂)

Xiè Qíyǒng (2010) notes that Tǔhuà dialects also demonstrate velar stop initials for *Xiǎo* initial syllables, they are part of what Xiè categorizes as special characters *tè zì* 特字:

huò 貨 ‘goods’

Dàoxiàn Xiǎojiǎ 道縣小甲 k’
Níngyuǎn Zhāngjiā 寧遠張家 k’
Lǐjiā Píng 理家坪 k’

xuè 血 ‘blood’

Lánshān Shàngdòng 藍山上洞 k’

huò 豁 ‘pardon/open’

Dōng’ān Huāqiáo 東安花橋 k’

huò 霍 ‘sudden’

Jiāngyǒng Chéngguān 江永城關 k’

(Xiè 2010: 115)

Velar fricative initials in Middle Chinese must have been either preserved or demonstrated as glottal fricatives in most dialects of Southwestern Middle Chinese and Annamese Middle Chinese, however the Late Sino-Vietnamese aspirated velars and ‘special characters’ in Tǔhuà and Xiāng imply a similar phenomenon of velar fricatives turning into aspirated velar stops in Annamese Middle Chinese dialects.

AMC Dialect A: 曉 x → h AMC Dialect B AMC Dialect B: 曉 x → k^h AMC Dialect B

Both glottal fricatives and aspirated velar fricatives were present in Proto Việt-Mường. During the sinicization of Proto Việt-Mường and the linguistic shift from AMC to PVM, some of these *Xiǎo* initial syllables were carried over as glottal fricatives and a few dialect pronunciations of *Xiǎo* initial syllables were also carried over as aspirated velar stops. Some dialects of Annamese Middle Chinese also likely had ‘special character’ readings or ‘special pronunciations’ for several *Xiǎo* initial syllables that are still partially preserved today in Late Sino-Vietnamese and modern Southwestern Chinese varieties.

The syllable yì ‘man/pig’ 豨 is another example of a syllable that had different pronunciations attested in the rime books but then abandoned one pronunciation in favor of another. In Late Sino-Vietnamese and Mandarin, the syllable is pronounced with a zero initial instead of a glottal or velar fricative, in Cantonese this syllable is pronounced with a zero initial and a velar nasal. This syllable has both a *Xiǎo* initial pronunciation and an *Yǐng* initial pronunciation. What likely happened in Late Sino-Vietnamese is that Annamese Middle Chinese abandoned the *Xiǎo* initial pronunciation in favor of the *Yǐng* initial pronunciation.

Some scholars such as Xián Mǎnxuě also claim that *Xiǎo* initial syllables occasionally demonstrate l- in Sino-Vietnamese. Xián considers the words for ‘village’ làng and ‘inauspicious’ lung to be l- initial words that come from *Xiǎo* initial syllables:

Figure 51: Proposed *Xiǎo* initial syllables with l- initials

字 Syllable	EMC	MC	LMC	OC	LHOC	HESV	JESV	LSV	HVVH
鄉 xiāng village	xiaŋ	xjang	xiaŋ	*q ^h aŋ	hiaŋ	làng?	làng?	hương làng?	làng?
凶 xiōng unlucky	xuawŋ	xjowng	xywŋ	*q ^h (r)oŋ	huoŋ	lung?	lung?	hung lung?	lung?

Xián attempts to explain the demonstration of l- initials for the syllables ‘village’ and ‘inauspicious’ by suggesting a change from glides to laterals j- → l- (Xián 2016: 167). Xián hypothesizes that after the syllables were borrowed into Late Sino-Vietnamese, the velar fricative initial dropped and became a j- initial syllable, which then developed into an l- initial. Xián is aware of one of the problems with his argument, which is the fact that j- usually develops into z- and not l-.

There are no contemporary Chinese dialects that pronounce the syllable for ‘village’ with a lateral initial, yet there are two Píng huà dialects that pronounce these syllables with high front vowel medial initial j-:

鄉 xiāng ‘village’

Bǎisè Píng huà 百色平話 : jəŋ

Lóngzhōu Píng huà 龍州平話 : jəŋ

(Xiǎoxué táng 小學堂 <https://xiaoxue.iis.sinica.edu.tw/pinghua?kaiOrder=2872> accessed 03/08/2025)

Xián also points out that l- initial syllables for the 𠃉以 initial group usually comes from the ESV layer, so if j- initials had anything to do with l- initials then it must have come from the Old Chinese period. It is also unlikely that these syllables come from older layers of Chinese because Old Chinese and Early Middle Chinese reconstructions show a lack of high front vowel medials. The Chữ Nôm script does not use the graph 鄉 to write làng, only the Hán-Việt pronunciation hương.

Xián makes the association with Chinese based on the final and tonal features; it is tempting to associate these words with a Chinese origin but the Chinese reconstructions suggest that these initials are not borrowed from the spoken language. The only possible explanation would be graphic analogy with the following graphs, 良朗狼郎浪, all with the initial l- in Late Sino-Vietnamese. It is highly doubtful, but if làng is cognate with the Chinese word for village, then it might have been a prescribed reading from a variety of AMC that used a graphic analogy to use l- instead of x-; it is doubtful mainly because prescribed readings would be incorporated into the HV pronunciation system.

If *lung* is cognate with Chinese *xiōng* 凶 ‘unlucky’, then graphic analogy with a dialect might be the cause of the l- initial. There was perhaps a graphic analogy with the word ‘brain’ 腦 which has an alveolar nasal initial n-. In many Southwestern Chinese and Vietnamese dialects there is a common alternation between l- and n-:

牛 *niú* ‘cow’

Guìlín Píng huà 桂林平话 liu
Quánzhōu Xiànchéng Huà 全州县城湘话 liu
Héféi Guānhuà 合肥官话 liu

乃 *nǎi* ‘thereupon’

Língchuān Píng huà 靈川平話 : lai
Chángshā Xiāng 長沙湘話: lai

Shuāngfēng Xiāng 雙峰湘話: la

The author finds it highly doubtful that the word *lung* in Vietnamese is cognate with the Chinese word for ‘unlucky’ *xiōng* 凶. If this syllable is cognate with Chinese, then there must have been a graphic analogy with the word for ‘brain’, followed by a change from an alveolar nasal to a lateral liquid *n- → l-*. However, a reading prescription based on graphic analogy suggests that there would be a HV reading gloss pronounced as *nung* 凶.

Xiá 匣 *həp* Initial

匣 xiá <i>həp</i>	EMC ɣ-	MC h-	LMC xh-	OC *g ^w -, *m-k ^c - *m-k ^h -, *C-g ^w - *N-k ^w -	LHOC g-, ɣ- w-	HESV c-, g- gh-	JESV c-, h- v-	LSV h-, gi- t-, th-	HVVH
脛 <i>jing</i> leg	ɣɛŋʹ	hengH	xhjaŋʹ	*m-k ^h ɛŋ-s	gêŋh> geŋ ^c	cǎng		hĩnh	
合 <i>hé</i> combine	ɣəp/ ɣap	hop	xhəp	*m-k ^c op	gêp> gəp	góp		hợp	
蟹 <i>xiè</i> crab	ɣaijʹ/ ɣɛ:jʹ	heaX	xhja:j	*m-k ^c reʔ	grêʔ> gɛ ^B	ghẹ	cáy	giải	
夏 <i>xià</i> summer	ɣa ^h /ɣɛ: ^h	haeH	xhja:˘	*g/Hraʔ	grâh> ga ^c		hè	hạ	
劃 <i>huà</i> draw line	ɣwəijk/ ɣwɛ:jk	hweak	xhwa:jk	*g ^w rek	wrêk> ɣuek	gạch		hoạch	
畫 <i>huà</i> draw/	ɣwaij ^h / ɣwɛ:j ^h	hweaH	xhwa:j˘	*C-g ^w rek-s	wrêk> ɣue ^c		vẽ	họa	

paint									
鑊 <i>huò wok</i>	ɣwak	hwak	xhuak	NONE	ɣuak		vạc	hoạch	
限 <i>xiàn</i> limit	ɣəiⁿ/ɣɛ:n ^h	heanX	xhja:n`	*[g]ʳə[n]ʔ	grân?> gen ^B		hẹn	hạn	
戶 <i>hù</i> door	ɣʊ'	huX	xhuǎ`	*m-qʳaʔ	gá		họ	hộ	
丸 <i>wán</i> ball	ɣwan	hwan	xhuan	*[g]ʷar	wân> ɣuan		hòn	hoàn	
禍 <i>huò</i> disaster	ɣwa'	hwaX	xhua`	*[g]ʷajʔ	gôï?> ɣuai ^B		vạ	họa	
黃 <i>huáng</i> yellow	ɣwaŋ	hwang	xhuaŋ	*N-kʷaŋ			vàng	hoàng	
話 <i>huà</i> speech	ɣwaij ^h (s) /ɣwɛ:j ^h	hwaejH	xhwa:j`	*[g]ʷrat-s	gwrâts> ɣuas			thoại	
慧 <i>huì</i> wisdom	ɣwɛj ^h	hwejH	xhjyaj`	*[g]ʷe[t]-s	wîs> ɣues			tuệ	

We have two, possibly three examples of graphic analogy syllables. The syllables for ‘speech’ huà 話 and ‘wisdom’ huì 慧 both have dental initials. The syllable for ‘speech’ is commonly used in words such as ‘telephone’ điện thoại 電話, ‘myth’ thần thoại 神話 and ‘dialogue’ đối thoại 對話. The graph for ‘speech’ 話 uses the graph for ‘tongue’ 舌 as a semantic component, which is a *Xié* 邪 initial syllable in Middle Chinese, with the pronunciation of *zyet* in Middle Chinese and the pronunciation of *thiệt* in Late Sino-Vietnamese.

The Sino-Vietnamese pronunciation *tuệ* for ‘wisdom’ 慧 is used for the names of famous Buddhist monks such as *Tuệ Tĩnh* 慧星, and is used in other Vietnamese words such as *thông tuệ* 聰慧 ‘intelligence’, and *trí tuệ* 智慧 ‘wisdom’. This syllable was likely mistaken with the pronunciation of another character *hui* ‘shooting star’ 彗 *zwijH* which is a *Xié* 邪

initial syllable that is pronounced as tuệ in Late Sino-Vietnamese. The syllable for ‘shooting star’ maintains the *Xié* initial pronunciation in Late Sino-Vietnamese but uses a *Xiá* initial pronunciation based on a graphic analogy with ‘wisdom’.

The word for ‘crab’ *giải* 蟹 is thought to be a feature of graphic analogy with 解 *giải* by Chiang Chia-lu and Xián Mǎnxuě (2016). Chiang (2011) however, does not rule out the possibility of regular language change for this Late Sino-Vietnamese initial. The point of interest for linguists is the spirantized initial that resembles *Jiàn* initial syllables with a high front vowel. The graph for ‘untie’ 解 has two attested readings in the *Guǎngyùn* 廣韻, 胡買切 *heaX* and 佳買切 *keaX*, both having the same lower speller, rime and vowel.

Palatalization also occurs in Mandarin for the syllable for ‘crab’, though the palatalization occurred because of the high front vowel glide with the velar fricative initial.

The syllable for ‘crab’ *giải* 蟹 demonstrates glottal fricatives, velar stops, velar nasals as well as voiced and voiceless velar fricatives in Píng huà, Tǔ huà and Xiāng dialects:

Fù chuān Tǔ huà: ka Cháng shā Xiāng: xai
Yì zhōu Bāi xīng huà: ɲai Jiāng lè Chéng guān Mǐn: ɲæ

(Xiǎo xué táng 小學堂)

If the lenited velar nasal occurred through the spoken language, then what likely occurred is a process of velar lenition through one of the dialects of AMC. In a similar process of *Jiàn* initial syllables developing lenited initials, this *Xiá* initial syllable for ‘crab’ might have demonstrated a velar stop in an AMC dialect, then demonstrated lenited initials like in *Jiàn* initial syllables through the following process:

蟹 LMC xhja:j → AMC kja:j → Vietnamese za:j/ ja:j

Two other words for ‘crab’ are Early Sino-Vietnamese candidates. The syllable cáy is an ESV candidate from Baxter & Sagart (2021) with the gloss ‘kind of brackish water crab’ or ‘fiddler crab’ (B&S: 2021). The pronunciation cáy is more likely to be a Jin era ESV word because of the final correspondence with the Early Middle Chinese form ɣaij’/ɣɛ:j’. I propose a new candidate for a Han era ESV word, ghẹ which is a type of small swimming crab. The vowel, tone and initial for ghẹ match neatly with the Late Han Old Chinese reconstruction gɛ^B; the voiced fricative initial for ghẹ implies that the initial for this word either spirantized after borrowing, or was borrowed after the voiced velar fricative developed in the regional variety of Chinese.

The syllable for ‘leg’ 脛 is interesting because both the Early Sino-Vietnamese and Late Sino-Vietnamese forms both have hỏi and ngã tones. The pronunciation hĩnh is quite possibly an earlier loanword that was later codified as a recognized Hán-Việt word. The initial value of h- indicates that hĩnh is a loanword from the Jin era. It appears that the syllable for ‘leg’ underwent graphic analogy changes in Mandarin with the palatalized velar initial and in Cantonese with the pronunciation ging³⁹³. This graphic analogy phenomenon in both Mandarin and Cantonese shows that the Late Sino-Vietnamese pronunciation adheres to *Xiá* initial pronunciation much like other Chinese varieties during the time of the *Qièyùn*. The ESV pronunciation of ‘leg’ 脛 ǎng resembles the Late Han Old Chinese reconstruction gɛŋ^c, the voiced velar initial from the Han period likely devoiced into a plain velar stop.

Xia initial syllables with voiced labiodental initials are considered to be ESV loanwords by Alves and later developments by Chiang Chia-lu. Wáng Lì (1948) describes the

⁹³ The pronunciation hing⁵ also exists in Cantonese but it is seen as an alternate pronunciation. <https://humanum.arts.cuhk.edu.hk/Lexis/lexi-can/> accessed 03/10/2025

process of v- initials emerging after h- initials disappear in the colloquial pronunciation the following process:

hw- → w- → v- (Wáng Lì 1948: 480)

The tones for the words ‘disaster’ 禍 *vạ*, ‘to draw’ 畫 *vẽ*, ‘gold’ 黃 *vàng*, and ‘wok’ 鑊 *vạc* indicate that these are likely early loanwords. Based on the tonal correspondence, Alves is correct that these are Early Sino-Vietnamese words. The loans may be ESV words but the initial v- is not a result of Old Chinese pre-initials, but a later result of low vowels and voiced labial-velar approximants becoming voiced labiodental fricatives. Evidence from Mường shows a preservation of w- initials for words like ‘gold’ pronounced as *wàng* (Barker 1966: 22). Mường dictionaries also show a regular correspondence between Mường w- and Vietnamese v- and h-:

鑊 Mường <i>vạc</i> , Việt <i>vạc / hoạc</i>	禍 Mường <i>wã</i> , Việt <i>vạ/họa</i>
黃 Mường <i>wàng</i> , Việt <i>vàng/hoàng</i>	畫 Mường <i>wẽ</i> , Việt <i>vẽ / hoạ</i>

(Nguyễn Văn Khang: 2002)

Phan (2013) also points out that the word for draw 畫 *vẽ* was recorded as *uẽ* in Alexander deRhodes’ dictionary (Phan 2013: 111). These v- initial loanwords must have been borrowed during the Early Middle Chinese period or, at the very earliest, the Late Han period. The initial developments came later so these are EMC loans with initial changes that came later. Most Early Sino-Vietnamese initials from the Jin period are either v- from *hékǒu* syllables or h- from *kāikǒu* syllables; the only exception to this rule is ‘ball’ 丸 *hòn* which is a *hékǒu* syllable that demonstrates an h- initial. The demonstration of h- for ‘ball’ implies a case of the initial h- from the voiced velar fricative not being deleted and the medial -w- would then not turn into a v-. This is likely a pronunciation for the word ‘ball’ from an AMC

dialect, and the pronunciation with the preserved h- became popularized, other AMC dialect pronunciations would have lead to a form that resembles *vòn 丸 ‘ball’.

John Phan (2013) points out that the Late Sino-Vietnamese syllable ‘limit’ 限 demonstrates the nặng tone in both the EMC and LMC forms (Phan 2013: 112). Phan finds this interesting because ‘limit’ 限 hạn is a *Shǎng* initial syllable and Phan thinks this syllable should demonstrate a Vietnamese ngã tone. Middle Chinese *Shǎng* tones could demonstrate Vietnamese nặng tones if the *Shǎng* tone Chinese syllable is voiced, such as the syllable ‘to be located at’ 在 *zài* 在 which is a voiced Middle Chinese *Cóng* 從 initial dz- syllable. The syllables ‘limit’ and ‘disaster’ 禍 禍 were likely borrowed back when the local variety of Chinese still had voiced velar fricatives. The voiced initial for these Early Middle Chinese *Shǎng* tone syllables led to the syllables developing Vietnamese nặng tones. Therefore, ‘disaster’ 禍 禍 and ‘limit’ 限 hạn are examples of earlier loanwords that have been codified into the Hán-Việt reading gloss system.

Yún 云 vân Initial

云 <i>yún</i> vân	EMC w-	MC hj-	LMC y-	OC *G ^w -, m-q ^w - *C.G ^w -	LHOC w-	HESV	JESV	LSV v- h- b-	HVVH v- b-
韻 <i>yùn</i> rime	wun ^h	hjunH	yn`	*[m-q ^w]i[n]-s	wənh ⁹⁴			vận	vần
園 <i>yuán</i> garden	wuan	hjwon	yan	*C.G ^w a[n]	wan> wɑn			viên	vườn
為 <i>wèi</i>	wiǎ/ wi	hjwe	yj	*G ^w (r)aj-s	waj> we ⁹⁵			vi	vì

⁹⁴ Reconstruction by Starostin, obtained from Kaom.net.

⁹⁵ Reconstruction by Starostin, obtained from Kaom.net.

behalf									
盂 <i>yú</i> basin	wuǎ	hju	yǎ	*[G] ^w (r)a	wa> wα			vu	vò
圓 <i>yuán</i> round	wian	hjuwen	yan	*G ^w en	wen> wan			viên	vành
有 <i>yǒu</i> have	wuwŋ	hjuwX	iwŋ, xhiw ŋ	*[G] ^w əʔ	wu ^B wuə ^B			hữu	
雄 <i>xióng</i> hero	wuwŋ	hjuwn g	iwŋ, xhiw ŋ	*[G] ^w əŋ	wuŋ			hùng	
熊 <i>xióng</i> bear	wuwŋ	hjuwn g	iwŋ, xhiw ŋ	*C.[G] ^w (r)əm	wim wəm			hùng	
又 <i>yòu</i> again	wuw ^h	hjuwH	iw`	*[G] ^w əʔ-s	wu ^c wuə ^c			hựu	
郵 <i>yóu</i> post	wuw	hjuw	iw	none	wu wuə			bưu	
疣 <i>yóu</i> tumor	juw	hjuw	jiw	none	wu wuə			vưu	bườu bườu

The usual development of *Yún* initial syllables are h- and v-. Phan and deSousa (2016) argue that this phenomenon of v- and h- demonstration occurred in Annamese Middle Chinese based on data from contemporary Southwestern Chinese varieties. Phan and deSousa discuss the phenomenon of MC *Yún* 云 hj- initials developing h- initials in the *Tōng* 通 rime group and *Zé* 仄 tone syllables in the *Liú* 流 rime group. Phan and DeSousa show a correlation for h- for MC hj- in Hèzhōu Jiǔdū Tǔhuà and Nánning Pínghuà.

Hèzhōu Jiǔdū Tǔhuà

流開三平尤雲 hjuw : 尤 ‘especially’ : y VN: vưu

流開三上有雲 hjuwX : 有 ‘to have/exist’ : xau VN: hữu

流開三去宥雲 hjuwH : 又 ‘again’ : iəu VN: hɿu

通開三平東雲 hjuwng : 熊 ‘bear’ : xiəŋ VN: hùŋ

Nánning Pínghuà

流開三平尤雲 hjuw : 尤 ‘especially’ : jəu VN: vɿu

流開三上有雲 hjuwX : 有 ‘to have’ : jəu VN: hɿu

流開三去宥雲 hjuwH : 又 ‘again’ : jəu VN: hɿu

通開三平東雲 hjuwng : 熊 ‘bear’ : jɿŋ VN: hùŋ

Phan and DeSousa show that there is a stronger correlation between Late Sino-Vietnamese syllables and Hèzhōu Jiǔdū Tǔhuà (Phan & de Sousa 2016: 27). More varieties of Tǔhuà also develop velar fricative x- initials for the syllable ‘to have/to exist’ 有. It is puzzling that no other syllable with a *Liú* rime for the *Yún* initial group demonstrates velar or glottal fricatives, there is a consistent preservation of the high front medial vowel in the Pínghuà and Tǔhuà varieties. This obscures a connection between AMC features and current LSV features. Mường lexical items show demonstrations of h- initials for the *Liú* rime group syllables as well:

yǒu yì 友誼 ‘friendship’ : Mường: hɿu nǵ / Việt: hɿu nghi (Nguyễn VK 2002: 196)

yīng xióng 英雄 ‘hero’ : Mường: anh hùŋ / Việt: anh hùng (Nguyễn VK 2002: 23)

The correlation between the Southwestern Chinese velar fricative x- and Late Sino-Vietnamese h- initials for Middle Chinese hj- initials is extremely rare, with the only clear example being the syllable ‘to possess’ 有 hɿu. A correlation between glottal fricatives in Late Sino-Vietnamese and glottal stops in Southwestern Chinese varieties is virtually non-existent. What is particularly strange is the fact that the syllables ‘friend’ and ‘have/exist’ have the same phonological value represented by the hexagram, yet the syllable ‘to

have/exist’ demonstrates velar fricative x- in Tǔhuà dialects while the syllable ‘friend’ never demonstrates h- or x- in the same dialects.

Figure 52: *Yún* initial syllables in Tǔhuà dialects: (Modified from Xiè Qíyǒng 2010: 286)

字 syllable	新田南鄉 Xintian Nanxiang	新田北鄉 Xintian Beixiang	祥林鋪 Xianglin pu	理家坪 Lijiaping	江永松柏 Yongjiang Songbo
有 hjuwX ‘to have/exist’ 流開三上有雲	xau	xau	xəu	xəu	xəu
友 hjuwX ‘friend’ 流開三上有雲	iəu	iəu	iəu	iəu	iəu

It is likely that the h- demonstration for Middle Chinese hj- is a Proto Việt-Mường innovation, but the syllable ‘to possess’ in Proto Việt-Mường influenced some AMC dialects after being borrowed.

There are three syllables that demonstrate labial stops which are ‘post’ bư as in bư điện ‘post office’, and tumor with the pronunciations bứu and bữu. Xián Mǎnxuě considers these pronunciations to be traces of an older pronunciation; however, none of the Old Chinese and Middle Chinese reconstructions demonstrate bilabial stop initials. The syllable for ‘tumor’ also demonstrates a voiced labiodental fricative v- because it is a *Píng* tone syllable in the *Liú* rime group. The Bīnyáng 賓陽 Píng huà pronunciation of the *Yún* initial syllable vân *Yún* 云 ‘speak’ is vən and the Héngxian Píng huà pronunciation of the syllable for king is uŋ, both are examples of syllables with a voiced labiodental approximant u-. In Alexander De Rhode’s Dictionary, several Bang initial group syllables are written down with a flourished b-, which is described as having the sound quality in between a v- and a b-.

The word *vợ* 'wife' for example is written with a flourished b-, and maintains the b- initial in Mường *bở* 婦⁹⁶.

Rather than the demonstration of b- showing traces of earlier pronunciation, the b- demonstration reflects a dialectal interpretation of *Yún* initials; most were interpreted as either h- or v- but some were pronounced as v-. The most likely scenario that caused the b- and v- confusion is an occasional merger that occurred in the Middle Vietnamese period. In the Middle Vietnamese period, there were voiced bilabial fricatives written with a b with a flourish, this caused small scale betacism. Therefore, the word for 'post' likely underwent the following change:

$hjuw \rightarrow vuu \rightarrow \beta uu \rightarrow buu$

The syllable for 'tumor' 瘡 likely went through a similar change where the v- initial got interpreted as a v- initial and then became interpreted as a b- initial. It is important to note that the b- initials are not recognized as Hán-Việt syllables but are found in *Nôm* dictionaries as a *thuần Việt* word. The b- pronunciation may be caused by betacism in the Middle Vietnamese period that oversaw the occasional mixup of labial stops and labiodental fricatives because of a merger with the voiced bilabial fricative /β-/.

Yĩ 以 dĩ Initial

以 yĩ dĩ	EMC j-	MC y-	LMC j-	OC *N-r- *l-, *m-r- *G ^w -, *l-	LHOC j-, !- w-, l-, y-	HESV th- r-	JESV d- v-	LSV d-	HVVH
酉 <i>yǒu</i> 10th earthly branch	<i>juw'</i>	<i>yuwX</i>	<i>jiw'</i>	*N-ru?	<i>ju? > ju^B</i>		<i>dậ</i>	<i>dậ</i>	

⁹⁶ Nguyễn Văn Khang 2002 *Từ Điển Mường-Việt*.

蛻 <i>tùi / yuè</i> shed	ɕwɨaj ^h	ywet	ɕɨaj`	*lot	l̥wās	lột reject		thuế	
藥 <i>yào</i> medicine	jiak	yak	jiak	*m- r[e]wk	jauk>jak záuk ⁹⁷	thuốc		được	
檐 <i>yán</i> eaves	jiam	yem	jiam	*Cə.[ɣ]am	lam>yam			diêm thềm	
役 <i>yì</i> service	jwɨajk	ywek	jyajk	*ɣ ^w ek	wek		việc	dịch	
夷 <i>yí</i> savage	ji	yij	ji	*ləj	ji	rợ		di	
遺 <i>yí</i> remnant	jwi ^h jwi	ywij	jyj` jyj	*[ɣ](r)uj *[ɣ](r)uj-s	wi wi ^c	rơi		di dị	
誘 <i>yòu</i> invite	juw'	yuwX	jiw'	*luʔ	ju ^B	rủ		dụ	
喻 <i>yù</i> explain clear	juǎ ^h	yuH	jyǎ`	*lo-s	jo ^c	rõ		dụ	

The initial d- is the regular demonstration for LSV 以 initial syllables, pronounced as [j-] in Southern Vietnamese and as [z-] in the northern variety. There are two syllables in the chart that show aspirated dental initials, ‘to shed’ 蛻 and ‘eaves’ 檐. The connection between the 以 initial for ‘to shed’ 蛻 and the ESV pronunciation lột was made by Baxter & Sagart (2021), “蛻 *lot > ywet > yuè ‘excuviae of insects of reptiles’ (B&S 2021: 22). Alves (2022) raises reasons to be skeptical of this connection between OC and Vietnamese lột. Trần Trí Dõi notes that there are several cognates in Austroasiatic languages like Khmer (Alves 2022: 46). The Mon-Khmer cognates convince me to agree with Alves and Trần that

⁹⁷ Reconstruction by Starostin, obtained from Kaom.net.

lôt does not come from Old Chinese *lot, therefore l- is not a characteristic of ESV in the *Yǐ* 以 initial group. The aspirated dental initial is the Middle Chinese *Tòu* 透 initial pronunciation. The *Yǐ* initial pronunciation has been abandoned in AMC as is the case in Mandarin with the pronunciations *shuì* and *tuì*, as well as Cantonese with pronunciations *seoi3* and *teoi3*.

The term for a medicinal plant *thuốc* 藥 is cited by Alves (2016) to be an ESV word.

Modern Varieties of Chinese demonstrate z- initials for the syllable ‘medicinal plant’:

Bangkok Mǐn 曼谷閩語 ze?
Níngyuǎn Píng huà 寧遠平話 zɿ
Kāipíng Yuè 開平粵語 ziaŋ
Quánzhōu Xiāng Huà 全州湘話 zio

(Data from Xiǎoxué táng 小學堂)

Modern Chinese varieties also demonstrate a diverse variety of initials for the syllable ‘eaves’ *yán* 檐:

粵 Yuè :

Huā Xiàn 花縣 : sim
Hong Kong 香港 : sim

Tǔ huà 土話 :

Fù chuān Tǔ huà 富川土話 : si

Mǐnyǔ 閩語 :

Xiàmén 廈門 : iam (Literary) tsǐ (Colloquial)
Fúzhōu 福州 : sien
Pútían 莆田 : ʔiŋ

(Data from Xiǎoxué táng 小學堂)

The s- initials for these varieties can provide us clues for how an aspirated dental initial might have emerged from the spoken language rather than through a case of direct graphic analogy. Some of the dialects for Southwestern Middle Chinese likely displayed s- initials for the syllable ‘eaves’ and after being incorporated into Vietnamese, it underwent a process that turned it into an aspirated dental stop s- → th 檐 siêm → thiêm.

Xián Mǎnxuě (2016) argues that the r- initial syllables in the Yǐ 以 initial group come from an earlier layer of loanwords. Specifically, Xián says that they come from an Old Chinese layer. The syllables ‘remnant’ rǒi 遺, ‘invite’ rǔ 誘 and ‘clear’ rǒ 喻 all have matching tonal correspondences with their Old Chinese counterparts. The syllable meaning ‘savage’ does not have a clear tonal correspondence with the Old Chinese form since it is a Chinese *Píng* tone syllable, yet it demonstrates a Vietnamese nặng tone. Xián Mǎnxuě (2016) finds seven nặng tones in the *Yīnpíng* 陰平 category and sixteen nặng tones in the *Yángpíng* 陽平 category. Xián does not discuss tonal discrepancy for the syllable ‘barbarian’ specifically, but she does discuss tonal discrepancies in general in Sino-Vietnamese vocabulary.

Xián (2016), Chiang (2011) and Alves (2018) both discuss tonal correspondence discrepancies in Sino-Vietnamese *Píng* initial syllables. Chiang (2011) points out that nặng tones in *Píng* category tone syllables occasionally occur with voiced initial syllables. Chiang has unable to determine which historical layer nặng tones from Chinese *Píng* tones come from. The author hypothesizes that the nặng tone for rợ was a colloquial pronunciation that developed long after borrowing, so the form rợ for ‘savage’ 夷 may be a case demonstrating

of Early Sino-Vietnamese initials but demonstrating tones that became Vietnamized Hán-Việt Việt-Hóa.

The word for ‘work’ *việc* is considered to be an ESV word by Nguyễn Thanh Tùng (2015) and Nguyễn Tài Cẩn (Nguyễn Thanh Tùng 2015: 172). This syllable is likely to be a loanword from between the formation of the Late Han syllable *wek* and Early Middle Chinese *jwajk*. The Early Middle Chinese form has the medial *j* which is present in the Vietnamese form ‘*việc*’ but the *j*-initial was either not present or it disappeared prior to borrowing. A syllable resembling the form *wajk* or *wiak* 役 was likely borrowed into the Jiaozhou dialects before the Annam period, the initial *w*- is present in some Mường dialects today with *việc* being pronounced as *wiệc* (Barker 1966: 25). The *v*-initial definitely came later after the *w*-initial turned into a *v*-initial. By comparing the finals, we know that the syllable ‘work’ *việc* 役 is an ESV word, but the *v*-initials developed long after it was borrowed into Proto Việt-Mường through the following process:

役 EMC *jwajk* → AMC *wajk* → PVM *wiak* → Vietnamese *việc*/ Mường *wiệc*

Rì 日 nhật Initial

日 rì/nhật	EMC ɲ-	MC ny-	LMC r-	OC *n-,*C.n- *ŋ-	LH OC	HESV nh-	JESV nh-	LSV nh-	HV VH
日 <i>rì sun</i>	ɲit	nyit	rit	*C.nik	ńit			nhật	
二 <i>èr two</i>	ɲi ^h	nyijH	ri [`]	*ni[j]-s	ńis	nhĩ	nhì	nhị	
兒 <i>ér son</i>	ɲiǎ/ ɲi	nye	ri	*ŋe	ńe			nhi	
而 <i>ér and/but</i>	ɲi/ɲi	nyi	ri	*nə	*ńə			nhi	
如 <i>rú similar</i>	ɲiě	nyo	riǎ/ ryǎ	*na	ńa			như	
辱 <i>rǔ shame</i>	ɲuawk	nyowk	rywkw	*nok	none			nhọc	
染 <i>rǎn dye</i>	ɲiam	nyemX	riam	*C.n[a]m?	ńam?	nhuộm		nhiễm	
任 <i>rèn entrust</i>	ɲim	nyimH	rim	*n[ə]m-s	ńim ^c			nhâm	
人 <i>rén person</i>	ɲin	nyin	rin	*ni[ŋ]	ńin			nhân	
讓 <i>ràng yield</i>	ɲiaŋ	nyangH	riaŋ	*naŋ-s	ńaŋ ^c		nhuờng	nhượng	
潤 <i>rùn slide</i>	ɲwin ^h	nywinH	ryn [`]	NONE	ńuin ^c			nhuận	
鈉 <i>nà</i>		nywejH		njobs ⁹⁹				nột	

⁹⁹ Reconstruction by Zhèngzhāng Shàngfāng (2003), obtained from kaom.net.

sharpen ⁹⁸									
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Early Middle Chinese, Middle Chinese and Sino-Vietnamese *Ri* initial

correspondences are mostly consistent. Pulleyblank shows us that by the LMC period the EMC palatals have merged into retroflex *r-* in the North, which is similar to the retroflex initials in Mandarin and other northern varieties. Pulleyblank (1984) refers to Kan'On, Sino-Korean and Tibetan Transcriptions when discussing the change of the *Ri* initial to retroflex initials (Pulleyblank 1984: 66). In *On-Yomi* 音読み, the *Ri* 日 initial syllables in *Go-On* demonstrate alveolar nasals, which depalatalized from EMC. In *Kan'On*, *Ri* 日 initial retroflex initial syllables from Late Middle Chinese develop affricates and fricatives¹⁰⁰.

⁹⁸ In the modern age, *nà* 鈉 means the element 'sodium'.

¹⁰⁰ Numoto Katsuaki 沼本克明 (1986) provides a detailed analysis on *Go'On* and *Kan'On* Kanji pronunciations. Sawamoto argues that denasalization via a pre-nasalized voiced post-alveolar fricative [ɲʒ-] led to the *Kan'On* pronunciations in *Ri* initial syllables (Numoto 1986: 23). For more on Middle Chinese and Sino-Japanese Kanji correspondences, see Numoto Katsuaki 沼本克明, (1986), *Nihon Kanjion no Rekishi* 日本漢字音の歴史, Tōkyō dō shuppan 東京堂出版.

Figure 53: Rì 日 initial syllables in Sino-Japanese *On-yomi* 音読み:

Syllable	Go'On 呉音	Kan'On 漢音
人 rén person	にん nin 三人 さんにん san nin three people	じん jin 中国人 ちゅうごくじん chūgokujin Person from China
日 rì sun	にち nichi 一日中 いちにちじゅう ichinichijū all day	じつ jitsu 本日 ほんじつ honjitsu This day (today)
二 èr two	に ni 二 two (ordinal)	じ ji Used in names like: 伊藤潤二 いとう じゅんじ Itō Junji (a manga author)
辱 rǔ shame	にく niku 忍辱 にんにく ninniku forbearance	じょく joku 侮辱 ぶじょく bujoku insult
染 rǎn stain	NO DATA (Maybe ねん nen)	せん sen 汚染 おせん osen pollution
然 rán thus	ねん nen 天然 てんねん tennen natural	ぜん zen 自然 しぜん shizen nature

The *Go-On* 呉音 pronunciations above refer to the pronunciations prevalent in the Jiankang 建康 area of Wú (Pulleyblank 1991: 3). The *Go-On* pronunciations are different but not that far off from the Jin Era Sino-Vietnamese pronunciations and the likely pronunciation of Early Middle Chinese that was prevalent in the Jiankang Empire hypothesized by Chittick. Pulleyblank also mentions that palatals were retained for Rì 日 initial syllables in the southern domains. The *Kan'On* initial demonstration of affricates and postalveolar fricatives is a phenomenon that never occurred in any layer of Sino-Vietnamese; Rì initial syllables remained as palatal nasals throughout Late Sino-Vietnamese which shows an obvious retention of palatal nasals in Annamese Middle Chinese.

There is a regular correspondence of palatals in all varieties of Southwestern Chinese *Rì* initial syllables. The regular correspondence of palatals in the contemporary Southwestern varieties and the regular correspondence of *Rì* initial syllables with Late Sino-Vietnamese seems to suggest that in Southwestern Middle Chinese the *Rì* initial merge to retroflexes was extremely rare. In most varieties with the exception of Gàn 贛, palatal syllables are quite prevalent in Southwestern varieties. In Pínghuà, there is a spectrum between palatal glides *j-*, palatal nasals *ɲ-*, velar nasals *ŋ-*, alveolar nasals *n-*, and voiced alveolar lateral approximants *l-*:

rì 日 ‘sun’

Lóngténg 龍騰: *ɲiəm*, Língchuān 靈川 (Sānjiē 三街): *i*
 Róngshuǐ 融水: *nEt*, Nánning 南寧: *ɲiet*

rǎn 染 ‘dye’

Bǎisè 百色 (Nàbì Pínghuà 那畢平話) : *ɲim*, 南寧 Nánning: *im*
 Guìlín 桂林: *ɲen*, Níngyuǎn 寧遠: *lǎ*

rú 如 ‘similar’

Bǎisè 百色 *hi*, Bīnyáng 賓陽 *su*, Nánning 南寧 *cy*

rén 人 ‘person’

Guìlín 桂林 (Cháoyáng 朝陽) *ɲiŋ*, Língguì 臨桂 (Liǎng Jiāng 兩江) *ɲan*
 Fúsuǐ 扶綏 (Lóngtóu 龍頭) *iən*

rěn 忍 ‘endure’

臨桂 Língguì *ɲEn*, 融水 Róngshuǐ *ɲEn*, 寧遠 Níngyuǎn: *nE*

(Data from Xiǎoxué táng 小學堂)

Chiang Chia-lu (2011) discusses a few syllables that are out of the ordinary such as the rare mix-up between palatal nasals and alveolar nasals. The examples Chiang provides include 'endure' 忍 *nin*, which Chiang argues is a Chinese loanword, *nột* 納, which Chiang argues is a case of graphic analogy with *nột* 訥, and *nọ* 懦. The above data shows that a shift from palatal nasals to alveolar nasals is possible, although rare through the spoken language. Southwestern Chinese varieties consistently demonstrate palatal approximants, palatal nasals, and occasionally demonstrate alveolar nasals and alveolar liquids. If Chiang Chia-lu is correct about the pronunciation of *nột* being a case of graphic analogy, then this is a case of graphic analogy being widespread as it affects Mandarin, Cantonese, Sino-Japanese and Sino-Korean pronunciations. Sino-Japanese *Go-On* demonstrates the voiced dental initial from Early Middle Chinese alveolar nasal initials.

There is a north-south split in pronunciation by the Late Middle Chinese period, the north developed retroflex initials and in the south palatal nasals were mostly retained. Pulleyblank mentions the retention of palatal nasals in Sino-Vietnamese by the Late Middle Chinese period without further commentary. We need to consider the linguistic environment of Sino-Vietnamese when discussing the retention of palatal nasals. Southwestern Chinese varieties demonstrate palatal nasals in a myriad of dialects. Hmong-Mien words, Tày words and loanwords in Proto Southwestern Tai also consistently demonstrate palatal nasals from Chinese *Rì* initial syllables. We have every reason to assume that Annamese Middle Chinese retained palatal nasal initials and that this retention was influenced by other Southwestern Languages such as Kra-Dai and Hmong-Mien.

There is a consistent demonstration of palatal nasals for Sino-Tày *R* initial syllables. Shimizu (2020b) points out the correspondences between Sino-Vietnamese and Sino-Tày initials and uses the syllable 戎 to point out a correspondence of palatal nasal initials in both languages, *nhoòng* in Tày and *nhung* in Late Sino-Vietnamese (Shimizu 2020b: 46). There are, of course, more examples that show such a correspondence between Tày and Sino-Vietnamese:

Sino-Tày pronunciations:

Many Sinographs that are used for *R* initial syllables were borrowed into Chữ Nôm Tày, either phonetically to write native Tày words or as cognates with Chinese words. Below is a list of Tày words that use *R* initial Sinographs:

日 *nhật* 'sun', *nhứt*, 二 *nhị* 'two', 兒 *nhi* 'child', 而 *nhỉ/gỉ* 'gradually' (Tày meaning)
任 *nhọm* 'appoint', 如 *như* 'similar', 讓 *nhường* 'to yield'

There are three things we need to consider for the correspondences between Sino-Vietnamese and Sino-Tày initials, which are the palatal rich medieval southwest, the trilingual domain in the Red River Delta, and the tendency to use Sino-Vietnamese pronunciation centuries after independence from Chinese polities. The syllables *như* 'similar', *nhi* 'child' and *nhường* 'yield' are quite possibly inspired from Sino-Vietnamese pronunciations, but the syllable *nhọm* 'appoint' and the *nhỉ* clearly show a deviation from Sino-Vietnamese vowels and tones. The consistent use of palatal nasals in the Tày language shows the likelihood that Sino-Tày also consistently demonstrated palatal nasals from Annamese Middle Chinese and Tày contributed to forming a palatal rich environment, preventing the merging of *R* initials in AMC with retroflexes.

Comparison with Proto Tai and Proto Southwestern Tai

Proto-Tai

There is limited data for Chinese loanwords in Proto-Tai. The development of palatal initials in Middle Chinese in a palatal rich environment. Did Annamese Middle Chinese ever develop r- initials that are shown in Pulleyblank's Late Middle Chinese reconstruction? It is possible that some northern varieties of Southwestern Middle Chinese developed r- initials for *Ri* initial syllables, but Jiaozhounese and Annamese Middle Chinese did not develop such initials, instead they retained palatal nasals. There are only two *Ri* initial words of Chinese origin in Pittayaporn's report 'two' *ɲi: 二 and 'dye' *ɲo:m 染, pronounced with palatal glides /j-/ in Modern Central Thai, a descendent of Proto-Southwestern Tai.

Comparison with Zhuang:

Like many areal languages, Zhuang is rich in palatals, including palatal nasals. Many words that are nasal initials in the south are pronounced as alveolar trills in the north. To reiterate, Luo 2008 shows us the basic differences between Northern Zhuang and Southern Zhuang with the example 'water', which in the north is rəm, and in the south is nəm (Luo 2008: 321). Data from Sū Yǒngqín's Sawndip dictionary shows us the pronunciation of *Ri* initial words as well as graphs that use *Ri* initial Sinographs as phonetic components.

肉 ɲuk 'to lay a body in a coffin' (Su 1989: 398)

染+会 ɲum 'to dye' (ibid: 398)

牙+任 ɲan 'to bite' (ibid: 390)

才+乃+寸 ɲan 'pregnant' (Su 1989: 390)

才+日 ɲat 'to push and squeeze' (ibid: 388)

Late Middle Chinese demonstrates retroflex initials in the north yet Late Sino-Vietnamese *R*ɿ initial syllables always demonstrate palatal nasals. Tai varieties such as Tày, Proto Tai, Proto Southwestern Tai and Zhuang usually retain palatal nasals, while Zhuang occasionally mixes palatal nasal initial syllables with velar nasal initial syllables such as ‘two’ 二 ngeih. Other areal languages that lack retroflexes like Thai and Cantonese retain palatals from *R*ɿ initial syllables but are changed to glides [j-]. Modern Southwestern Chinese varieties demonstrate a consistent retention of palatal nasals, which suggests that during the Late Middle Chinese period, Annamese Middle Chinese and most varieties of Annamese Middle Chinese were affected by the surrounding languages and retained their palatal nasals. This is why Sino-Vietnamese *R*ɿ initial syllables always demonstrate palatal nasal initials nh-.

VII: Summaries and Conclusion

This dissertation provides an in-depth analysis of Sino-Vietnamese initials from various stages through the lens of Sino-Vietnamese's linguistic environment, historical developments and philological interference. I have compared Sino-Vietnamese in its various stages with the corresponding historical Chinese varieties. This dissertation also argues that the Tai-speaking people were influential in the development of Sino-Vietnamese phonology and that Tai languages play a role in the Southwestern Middle Chinese narrative. This dissertation finds that the Tày language and the script Chữ Nôm Tày is an important resource for researching the development of Sino-Vietnamese as well as Annamese Middle Chinese.

This dissertation also challenges the reliability of Baxter & Sagart's system when explaining important Early Sino-Vietnamese features for Han and Jin Era loanwords; pre-initials are ancient features that may have been lost by the time of these early loans, and there are alternative explanations for Early Sino-Vietnamese initial lenition such as being interpreted as being voiced or lenition resulting from betacism. I have used Alves's (2018) timeline of Sinitic and Vietic tonogenesis to show that some Early Sino-Vietnamese words could not have had pre-initials during the time of borrowing because by the time Sinitic lost *Qù* tone final codas the pre-initials must have gone as well.

This dissertation also argues that some of the Sino-Vietnamese syllables identified by some scholars such as Mark Alves (2016; 2018; 2024) and Baxter & Sagart (2014) as Early

Sino-Vietnamese syllables are in fact not Early Sino-Vietnamese syllables but are Hán-Việt Việt-Hóa. Some of the syllables earlier identified as Early Sino-Vietnamese such as viết 筆 ‘to write’ which has a Late Middle Chinese medial profile and other words such as vườn 園 ‘garden’ and vẽ 畫 ‘to draw’ which developed without pre-initials and likely simply developed from *w- as mentioned by Wáng (1948).

This dissertation also shows that the phonological profile of language groups and language interaction influence the exceptional development of Sino-Vietnamese initials. A closer look into the initial changes of Sino-Vietnamese and Southwestern Chinese varieties reveals interesting new activities that may have taken place during the period of Annamese Middle Chinese such as the aspirated/unaspirated mismatch in AMC that led to this phenomenon in Late Sino-Vietnamese and Southwestern Chinese varieties. A comparison of Tai, Vietic and Southwestern Chinese phonology also shows a general dearth of retroflex initials as well as an abundance of alveolars and palatals that influenced the loss of retroflex initials in Jiaozhounese Early Middle Chinese. This linguistically diverse retroflex-less environment also contributed to the occasional appearance of palatals and alveolars that occur in Late Sino-Vietnamese *Zhī* 知 initial group such as chuyển 轉 ‘turn’, sỉ 恥 ‘shame’, chùy 錘 ‘hammer’, and nhấ 賃 ‘rent’.

I have also explored the role of graphic analogy when explaining unusual initial changes in Late Sino-Vietnamese and have shown that graphic analogy was a nuanced medieval educational phenomenon that affected some syllables in the Red River Delta specifically and other syllables in the medieval southwest as well as throughout the East Asian cultural sphere generally. Finally, I have shown that the local varieties of Chinese such as Jiaozhounese and Annamese Middle Chinese are southern representatives of the *Qièyùn* system, and unusual initial activities in JESV and LSV are also due to Chinese characters

having multiple *Qièyùn* pronunciations, with one pronunciation among them gaining prominence.

The Trilingual Domain, Chữ Nôm Tày

The development of Sino-Vietnamese pronunciations needs to be understood through the context of Southern China and Northern Vietnam's rich linguistic environment. Aside from Sino-Tibetan and Austroasiatic, one of the language families that is the most important for understanding the development of Vietnamese and Sino-Vietnamese is Kra-Dai/Tai-Kadai. It is clear from earlier scholarship that there was a presence of shared vocabulary between Vietic and Kra-Dai speakers roughly during the Đông Sơn period, and research for this dissertation shows that local varieties of Chinese interacted with both Vietic and the Kra-Dai language of Tày during the medieval Chinese occupation period.

The presence of Tai language groups throughout Vietnamese history is well established, but this dissertation takes a closer look at the Tai connection with Sino-Vietnamese pronunciations, primarily through the Nôm Tày script. The Tày are considered to be indigenous to modern day northern Vietnam (Đoàn 1996). The majority of the Tày live in the far northern provinces of northern Vietnam today. David Holm (2019) informs us of a legend about a Tày community living in Jinlong and their ancestral history.

According to this legend, around 600 years ago, a community of Tày migrated to the mountainous province Cao Bằng 高平 in Vietnam and Jīnlóng 金龍 in Guǎngxī from Hải Dương 海陽 (Holm 2019: 3). The province of Hải Dương is a province within the Red River Delta where Annamese Middle Chinese is hypothesized to have been spoken. In addition to the local history of the Tày, lexical and philological data from both LSV and Sino-Tày give us

new insight into the phonological changes that occurred in Sino-Vietnamese and Sino-Tày words that were borrowed from AMC. Although I am not convinced by J.R. Chamberlain's assertions that AMC didn't exist and that Việt-Mường was not present in the Red River Delta, Chamberlain (2016) was right that Kra-Dai languages needed to be included when discussing linguistic history of the Red River Delta.

Kra-Dai languages, notably Tày and Zhuang, occupy what Holm calls the "Tai-speaking borderland region" (Holm 2019:17) in Northern Vietnam and Southwestern China. As the southern periphery of what is known to the Ancient Northern Chinese as "the Hundred Yue" Bǎi Yuè/ Bách Việt domain, Southwestern China and northern Vietnam show features of this ancient diversity through the modern Tai, Vietic and Sinitic languages to this day. The people who use the Zhuang script and the Nôm Tày script occupy the area of modern Vietnam, Guǎngxī and Húnán. Shimizu Masaaki (2020b) compares the correspondences between Sino-Tày and Sino-Vietnamese when discussing the influence that Late Sino-Vietnamese and Nôm pronunciations have on Sino-Tày pronunciations (Shimizu 2020b: 45-47). This dissertation takes a closer look at these correspondences by showing the initial correspondences of several lexical examples, many of which are not just readings of similar looking characters, but are cognates with Late Sino-Vietnamese syllables.

Shimizu's work discusses two critical points about the Tày script; one is that there has been a trend in recent centuries for Tày speakers to rely on Sino-Vietnamese pronunciation. Shimizu also discusses the significance of comparing Sino-Tày pronunciations and Sino-Vietnamese pronunciations of Chử Nôm Tày with Guǎngxī varieties of Chinese. In recent centuries, the pronunciation of Sino-Tày has been influenced by Sino-Vietnamese and Chử Nôm, a closer look at Tày's phonological system shows pronunciations that are unique to Sino-Tày and have information on its changes from Annamese Middle Chinese and how

they differed from those of Late Sino-Vietnamese. Here is what we can conclude about our findings in Sino-Tày:

Grade II initials for Jiàn and Yí initial syllables also soften in Sino-Tày

Cognates with Late Sino-Vietnamese grade II *Jiàn* and *Yí* initials show that initial lenition in grade II also occurred in Sino-Tày. This phenomenon serves as additional evidence that Tày was present in the Red River Delta and that Annamese Middle Chinese indeed had softened initials for grade II velar stops and velar nasals. There are differences between how the softened velar initials developed in both Late Sino-Vietnamese and Sino-Tày, with Late Sino-Vietnamese developing spirantized initials *gi* (pronounced as /j-/ in Southern Vietnam and the U.S., and /z-/ in Northern Vietnam), and Sino-Tày developing affricate *ch-* /c-/.

jiě 解 ‘untie’ ST: chài vs. HV: giải

jià 價 ‘price’ ST: chá vs. HV: giá

jiǎ 假 ‘fake’ ST: chá vs. HV: giả/giá

jiǎng 講 ‘speak’ ST: chǎng vs. HV: giảng

Nguyễn Tài Cẩn’s schema for grade II velar sound change begins with the plain velar stop and high front vowel medial /kj-/ (NTC 1979: 213). Shimizu (2020a) considers the grade II velar initials to have the same velar initial with the high front vowel medial as well /kj-/ (Shimizu 2020a: 192). This /kj-/ initial matches Pulleyblank’s (1984) Late Middle Chinese reconstruction. In basic terms, the change from Middle Chinese to Sino-Tày and Hán-Việt is as follows:

MC kj- > AMC Hypothesized palatal stop > Sino-Tày ch- /c-/

MC: kj- > AMC Hypothesized palatal stop > HV: gi- /z-/

Shimizu (2015b) also provides a study on the development of Tày initials from Tai consonant clusters. In Shimizu's analysis on velar lateral clusters he provides the following model for sound change from Proto-Tai, to Proto Central-Tai to Nôm Tày to Cao-Bằng Tày: Proto-Tai *kl > Proto Central Tai *kl > Nôm Tày *kj > Cao-Bằng Tày c-

Shimizu cites Huber (2010) for sound change from Tai consonant clusters as well referencing the following scheme:

*kl- > kj- > ky/k/tf-

(Shimizu 2015b: 6)

Nguyễn Tài Cẩn (1979) notes that the Middle Chinese kj- initial in grade II syllables turn into a palatal stop (Nguyễn Tài Cẩn uses the graph ʃ) (NTC 1979: 213). Following Nguyễn Tài Cẩn and Huber's model, we can say that the grade II *Jiàn* initial syllables in Annamese Middle Chinese must have been palatal affricates. The Annamese Middle Chinese palatal initials that rendered into fricatives /z-/ in Sino-Vietnamese, rendered into palatal stops /c-/ in Sino-Tày and rendered into voiceless alveolar affricates /ts-/ in modern southwestern Chinese varieties.

AMC: unknown palatal stop > Pínghuà: /ts-/

AMC: unknown palatal stop > Hán-Việt: gi- /z-/

AMC: unknown palatal stop > Sino-Tày: ch /c-/

AMC Alveolar fricatives become voiceless alveolar lateral fricatives

Middle Chinese *Xīn* 心 initial syllables turn into dental stops in Sino-Vietnamese and turn into alveolar lateral fricatives in Sino-Tày. In the Tày orthography, the alveolar lateral fricative is represented with s- or sl-. Similarly to the change in Hoisan 台山, alveolar lateral fricatives likely emerged from the voiceless alveolar fricatives s-:

AMC: s- Sino-Tày: †-

AMC: s- Hán-Việt: t-

AMC: s- Píng huà: †- Bīnyáng 賓陽, s- Líng uī 臨桂

‘silk’ 絲

Sino-Tày: sɔ

Hán-Việt: tì

Băisè Píng huà: †ɔi

‘west’ 西

Sino-Tày: sây

Hán-Việt: tây

Băisè Píng huà: †ɛi

The findings in Tày serve as additional confirmation that Annamese Middle Chinese *Xīn* initial syllables were likely alveolar fricatives, which are identical to the northern Middle Chinese counterpart. Both the Vietic dental stops in Sino-Vietnamese and the Tai alveolar lateral fricatives in Sino-Tày are areal features. The data shows that alveolar lateral fricatives are more common than dental stops in modern Southwestern Sinitic *Xīn* initial syllables; this is perhaps because of the frequent continuing contact between Sinitic and Tai people.

Yǐng initial syllables become voiced postalveolar fricatives in Sino-Tày

Palatal nasals and alveolar nasals emerged amongst AMC dialects and through contact with non-sinitic language groups. Ferlus (2009b) argues that palatal nasals are a result of grade three glottal stop initial syllables /ʔj-/ being interpreted as a voiced palatal plosive /tʃ-/ by Proto Việt-Mường speakers (Ferlus 2009b: 26). Lanneau (2020) discusses the possibility of a spoken language merger between *Rì* initial syllables and *Yǐng* initial syllables causing palatalization in Middle Chinese glottal stop initials; mergers occurred in syllables of other grades besides grade III afterwards.

This dissertation finds that *Yǐng* initial syllables that nasalize in Late Sino-Vietnamese are voiced postalveolar fricatives /ʒ-/ in Sino-Tày. Tày speakers must have interpreted the glottal stop initial syllables as voiced palatal implosives /ɟ-/. The voiced palatal implosive initials in Sino-Tày then turned into voiced post alveolar fricatives in the following sound change:

AMC /ʔj-/ > Sino-Tày /ɟ-/ > Modern Sino-Tày /ʒ-/ 因 giển ‘cause’

AMC: ʔj- Sino-Tày: gi- /ʒ-/

AMC: ʔj- Hán-Việt: nh- /ɲ-/

‘cause’ 因

Sino-Tay: giển

Han Viet: nhân

Annamese Middle Chinese: ʔj-

The nasalization in Việt-Mường later contributed to the development of nasals for *Yǐng* initial syllables that appeared in Chinese varieties such as Xiāng and Píngguà:

Yīn 因 ‘cause’ in Xiāng dialects:

Gǎngdōng 崗東: ɲie

Liǎng Jiāng 兩江: ɲie

Lǎojiē Lóudǐ 老街婁底: nin

(Lanneau 2020: 34, data from Coblin 2011 and Qú Jiànhuī 2010)

The demonstration of gi- /ʒ-/ in Sino-Tày makes Ferlus's hypothesis of nasalization more likely. This does not completely rule out the possibility that nasals occurred in Annamese Middle Chinese, but it may be an areal feature inherited from Vietic that later influenced nasals in modern Chinese *Yǐng* initial syllables. I hypothesize that another possible cause for palatal nasals in modern Southwestern Chinese varieties can be demonstrated by the figure below:

AMC: /ʔj-/ > Việt-Mường /ɟ-/ > Việt-Mường /ɲ-/ > Modern SWC Dialects /ɲ-/ & /n-/

Chóngniǔ labial initials do not become dentals in Tày

A comparison with Chữ Nôm Tày as well as Ferlus's model shows that *Chóngniǔ* IV dentalized labial initials were not a feature of Annamese Middle Chinese and did not impact Sino-Tày. The *Chóngniǔ* IV syllables that dentalize in Sino-Vietnamese remain as labials. There is one *Chóngniǔ* IV labial Tày syllable that shows a dental initial 並 téng as in téng póng 並奉 'to set a trap', but the initial is likely a result of mimicking Sino-Vietnamese pronunciations.

AMC: pj-/bj- > Sino-Tay: p-/b-

AMC: pj-/bj- > Han-Viet: t/th or pi-/bi-

'compare' 比 bǐ

MC Initial: Bing 並 b-

Sino-Tày: pǐ
Hán Việt: tử

Annamese Middle Chinese: bj-

‘humble’ 卑 bēi
MC Initial: Bang 幫 p-
Sino-Tày: 裨 pe (Based on the pronunciation of 卑 pe)
Han-Viet: ti/ty

Annamese Middle Chinese: pj-

Tày develops fricative initials for AMC *Cóng* 從 initial syllables

The demonstration of fricative initials for Sino-Tày and dental stops for Late Sino-Vietnamese confirms that *Cóng* initial syllables were affricates in Annamese Middle Chinese.

AMC: dz- /dʒ-/ > Sino-Tày: d- /ʒ-/ or s- /t̪-/
AMC: dz-/dʒ-/ > Hán-Việt: t-

‘Chinese character’ 字 zì
Sino-Tày: dử
Hán-Việt: tự

‘seat’ 座 zuò
Sino-Tày: soá ‘house’
Hán-Việt: toạ

‘money’ 錢 qián
Sino-Tày: dèn
Hán-Việt: tiền

‘sentiment’ 情 qíng
Sino-Tày: dình
Hán-Việt: tình

Annamese Middle Chinese: dʒ-

This is not to suggest however, that the RRD was a completely evenly distributed community of Tày, Việt-Mường speakers and Chinese speakers living side by side.

Annamese Middle Chinese came into frequent contact with Tày as it did with Proto Việt-Mường, but there is not enough evidence to suggest that there was consistent contact between all three language groups at the same time other than the legend of the Tày from Jīnlóng migrating from Hải Dương 海陽. Comparisons between the Hán Việt (LSV) pronunciations and the Nôm-Tày pronunciations show the distinct phonological developments that took place and can help us reconstruct initials in AMC. It seems that AMC resembles the phonological profile of Middle Chinese from the north but with the mentioned innovations by John Phan (2013) and with areal features that affect modern Southwestern Chinese varieties.

The utility of Baxter & Sagart's Old Chinese reconstruction for Early Sino-Vietnamese

Reconstructing Old Chinese is an arduous task and it is fair to say that every system available to us is controversial. Baxter & Sagart's system has received criticism from Harbsmeier (2016) and Schuessler (2019) since its 2014 publication. Nevertheless, their involvement with Vietic, Hmong and Kra-Dai cognates make their reconstruction valuable when researching loanwords and sound change in Southeast Asian languages. Mark Alves and other scholars such as Gong Xun (2019) consistently use their reconstruction for explaining phonological features of Early Sino-Vietnamese words.

I am mainly concerned with the consistent use of their system to explain ESV sound changes because of chronological issues and alternate causes for lenition. It is clear that Old Chinese did demonstrate clusters and sesqui-syllables, but those features were already gone by the time of the Eastern Hàn. Many loanwords from Chinese in the Vietnamese language

did indeed come from Old Chinese words that still preserved pre-initials and clusters, but they were likely borrowed well before the Eastern Han period, perhaps borrowed during the Nam Việt period after Zhao Tuó conquered Âu Lạc or earlier. One does not need to argue for the retention of sesqui-syllables in the Late Han period. As Schuessler (2009) notes, Buddhist transcriptions and Late Han mergers show, sesqui-syllables and clusters have disappeared in Chinese by the Middle and Late Han period:

shī lì 師利 ʃi-li 'sri' from Sanskrit

pó luó mén 婆羅門 *bâ-lâ-mən 'brahmana' from Sanskrit

(Schuessler 2009: 29)

If the Late Han still had consonant clusters like br-, then the transcription of Brahmana would have used a single character for the syllable brah; the above transcription using the two syllables bâ-lâ shows that no such cluster was available in the spoken Chinese language at the time.

Mǎ Yuán's soldiers came from several different regions of the Han empire, so the variety of Old Chinese that was brought to the Red River Delta was representative of phonological features from both the north and south. Because of the regional diversity in Mǎ Yuán's army, the retention of sesqui-syllables and clusters could not be features of a southern dialect either. Early Sino-Vietnamese words that were affected by Old Chinese pre-initials were likely ancient and borrowed well before the invasion of Mǎ Yuán.

Using Baxter & Sagart's reconstruction, the argument made by Mark Alves is that for Han Era Sino-Vietnamese loanwords with g-, gh-, r-, v- and d- initials correspond to Proto-Vietic *C.k/g-, *C.c/j, *C.s, *C.p/b, claiming that the Han Era Old Chinese words also had pre-initials (Alves 2024). I challenge this assertion for four reasons; first is that tonal correspondences sometimes suggest a time of borrowing well after the loss of Chinese pre-

initials. The second reason is that there is a case for sporadic betacism in the Red River Delta. The third reason is that there are inconsistencies with Baxter & Sagart’s system and the fourth is that a closer examination on Vietic morphology needs to be considered. Alves (2024) acknowledges that there are alternate sources for lenition and provides Vietic examples of lenited initials not from pre-initials.

Figure 54: Modern Vietnamese lenited initials as well as their corresponding initial and pre-initial materials from Vietic and Old Chinese. (Modified from Alves 2022: 13; *ibid*: 34-45):

Quoc Ngu Initial	Proto Vietic Onset	Old Chinese example Vietnamese Middle Chinese	Vietic example
g-/gh-	*g, *k, *C.k/g	劍 ‘sword’ *s.kr[a]m-s ESV: gươm MC: kjaemH	*ka:wʔ > gáo ‘gourd’ *gap > gấp ‘pick up with chopsticks 夾’ *r.ka: > gà ‘chicken’ *c.gu:ʔ > gấu ‘bear’ *t.kɛ:t > ghét ‘hate’
gi-	*c, *k.t, *C.c/ʃ	床 ‘bed’ *k.dzraŋ ESV: giường MC: dzrjang	*k.ce:t > giết ‘kill’ *k.ʃaw > giàu ‘rich’ *k.tɛ:p > giẹp ‘flat’ *ca:nʔ > gián ‘roach’
r-	*r, *sr, *C.r, *C.s	闌 ‘pen’ *[r]ʰan ESV: ràn MC: lan	*p.səŋʔ > rắn ‘snake’ *C.ranʔ > rán ‘fry’ *s.ra: > ra ‘to go out’ *ro:ŋʔ > rộng ‘wide’
v-	*v, *b, *p, *C.p/b	板 ‘plank; board’ *C.pʰranʔ ESV: ván MC: paenX	*ba:j > vai ‘shoulder’ *pat > vắt ‘wring’ *vi:t > vịt ‘duck’ *C.pi:l > vây ‘fin’ *C.bə:lʔ > váy ‘skirt’

d-	*C.t/d	帶 ‘strap, girdle’ *C.tʰa[t]-s ESV: dǎi MC: tajH	*k.ta:m > dam ‘crab’ *C.da:lʔ > đại ‘wild plant’ *C.te: > dê ‘goat’
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There are a few issues with over-relying on Baxter & Sagart’s pre-initial model when explaining the lenited Sino-Vietnamese initials: tonal correspondences, alternation from /w- / to /v-/ initials, medial features of “Early Sino-Vietnamese” words, and historical inconsistencies.

There are plenty of *Qù* tone syllables that demonstrate ngang and huyền tones in modern Vietnamese. These syllables are likely borrowed after the loss of coda -s and -ʔ in Old Chinese and the development of tones in Early Middle Chinese (Alves 2018).

Figure 55: Nativized Sino-Vietnamese words and expected Late Han ESV tones

Syllable/LHOC/ Mandarin/Gloss	B&S OC Reconstruction	Sino Vietnamese	Expected HESV Tones	Hexagraph EMC
鏡 kjaŋ ^c <i>jìng</i> ‘mirror’	*C.qraŋʔ-s	cái gương	gườŋ gườŋg	梗開三去映見 kiajŋ ^h
劍 kiam ^c <i>jiàn</i> ‘sword’	*s.kr[a]m-s	cái gươm	gườm gườm	咸開三去釀見 kiam ^h
競 kjaŋ ^c <i>jìng</i> ‘compete’	*m-kraŋʔ-s	ganh	gảnh gảnh	梗開三去映群 giajŋ ^h
近 giən ^c <i>jìn</i> ‘close’	*s-N-kærʔ-s	gần	gản gản	臻開三上隱群 gin ^h

羨 zhanh ¹⁰¹ xiàn 'admire,jealous'	*s-N-qa[r]-s *s-[G]a[n]-s	ghen	ghẽn ghẽn	山開三去線邪 zian ^h
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The tonal correspondences of the above syllables and the alternative possibilities for lenited initials in Sino-Vietnamese shows that these words in Chinese lost their pre-initials by the time they were borrowed into Vietic. The initials for the syllables 'close' and 'admire' were already voiced in their Old Chinese forms and must have been interpreted in Proto Vietic as having *g- or lenited voiced initials. The syllables 'mirror', 'sword' and 'compete' all have plain unaspirated initials in their Old Chinese and Middle Chinese forms. These syllables were likely interpreted as being voiced lenited initials or voiced onsets developed in Proto Vietic and Proto Việt-Mường after being borrowed from Chinese.

I have also shown that other Sino-Vietnamese syllables are not spirantized from Old Chinese pre-initials because of phonological or chronological issues:

Figure 56: Some chronological issues with pre-initial causes for lenition

Syllable/ Gloss	B&S Reconstruction	MC Baxter 1992	ESV/LSV from Alves 2016; 2024	Issues with pre- initials
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¹⁰¹ Reconstruction by Starostin, obtained from kaom.net http://www.kaom.net/ny_word8.php accessed 02/15/2025

紙 ‘paper’	*k.teʔ	tsyeX	giấy/chỉ	Chronological issue, paper did not arrive in Vietnam until the 3rd century ¹⁰² .
畫 ‘draw/drawing’	*g ^w rek ‘draw’ *C-g ^w rek-s ‘drawing’	hweaH hweak	vẽ /họa ‘draw’ vạch/hoạch ‘drawing’	v- initials developed directly from w-.
筆 ‘pen’	*p.[r]ut	pit	viết/bút	The Old Chinese medial matches the LSV medial. Viết is unlikely to be an ESV.
園 ‘garden’	*C.g ^w a[n]	hjwon	vườn/viên	v- initials developed directly from w-.

It is worth noting again that Baxter & Sagart’s reconstructions for this specific set of words are largely indebted to early Vietic loanwords from Chinese. There is no denying that the words ‘sword’ and ‘paper’ in Vietic languages like Rục and Thavưng have pre-initials. This phenomenon presents us with two possibilities as to how lenited initials developed in Early Sino-Vietnamese ‘sword’ and ‘paper’. Either Vietic languages have added pre-initials for morphological purposes, or pre-initials have been present in Early Middle Chinese. Both scenarios seem quite strange but I am more inclined to hypothesize pre-initials coming from an innovation after borrowing rather than from Middle Chinese because Vietic languages might have a similar morphology to Old Chinese with pre-syllables as mentioned by Baxter & Sagart (2012).

There are also some examples of Sino-Vietnamese lenited syllables with a corresponding Old Chinese reconstruction that lacks pre-initials such as ‘to break’ vỡ 破 *p^haj-s and ‘devout’ dốt 篤 *t^huk. It is also worth noting that I am not simply pointing out a

¹⁰² Wilkinson (2012: 909)

contradiction in Baxter & Sagart’s reconstruction. The occasional sound change from *b- > v- in Vietic, the demonstration of b- in Mường for v- in Vietnamese, and the rare demonstration of b- for *Yún* 云 initial syllables implies that betacism affected the Red River Delta. Like the languages of Greek and Hebrew, there have been instances of /b-/ initials becoming /v-/, the case for Vietnamese betacism is different from the Greek and Hebrew case because it is a sporadic change rather than a regular change from bilabial stops:

Figure 57: Some betacized Nativized Sino-Vietnamese syllables

Syllable/Gloss	Old Chinese	Middle Chinese	Notes
婦 vợ wife	*mə.bəʔ	流開三上有並 bjuwX	Another ESV form bụa matches the Old Chinese finals but is not affected by the pre-initial.
郵 bứu post-office	none	流開三平尤云 hjuw	No data in Alexander de Rhodes’s dictionary, but likely got mixed up with labial stops /b-/, voiced bilabial fricatives /β-/ and voiced labial-dental fricatives /v-/.
瘡 bứu tumor	none	流開三平尤云 hjuw	No data in Alexander de Rhodes’s dictionary, but likely got mixed up with labial stops /b-/, voiced bilabial fricatives /β-/ and voiced labial-dental fricatives /v-/.
比 ví parable	*C.pijʔ	止開三平脂並 bjij	This syllable likely got mixed up with voiced bilabial fricatives /β-/ and voiced labial-dental fricatives /v-/.

We cannot over rely on Baxter & Sagart's pre-initials to explain the emergence of initial v- in Vietnamese *Bāng* 幫 initial group syllables. There are correspondences between Proto-Vietic labial implosives, as well as modern Vietnamese labiodental syllables. Data from modern southwestern Chinese dialects, the usage of b with a flourish /β-/ in Middle Vietnamese, as well as labial stops for some *Yún* 云 initial syllables show us that a sporadic process of betacism took place in Annamese Middle Chinese and Proto Việt-Mường.

The Ancient Southwest was a domain of palatals and retroflex initials were rare, if not absent. The abundance of palatals in both Tai and Vietic languages molded an environment of EMC retroflex initials being interpreted as palatals and arguably played a role in the occasional retroflex and palatal mix ups in Late Sino-Vietnamese initials.

This dissertation acknowledges the contributions that Baxter & Sagart have made for our understanding of Old Chinese reconstructions. Their reconstruction is not without controversy, but their work provides a valuable discussion on Early Sino-Vietnamese initials and the phonological structure of Chinese during the time of borrowing. Baxter & Sagart's work reflects the variety of Chinese dialects that existed before the Qin unification of the central plains region in 221 BCE, a broad time frame that covers the late *Shǎng* (roughly 1250 BCE), the Spring and Autumn period (770-453 BCE) and up until the Warring States period (475-221 BCE). This dissertation does not seek to challenge the validity of pre-initials or sesqui-syllables in Old Chinese reconstruction but to challenge the assertion that these sesqui-syllables and pre-initials are the main causes of Vietnamese lenition, especially since ESV syllables were borrowed during the Han (207 BCE-220 CE) and Jin (265-419 CE) periods.

Correspondences with Schuessler's system, Proto-Vietic, exceptions to the so-called pre-initial lenition rule, and tonal correspondences from Jin-Era Sino-Vietnamese words show that there are plenty of syllables with lenited initials that likely did not come from Old

Chinese pre-initials. Mark Alves (2024) also notes that the pre-initial cause for Sino-Vietnamese lenited initials is not absolute, citing examples such as *vắt* 'to press juice' from Vietic *pat (Alves 2024: 24). Yet, Alves claims that some of the pre-initial material in Old Chinese lasted until the end of the Han period (25-220 CE) (ibid: 12). Although pre-initials did play a role in some ancient Early Sino-Vietnamese words, the following Early Sino-Vietnamese words with lenited initials were not affected by OC pre-initials.

Figure 58: ESV lenited initial syllables that did not emerge from OC pre-initials

Syllable Gloss	ESV	B&S OC	Schuessler OC	Pulleyblank EMC	Proto-Vietic initial match

劍 <i>jiàn</i> sword	gươm	*s.kr[a]m-s	kiam ^c	kiam ^h	*k- or *g-
鏡 <i>jìng</i> mirror	gương	*C.qraŋʔ-s	kiaŋ ^c	kiajŋ ^h	*k- or *g-
婦 <i>fù</i> woman	vợ / bụa	*mə.bəʔ	bu ^B buə ^B	buw'	*b- or *p-
篤 <i>dù</i> sincere	dốc	*t ^c uk	touk	təwk	*t- likely softened from medial interference.
破 <i>pò</i> break	vỡ	*p ^h aj-s	p ^h ai ^c	p ^h a ^h	*b- or *p-
步 <i>bù</i> step	vã	*mə-b ^c a-s	ba ^c	ba ^h	*b- or *p-
比 <i>bǐ</i> compare	ví	*C.pijʔ *pij-s	pi ^B , pi ^c bi ^c , bi	pji' ;bjit pji ^h ,bjj ^h bji	*b- or *p-
藥 <i>yào</i> medicine	thuốc	*m-r[e]wk	jak záuk ¹⁰³	jjak	Old Chinese palatal initial interpreted as an alveolar fricative *s- in Proto-Vietic.
字 <i>zì</i> character	chữ	*mə-dzə(?)s	dziə ^c	dzi ^h /dji ^h	The Late Han Old Chinese dz- was likely interpreted as a palatal *c- in Vietic.

The following syllables are likely to be ancient loanwords that had pre-initials at the time of borrowing. Some of the initials with pre-initials did not cause the Early Sino-Vietnamese initials to soften, but areal cognates and historical events show the probability of pre-initials being retained at the time of borrowing.

Figure 59: Summary of ESV words that likely did emerge from pre-initials and clusters:

Syllable/Gloss	ESV	B&S Old Chinese	Vietic initial	Note
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¹⁰³ Reconstruction by Starostin, obtained from kaom.net.

瓦 <i>wǎ</i> tile	ngói	*C.ŋ ^w ra[jj]ʔ	*C.ŋ-	Ancient material used to construct Cổ Loa.
鐵 <i>tiě</i> iron	sắt	*!ʃik	*kr-	Bisyllabic form present in Chữ Nôm.
井 <i>jǐng</i> well	giếng	*C.tseŋʔ	*C.ts-	Likely appeared in Nam Việt.
賊 <i>zéi</i> bandit	giặc	*k.dz ^ʔ ək	*C.dz-	Likely to be present in ancient trade routes.
弩 <i>nǚ</i> crossbow	ná	*C.n ^ʔ aʔ	*s./n-	Areal significant item. Usage of the magic crossbow by An Dương Vương ¹⁰⁴ . Bronze crossbow bolts found at the Cổ Loa archaeological site (Alves 2016: 286; Kim et al 2010: 1026).

Many of these syllables are from loanwords that are ancient in Sino-Vietnamese and Southwestern Chinese history. Tiles are found in the archeological sites of Cổ Loa which is a regional citadel built before the Han domination period. Cổ Loa was built well before the Chinese domination period (Kim 2015); the locals likely acquired tiles from Chinese traders and Kim et al (2010: 1026) suggests that the tiles at the Cổ Loa site are a sign of Chinese influence or emulation. Iron was also in trade along the Southeast Asian trade routes during the Warring States period. Chinese style wells were likely introduced to Vietic speakers back when the word for well had preserved pre-initials.

The word for ‘iron’ in ESV is represented to us using two graphs in the Chữ Nôm script sắt 可列 (Shimizu 2015a: 137). The word for ‘crossbow’ ná 弩 is indeed ancient because of the archeological findings of crossbow bolts from the 3rd century BCE Cổ Loa site (Alves 2016: 286; Kim et al 2010: 1026); we also know that the word for ‘crossbow’ is ancient because of loanwords that we see in other areal languages. The word for crossbow

¹⁰⁴ It is important to note that in modern Vietnamese cái ná means ‘slingshot’ while nỏ is the Modern Vietnamese word for ‘crossbow’ and nỏ thần means ‘magic crossbow’.

also made its way into several areal languages and the pre-initial s- is widely acknowledged by scholars such as Schuessler (2009), showing us cognates from Proto-Tai such as *hnaa, snaa in Khmer, and sena in Bahnaric (Schuessler 2009: 58).

The likelihood of ‘bandit’ being a pre-Han word is due to the likelihood of bandits marauding the ancient trade routes; beyond speculation, the cognate in Lakkjia *kjak* ‘bandit’ and the bisyllabic word for ‘bandit’ in Rục *kəcak* as mentioned by Baxter & Sagart (2014) could serve as solid piece of evidence for pre-initials (B&S 2014: 37), unless there has been a change from a postalveolar affricate /dʒ-/ to velars (/k-/ & /g-/) which is visible in languages such as Arabic (Watson 2002; Alqarhi 2019). Another possible counter-argument is that the pre-initial in Rục could have a morphological function. Nevertheless, the syllable ‘bandit’ likely had pre-initials during the time of borrowing into Vietic because it is likely ancient, but due to the other possible causes for k- in Lakkjia and the preinitial in Rục, it is perhaps safer to leave the pre-initial as being unknown *C.dz^hək 賊.

Aspirated Unaspirated Mismatch in Annamese Middle Chinese

This dissertation shows that there are several examples of Middle Chinese aspirated initial syllables that are unaspirated in Late Sino-Vietnamese; there are also several examples of Middle Chinese unaspirated syllables that are aspirated in Late Sino-Vietnamese. This aspirated vs unaspirated mismatch also occurs in several Southwestern Chinese varieties, meaning that this mismatch occurred in a regional variety of Chinese, which is the Annamese Middle Chinese dialect group.

Summary of Aspirated/Unaspirated Mismatch Syllables in Late Sino-Vietnamese

Bāng initial group

Bāng initials

賓 *thần*¹⁰⁵ ‘guest’

Páng 滂 initials

沛 *bái*¹⁰⁶ ‘copious’

Duān initial group

NONE

Zhī initial group 知

NONE

Jiàn initial group

Jiàn 見 initials:

裹 *khỏa* ‘wrap’, 膾 *khoái/quái* ‘mincemeat’, 叫 *khiếu* ‘to call’, 緊 *khẩn* ‘tight’
激 *khích* ‘intense’

Xī 溪 initials

枸 *kỷ* ‘wolfberry’ 縵 *quyển* 窟 *quật* ‘cave’ 詰 *cật* ‘interrogate’

Qún 群 initials

菌 *khuẩn* ‘pigpen’

Yí 疑 initials

NONE

¹⁰⁵ The unaspirated form *tân* is more common in the Vietnamese spoken language.

¹⁰⁶ There is an alternate pronunciation *phái* which is consistent with MC *Páng* initial.

Jīng initial group

Jīng 精 initials

奏 thấu¹⁰⁷ ‘rythym’

將 thương¹⁰⁸ ‘will (future tense)’

Qīng 清 initials

籤 tiệm¹⁰⁹ ‘mark’ 寢 tẩm ‘sleep’

Cóng 從 initials

NONE

Xīn 心 initials

繡 thiêu ‘embroider’

Xié 邪 initials

松 thông ‘pine tree’

Zhuāng initial group

NONE

Rì initial group

NONE

Lái initial group

NONE

Yīng initial Group

NONE

¹⁰⁷ The alternative unaspirated form thấu corresponds neatly with MC *Jīng* initial syllables.

¹⁰⁸ The more common pronunciation is tương.

¹⁰⁹ There is another pronunciation thiệp, which is consistent with MC *Qīng* initials.

Xiǎo 曉 initials

NONE

Xiá 匣 initials

NONE

The aspirated unaspirated mismatch even occurred in Vietnamese after the end of Chinese occupation. After *Chóngniǔ* IV labial syllables dentalized the aspirated unaspirated mismatch that happened in labials carried on into the dentals, such as the aspirated pronunciations occurring in *Bāng* initial syllables like 賓 *tân/thấn* ‘guest’ and *Xīn* initial syllables like 梭 *toa/thoa* ‘textile shuttle’, 邃 *thúy* ‘remote’. The aspirated unaspirated mismatch also occurs in SW Chinese varieties today. The fact that this mismatch occurs in Sino-Vietnamese and Chinese varieties like Píng huà, Xiāng and Tǔ huà serves as evidence that this occurred in AMC and that it also occurred more broadly across the Medieval Southwest. Some examples of the mismatch in SW Chinese varieties include *zòu* 奏 *tsʰəu* from Guànyáng 灌陽 Xiāng dialect and *qiān* 籤 *tɕim* in Píng huà. Other notable examples include ‘wolfberry’ 杞 *kǐ* ‘concept’ which is unaspirated in Xiāng, and 概 *khái* which is demonstrated with an aspirated initial consistently in Píng huà, Xiāng and Tǔ huà.

Clues for the approximate end of Annamese Middle Chinese

There are shared final types in Late Sino-Vietnamese taboo character readings for Vietnamese rulers. The character 承 is used in the personal name of 陳太祖 Trần Thái Tổ

(1183-1234), a 13th century ruler of the Trần 陳 dynasty in Vietnam. The following syllables have dropped codas in Late Sino-Vietnamese as well as Pínghuà, Xiāng and Tǔhuà.

chéng ‘to carry’ 承 *thù*

Tǔhuà 土話 Pronunciations:

Fùchuān 富川 Qīdūhuà (七都話) *síě*, Fùchuān 富川 Bādūhuà (八都話) *tsi*

Húnán 湖南 *tsi*

Jiāngyǒng Chéngguān 江永城關 *çiə*

Pínghuà 平話

Yángshuò 陽朔 *swə*

‘to ride/School of Buddhism’ *chéng/shèng* 乘 *thù*

Tǔhuà 土話

Baishui Village Tuhua: *çiə*

Pínghuà 平話

Pínglè Pínghuà 平樂平話: *çiE*

‘assistant to an official’ *chéng* 丞 *thù*

Tǔhuà 土話

Fúchuān Bādū Huà 富川八都話: *səw*

Pínghuà 平話

Pínglè Pínghuà 平樂平話: *çiE*

It would be highly unlikely and tremendously strange if Chinese speakers in China were to change the pronunciation of syllables in order to avoid offending a foreign ruler; Chinese speakers within a Chinese polity would only change the pronunciation of a character in order to avoid offending a domestic ruler. This practice of giving taboo

pronunciations in order to avoid offending rulers in Annamese Middle Chinese could have continued up until at least the 13th century. These taboo character readings can offer clues to how long Annamese Middle Chinese lasted. They also provide hints of possible migration outside of Vietnamese territory into Chinese territory as they spread the taboo pronunciations of those syllables.

The Jīng 京 or Kinh people in China today speak the Vietnamese language within Guǎngxī to this day, albeit with a different dialect (Wáng Liánqīng: 1983). The Jīng ethnic minority are descendants of Vietnamese migrants who moved from Vietnam to China around the 16th century¹¹⁰. Wéi Shùguān (2006) briefly discusses the history of their migration as well as phonological and grammatical differences between Jīng 京 Vietnamese in China and Vietnamese in Vietnam. From the 16th century up until until the 19th century, the Jīng migrated from Đờ Sơn 塗山, Xuân Hoa 春花, Nghi Yên 宜安, Hoa Phong 花丰, Thụy Khê 瑞溪, Móng Cái 芒街, Vạn Trụ 万柱 and Giác Bạc 角白 in Vietnam to Guǎngxī China (Wéi 2006: 13).

Perhaps the Jīng people in China can give us more clues about the approximate end of AMC. A closer examination and comparison of Jīng vocabulary with Late Sino-Vietnamese is required to move forward. For now, I hypothesize that a late variety of Annamese Middle Chinese was spoken on the Red River Delta in the 13th century. Both Late Annamese Middle Chinese speakers and Sinicized Proto Việt-Mường speakers adhered to the taboo character pronunciation practice for rulers. The pronunciation of these taboo characters travelled with the Kinh in modern Guǎngxī China and impacted other speakers of Annamese Middle Chinese as well as Southwestern Middle Chinese.

¹¹⁰ Yáng Ōu 杨鸥. The Jīng People. People's Daily Overseas Edition 人民日报海外版 01/27/2018.

Chóngniǔ and dialectal interpretation of syllables

The *Chóngniǔ* dentalization of labial syllables is not a feature inherited from Chinese. *Chóngniǔ* distinctions in living Sinitic languages is extremely rare, occurring in some examples such as ‘one’ and ‘second of the ten heavenly stems’. There are Chinese languages such as the Wénxǐ 聞喜 dialect in northern China that colloquially demonstrate dental stops and palatal nasals for the *Bāng* initial group:

‘compare’ 比 *t*i, ‘avoid’ 避 *t*ʰi, ‘change’ 變 *t*iǎ, ‘name/fame’ 名 *ɲ*iě, ‘fate/life/decreed’ 命 *ɲ*iě
(Modified from Higuchi 2000: 28-29)

It is important to note that the case of labial dentalization for Wénxǐ does not occur in *Chóngniǔ* initial syllables specifically and that the palatalized labial sonorants turned into palatal nasals, which is not a demonstration in Late Sino-Vietnamese *Chóngniǔ* syllables.

Nguyễn Tài Cẩn and Ferlus’ hypothesis on a PVM reflex is correct; the dentalization process was an internal process within Vietnamese that occurred after borrowing from Annamese Middle Chinese. After independence from Chinese polities, the Sincized form of Proto Việt-Mường underwent changes for those *Chóngniǔ* initials. Using Nguyễn Tài Cẩn (1995) and Ferlus’ model (2009b), *Chóngniǔ* IV labials were interpreted as being sesqui-syllabic *p.j- or *b.j-. In various stages of Vietnamese, the *p.j- and *b.j- initials merged and became *p.s-, the *p. pre-initial dropped and the *s- initial became a dental stop t-.

‘treetop, standard’ 標 MC *p*jiew → AMC *p*jiew → PVM *p*.jiew → *ps*iew → *s*iew → VN *tiêu*

Not all *Chóngniǔ* initials became dentalized as Mineya Tōru (1972) points out.

Sinologists and historical linguists such as John Phan (2013) as well as Meier & Peirot (2017)

argue that this discrepancy can be explained chronologically. John Phan speculates that these non-dentalized *Chóngniǔ* IV words might have arisen from the Ming occupation of northern Vietnam in the 15th century. Meier and Peirot speculate that some of the retained labials were borrowed before dentalization or were borrowed after dentalization occurred. Contrary to a chronological explanation for these retained labials, I argue that the non-dentalized forms are due to Việt-Mường interpretations of some syllables; some pj- syllables were pronounced as sesqui-syllabic, and others were not, thus leading to the following changes:

‘narrow’ 褊 MC pjienX → AMC pjienX → PVM pien → Vietnamese biển

The above figures show the differences in how certain *Chóngniǔ* IV syllables were interpreted when they were borrowed around the same time. Since Proto Việt-Mường was a language with sesqui-syllables, some of the *Chóngniǔ* syllables were interpreted as sesqui-syllabic and others were not. This phenomenon of *Chóngniǔ* dentalization happened only within Vietic and not in any Chinese variety. New data from Sino-Tày also reinforces the argument that Annamese Middle Chinese had labials for *Chóngniǔ* IV syllables.

The Role of Graphic Analogy:

Graphic analogy is a complex phenomenon in Late Sino-Vietnamese that has been discussed extensively by Mineya (1972), Chiang (2011) and Xián (2016). This dissertation

has shown that there are different kinds of graphic analogy that bring unique historical implications. Contrary to John Phan’s argument that the character ‘misreadings’ are part of the recent Sino-Vietnamese layer, I argue that it was a complex medieval phenomenon. There are instances of graphic analogy that are unique to Late Sino-Vietnamese and are completely artificial, meaning that they were not part of a wider Southwestern graphic analogy phenomenon. The data also shows that this phenomenon of graphic analogy is also a pan-sinitic phenomenon, affecting Mandarin, Cantonese and even other Sino-Xenic pronunciations like Sino-Korean and Sino-Japanese.

Graphic analogy unique to LSV

The following figure shows syllables that went through graphic analogy strictly in a Late Sino-Vietnamese context. Locals in the Red River Delta prescribed pronunciations based on the graphic components that are similar to other graphs. The data shows that the following syllables did not undergo a similar phenomenon in other Chinese varieties.

Figure 60: Graphic analogy unique to Late Sino-Vietnamese

Syllable/Gloss	MC Hexagram	LSV	Fangyan/Sino-Xenic	Analogous
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	MC Baxter 1992		pronunciations	Graph
灣 <i>wān</i> 'bay'	山合二平刪影 ʔwaen	loan	Píng huà: uan/van Tǔ huà : ueŋ/ui Yuè: uan/wuan Xiāng: uan	欖 loan 'name of a tree'
話 <i>huà</i> 'speech'	蟹合二去夬匣 hwaejH	thoại	Píng huà: fua, hua, wa Tǔ huà : fu, hu, vø Yuè: ua, wa, wua, va Xiāng: fa/xua	舌 thiệt 'tongue'
慧 <i>huì</i> 'wisdom'	蟹合四去霽匣 hweijH	tuệ	Píng huà: uei, fuei, vei Tǔ huà : uei, vei, huei Yuè: uei, wuei, fui, vi Xiāng: fei, xuei	彗 tuệ 'shooting star'
梗 <i>gěng</i> 'branch'	梗開二上梗見 kaengX	ngành	Píng huà: kəŋ Tǔ huà: kəŋ Yuè: kəŋ Xiāng: keŋ	硬 ngạnh 'hard (solid)'
舐 <i>shì</i> 'tongue'	止開三上紙船 zyeX	để	Píng huà: tʰia, sɿ Tǔ huà : no data Yuè: tsai, sai, si Xiāng: no Data	氐 để 'bottom'
桶 <i>tǒng</i> 'bucket'	通開一上董透 thuwnɡX	dũng	Píng huà: tʰoŋ Tǔ huà : tʰoŋ Yuè: tʰoŋ, hoŋ Xiāng: tʰoŋ	俑 dũng 'burial figure'
劓 <i>yì</i> 'rhinotomy'	止開三去至疑 ngijH	tị	Píng huà: none, Tǔ huà: none Yuè: none, Xiāng: none	鼻 tị 'nose'

Graphic analogy examples not unique to LSV

The graphic analogy phenomenon in the medieval southwest includes pronunciations for syllables that are strictly prescribed in the Red River Delta by local scholars. A comparison with other Sinitic varieties and Sino-Xenic varieties shows that several Chinese characters that underwent graphic analogy in Sino-Vietnamese also underwent graphic analogy in Southwestern Chinese varieties as well as other Sinitic and Sino-Xenic pronunciations. These graphic analogy pronunciations are part of a larger Southwestern Chinese and overall Sinitic Phenomenon. For the graphic analogy pronunciations that are unique in Sino-Vietnamese, pronunciations were prescribed in the Red River Delta before they entered the spoken language of Viet-Muong and Vietnamese. For the graphic analogy pronunciations that are part of a larger southwestern/Sinitic phenomenon, it is likely that these Chinese characters underwent graphic analogy in Chinese varieties outside of the Red River Delta first, then entered the Việt-Mường and Vietnamese lexicon via spoken language. Below is a list of these graphic analogy syllables part of a larger southwestern phenomenon:

Figure 61: Graphic analogy not unique to Late Sino-Vietnamese

Syllable/Gloss	MC Hexagram MC Baxter 1992	LSV	Fangyan/ Sino-Xenic Pronunciations	Analogous Graph
娟 <i>juān</i> 'beautiful'	山合三平仙影 ʔjwien	quyên	Xiāngnán tǔhuà tɕyŋ Cantonese: gyun1	涓 quyên 'stream'
捐 <i>juān</i> 'to donate'	山合三平仙以 ywen	quyên	Guànyáng: tɕyŋ Cantonese: gyun1 Lóngtóng Pínghuà: kyn	涓 quyên 'stream'

孿 <i>luán</i> 'twin'	山合二去諫生 srwaenH 山合三去線生 srjwenH	loan/luyên	Cantonese: lyun4	欒 loan 'name of a tree'
糅 <i>róu</i> 'to blend'	流開三去宥娘 nrjuwH	nhũu	Cantonese: jau6, nau6 Mandarin: Róu Kan-On: Jū	柔 nhũu 'soft'
睜 <i>zhēng</i> 'to open one's eyes'	梗開三上靜從 dzjengX	tranh	Fēngyáng Tǔhuà: tʃa Chángshā Xiāng: tsən Cantonese: zaang	爭 tranh 'war'
膊 <i>bó</i> 'vein'	宥開一入鐸滂 phak	bác	Cantonese: bok3 Chéngguān Tǔhuà: pu Jiānglè Mǐn: po	博 bác 'broad'
棲 <i>qī</i> 'reside'	蟹開四平齊心 sej	thê	Fùchuān Tǔhuà: tʃʰi Cantonese: cai Mandarin: qī Xiāng: tɕʰ Nán níng Píng huà: tɕʰEi	妻 thê 'wife'
鈹 <i>nà</i> 'sharpen' 'sodium'	蟹合三去祭日 nywejH	nột	Go-On: Nō Kan-On: Dō Sino-Korean: Nap Cantonese: naap	訥 nột 'stammer'

Palatal and retroflex mergers leading to outliers in LSV

The medieval southwest is full of languages that lack retroflex initials. This environment likely affected the development of *Niáng* initials. There was also likely a merger between *Ní* initial syllables, *Niáng* initial syllables and *Rì* initial syllables. The merger of Retroflex, alveolar and palatal nasals likely occurred with Chinese retroflex nasals being interpreted as alveolar in Việt-Mường and then interpreted as palatal in Việt-Mường due to the high front vowel medial.

AMC ɲj- > PVM ɲj- > PVM ɲ-

‘to employ’ lìn 賃 nhấ/nhẫ ‘alarm’ nào 鬧 nháo/náo

‘to whisper in one’s ear’ niè 聒 nhiếp/niếp

We see a similar phenomenon of palatal and alveolar nasals for Middle Chinese retroflex initial syllables in Southwestern Chinese varieties such as Píng huà, Tǔ huà, and Xiāng:

niáng 娘 ‘woman/mother’

Píng huà: niaŋ Húnán Báishuǐ Village Tǔ huà : ɲiaŋ Shuāngfēng Xiāng: ɲioŋ

nào 鬧 ‘alarm/to bother’

Fùnín Píng huà: nao, Húnán Báishuǐ Village Tǔ huà: nau, Chángshā Xiāng: lau

niè 聒 ‘to whisper in one’s ear’

Níngyuǎn Píng huà: niɛ, Hèzhōu Tǔ huà : ɲiɛ, Chángshā Xiāng: ɲje

lìn 賃 ‘to employ’

Nán níng Píng huà: ɲiem, Bīnyáng Píng huà: ɲəm, Hèzhōu Tǔ huà: lɛŋ, Quánzhōu Xiāng: liŋ

Every stage of Early Sino-Vietnamese was borrowed in an environment that lacked retroflex initials. During both the Jiaozhou and Annam period, The Red River Delta was primarily inhabited by the Kra-Dai, Austroasiatic and Sino-Tibetan language families, the Tai branch of Kra-Dai and Vietic branch of Austroasiatic languages lack retroflex initials and are abundant in palatal initials.

Areal Tai Palatals:

Proto-Tai Palatals (Pittayaporn 2009) *cr-, *ɲw- *ʔj-, c-, *j-, *ɕ, *z-, *ɲ-, *^hɲ-

Tày Palatals (Đoàn Thiện Thuật 1996: 65) c-, ɲ-

Proto Southwestern Tai Palatals (Pittayaporn 2014) c-, *j-, *j-, *j-

Zhuang Palatals (Luo 2008: 323) ts-, ʔj-, ɲ-, ɕ-, j-

Areal Vietic Palatals:

Proto-Vietic Palatals (Nguyễn Tài Cẩn 1995; Alves 2020): *c-, *ʃ-, *ɲ-,

Proto Việt-Mường Palatals (Ferlus 2009a:): c-, j-, ʃ-, ɲ-

Schuessler's Old Chinese and Pulleyblank's Early Middle Chinese consist of retroflex initials for the *Zhī* 知 and *Zhuāng* 莊 initial groups, but Early Sino-Vietnamese shows a consistent demonstration of ch- initials:

Chéng 澄 Initial:

茶 ESV: chè 'tea/a kind of dessert' vs. LSV: trà 'tea'

治 ESV: chữa 'to cure a disease' vs. LSV: trị 'to govern'

除 ESV: chứa 'to leave' vs. LSV: trừ 'except'

Zhuāng 莊 Initial:

斬 ESV: chém 'to decapitate' vs. LSV: trảm 'to cut (literary)'

Chū 初 Initial:

初 ESV: xưa 'archaic/old' vs. LSV: sơ 'beginning'

This palatal rich environment is a testament to Southern China and Northern Vietnam's rich linguistic diversity and can show us why we see rich palatal features in Sino-Tày and Southwestern Chinese varieties today. Shimizu (2020a) considers that *Niáng* and *Ní*

initial syllables were pronounced as a glottal nasal by the 15th century (Shimizu 2020a: 192). Based on the data from Late Sino-Vietnamese and Southwestern Chinese varieties. I would argue that *Ní* and *Niáng* initial syllables were mostly alveolar nasals with occasional palatal nasals. Therefore, I disagree with Shimizu's reconstruction of Vietnamese *Ní* and *Niáng* initials merging into a glottalized nasal *ʔn.

Jiāozhōu as a Southern Representative of the *Qièyùn* System

It has been assumed in the twentieth and in the first decade of the twenty-first century that Sino-Vietnamese as well as the rime tables and the *Qièyùn* system (Alves 2003), based on the standard language of the Tang, was taught to the ancestors of Vietnamese speakers (Maspero 1920; Wáng Lì 1948; Karlgren 1963; Pulleyblank 1984). Other scholars added nuance to this education hypothesis proposing a southwestern Koine being taught rather than a northern Chinese variety (Hashimoto 1978). The initial exceptions and the timeline of borrowing for AMC words into Proto Việt-Mường show us that the *Qièyùn* was relatively new at the time and that variations of pronunciations exist throughout the Chinese speaking world. In the case of Jin Era Early Sino-Vietnamese and Late Sino-Vietnamese, some *Qièyùn* pronunciations were favored over others, such as *yǎo* 咬 *giǎo* being adopted as a *Jiàn* 見 initial syllable rather than an *Yí* 疑 initial syllable.

Jin-era Early Sino-Vietnamese and Late Sino-Vietnamese shows us several examples of certain *Guǎngyùn* pronunciations being preferred over the other. The following figure shows syllables with pronunciation variation as well as the preferred pronunciation that was used for Annamese Middle Chinese in the Red River Delta.

Figure 62: Summary of prescribed readings from *Fǎnqiè* spelling preferences

Syllable/Gloss	Layer of Sino-Vietnamese	Rime book hexagraph	Preferred Pronunciation
<i>yǎo</i> 咬 ‘to bite’	Late Sino-Vietnamese	效開二平肴見 kaew 效開二平肴影 ʔaew 效開二上巧疑 ngaewX	效開二平肴見 giào
<i>zhēn</i> 針 ‘pin/needle’	Early Sino-Vietnamese	深開三平侵章 tsyim 咸開三平鹽群 gjem 咸開三平鹽群 gjiem	咸開三平鹽群 gǎm
<i>qiáng</i> 強 ‘to enforce’	Early Sino-Vietnamese	宕開三平陽群 gjang 宕開三平陽群 gjang 宕開三上養群 gjangX 宕開三去漾見 kjangH	宕開三上養群 gượng
<i>shè</i> 攝 ‘to take’	Late Sino-Vietnamese	咸開三入葉書 syep 咸開四入帖泥 nep	咸開四入帖泥 nhiếp (palatalized from niếp)
<i>zhēn</i> 針 ‘pin/needle’	Late Sino-Vietnamese	深開三平侵章 tsyim 咸開三平鹽群 gjem 咸開三平鹽群 gjiem	咸開三平鹽群 kim
<i>yōng</i> 鱸 ‘bigheaded carp’	Late Sino-Vietnamese	通開三平鐘以 yowng 通開三平鐘禪 dzyowng	通開三平鐘以 dong

<i>kāi</i> 揩 'to wipe'	Late Sino-Vietnamese	蟹開二平皆溪 kheaj 蟹開二去怪溪 kheajH	蟹開二平皆溪 giai
<i>zhěn</i> 黓 'black dots'	Late Sino-Vietnamese	山開二平山影 ʔean 臻開三上軫章 tsyinX	臻開三上軫章 chăm
<i>zhàn</i> 佔 'occupy'	Late Sino-Vietnamese	咸開四平添端 tem 咸開三去豔章 tsyemH	咸開三去豔章 chiêm / chiếm

This phenomenon implies vibrant philological activities that occurred in the RRD during the inception of the *Qièyùn* system and the *Guǎngyùn*. The Jiāozhōu region is perhaps home of one of the many southern dialects that represented variations of the *Qièyùn* system.

Future Research Aspirations:

Sino-Tày is an important piece of Annamese Middle Chinese narrative. This dissertation compares Sino-Tày initials with their Late Sino-Vietnamese counterparts in order to collect more information on Annamese Middle Chinese. There are more aspects of Sino-Tày that are worth researching in the future. For example, the final correspondences for Middle Chinese rime groups in Sino-Tày and Sino-Vietnamese hold interesting

implications; the lack of palatal nasal finals in Sino-Tày Geng 梗 rime syllables is one such example:

梗 ST: kéng, LSV: cǎnh 丁 ST: téng, LSV: đinh 爭 ST: cheng, LSV: tranh

冷 ST: lèng, LSV: lảnh 行 ST: háng / hàng, LSV: hành / hàng

Tone correspondences in Sino-Tày with their Annamese Middle Chinese counterparts is another topic that is worth further investigation. There are quite a few examples where tones in Sino-Tày seem to match the tones in Sino-Vietnamese syllables:

sī 絲 'silk'

Sino-Tày: sớ
Hán Việt: ti

xī 西 'west'

Sino-Tày: sây
Hán-Việt: tây

jiě 解 'untie'

Sino-Tày: chǎi
Hán Việt: giải

jià 價 'price'

Sino-Tày: chá
Hán Việt: giá

jiǎ 假 'fake'

Sino-Tày: chá
Hán-Việt: giả/giá

jiǎng 講 ‘speak’

Sino-Tày: *chǎng*

Hán-Việt: *giảng*

There are other examples of Sino-Tày words that do not have matching tones with Sino-Vietnamese.

‘side by side’ 並 *bìng*

Sino-Tày: *téng*

Hán-Việt: *tĩnh*

‘nail’ 丁 *dīng*

Sino-Tày: *téng*

Hán-Việt: *đinh*

‘Chinese character’ 字 *zì*

Sino-Tày: *dữ*

Hán-Việt: *tự*

‘seat’ 座 *zuò*

Sino-Tày: *soá* ‘house’

Hán-Việt: *toạ*

It appears that for some words like ‘nail’ 丁, a rising *sách*-like tone is demonstrated in Sino-Tày but a *ngang* tone is demonstrated in its Vietnamese counterpart. Another interesting correspondence is the demonstration of a *hỏi*-like tone for ‘Chinese character’ 字 in Tày as opposed to the *nặng* tone demonstration in Vietnamese. A closer examination of the Tày tonal system is necessary to fully grasp the tonal reflexes of Sino-Tày words. A

comparison between the tone pitch of Tày and Vietnamese as well as the tones represented in the romanized orthography is also necessary.

Finally, I think it is necessary to examine the morphological processes of Vietic languages like Rục and Thavưng in order to fully determine the presence of pre-initials in Vietic cognates with Chinese. Again, pre-initials were indeed a feature of Old Chinese but some of the Early Sino-Vietnamese words like ‘sword’ have tonal correspondences that show a much later date of borrowing, after pre-initials disappeared in Chinese.

Nevertheless, cognates in Rục and Thavưng are intriguing because of their pre-initials. I have yet to find any scholarly material that directly engages with the morphology of Rục and Thavưng in regards to pre-initials and Chinese cognates. If pre-initials did indeed last long enough until the word ‘sword’ was borrowed into Vietic, then Chinese pre-initials would have lasted longer than Alves argues, they would have lasted until after tonogenesis in Chinese. Thus, it is worth considering how an initial without pre-initials could be interpreted as having pre-initials, similar to the *Chóngniǔ* IV phenomenon.

Concluding Remarks

This dissertation investigates the multifaceted influences for all layers of Sino-Vietnamese. The dissertation looks at the predictable changes in Early and Late Sino-Vietnamese initials when compared to their Old and Middle Chinese respective initials. I have discussed the impact that the palatal-rich and retroflex-poor environment provides for the development of Early Sino-Vietnamese as well as Late Sino-Vietnamese and Sino-Tày.

This dissertation also adds nuance to the multilingual environment of the Red River Delta and argues that Annamese Middle Chinese was not in a bilingual, but trilingual environment during and shortly after the Annam period. This trilingual environment brought influences from spoken language interaction and philological interference; these influences led to pronunciations of Chinese syllables that neatly correlate with Middle Chinese, are uniquely features of Annamese Middle Chinese and are based off of graphic analogy.

The cases of philological interference bring nuance to the education and acquisition hypothesis during the Annam period. The results of this dissertation bring me to hypothesize for a decentralized education system that affected the pronunciation of certain syllables. Some of these interferences involved local Vietic or Sinitic scholars prescribing unique pronunciations for characters based on graphic analogy such as ‘bay’ *loan* 灣 based off *loan* 欒 ‘name of a tree’ and ‘speech’ *thoại* 話 based off *thiệt* 舌 ‘tongue (in SV)’. Other forms of philological interference were widespread throughout the southern reaches of the Chinese empires such as the *quyên* 捐 ‘to donate’ based off of *quyên* 涓 ‘stream’.

Late Sino-Vietnamese initials have mostly undergone normal changes that are predictable to their Middle Chinese counterparts. Some features of Late Sino-Vietnamese imply a medieval variety of Chinese dialects that were internally diverse. This continuum of Middle Chinese hypothesized by Phan came into close contact with Tai languages throughout the medieval southwest, including in the Red River Delta. Findings from Sino-Tày, Sino-Zhuang and further comparisons with modern Southwestern Chinese varieties show further evidence of features that occurred in a regional variety of contemporary Middle Chinese dialects.

The initial features of Sino-Vietnamese were influenced by its linguistic environment and philological interference. The medieval southwest was a multilingual region primarily

consisting of Tai, Chinese and Vietic languages constantly interacting with each other and borrowing each other's lexical items. Both Tai and Vietic are rich in palatal initials and lack retroflex initial syllables; retroflex initial syllables came from Annamese Middle Chinese. This lack of retroflex initials caused Early Sino-Vietnamese *Zhī* initial group syllables to adapt palatals instead of retroflexes. The lack of retroflex initials in Sino-Vietnamese's environment also influenced the development of Late Sino-Vietnamese *Niáng* initial syllables and caused them to merge with *Ní* initial syllables. The contribution of Tai languages for the features of Sino-Vietnamese explains the features in Sino-Tày, unique features of Sino-Vietnamese in its entirety and areal features that are present in Southwestern Chinese varieties. The Red River Delta was trilingual and the Tai languages played a critical role in the story of Annamese Middle Chinese, Southwestern Middle Chinese and Sino-Vietnamese as a whole.

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