

**Glottal Stop Initials and Nasalization in
Sino-Vietnamese and Southern Chinese**

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Abstract

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Middle Chinese glottal stop *Ying* 影 [ʔ-] initials usually develop into zero initials with rare occasions of nasalization in modern day Sinitic¹ languages and Sino-Vietnamese. Scholars such as Edwin Pulleyblank (1984) and Jiang Jialu (2011) have briefly mentioned this development but have not yet thoroughly investigated it. There are approximately 26 Sino-Vietnamese words² with *Ying*- initials that nasalize. Scholars such as John Phan (2013: 2016) and Hilario deSousa (2016) argue that Sino-Vietnamese in part comes from a spoken interaction between Việt-Mường and Chinese speakers in Annam speaking a variety of Chinese called Annamese Middle Chinese AMC, part of a larger dialect continuum called Southwestern Middle Chinese SMC. Phan and deSousa also claim that SMC developed into dialects spoken

¹ I will use the terms “Sinitic” and “Chinese” interchangeably to refer to languages and speakers of the Sinitic branch of the Sino-Tibetan language family.

² For the sake of simplicity, I shall refer to free and bound morphemes alike as “words.”

in Southwestern China today (Phan, Desousa: 2016). Using data of dialects mentioned by Phan and deSousa in their hypothesis, this study investigates initial nasalization in *Ying*-initial words in Southwestern Chinese Languages and in the 26 Sino-Vietnamese words. This study uses the working hypothesis of Phan and deSousa as a framework to investigate a possible common origin for both Southwestern Middle Chinese and Sino-Vietnamese initial nasalization of *Ying*-initial syllables. Not all of the Sino-Vietnamese *Ying*-initial words nasalized under the same condition; we find nasalization occurring both in the Hán-Việt HV and readings for Chữ Nôm CN characters as well as for alternate readings, that is to say: readings of Chinese origin that exist outside of the HV and CN reading traditions.

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I: Sino-Vietnamese Literature Review

I. 1. Keith Taylor, John Phan, Mark Alves: Sino-Vietnamese interaction: Pre-Han to late Tang

Before Han domination, the region of modern day northern Vietnam consisted of material cultures such as the multi-ethnic Đông Sơn 東山 civilization that flourished in the 5th century BCE and produced sophisticated bronze works such as drums (Phan 2013: 71). The scholar Mark Alves cites another scholar named Higgham (2014) who claims that there was trade of metallurgy in the Bắc Bộ 北部 area in modern day northern Vietnam during the mid-first millennium BCE (Alves 2016: 265); this interaction brought Chinese vocabulary relating to metallurgy into Sino-Vietnamese. Take the word for iron 鐵 Proto-Vietic: *k-rac, Old Chinese: *ʔ^hik and copper/bronze 銅 Proto-Vietic: *do:ŋ, Old Chinese: *[l]^hoŋ as evidence for this trade (Alves 2016: 266). This trade of metallurgy shows small-scale interactions between Vietic and Chinese groups as opposed to the large-scale interaction from southbound mass-migration of Chinese groups centuries later.

Sino-Vietnamese cross-linguistic contact persisted through centuries of Chinese trade, political domination and migration from the north. In the Red River delta of modern northern Vietnam there was a kingdom called Âu Lạc 歐駱 in the late third century. The ruler of Âu Lạc, Thục Phán 蜀泮 who ruled under the title of An Dương Vương 安陽王 “King of Anyang” was a Chinese adventurer who fled Qin domination (Taylor 2013:14, Phan 2013:71). An Dương Vương established the citadel of Âu Lạc called Cổ Loa near modern day Hanoi and Cổ Loa remained

politically significant until Han domination (Phan 2013: 71). The kingdom of Âu Lạc ended when the ruler of Nanyue Zhao Tuo 趙佗 (240-137 BCE) or Triệu Đà conquered it in 179 BCE.

One of the most significant accounts of early Sino-Vietnamese encounters involves the military conquest of the former Qin general Zhao Tuo into the region known to the Chinese as Baiyue 百越 Bách Việt, in modern day northern Vietnam as well as modern day Guangxi and Guangdong provinces of China. Baiyue was an exonym given by the Chinese to refer to the various cultures in the region that have superficial similarities in customs such as short hair and tattoos (Brindley 2015:148). Zhao Tuo was sent to conquer southern territory for the Qin Emperor Qin Shihuang 秦始皇 (259-210 BCE) but after the fall of the Qin Empire (221-206 BCE), Zhao Tuo took the newly conquered territory for himself and established the kingdom of Nanyue 南越 or Nam Việt in 204 BCE. Zhao Tuo initially proclaimed himself to be “The Martial Emperor of Nanyue” *Nanyue Wudi* 南越武帝 Nam Việt Vũ Đế in 183 BCE but three years later relinquished this title under pressure from the Han Empire (206 BCE-220 CE) (Phan 2013: 72). Nanyue continued to function as a semi-autonomous vassal state of the Han Empire in the early decades of the Han period. In 179 BCE Zhao Tuo expanded the territory of Nanyue by conquering Âu Lạc. Because the Kingdom of Nanyue was administered by Chinese leadership, scholars such as Zev Handel (2019: 125) say that we can assume that many speakers of non-Chinese Yue languages of the region became familiar with Chinese

writing. If this were to be the case, then this has implications of the Yue's exposure to the spoken Chinese language as well.

In 111 BCE, the Han Empire conquered Nanyue and incorporated it under direct imperial administration. Under Han rule, cultural values of the Han concerning patriarchal family structure conflicted with the traditions of the local Lạc clans, which allowed more autonomy for women (Taylor 2013: 20). In 40 CE two warrior sisters Trưng Trắc 徵側 and Trưng Nhị 徵貳 led an armed uprising against the Han, with initial success until their defeat by the Han general Ma Yuan 馬援 in 43 CE. Their defeat followed a period of heavy Sinicization at every level of society into the Cả and Mã river region of modern day northern Vietnam (Phan 2013: 76). Several later migration periods also contributed to the influx of Sinitic speakers into the modern day northern Vietnamese region. The Yongjia 永嘉 rebellion of the 4th century during the Jin 晉 period (226-420 CE) in China caused another massive migration of Sinitic speaking peoples into the Cả and Mã river region.

This area in the river deltas of modern-day northern Vietnam and southern China is the setting for the language continuum hypothesized by Phan (2013) and deSousa (2016) as Southwestern Middle Chinese, which includes dialects such as what they call Annamese Middle Chinese. Sino-Vietnamese consists of different lexical layers based on the historical context of their borrowing such as Early Sino-Vietnamese from the Han-Jin era, Late Sino-Vietnamese from the Tang era (618-907 CE), and Recent Sino-Vietnamese from the Ming (1368-1644) and early modern era. Phan (2013, 2016) argues that Early Sino-Vietnamese and Late Sino-Vietnamese come from spoken language contact with contemporary Sinitic speakers, rather than

being learned as a literary language, as is the case for Sino-Korean and Sino-Japanese. The Han military victory over the Trưng Sisters and the chaos of the Yongjia rebellion led to mass migration of Sinitic speakers to the Cả and Mã river regions, thus contributing to the mass importation of lexicon found in Early Sino-Vietnamese ESV.

The Cả and Mã river delta region under the Tang protectorate known as Annam saw an adoption of more Sino-Vietnamese lexical items later to be known as Late Sino-Vietnamese LSV. The local Sinitic variety spoken in this region Annamese Middle Chinese and these Tang-era lexical items borrowed into proto Viet-Mường via spoken language contact are widely recognized as Sinitic borrowings by Vietnamese speakers today. The area of modern northern Vietnam broke away from Chinese membership with the fall of the Tang and shortly after the battle of the Bạch Đằng River in 938 CE when Ngô Quyền (897-944 CE) defeated a Southern Han (917-971 CE) fleet. By the end of the 10th century Annamese Middle Chinese AMC was cut off from regular contact with the north; Annamese Middle Chinese still remained to be a prestige language in the region surrounding modern day Hanoi and began to merge with and shift into a Sinicized form of Proto Việt-Mường which is the ancestor of Vietnamese (Taylor 2013: 50).

“A population of AMC (Annamese Middle Chinese) speakers shifted to pVM (Proto Việt-Mường), thereby inducing a number of adstratal linguistic innovations that were then imitated by the pVM community as a whole, “thus becoming permanently established in the language.” This sinicized pVM subsequently demonstrated a number of superficial Sinitic qualities as well as a large number of Sinitic loanwords as adstratal relics of the abandoned L1 (Language 1, Annamese Middle Chinese).” (Phan 2013: 298-299).

I. 2. Jiang Jialu and Wang Li: Phonological patterns in Sino-Vietnamese

Wang Li (1948) investigates the phonological and tonal features of Sino-Vietnamese using conventional Middle Chinese historical linguistic methods. Wang Li notices that there are exceptions to general phonological patterns in Sino-Vietnamese such as nasalization of certain *Ying* initial syllables, but does not provide a further elaboration or investigation. Wang categorizes Sinitic borrowings into two groups: Sino-Vietnamese, referring to the Tang-era borrowings and Ancient Sino-Vietnamese, referring to the Han and Jin-era borrowings (Wang Li 1948; 470).

Jiang Jialu (2011) provides an analysis of Sino-Vietnamese phonological and tonal features as well, investigating the historical phonological layers of Sino-Vietnamese with general rules and exceptions related to Middle Chinese phonological patterns. Jiang Jialu offers a systematic analysis of the Vietnamese syllable structure, tone and modern reading of Sino-Vietnamese, and makes the observation of palatal nasalization in *Ying* initial syllables, occurring in over 15 Sinitic lexical borrowings, many of which are grade three syllables in the *Zhen* 真 and *Ma* 麻 Middle Chinese Guangyun rimes. Jiang also finds five syllables from other rime groups such as *nham* 陰 from the *Qin* 侵 rime group, *nhàm* 厭 from the *Yan* 琰 rime group, *nhỏ* 幼 from the *You* 幼 rime group, *nhiết* 咽 from the *Xie* 屑 rime group, and *nhọ* 汙 from the *Mu* 暮 rime group, Jiang Jialu calls these words *Yidu Zi* 異讀字 ‘alternate reading syllables’, which I will refer to as ‘Alternate Development’ AD or

‘Alternate Reading’ words. Jiang briefly discusses the phenomenon of Middle Chinese *Ying*-initial palatal nasalization in Sino-Vietnamese and its similarity to initial merging in modern Chinese varieties. Jiang suspects that *Ying* palatal-nasalization might be a result of later influence from Chinese dialect varieties, but provides no further discussion on this speculation (Jiang 2011: 50).

I. 3. Henri Maspero and Hashimoto Mantarō: Sino-Vietnamese via Education

The earlier conventional idea for the origin of Sino-Vietnamese was borrowing through the education of literary elites, similar to the case of Sino-Japanese and Sino-Korean. Scholars such as Henri Maspero (1920) and Hashimoto Mantarō (1978) support the idea of an educational acquisition of Sino-Vietnamese but they differ on what kind of Middle Chinese was being taught to the locals. Maspero (1920) supports the hypothesis that Sino-Vietnamese is based on a learned reading tradition of Middle Chinese from the dialect of Chang’an (Maspero 1920: 21). Hashimoto (1978) is skeptical of this Chang’an affiliation of Sino-Vietnamese and instead argues that Sino-Vietnamese actually came from Southwestern varieties of Middle Chinese which he refers to as the Southwestern Koine.

“Unless there had been continued contact and free migration between China and Vietnam since the end of the tenth century, the Chinese language taught at Vietnamese schools in Jiao-Zhou must have been a kind of koine spoken in the Southwestern China.” (Hashimoto 1978: 9)

Hashimoto, like Maspero, suggests that Sino-Vietnamese is based on a language that was taught rather than naturally spoken in the area. Unlike Maspero, Hashimoto argues that the language being taught was a Southwestern variety rather than the dialect of Chang’an.

I. 4. Nguyễn Tài Cẩn

Phan (2013) cites a Vietnamese language source written by Nguyễn Tài Cẩn on another idea of how Late Sino-Vietnamese emerged. According to Phan (2013) Nguyễn Tài Cẩn (1979) is the only scholar prior to him that explicitly addresses the idea of an actively spoken variety of Sinitic in the Annam Protectorate (Phan 2013: 254).

Before the tenth century, when we [the “Vietnamese”] read Chinese characters, we were in fact reading the Chinese language. Using Chinese characters [at that point in history] really meant using a kind of foreign language, and studying Chinese characters really meant studying a living language [*sinh ngữ*]... [Before the 10th century] Giao Châu was a “colony” of the feudal North, and the Chinese language [*tiếng Hán*] in Giao Châu can be seen as one dialect of the Chinese language. Of course in Giao Châu, because [Chinese] existed side-by-side with Vietnamese, it was influenced by the speech of the Vietnamese, and the Chinese language [in Giao Châu] was perhaps “misshapen” a bit, but in general in that time, it still remained in close contact with the Chinese language in China [*Trung Quốc*], and if the Chinese language in China evolved, then [the Chinese language] in Giao Châu would also follow suite [sic]. (Nguyễn T. C., 1979, p. 38)- (Phan, 2013, p. 255)

Nguyễn states that a regional dialect of Middle Chinese was alive in the Giao Châu region, or the northern river delta region of Annam in modern-day northern Vietnam. This fits into Phan’s narrative of Sino-Vietnamese being acquired from spoken language interaction. Phan however, disagrees with Nguyễn on the grounds of categorizing this variety of Chinese as a foreign language *tiếng nước ngoài*, rather than a regional variety of Chinese.

I. 5. John Phan and deSousa: Annamese Middle Chinese

John Phan (2013) claims that the bulk of Sino-Vietnamese vocabulary is from a spoken language interaction between proto Việt-Mường speakers and speakers of a variety of Chinese spoken in the Cả and Mã river delta called Annamese Middle Chinese, which is part of a larger continuum called Southwestern Middle Chinese. This spoken language interaction flourished throughout most of the first millennium. Phan (2013) also claims that Annamese Middle Chinese was spoken for most of the first millennium CE. This hypothesis of Annamese Middle Chinese is supported by other scholars such as Keith Taylor (2013), and Hilario deSousa (2016).

According to Phan, HV (Hán-Việt) demonstrates several phonological mutations neither reconcilable with conservative MC evolution, nor attributable to a ‘nativizing’ pVM effect.” (Phan 2013, 257) This suggests that the donor of Late Sino-Vietnamese behaved more like an ancestor of modern Southwestern varieties of Sinitic languages. Phan in his 2013 study says that there are five phonological mutations to note while in his joint study with deSousa (2016) there are six. In this report we will discuss all six:

1. Palatalization of labials in chongniu syllables
2. Centralization and diphthongization of high/front- and low/back- vowels.
3. Palatalization of velar onsets in grade II *kaikou*³ 二等開口 syllables.
4. Plain stops & non-modal phonation reflexes for MC voicing.

³ Literally “open-mouth”, *kaikou* 開口 refers to unrounded vowels as opposed to *hekou* 合口 “closed-mouth”, rounded vowels

5. High-series tone in low-register syllables with sonorant initials.
6. An h- vs. v- reflex for *hj- (Middle Chinese *Yun* 云母) initials according to vowel frontness vs. backness.

More details on these phonological changes are covered in chapter 2.

I. 6. John Phan and Zev Handel on Vietnamese Sinography and Nôm, What is Chữ Nôm?

Chữ Nôm is a Sinographic writing system that is used to write the Vietnamese language. Nguyễn Đình Hòa (2001) defines Chữ Nôm as the vulgar writing system used in conjunction with Chinese characters until their replacement by the latinized Quốc Ngữ. John Phan (2013b) calls Chữ Nôm a “character system that imitates the principles of Han writing (Chinese characters)” (Phan 2013b: 1). The principles of Chinese characters that Chữ Nôm imitates include the use of graphs that represent monosyllabic morphemes. Most Chữ Nôm characters use mainstream Chinese characters with a reading representing a Vietnamese word as opposed to Hán-Việt readings that are based on well-known Chinese loans. Sometimes for Chữ Nôm, the same graph used in the mainstream Chinese script is used for a different word. Chữ Nôm can represent native Vietnamese vocabulary and also represent Early Sino-Vietnamese words from the Han and Jin periods.

1. 古 *cổ* ‘old, ancient’ (Late Sino-Vietnamese)
2. 古 *cỏ* ‘grass’ (Native Vietnamese)

There are also characters in the Nôm system that are graphic innovations and not found in the Han character system. Some of these innovative graphs are made of semantic-phonetic compounds.

3. ít 𠂇 ‘few’ 少 (‘few’) + 乙 (LSV *ít*)

4. bốn 𠂇 ‘four’ 四 (‘four’) + 本 (LSV *bốn*)

I. 7. Chữ Nôm in the context of Sino-Vietnamese

In John Phan’s (2013b) usage, Sino-Vietnamese is a cover term for all borrowings found in Vietnamese from Chinese. Both Early Sino-Vietnamese ESV and Late Sino-Vietnamese LSV come from a bilingual contact between Chinese and Việt-Mường speakers in modern-day north Vietnam around the Cả and Mã river deltas. Since Sino-Vietnamese is a cover term that refers to all borrowings from Chinese, then the scope is not limited to the Hán Việt HV readings for Late Sino-Vietnamese. For example, the Chinese syllable *wèi* 味 is the source of two different lexical items in Vietnamese from both Early Sino-Vietnamese and Late Sino-Vietnamese:

5. 味 Chữ Nôm: *mùi* (Early Sino-Vietnamese, Chữ Nôm) ‘smell, flavor’

6. 味 Chữ Hán: *vị* (Late Sino-Vietnamese, Hán Việt) ‘taste’

(Phan 2013: 168)

Since Chữ Nôm is used to write native Vietnamese words, it could give the false impression that all of the Sinitic borrowings are from the Hán-Việt lexical layer and all readings affiliated with Chữ Nôm are only that of Việt-Mường words.

However, with example 5 for *wèi* 味, we can see that Chữ Nôm is also used to write

Early Sino-Vietnamese words, but to many Vietnamese speakers, ESV words are conceptualized as native words.

“As a general rule, all ESV words (both Han and Jin) are perceived as native vocabulary by the average speaker, and their etymology is not recognized as Sinitic except by learned scholars.” (Phan 2013; 78)

The incorporation of readings affiliated with Chữ Nôm characters in Sino-Vietnamese historical linguistics can help us investigate certain instances of irregular sound change in *Ying* initial glottal stop syllables from Middle Chinese. Pullyblank (1984) mentions the irregular sound change of *Ying* initial syllables in Sino-Vietnamese with the example of *nhằm* ‘to swallow’ and *nhiết* ‘to choke’ 咽, both of which are readings of the character 咽 affiliated with the Chữ Nôm script, as opposed to the Hán-Việt readings *yến* and *yết* 咽.

I. 8. Three Broad Layers for Sino-Vietnamese (Phan, 2013) (Phan, deSousa 2016)

There are three layers of Sino-Vietnamese laid out by Phan (2013), Early, Late and Recent Sino-Vietnamese. Phan claims that Annamese Middle Chinese was the variety of Chinese spoken with the local Proto-Việt-Mường population throughout most of the first millennium. This means that Annamese Middle Chinese provides the bulk of Early Sino-Vietnamese vocabulary as well as Late Sino-Vietnamese vocabulary. As for Recent Sino-Vietnamese, the source of those borrowings are either from recent Chinese varieties such as Yue and Min or compositions and reading glosses for Sinographic neologisms using Hán-Việt Late Sino-Vietnamese.

-Early Sino-Vietnamese (ESV)

- Han Dynasty Layer (Around 1st Century CE)
- Jin Dynasty Layer (Around 4th Century CE)

Early Sino-Vietnamese vocabulary demonstrates intense contact between a variety of Chinese speakers of this era and the proto Việt-Mường speakers. Phan and deSousa also call the variety of Chinese at the time Annamese Middle Chinese. Many Chữ Nôm readings come from Early Sino-Vietnamese as well as the native Vietnamese lexicon. Most Early Sino-Vietnamese loan words come from technologically or culturally specific terms:

(ESV): *Búa* 斧 ‘Axe’, compare with (LSV): *phủ*

(ESV): *Đũa* 箸 ‘Chopsticks’, compare with (LSV): *trợ, trứ*

-Late Sino-Vietnamese (LSV)

- Tang Dynasty layer (Around 10th Century)

This category of Sino-Vietnamese is also often referred to as Hán Việt. The majority of Hán Việt readings are recognized as Chinese borrowings by everyday native speakers of Vietnamese. The Late Sino-Vietnamese lexicon came about through spoken contact between proto Việt-Mường speakers and Annamese Middle Chinese speakers in the Cả and Mã river delta and an adstratal effect from the language shift into the Sinicized proto Việt-Mường that developed into Vietnamese. These borrowings also include grammatical terms:

(LSV): *mỗi* 每 ‘every’

(LSV) *chỉ* 只 ‘only’

-Recent Sino-Vietnamese (RSV)

- Ming and Post Ming Borrowings (17th Cent-Modern era)

These borrowings were sporadically obtained via casual contact. They include terms from southern Sinitic varieties and Modern Japanese Sinographic neologisms. The casual contact between Vietnamese and Southern Chinese speakers resulted in lexical items that closely resemble Southern Chinese Dialect pronunciation, Phan claims that this happened after the fall of the Ming Dynasty (1368-1644) in China. The Nguyễn polity of Đàng Trong offered amnesty to around three thousand Chinese refugees in 1679. Those Chinese refugees greatly contributed to the development of Southern Vietnam as well as the Chinese cultural center in the Mekong delta that eventually became modern day Sài Gòn or Ho Chi Minh City (Phan 2013: 342).

(RSV) *Xì dầu* 豉油 'soy-sauce', compare with (LSV): *thị du*

(RSV) *Xửong* 腸 as in *Lạp xửong* 臘腸 'sweet sausage', compare with (LSV): *tràng, truong*

(RSV) *Chiên* 煎 'pan-fry', compare with (LSV): *tiên, tiển*

Compare with Cantonese: *laap6 coeng2* 臘腸, *zin1* 煎, *si6 jau4* 豉油

After the Meiji resoration in Japan (1868), Japanese intellectuals translated terminology from Western literature, politics and science on mass with Sinographic neologisms, using Kanji to translate Western terminology into Japanese. These Sinographic neologisms circulated into China, Korea and Vietnam with difference in pronunciation. Take the various pronunciations of the word 'philosophy' 哲學 across the Sinosphere:

Japanese: てつがく *tetsu gaku* 哲學

Chinese (Mandarin): *zhé xué* 哲學

Korean: 철학 *cheol hak* 哲學

In Vietnamese these Sinographic Japanese neologisms are read in the Late Sino-Vietnamese Hán-Việt readings in their pronunciation, despite coming later in the history of Sino-Vietnamese lexical borrowings:

triết học 哲學 “philosophy”, *xã hội* 社會 “society”

II: Some characteristics of Sino-Vietnamese

II. 1. Middle Chinese Initials and Tones

It has been hypothesized by Phan that Annamese Middle Chinese is closely related to the ancestors of Pinghua and Xiang varieties, and Annamese Middle Chinese is also hypothesized to be part of a larger dialect continuum called Southwestern Middle Chinese. Phan challenges the idea that Sino-Vietnamese emerged from a writing tradition through literary elites in the same way that Sino-Korean and Sino-Japanese emerged. Part of his reason for challenging this notion is that it is unable to account for the phonological structures and changes found in Late Sino-Vietnamese (Phan 2013: 239). There are five major sound changes mentioned by Phan (2013) and one other mentioned in Phan and deSousa (2016). Starting from this chapter, I will be comparing Sino-Vietnamese and Chinese Dialect phonology to Middle Chinese transcriptions from Baxter (1992).

Early Middle Chinese initials as transcribed by Baxter (1992)

Labials	<i>Bang</i> 幫 p-	<i>Pang</i> 滂 ph-	<i>Bing</i> 並 b-	<i>Ming</i> 明 m-		
Alveolars	<i>Duan</i> 端 t-	<i>Tou</i> 透 th-	<i>Ding</i> 定 d-	<i>Ni</i> 泥 n-	<i>Lai</i> 來 l-	
Un-aspirated Retroflex	<i>Zhi</i> 知 tr-	<i>Che</i> 徹 trh-	<i>Cheng</i> 澄 dr-	<i>Niang</i> 娘 nr-		
Dentals	<i>Jing</i> 精 ts-	<i>Qing</i> 清 tsh-	<i>Cong</i> 從 dz-	<i>Xin</i> 心 s-	<i>Xie</i> 邪 z-	
Aspirated Retroflex	<i>Zhuang</i> 莊 tsr-	<i>Chu</i> 初 tsrh-	<i>Chong</i> 崇 dzr-	<i>Sheng</i> 生 sr-		
Palatals	<i>Zhang</i> 章 tsy-	<i>Chang</i> 昌 tsyh-	<i>Chuan</i> 船 zy-	<i>Ri</i> 日 ny-	<i>Shu</i> 書 sy-	<i>Chan</i> 禪 dzy-
Velars	<i>Jian</i> 見 k-	<i>Xi</i> 溪 kh-	<i>Qun</i> 群 g-	<i>Yi</i> 疑 ng-	<i>Xiao</i> 曉 x-	<i>Xia</i> 匣 h-
Laryngeals	<i>Ying</i> 影 ʔ-	<i>Yun</i> 云 h(j)-	<i>Yi</i> 以 y-			

Middle Chinese tones as transcribed by Baxter (1992):

Píng 平 ‘Level’ : No mark, ie. tshjeng 清 Mand: qīng

Shàng 上 ‘Rising’ : -X, ie. huwX 後 Mand: hòu

Qù 去 ‘Departing’ : -H, ie. lijH 利 Mand: lì

Rù 入 ‘Entering’ : No mark, ie. paek 百 Mand: bǎi

II. 2. Non-Modal Phonation reflexes for MC voicing

One feature that makes Sino-Vietnamese unique amongst the Sino-Xenic pronunciations is plain stops in all syllables that had voiced stops in Middle Chinese. Phan addresses that initial-aspiration is never realized as a reflex of level *Ping* 平 tone voiced initial syllables in Sino-Vietnamese; he demonstrates Sino-Vietnamese implosives that change from *p-/*t- to ɸ-/ɸ-. Phan mentions that there is a similar pattern in Xiang and Pinghua varieties of Chinese.

Reflexes for MC Voiced Onsets in Level Tone Syllables (Phan 2013: 265)

#	字	EMC	LMC	Man.	Canto.	Wu	Xiang	HV
1	談	dam 平	tʰam	tʰan	tʰam	de	tan	ɗam
2	平	bjiɑŋ 平	pʰiaŋ	pʰiŋ	pʰiŋ	bin	pin	ɸiŋ
3	田	den 平	tʰian	tʰian	tʰin	dl	tiē	ɗiən
4	停	dɛŋ 平	tʰiaŋ	tʰiŋ	tʰiŋ	din	tin	ɗiŋ
5	狂	guaŋ 平	kʰyaŋ	kʰwaŋ	kʰuɑŋ	guoŋ	kuan	kuəŋ

II. 3. Palatalization of labials in chongniu IV syllables

Chongniu 重紐 division III and division IV are placed in the same *Qieyun* 切韻 rimes and the distinctions between chongniu III and IV syllables have been largely lost in modern Sinitic languages (Baxter 1992: 78); distinctions still can be found in Sino-Vietnamese and Sino-Korean, as well as Japanese Manyōgana 万葉仮名. However, the distinctions in Sino-Korean as Phan addressed are perhaps a straightforward retention of medial-based contrast in Middle Chinese; such as the demonstration of [-ii-| 의] after velar and laryngeal initials in chongniu III words but only [-i-| ㅇ] after velar and laryngeal initials in chongniu IV words. In the case of Sino-Vietnamese, there is an involvement of intermediate mutations (Phan 2013: 267). According to Phan, in Sino-Vietnamese, chongniu IV syllables with bilabial stops (e.g. b-, p-, p^h-) develop into dental stops t- or t^h-, while labial nasals |m-| develop into approximates |j-| which spirantizes into Northern Vietnamese |z-| (Phan 2013: 266). This phonological change does not occur in Middle Chinese or in Proto-Việt-Mường phonological systems. Therefore Phan concludes that this distinction must come from a living Sinitic phonological system and its interaction with Proto Việt-Mường.

Chongniu III and IV Developments in Hán-Việt (Modified from Phan 2013).

字 Syllable	Chongniu	Hexagraph	Hán Viet	IPA: Sino- Viet	Middle Chinese
篇	IV	山開三平仙滂	thiên	t ^h iə̃n	phjien
編	III	山開三平仙幫	biên	biə̃n	pjien
片	III	山開四去霰滂	piến	p ^h iə̃n	phenH
鞭	IV	山開三平仙幫	tiên	tiə̃n	pjien
岷	III	臻開三平真明	mân	mə̃n	mjin
民	IV	臻開三平真明	dân	zə̃n	mjin

II. 4: Softening of velar onsets

In this phenomenon, Phan cites Wang Li (1948) for addressing the palatalization of open mouth grade II velar syllables into palatal fricatives or palatal nasals, *k > *j or *ŋ > *ɲ. According to Wang Li, The Middle Chinese velar Jian initials [k-] never changed to a voiced velar fricative [g-], only from [k-] to [j-], then changed again to [z-], although in Quảng Bình and Giao Chỉ it changed to the medial [j-] (Wang 1948: 15). Phan mentions that there is no comparable lenition of velars in proto Viet Muong, neither is it a conservative retention of Middle Chinese features. Phan ties this phenomenon to Southwestern Chinese dialects by suggesting that

Proto-Xiang may also have demonstrated softened velars and be a feature that is preserved from Annamese Middle Chinese. (Phan 2013: 273)

Velar Softening in Mandarin, HV, Xiang and Canonese

Jiǎ 假, 假開二上馬見 giǎ |za| MC: kaeX

Jiě 解, 假開二平麻見 giǎi |zǎj| MC: keaX

Jiāo 教 效開二平肴見 giao |zaw| MC: kaew

Yá 牙, 假開二平麻疑 nha |ɲa| MC: ngae

Lè 樂, 效開二去效疑 nhac |ɲak| MC: lak

Yǎn 眼, 山開二上產疑 nhǎn |ɲan| MC: ngonX

(Phan 2013: 271-272)

II. 5. High series tone in low-register syllables with sonorant initials

Another feature of Sino-Vietnamese demonstrated by Phan (2013) is that level-tone syllables with sonorant initials demonstrate high tones, whereas level-

tone syllables with voiced stop onsets demonstrate expected low tones (Phan 2013: 273).

Tonal reflexes for sonorant initials in level (A) and oblique (B&C) series: (modified from Phan: 2013):

Syllable	Middle Chinese	Mandarin	Cantonese	Xiang	Hán-Việt
謀	A2 陽平 mjuw	mou (A2)	mau (A2)	mɤu (A2)	muu (A1)
文	A2 陽平 mjun	wən (A2)	man (A2)	uən (A2)	văn (A1)
人	A2 陽平 nyin	zən (A2)	jan (A2)	zən (A2)	ɲən (A1)
然	A2 陽平 nyen	zən (A2)	jin (A2)	yě (A2)	ɲiən (A1)
疑	A2 陽平 ngi	ji (A2)	ji (A2)	ɲi (A2)	ɲ i (A1)
馬	B2 陽上 maeX	ma (B2)	ma (B2)	ma (B2)	ma (C2)
武	B2 陽上 mjuX	wu (B2)	mou (B2)	wu (B2)	vu (C2)
石	B2 陽上 hjuwH	jou (B2)	jau (B2)	ix u (B2)	hɯu (C2)
念	C2 陽去 nemH	nian (B2)	nim (B2)	ɲiě (B2)	niəm (B2)
亂	C2 陽去 lwanH	lwan (B2)	lyn (B2)	nõ (B2)	lɔan (B2)

(Phan 2013: 273)

Phan (2013) shows that a critical feature of this phenomenon in Sino-Vietnamese is the demonstration of high series (1/陰) tones in level (A/平) syllables in Sino-Vietnamese Hán-Việt, which is in contrast to the dialects in comparison. Phan mentions that this tonal contrast even makes HV distinct from Xiang developments, and still considers it to be evidence for Annamese Middle Chinese.

“While I do not believe high tones for sonorant-initial level tone syllables was a feature of AMC, I do believe that their expression as such in modern Vietnamese is the result of a living AMC phonology mutating via analogy with pVM.” (Phan 2013: 274)

II. 6. Centralization and diphthongization of high/front and low/back vowels

There are centralized/non centralized and diphthong/non-diphthong doublets preserved in Sino-Vietnamese such as alternations in the *dang* 宕, *shan* 山, and *xie* 蟹 rime groups or *She* 攝. The non-centralized form is more faithful to the Early Middle Chinese and Early Sino-Vietnamese form.

Examples of Hán-Việt Doublets (modified from Phan 2013: 275)

Word	Meaning	Middle Chinese	Centralized HV	Non-Centralized HV
shān 山	mountain	srean	son sʌn	san san
cháng 長	long	drjang	trường dzɯəŋ /	trang dzəŋ
dāng 檔	official records	tang	đương ɟɯəŋ /	đàng ɟəŋ
yǎng 癢	tickle, itch	yangX	duỡng zɯəŋ /	dạng zəŋ

Phan also demonstrates that examples such as *yǎng* 癢 *duỡng* |zɯəŋ|/ *dạng* |zəŋ| show an Early Sino-Vietnamese/Late Sino-Vietnamese split, due to the fact that the forms with non-centralized vowels are more faithful to Early Middle

Chinese and Early Sino-Vietnamese forms. Phan also mentions that vowel centralization and diphthongization is not a phenomenon of Việt-Mường influence as argued once by Maspero (1912) but a result of a donor effect from a Chinese variety. Phan’s reasoning for this is HV diphthongized/centralized vowels representing innovations from conservative Middle Chinese sources.

II. 7. *h-* vs. *v-* Reflexes for Middle Chinese **hj-* [云母] Yun-initials

This phonological change is discussed in Phan’s collaborative work with Hilario deSousa (2016). According to Phan and deSousa, in Late Sino-Vietnamese, there is an *h-* vs. *v-* reflex for Middle Chinese *Yun* 云-initial syllables **hj-* according to frontness and backness in the vowel. Also according to Phan and deSousa (2016) Yun-initial syllables in the Tong-She group, and non-level tones of the Liu-She group consistently demonstrate a voiceless glottal fricative initial [h]. The reconstructed approximate medial *-j-* appears to be deleted in Tong-she 通攝 groups and the vowel becomes diphthongs in the *Liu-she* 流攝 group, leaving *h-* as the initial (Phan deSousa: 2016).

xióng 雄 MC: hjwung 通合三平東云 HV: hùng | huŋ |

yǒu 有 MC: hjwuX 流開三上有云 HV: hǔu | hiu |

wéi 為 MC: hjwe 止合三平支云 HV: vi | vi |

II. 8. Initial nasalization of Ying-initial syllables in Sino-Vietnamese

For this report I explore the possibility for another phonological innovation that could be associated with Annamese Middle Chinese which is the occasional initial nasalization of *Ying* 影-initial syllables. There are a total of twenty-six nasalized *Ying*-initial syllables for this analysis. I will demonstrate that there are different origins of nasalization for these syllables, and I claim that the possible *Ying*-initial nasalization in Annamese Middle Chinese as well as the oral transfer of these syllables within this bilingual setting of Sinitic and Việt-Mường communities is a factor. I also claim that a partial literary tradition is also a factor for the nasalization for some of these words.

For this report I will use the same terminology of Sino-Vietnamese as Zev Handel (2019) and John Phan (2013); Sino-Vietnamese is a cover term for all borrowings of Sinitic origin found in the Vietnamese lexicon. The timeframe of these lexical borrowings ranges from roughly the Qin-Han era to the modern era. Sino-Vietnamese as a whole also consists of the Hán-Việt HV lexical layer and readings affiliated with Chữ Nôm CN. Hán-Việt HV is the regional pronunciation of recognized Chinese morphemes and is also known as Late Sino-Vietnamese or Literary Sino-Vietnamese LSV. Chữ Nôm generally refers to a vernacular sinographic writing tradition that emerged in post-939 C.E. Vietnam. The term Chữ Nôm refers to the script as a whole, these include characters already in the Chinese script used to write lexical items in native Vietnamese and Early Sinitic loans 味 *mùi* ‘smell’ and 古 *cổ* ‘grass’, as well as innovative Sinographic characters that are solely used for Vietnamese words such as 崗 *núi* ‘mountain’ or 奎 *trời* ‘sky’. I also claim that it is

possible that some Sino-Vietnamese loans of the *Ying*-initial category may have an alternate development AD, perhaps from a later stratum of borrowings or influence from other pre-modern Chinese varieties as mentioned by Jiang. (2011: 50).

Nasalization in Hán-Việt

Yī 一 MC: ʔjit HV: *nhất* ‘one’

Yī 壹 MC: ʔjit HV: *nhất* ‘one’

Yā 丫 MC: ʔae HV: *nha* ‘fork/forked’

Yā 榦 MC: ʔae HV: *nha* ‘fork (of a tree)’

Yā 鴉 MC: ʔae HV: *nha* ‘crow’

Yā 啞 MC: ʔaeX HV: *nha* ‘onomonopeia for birds *ya ya*’

Yīn 因 MC: ʔjin HV: *nhân* ‘cause’

Yīn 姻 MC: ʔjin HV: *nhân* ‘marriage’

Yīn 茵 MC: ʔjin HV: *nhân* ‘mattress’

Yīn 氤 MC: ʔjin HV: *nhân* ‘*Nhân* as in *nhân uân* 氤氳, the generative force of heaven and earth’

Yīn 裊 MC: ʔjin HV: *nhân* ‘carpet’

Yīn 緇 MC: ʔjin HV: *nhân* ‘to enshroud’

Yān 堙 MC: ?jin HV: *nhân* ‘a mound’

yīn 闐 MC: ?jin HV *nhân* HV ‘the inner gates of a fortress’

yīn 禋 MC: ?jin HV *nhân* HV ‘ceremony’

Wō 倭 MC: ?wa HV: *nuy* ‘A state in the Eastern Sea (most likely referring to Japan)’

Wěi 萎 MC: ?jwe HV: *nuy* ‘wilted’

Wěi 痿 MC: ?jwe HV: *nuy* ‘paralysis’

ǎi 矮 MC: ?eaX HV: *nuy* ‘short’

Ào 拗 MC: ?aeX HV: *nũu* ‘to pull by the hand’

Nasalization for readings affiliated with Chữ Nôm

Yè 咽 MC: ?en CN: *nhiết* ‘to choke from crying’

Yàn 咽 MC: ?et ⁴CN: *nhấn* ‘to swallow’

Nasalization for Alternate Development

Yīn 陰 MC: ?im AD: *nham* ‘dark’

Yàn 厭 MC: ?jiemX AD: *nhàm* ‘to be bored with, to detest’

Yòu 幼 MC: ?jiwH AD: *nhỏ* ‘small’

Wū 汙 MC: ?u AD: *nhọ* ‘dirty’

The data for this report consists of dialects of Southwestern China that match the same periphery that is covered in Phan’s hypothesis as well as in his

⁴ The same graph 咽 is used for two different morphemes: “to choke” which is a ru-tone syllable, and “to swallow” which is a qu-tone syllable. Both of which are nasalized in Sino-Vietnamese Chữ Nôm readings.

collaborative work with deSousa. These dialects include varieties of Xiang 湘, Min 閩, Pinghua 平話, Tuhua 土話, Gan 贛語, Yueyu Baihua 粵語白話 and Hakka 客家 collected from *Yueyu pinghua tuhua fangyin zihui* 粵語平話土話方音字彙, *Xiao Xuetang* 小學堂 *Hanyu Fangyan Zihui* 漢語方言字彙 (2003) and various printed phonological research reports on the Xiang dialects by scholars such as Qu Jianhui (2010) and W. South, Coblin (2011).

There are some words in this list that have shown a high frequency of initial nasalization throughout the Southwestern dialects. One of the words that has the highest frequency of initial nasalization is ‘fork of a tree’ *nha* 極, which shows nearly consistent initial nasalization throughout the Pinghua 平話 dialects, a fairly high frequency in the Tuhua 土話 dialects and is shown to be consistently nasalized throughout the Xiangxiang 湘鄉 dialects.

Yā 極 ‘fork of a tree’

Pinghua 平話

Tingzi Pinghua 亭子平話: ŋa

Shibu Pinghua 石埠平話: ŋa

Sitang Pinghua 四塘平話: ŋa

Nabi Pinghua 那畢平話: ŋa

Tuhua 土話

Tingdong Tuhua 廷東土話: ŋa

Gaoshang Ruantu 高尚軟土: ŋo

Xiangxiang⁵ 湘鄉方言

Chengguan 城關 : η-

Quantang 泉塘 : η-

Zhongsha 中沙 : η-

Tanshi 潭市 : η-

Qizi 棋梓 : η-

Hutian 壺天 : η-

Fanjiang 翻江 : η-

Jinsou 金藪 : η-

Jinshi 金石 : η-

Another syllable with a fairly high frequency of initial-nasalization is *ǎi* 矮 *ny* ‘short’ which nasalizes throughout the Xiangxiang dialects, as well as Changsha 長沙 and Shuangfeng 雙峰 dialects, and nasalizes in some instances in the Yongzhou 永州 and Chenxu Pian 辰溪片 groups.

Xiangxiang 湘鄉

城關 Chengguan: ηa

泉塘 Quantang: ηa

中沙 Zhongsha: ηa

⁵ In the Xiangxiang Fangyan Yuyin Yanjiu 湘鄉方言語音研究 by Jiang Junfeng 蔣軍鳳 (2010), Ya 榘 is used as an example to demonstrate initial velar nasals |ŋ|; neither the tones nor finals were provided for 榘 across the Xiangxiang dialects.

潭市 Tanshi: ɲa

棋梓 Qizi: ɲa

壺天 Hutian: ɲa

翻江 Fanjiang: ɲa

金藪 Jinsou: ɲa

金石 Jinshi: ɲa

Chenxu Pian 辰澈片

Liangjiang Hua 兩江話 : ɲɛ

Jiefang Yan 解放岩 : ɲɛi

Chengguan Hua 城關話 : ɲ-

Changsha 長沙 : ɲai

Shuangfeng 雙峰 : ɲa

On the other hand there are *Ying*-initial words that do not nasalize at all throughout all of the dialects in this research, namely *nhất* ‘one’ 一. If no modern Chinese dialect from the Southwest has a nasalized initial for this word, what are the implications of its initial nasalization in Sino-Vietnamese or its phonological initial status in Annamese Middle Chinese?

Ping Hua 平話

Tingzi Pinghua 亭子平話 : ət

Shifu Pinghua 石埠平話 : et

Sitang Pinghua 四塘平話 : et

Fuxing Pinghua 復興平話 : jət

Tuhua 土話

Tingdong Tuhua 廷東土話 : i

Dong An Tuhua 東安土話: i

Gaoshang Ruantu 高尚軟土: iɛ

Chen Xu Pian 辰潑片

Gangdong 崗東: i

Liangjiang 兩江: i

The word *nhân* ‘cause’ 因 is the head of a homophone group *Yunmu* 韻目 that consists of other words shown below:

yīn 因 *nhân* HV ‘cause’

yīn 茵 *nhân* HV ‘mattress’

yīn 氤 *nhân* HV ‘*Nhân* as in *nhân uân* 氤氳, the generative force of heaven and earth’

yīn 裊 *nhân* HV ‘carpet’

yīn 緇 *nhân* HV ‘to enshroud’

yīn 堙 *nhân* HV ‘a mound’

yīn 闐 *nhân* HV ‘the inner gates of a fortress’

yīn 禪 *nhân* HV ‘ceremony’

As can be seen above, the Sino-Vietnamese Hán-Việt HV readings for these words are all homophonous. There is no guarantee that any finding of *nhân* 因 in the dialect data will determine the pronunciation for the other words; data that shows a modern Chinese dialect’s pronunciation of the other words in this homophone group is scarce. It may be possible that the nasalized *nhân* 因 was transmitted into the Vietnamese lexicon via spoken bilingual interaction but the rest of the words in the homophone group they might be transmitted through a literary analogy practice that imitates the pronunciation of *nhân* 因. This is probably the case because the other words in this homophone group are not common in spoken language.

Two Xiang dialects that are of considerable interest are Gangdong 崗東 and Liangjiang 兩江 from the Chenxu Pian 辰澈片 variety. The word *nhân* ‘cause’ 因 in the Gangdong and Liangjiang dialects has palatal nasal initials. Another dialect of Xiang that has a nasalized initial for *nhân* 因 is the Laojie Loudi dialect from Coblin (2011) which is read as *nin*.

Yīn 因 “cause”

Gangdong 崗東 : ŋje

Liangjiang 兩江 : ŋje

Laojie Loudi 老街婁底 : nin

Other *Ying*-initial words of interest that do not nasalize in Sino-Vietnamese but nasalize in many Xiang dialects include *ān* 安 ‘safety’, *ài* 愛 ‘love’, *ēn* 恩 ‘grace’, and *ōu* 歐 ‘ballad’. They do not nasalize in Coblin’s common central Xiang but show consistent signs of initial nasalization.

Ài 愛 : ʔojH

Lianyuan 漣源 LY: ηε

Anhua 安化 AH: ηai

Chenxi 辰溪 CX: ηai

SV HV: ái

Ān 安 : ʔan

Lianyuan 漣源 LY: ηa

Xupu 溱浦 XP: ηě

Chenxi 辰溪 CX: ηε

SV HV: an/yên

Ēn 恩 : ʔon

Lianyuan 漣源 LY: ηε

Xupu 溱浦 XP: ηě

Chenxi 辰溪 CX: ηei

SV HV: ân

Ōu 歐 : ʔuw

Lianyuan 漣源 LY: ɲə

Chenxi 辰溪 CX: ɲəu

Huitong 會同縣 HTb: ɲiau

SV HV: âu/ău

In the Xiang dialects, initial nasalization of *Ying*-initial syllables in other *Ying*-initial syllables demonstrates a significant implication. It is possible that *Ying*-initial from Middle Chinese [ʔ] in Annamese Middle Chinese either retained the glottal stop, rendered to a zero initial or a nasal in rare cases. This nasalized *Ying*-initial rarely occurs across Southwestern Chinese Dialects and is found in twenty-six Sino-Vietnamese syllables. This implies that those nasalization occurrences had possible common origins in Annamese Middle Chinese initial-nasalization but changed over time under different circumstances including competing forms through Chinese dialect layering.

II. 9. Alternate Development

The words of possible alternate development AD, 陰 *nham*, 厭 *nhàm*, 幼 *nhỏ* and 汙 *nhọ* were discussed by Jiang Jialu (2011). In the Hán-Việt readings and readings affiliated with the Chữ Nôm script, there are no nasal initials. They were perhaps borrowed under different conditions or in a later stratum as suspected by Jiang Jialu (2011: 50).

Word	Hán-Việt	Chữ Nôm	Alternate Development
Yòu 幼	ấu ɮu	ấu/âu əu	nhỏ ɲɔ
Yàn 厭	yếm/yêm jem / jem áp/ấp a:p / əp	Im/em im / ɛm êm/ệ́m em / em ưóm iə:m	nhàm ɲam
Yīn 陰	âm/ám, uẩn əm / a:m , uən	âm/ơm əm / ə:m	nhâm ɲam
Wū 汗	ố/ô o / o	ô o	nhọ ɲɔ

The lack of nasalization in the Hán-Việt readings and readings affiliated with Chữ Nôm may raise suspicion of the status of these nasalized words being Sino-Vietnamese at all. It needs to be noted that the Guangyun definitions either match or closely resemble the meanings that these syllables have in the Vietnamese language today; which strongly implies that these are indeed Sinitic borrowings. Below are Vietnamese definitions of these words from dictionaries compiled by Nguyễn Đình Hoà (1971, 1995) and Nguyễn Văn Khôn (1967).

1. Yīn 陰 nham

Guangyun: 陰陽也說文作陰闇也水之南山之北也 “Yin as in Yinyang, The Shuowen says: Yin is dark, it is the southern side of a river, and the northern side of mountain.”

The Guangyun entry for this word Yīn 陰 mainly means dark, which could have taken on an extended meaning in Sino-Vietnamese to mean ‘dangerous’ or ‘wicked.’

Nham: “ex. *nham hiểm*, *Yīnxiǎn* 陰險⁶: to be dangerous, tricky” (1966)

“Wicked, dangerous” (1967)

2. Yàn 厭 nhàm

Guangyun: 厭魅也 “to abhor, as in abhor demons”, 論語曰食不厭精 “The Annalects says: ‘(One) cannot be too satisfied with fine food’”

The first definition for Yàn 厭 in the Guangyun is to abhor or dislike something such as demons. The second Guangyun entry is an example of how the word Yàn 厭 is used in classical texts such as *The Analects of Confucius*, *lún yǔ* 論語.

⁶ It may be possible that *nham hiểm* and Chinese *Yīnxiǎn* 陰險 “treacherous” are cognates.

The full quote from the Annalects is 食不厭精，膾不厭細 “(One) can never be too satisfied with fine food, nor with minced meat cut quite small.” This quote is also an idiom in Chinese today. The word Yàn 厭 ‘dislike’ or ‘averse’⁷ perhaps took on an extended meaning in Sino-Vietnamese such as ‘tedious’ or ‘prosy.’ It is also possible that the other meaning found in the analects ‘satisfied’, took on an extended meaning of ‘boring, commonplace.’

Modern Vietnamese: nhàm: “tedious, boring” (1967) “To be commonplace, tedious, boring, prosy”.

3. Yòu 幼 nhỏ

Guangyun: 少也 “Small/few.”

Modern Vietnamese: nhỏ “to be small” (1966) “small, little, petty, young” (1967)

4. Wū 汙 nhọ

Guangyun: 染也說文穢也 “To stain, the Shuowen says ‘dirty’.”

Modern Vietnamese: nhọ: “To be stained, soiled” (1971).

The phenomena of initial nasalization in Sino-Vietnamese and southwestern Chinese dialects raises questions regarding the Annamese Middle Chinese phenomena discussed by John Phan and Hilario deSousa. Several phonological changes in Sino-Vietnamese support the hypothesis of a Southwestern Dialect in the medieval period that contributed to a spoken multilingual origin for Sino-Vietnamese. Initial nasalization may give us another clue for understanding the phonological characteristics of Annamese Middle Chinese that bring us the modern

⁷ Charles Muller (1990) translates yàn 厭 as ‘averse’

Ying-initial nasalized syllables in Vietnamese and modern Southwestern Chinese varieties.

III: Middle Chinese Initials, Glottal Stops and Nasalization

III. 1. Glottal Stop Preservation

The phonological inventory of Middle Chinese contains a glottal stop initial, [ʔ-] which is represented by the Middle Chinese category *Ying* 影. In some modern Chinese varieties such as the Liujia 六甲話 and Sanya Maihua 三亞邁話 dialects of the Yue language group, these glottal stops from Middle Chinese are preserved.

Table 1: Glottal Stop Preservation 1

Syllable	Mandarin/Pinyin	Liujiahua2 六甲話 2
案 山開一去翰影 ⁸ ʔanH ⁹	àn	ʔon
晏 山開一去翰影 ʔanH	yàn	ʔan
壓 咸開二入狎影 ʔæp	yà	ʔap

⁸ This is an example of a hexagraph, which is a six character combination used to explain the Middle Chinese phonological characteristics of Chinese syllables.

⁹ All Middle Chinese reconstructions in this analysis will adhere to the transcription of Baxter and Sagart (Baxter 1992).

Table 2: Glottal Stop Preservation 2

Syllable	Mandarin/Pinyin	Sanya Maihua 三亞邁話 IPA
暗 咸開一上感影 ʔamH	àn	ʔuan
陰 深開三平侵影 ʔjim	yīn	ʔɔn
音 深開三平侵影 ʔjim	yīn	ʔɔn

III. 2. Zero Initialization

Over time, these glottal stop initials from Middle Chinese underwent the typical development of zero initialization in modern Sinitic and Sino-Xenic pronunciations, which is the case for Sino-Korean, Sino-Japanese and mostly true for Sino-Vietnamese. Some Sinitic varieties have literary and colloquial pronunciations of Chinese syllables. Literary readings are represented by the graph *wen* 文 and colloquial readings are represented by the graph *bai* 白 in conventional Chinese linguistics.

Table 3: Mandarin, Cantonese and Sino-Xenic readings

Chinese Syllable	Mandarin Pinyin	Cantonese Jyutping	Sino-Japanese Romaji	Sino-Vietnamese Hán-Việt	Sino-Korean Romaja
安 山開一平寒影 ʔan	ān	on1	an	an/yên	an
依 止開三平微影 ʔij	yī	ji1	i/e	y	ak
影 梗開三上梗影 ʔæŋ	yǐng	jing2	ei	ảnh	yeong
烏 遇合一平模影 ʔu	wū	wu1	u/o	ô	o

Table 4: Modern Sinitic Varieties from Hanyu Fangyin Zihui (2003)

Syllable	Chaozhou	Hefei	Wenzhou	Shuangfeng	Nanchang
yīn 因 臻開三平支影 ʔjin	iŋ	in	iaŋ	iɛn	in
yī 依 止開三平微影 ʔjɿ	i	?	i	i	ɪ
yǐng 影 梗開三上梗影 ʔæŋg	ĩã	in	iaŋ	iɛn 文 iɔŋ 白	In 文 iɔŋ 白
wū 烏 遇合一平模影 ʔu	ou	u	u	əu	u

III. 3. Ying initial nasals in Sino-Vietnamese

Scholars such as Edwin Pullyblank (1984) and Wang Li (1948) discuss the phenomenon of zero initialization in Sino-Vietnamese *Ying*-initial syllables and briefly mention the atypical phenomenon of initial nasalization of *Ying* syllables. In Sino-Vietnamese there are twenty-six *Ying* syllables that undergo initial nasalization

and render to alveolar nasals [n-] represented by Vietnamese *n-*, and palatal nasals [ɲ-] represented by Vietnamese *nh-*.

Table 5: Ying initial nasals in Sino-Vietnamese

Syllable	Mandarin Pinyin	Sino-Vietnamese Hán Việt
因 “cause” 臻開三平支影 ʔjin	yīn	nhân
鴉 “crow” 假開二平麻影 ʔæ	yā	nha
倭 “State in the eastern sea (Japan)” 果合一平弋影 ʔwa	wō	nụy
矮 “Short” 蟹開二上蟹影 ʔejX	ǎi	nụy

Pullyblank (1984) briefly discusses *Ying*-initial nasalization in Sino-Vietnamese and how it shows a contrast of Middle Chinese grade III and IV:

“The distinction between Grade III and Grade IV is usually not reflected in Sino-Vietnamese in the case of the voiceless laryngeal Ying [ʔ] but one does occasionally find nh for [ʔj]¹⁰, thus 一 LMC [ʔjit] SV nhất, 因 LMC [ʔjin] nhân, 咽¹¹ LMC [ʔjiat] SV nhiệt. Contrast 乙 LMC [ʔit] SV ất, 殷 LMC [ʔin] SV ân, 謁 LMC [ʔiat] SV yè.” - (Pullyblank 1984: 94).

III. 4. Other nasals in Sino-Vietnamese

Pullyblank (1984) and Wang Li (1948) discuss other typical phonological patterns of Middle Chinese initials in Sino-Vietnamese. Wang Li (1948) shows that alveolar nasal initials in Sino-Vietnamese are typical developments from Middle Chinese *Ni* 泥 initials. **Table 6:**

Ni 泥 Initial Syllable	Mandarin Pinyin	Vietnamese Hán Việt
南 咸開一平覃泥 nom	nán	nam
念 咸開四去添泥 nemH	niàn	niệm
年 山開四平先泥 nen	nián	niên
內 蟹合一去隊泥 nwojH	nèi	nội

¹⁰ This notation refers to *Ying* initial in Grade III.

¹¹ I still do not understand Pullyblank’s (1984) example with the syllable 咽 LMC [ʔjiat] SV nhiệt as a grade III syllable. I have yet to find a grade III version of 咽 rather than grade IV.

Alveolar nasals in Sino-Vietnamese are also typical developments in *Niang* 娘 initials, with occasional occurrences of palatal nasal initial. **Table 7:**

Niang 娘 Initial Syllable	Pinyin	Vietnamese Hán Việt
娘 宕開三平陽娘 nrjang	niáng	nương
女 遇開三上語娘 nrjoX	nǚ	nhữ, nứ
拿 遇開二平麻孃 nrae	ná	nã
濃 通開三平鐘娘 nrjowng	nóng	nùng

Wang Li also shows that palatal nasal initials in Sino-Vietnamese are typical developments from Middle Chinese *Ri* 日 initial words:

Table 8:

Ri Initial Syllable	Pinyin	Vietnamese Hán Việt
日 臻開三入質日 nyit	rì	nhật
入 深開三入緝日 nyip	rù	nhập
然 山開三平仙日 nyen	rán	nhiên
二 止開三去至日 nyijH	èr	nhị

III. 5. Ying nasalization in Chinese varieties

Ying initial nasalization is not limited to Sino-Vietnamese readings. There is a wide range of dialects from Sinitic varieties that have *Ying*-initial nasals.

Zhengzhang Shangfang in his 2010 analysis “Nasalization of zero onsets in Chinese dialects” focuses on a wide range of northern and southern Sinitic varieties such as

Xiang, Gan, Anhui, and Wu. His analysis shows that this irregular phenomenon is visible in a wide geographic distribution.

Table 9: from Zhengzhang Shangfang (2010: pg. 315):

Syllable/Location	Chang	Shuang	Nan	Susong	Tunxi	Jingde	Tongling
Pinyin	sha	feng	chang	宿松	屯溪	旌德	銅陵
MC	長沙	雙峰	南昌				
案／暗 àn 山開一去翰影 ʔanH	ŋan	ŋǎ	ŋɔŋ	ŋon	ŋɛ	ŋe	ŋɨ
嘔 ōu 流開一平侯影 ʔuw	ŋəu	ŋe	ŋəu	ŋəu	ŋiu	ŋi	ŋiəu
襖 ào 效開一上皓影 ʔawX	ŋau	ŋɤ	ŋau	ŋau	ŋə	ŋɔ	ŋau
愛 ài 蟹開一去代影 ʔojH	ŋai	ŋe	ŋai	ŋai	-----	ŋa	ŋæ
矮 ǎi 蟹開二上蟹影 ʔeaX	ŋai	ŋa	ŋai	ŋai	ŋa	ŋa	ŋæ
壓 yā 咸開二入狎影 ʔaep	ŋa	ŋa	ŋat	ŋa	ŋa	ŋa	ŋɔ

Also according to Zhengzhang, in Mandarin dialects, nasalization of *Ying*-initials also occurs in open mouth syllables with no medials such as Shijiazhuang (矮愛 ŋai, 奧襖 ŋau), Chongqing (壓 ŋa), and Xi'an (壓 nia).

III. 6. Yun and Yi zero initial nasalization

Zhengzhang (2010) in his analysis focuses on nasalization of zero initials in general. Zero initials in modern Sinitic varieties come from Middle Chinese *Ying* 影

[ʔ-], *Yun* 云 [h(j)-] and *Yi* 以 [y-] as well as *Yi* 疑 [ng-] initials. In the Wenzhou dialect of the Wu variety, [j-] and [ʔj-] initials from Middle Chinese *Yu* 喻 and *Ying* 影 initials respectively have occasional developments of palatal nasal [ɲ-] (Zhengzhang: 2010, pg. 317).

Table 10: *Yun* 云 and *Yi* 以 syllables in Mandarin and Wenzhou (Zhengzhang 2010: 314)

Syllable	Mandarin Pinyin	Wenzhou IPA
蚰 (以) 流開三平尤以 yuw	yóu	ɲau
蜒 (以) 山開三平仙以 yen	yán	ɲi
園 (云) 臻合三平元云 hjwon	yuán	ɲy

(Zhengzhang: 2010, pg. 313)

It is noteworthy that in Sino-Vietnamese Hán Việt neither variety of *Yu* 喻 initial syllable nasalizes. Middle Chinese *Yu* 喻 initial syllables are realized as a voiced labiodental fricative *v-* [v-], glottal fricative *h-* [h-], and a voiced palatal approximant *d-* [j-] (Saigon dialect) or voiced alveolar fricative *d-* [z-] (Hanoi dialect).

Table 11: Middle Chinese *Yu* category initials in Hán Việt

Syllable	Pinyin	Hán Việt
永 梗合三上梗云 hjwaengX	yǒng	vịnh
有 流開三上有云 hjuwX	yǒu	hữu
遊 流開三平尤以 yuw	yóu	đu

Zhengzhang and Wang Li (1948) briefly discuss a rare nasalization phenomenon in Early Sino-Vietnamese *Yu* 喻 syllables from *Yi* 以 syllables. In Hán-Việt, none of the *Yu* 喻 initial syllables nasalize but there is a rare occurrence in readings affiliated with Chữ Nôm.

Table 12:

Yu 喻 Syllable	Pinyin/Hán Việt	Chữ Nôm/English Gloss
葉（以） 咸開三入葉以 yep	yè / điệp	nhíp: detachable head, span of bridge, harmony with something.
弋（以） 曾開三入職以 yik	yì/ dặc	nhác: a look around in bewilderment.
運（云） 臻合三去問云 hjunH	yùn/ vậ	nây: germinate
越（云） 臻合三入月云 hjwot	yuè/ việt, hoạt	nhông ¹² : To wander aimlessly

¹² It is possible that this syllable is not based on the Hán-Việt pronunciation because of the velar nasal ending.

IV: Comparative data for Nasalization in Ying initial Syllables:

IV. 1. Tuhua, Yue Baihua, Pinghua

Using data from southwestern Sinitic varieties, John Phan (2013) argues that the bulk of Sino-Vietnamese comes from spoken language rather than a literary tradition due to phonological changes that developed differently from other Sino-Xenic readings. Sino-Vietnamese, as well as some Xiang, Pinghua and Yue varieties also develop alveolar nasal and palatal nasal initials from Middle Chinese *Ying* category initial syllables (a glottal stop [ʔ-]). In the modern Southwestern Sinitic varieties, some Middle Chinese *Ying* initials develop into alveolar nasals [n-], palatal nasals [ɲ-], as well as velar nasals [ŋ-].

Table 13 : Ying initial nasalization in Southwestern dialects

Syllable/Dialect	延東土話 Yandong Patois (Tuhua)	渠舊白話 Qujiu Baihua (Yue Baihua)	崗東話 Gangdong, (Xiang)	石埠平話 Shibu (Pinghua)
Yā 樞 “fork in a tree” 假開二平麻影 ʔae	ŋa	a	Not Found	ŋa
Yīn 因 “cause” 臻開三平支影 ʔjin	iən	iɛn	ɲie~	ɛn
Yā 鴉 “crow” 假開二平麻影 ʔae	ia	ŋa	Not Found	ŋa

Most of the Southwestern Pinghua, Tuhua Patois and Yue varieties in the data demonstrate Ying initials from Middle Chinese as zero initial. The Ying category initial syllables from the Pinghua and Tuhua varieties of this analysis also provide a wide variety of initials, including approximant initials [j-], voiced alveo-palatal sibilant initials [ʒ-], glottal stop initials [ʔ-], glottal fricatives [h-], zero initials, lateral, voiced palatal lateral approximant initials [l-], palatal nasal initials [ɲ-], alveolar nasal initials [n-], velar nasal initials [ŋ-] and laryngeal fricatives [h^w-].

煙 MC¹³: ʔen, PY¹⁴: yān: 山開四平先影

Guilin Pinghua 桂林平話 : [ie]

Lingjiang Pinghua 兩江平話 : [hin]

Limu Badu 栗木八都 : [lɿ :ə]

Shuangpai Jiangcun 雙牌 : [ɲien]

(YYPHTHFYZH: 223)

咽, MC ʔen, PY: yān: 山開四平先影

Yining pinghua 義寧平話: [in]

Yandong Tuhua 延東土話: [n-/ ɲian]

Andong Tuhua 安東土話 : [ziē]

Xiaojia Tuhua 小甲土話 : [nioŋ]

¹³ MC: Middle Chinese

¹⁴ PY: Pinyin

(YYPHTHFYZH¹⁵ V2: 223)

燕 MC: ?enH, PY: yān : 山開四去散影

Shouyan Pinghua 壽雁平話: [ŋEn]

(Yueyu Pinghua Tuhua Fangyin Zihui Volume 2: 227)

蕩 MC: ?ion PY: yān : 山開三平元影

Wangling Pinghua 王靈平話 : [lɛu]

(Yueyu Pinghua Tuhua Fangyin Zihui Volume 1: 215)

埃 MC: ?oj PY: āi: 蟹開二平皆影

Liangjiang Pinghua: [ŋa]

Sitang Pinghua: [ŋai]

Gaoshang Ruantu: [ŋa]

Liuja Tuhua: [ŋiɛ]

伊 MC: ?jij PY: yī: 止開三平脂影

Sitang Pinghua: [i]

Limu Badu: [ji]

Wenqiao Tuhua: [ɣw]

¹⁵ Yueyu Pinghua Tuhua Fangyin Zihui 粵語平話土話方音字彙

Ying category initial syllables in the Yue data show zero initials, voiced palatal lateral approximants [l-], glottal stops [ʔ-], alveolar nasals [n-], and approximant initials [j-].

薦 MC: ʔjen PY: yān: 山開三平仙影

Guangzhou/Cantonese: [jin]

Wuzhou Baihua: [nin]

Wangling Pinghua: [lɛu]

音 MC: ʔjim PY: Yīn 深開三平侵影

Sanya Mai Hua: [ʔɔn]

IV. 2. Xiang Initials

IV. 2. 1. Chenxu Pian 辰澈片

Ying 影 and Yi 疑:

In the Chenxu Pian dialects of the Xiang language group Ying initials either develop into Zero initial, palatal nasal [ɲ-] or velar nasal [ŋ-]. According to Qu Jianhui (2011), Middle Chinese open mouth grade I *Ying*-initial syllables are generally read as [ɲ-]:

1. 效開一去号影 : ʔawH ào 奧 [ɲau],

2. 蟹開一去代影 : ʔojH ài 愛 [ɲɛi]

3. 山開一平寒影 : ʔan ān 安 [ɲɛ]

Middle Chinese open mouth, grade II and III syllables and closed mouth *Ying*- initial syllables are generally read as zero initial:

1. 咸開二入狎影: ?aep

yā 鴨 [ɔ]

2. 止開三平微影: ?i

yī 衣 [i]

3. 止合三平支影: ?jwe

wěi 委 [uei]

Middle Chinese open mouth first and grade II *Ying* and *Yi* initial syllables in the Chenxu Pian dialects of Gangdong and Liangjiang are read as zero initial (Qu 2011: 49).

In the Gangdong 崗東 dialect:

Yi initial 疑:

果開一平歌疑 : nga

é 鵝 [ɔ]

Ying initial:

效開二平肴影 : ?aew

yǎo 咬 [au]

Yi initial:

梗開二去諍疑 : ngeangH

yìng 硬 [aŋ]

Ying initial:

蟹開一去代影 : ʔojH

ài 愛 [ɛ] ‘love’

Qu also finds that Middle Chinese open mouth grade III and IV *Ying* initial syllables in the dialects of Gangdong and Liangjiang are read as [ɲ-]:

1. 咸開三上琰影 : ʔjiemX

yàn 厭 [ɲiɛ]

2. 臻開三平真影 : ʔin

yīn 因 [ɲiẽ] ‘cause’

3. 宕開三平陽影 : ʔjang

yāng 秧 [ɲiɔ̃]

4. 通開三上腫影 : ʔjowngX

yōng 擁 [ɲioŋ] ‘to embrace’

(Qu Jianhui 2011: 49)

Yu initial 喻:

Qu's analysis (2011) finds that modern readings in *Yu* 喻 category initials are generally read as zero initial. In the Lufeng dialect, grade III closed mouth syllables in the Middle Chinese *Yu* 遇 category rime-group and grade III closed mouth entering tone in the *Tong* 通 rime-group are read as a voiced alveolar fricative [z-]. In Gangdong and Liangjiang they combine with the Middle Chinese Yang tone and are read as palatal nasal [ɲ-] (Qu 2011: 49). **Table 14:**

Syllable/ Location	魚 fish ngjo	鹽 salt yem	演 perform yenX	引 pull yinX	養 to raise yangX	贏 to win yeng	勇 brave yowngX	玉 jade ngjowk
Wuxi 武溪	y	le	iã	iẽ	iaŋ	iẽ	ioŋ	y
Lufeng 盧 峰	zɯ	iɛ	iɛ	iẽ	iaŋ	iẽ	iẽ	zɯ
Liangjiang 兩江	y	ɲiɛ	ɲiɛ	ɲiẽ	ɲiõ	ɲiõ	ɲioŋ	y

Ri initial 日:

According to Qu Jianhui, open mouth¹⁶ *Ri*-initial syllables in the Middle Chinese *Zhi* 止 category rime group in grade III are generally read as zero. In the dialects of Wuxi and Bajianping, grade III open mouth syllables in the *Zhi* rime group have voiced alveolar fricative initials [z-] and lateral sonorants [l-]. When an *Ri* initial is combined with syllables without high front vowel medials, it could be read as [z/z], when combined with syllables with high front medials, it is read as [z, ɲ, or zero].

(Qu 2011: 48) **Table 15:**

Location/Syllable	日 rì 'sun' 臻開三入質日 nyit	肉 ròu 'meat' 通開三入屋日 nyuwk	二 èr 'two' 止開三去至日 nyijH	讓 rang 'yield' 宕開三平陽日 nyangH
Tanxi 潭溪	zʔ	zəu	ə	zaŋ
Longtan 龍潭	ɲi	ləu	au	lɿ
Wuxi 武溪	zɔ	ziəu	zɔ	ziaŋ
Dashuitian 大水田	ɲie	ɲiəu	a	zɿ̃
Liangjiang 兩江	ɲ	ɲioŋ	ɛ	iɿ̃

¹⁶ *kaikou* 開口 'open mouth syllables' or unrounded vowels.

IV. 2. 2. Xiangnan Yongzhou Tuhua 湘南永州土話

According to Xie Qiyong, (2010), most *Ying* 影 syllables read in Yongzhou Tuhua are read as zero initials; there is also a small amount of initials read as [v-, z-, η-, ɲ-, n-, m-]. Attached is a chart that shows possible initials in *Ying*, *Yun* 云 and *Yi* 以 syllables (Xie 2010: 117). **Table 16:** From Xie (2010)

Yongzhou Dialect	Ying initial	Yun initial	Yi initial
Xintian Nanxiang	Zero	Zero, x-, ɕ-	Zero, tɕ-
Xintian Beixiang	Zero	Zero, ɕ-, x-	Zero, ts-
Ningyuan Zhangjia	Zero η-	Zero, ɕ-	Zero, ɕ-, tɕ-
Ningyuan Pinghua	Zero, v-, η-, l-	V, zero, ɕ, l, x	Zero, l-
Lanshan Shandong	Zero, η-, l-	Zero, ɕ	Zero, ɕ-, k-
Lanshan Taiping	Zero, ɲ-	Zero, ɕ, x	Zero, k-
Daoxian	Zero, η-, n-	Zero, η-, x-, s-	Zero, n-
Daoxian Xiaoja	Zero, k-, n-, tɕ-, η-	Zero, ɕ-, x-	Zero, n-, ɕ-, t-
Shuangpai	Zero, η-, n-, ɕ-	Zero, x-	Zero, η-, n-
Jianghua	Zero, z-, η-, n-	n-, Zero, ɕ-, x-	Zero, z-, n-, t-
Jiangyong Songbo	Zero, η-, n-	Zero, ɕ-, x-	Zero, tɕ-
Jiangyong Taochuan	Zero v-, ɲ-, η-,	Zero, ɕ-, x-	Zero, ɲ-, tɕ-
Dongan Gaofeng	Zero, η-	Zero, v-, ʏ-	Zero, ɕ-
Dongan Huaqiao	Zero, z-, η-, m-	Zero, ʏ-	Zero, v-, dz-, z-, ɕ-
Xiao Jiangqiao	Zero, z-, η-	Zero, z-, ʏ-, *p-	Zero, v-, dz-, tɕ-, z-, ɕ-
Lan Jiao Shan	Zero, η-	Zero, z-, v-	Zero, z-, v-, m-

IV. 2. 3. Xiangxiang Dialect 湘鄉方言

In the Xiangxiang dialects of the Xiang language group, *Ying* 影 and *Yi* 疑 syllables are read as either zero initial or velar nasal [ŋ] in open mouth grade I and II syllables. Grade III and II *Yi* 疑 initial syllables are read as palatal nasals [ɲ-]. (Jiang 2010, 107-108). **Table 17:** from Jiang (2010: 107).

Location/Syllable	矮 “short” 蟹開二上蟹影 ʔeaX	愛 “love” 蟹開一去代影 ʔojH	業 “undertaking” 咸開三入業疑 ngjaep	瓦 “tile” 假合二上馬疑 ngwaeX
Cheng guan	ŋã	uai	ɲiã	ɲõ
Quan tang	ŋã	uai	ɲiã	ɲõ
Zhong sha	ŋã	ue	ɲiã	ɲõ
Tan Shi	ŋã	uai	ɲia	ɲõ
Qi Zi	ŋã	ue	ɲia	ɲõ
Hu Tian	ŋã	ue	ɲi	ɲõ
Fan Jiang	ŋã	ne	ɲiẽ	ɲõ
Jin Sou	ŋã	e	ɲiẽ	ɲõ
Jin Shi	ŋã	ɲe	ɲiẽ	uɣ

Ri 日 initials

In the Xiangxiang dialects *Ri*-initials are generally read as palatal nasal [ɲ], zero initial or a voiced retroflex fricative [ʒ]. **Table 18:** from Jiang (2010):

Syllable and Location	日 “sun” 臻開三入質日 nyit	肉 “meat” 通開三入屋日 nyuwk	揉 “to kneed” 流開三平尤日 nyuw
城關 Chengguan	i	lei	iei
泉塘 Quantang	i	lyu	lyu
中沙 Zhongsha	i	ɲi	lu
棋梓 Qizi	i	ɲi	iu
壺天 Hutian	ɲi	ɲi	iu
翻江 Fanjiang	ɲl	ɲi	iu
金藪 Jinsou	ɲi	ɲi	iu
金石 Jinshi	ɲi	ɲi	zau

IV. 2. 4. Common Central Xiang

South Coblin (2011) analyzes twelve Xiang varieties mostly from the central Hunan region in an attempt to reconstruct Common Central Xiang and work with the hypothesis that the dialects classified as Xiang in the central region of Hunan all belong to common language taxonomy. There are zero initials in all of the central Xiang dialects as well as a variety of nasals, although some of the dialects lack alveolar nasal initials. Below are the names of these twelve dialects as well as their abbreviations:

The Twelve Dialects from Coblin (2011).

1. Xiangxiang XX

Xiangxiang includes zero initials, nasals, velar nasals and palatal nasals.

2. Shuangfeng SF

Shuangfeng initials include velar nasals, palatal nasals and zero initials

3. Laojie Loudi/ Loudi-a LDa

The Loudi-a initials include zero initials, velar nasals, palatal nasals and alveolar nasals.

4. Loudi-b LDb

Loudi b initials include alveolar nasals, palatal nasals, velar nasals and zero initials.

5. Lianyuan LY

The Lianyuan initials include retroflex nasals, velar nasals, and zero initials

6. Anhua AH

The Anhua initials include palatal nasals, velar nasals and zero initials.

7. Xinhua XH

The Xinhua initials include palatal nasals and zero initials.

8. Xupu XP

The Xupu initials include palatal nasals, velar nasals and zero nasals.

9. Chenxi CX

The Chenxi initials include alveolar nasals, palatal nasals, velar nasals and zero initials.

10. Luxi LX

The Luxi initials include alveolar nasals, palatal nasals, velar nasals and zero initials.

11. Huitong-a HTa

Huitong-a initials include alveolar nasals, velar nasals, palatal nasals and zero initials.

12. Huitong-b HTb

Huitong-b initials include palatal nasals, alveolar nasals, and zero initials.

“Common Central Xiang”

The hypothetical ancestor of the Xiang varieties in the central Hunan region includes alveolar nasal initials, alveolar nasals, and zero initials.

Ri initial syllables:

Nasals in Central Xiang *Ri*-initial syllables include alveolar nasals [n-], palatal nasals [ɲ-], and velar nasals [ŋ-].

Rèn 認 ‘to endure’

臻開三去震日 nyinH

SF [ɲiɛn]; LDa [nin]; LY [ŋɛn]; CCX [*nin]

Rén 人 ‘person’

臻開三平真日: nyin

SF [ɲiɛn]; LDa [nin]; LY [ɲen]; CCX [*nin]

Rì 日 ‘sun’

臻開三入質日: nyit

XH [ɲ] CCX; [*ni]

Coblin (2011, 37)

Yi initial syllables

Nasals in Central Xiang’s *Yi* 疑 category initial syllables include velar nasals [ŋ-], palatal nasals [ɲ-], alveolar nasals [n-] and retroflex nasals [ɳ-].

É 額 ‘amount’

梗開二入陌疑 : ngaek

XX [ŋo~ɲia], SF [ɲe~ ɲo~ ɲia], HTa [ɲie], HTb [ɲiɛ]

Yí 疑 ‘to inquire’

止開三平之疑 : ngi

XX [ɲiĩ], LDa [ni], LY [ɲi] CCX [ni]

(Coblin 2011; 33)

Yín 銀 ‘silver’

臻開三平真疑 : *ngin*

XX [*ŋin*], SF [*ŋiɛn*], LDa [*nin*], LY [*ŋɛn*], CCX [*ŋin*]

(Coblin 2011; 78)

Ying initial syllables:

The Central Xiang *Ying* syllables include zero initial, velar nasals [*ŋ-*], palatal nasals [*ɲ-*], and alveolar nasal [*n-*].

Ēn 恩 ‘grace’

臻開一平痕影 : *?on*

XX [*ŋiã*]; HTb [*ɲiɛn*]

Yà 壓 ‘to crush’

咸開二入狎影 : *?aep*

SF [*ŋa*], LY [*ŋa*]

Ài 愛 ‘love’

蟹開一去代影 : *?ojH*

AH [*ŋai*], HTa [*ŋai*], HTb [*ŋai*]

Yān 煙 ‘smoke’

臻開三平真影 : *?jin*

XX [ĩ] , SF [ĩ], LDa [nĩ] LDb [ɲĩ] (87)

Ying 英 ‘hero’

梗開三平庚影 : ʔjaeng

LDa [nin] (87)

Ni initial syllables:

Alveolar nasals, palatal nasals, velar nasals

Nián 年 ‘year’

XX [ɲĩ] LDa [nĩ] LY [ŋi]

Ní 泥 “mud”

XX [ɲĩ], LDa [ni]. LDb [ɲĩ], LY [ŋi]

Nán 南 ‘south’

XX [ɲiã], LDa [nã], LDb [nã], CCX [nan]

(Coblin 2011: 32)

Niang initial syllables:

Nasal sounds in *Niang* initial syllables for common central Xiang include palatal nasals, alveolar nasals, and retroflex nasals.

Nǚ 女 ‘woman’

遇開三上語娘 : nrjoX

XX: [ɲy] LDa [ny] LY [ɲy]

Nì 膩 ‘greasy’

止開三去至娘 : nriih

CX [ɲi] LX [ni]

(Coblin 2011; 34)

There are other factors to consider when looking at the central Xiang phonological features. Coblin mentions that there are other possible contributors to the phonological changes that have occurred in the Central Xiang dialects such as interaction with Miao, Tujia and Waxiang languages. Coblin suggests that this interaction may have contributed to some Xiang dialects having features that show non-Sinitic or Sinitic substrate features. (Coblin 2011: 5).

V: Việt-Mường and Modern Vietnamese Phonology

V. 1. Việt Mường Phonology

Vietnamese is a member of the Mon-Khmer branch of the Austro-Asiatic language family (Handel 2019: 126). The ancestor of modern Vietnamese is Proto Việt-Mường. Michel Ferlus (2009) provides an outline of proto Việt-Mường initial consonants as can be seen below:

3 PVM initial consonants : an outline

(The current *quốc ngữ* spelling for the proto phonemes is written in italic)

PVM comprised monosyllables CV(C) and sesquisyllables C-CV(C).

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>	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>			

(Phonological inventory of Proto Viet-Mường initials according to Ferlus 2009).

According to Ferlus's (2009) initial outline, alveolar nasals [n-], palatal nasals [ɲ-], velar nasals [ŋ-], and glottal stops [ʔ-] were present in Proto Việt-Mường initials. Annamese Middle Chinese was a contemporary of Proto Việt-Mường spoken in the river plains of modern northern Vietnam. This provides some historical context and implications for the phonological conditions present in the language shift from Annamese Middle Chinese to the contemporary variety of Proto Việt-Mường that eventually developed into Vietnamese.

V. 2. Modern Vietnamese Phonology

The phonological inventory of modern Vietnamese varies in the Hanoi and Saigon dialects. For example, in the Vietnamese orthography, Đ¹⁷ is pronounced as [z] in the Hanoi dialect while it is pronounced as [j] in the Saigon dialect. There is

¹⁷ In the Vietnamese orthography Đ is pronounced as [d].

also an unofficial status of the glottal stops in Vietnamese initials. Wang Li (1948) and Pullyblank (1984) discuss the development of glottal stops into zero initial in Sino-Vietnamese while linguists of the Vietnamese language such as James Kirby (2011) and Andrea Hoa Pham (2009) both include glottal stops in their phonological inventories for Vietnamese. In the Vietnamese consonant initial charts provided by Andrea Hoa pham below, letters in the Vietnamese orthography Quốc Ngữ is italicized and the IPA (International Phonetic Alphabet) letters are provided in brackets.

Vietnamese Initial Chart 1: Hanoi Dialect (From Hoa 2009)

	<i>/tʰ/ th</i>			
	<i>/t/</i>	<i>/c/ ch</i>	<i>/k/ c, k, q</i>	<i>/ʔ/</i>
<i>/b/</i>	<i>/d/ đ</i>			
<i>/f/ ph</i>	<i>/s/ x</i>		<i>/x/ kh</i>	<i>/h/</i>
<i>/v/</i>	<i>/z/ d, gi, r</i>		<i>/ʎ/ g, gh</i>	
	<i>/l/</i>			
<i>/m/</i>	<i>/n/</i>	<i>/ɲ/ nh</i>	<i>/ŋ/ ng, ngh</i>	

Table 1. The initial consonant inventory in the Hanoi dialect

Vietnamese Initial Chart 2: Saigon Dialect (From Hoa 2009)

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

Table 2. The initial consonant inventory in the Saigon dialect

According to Andrea Hoa Pham, in the Hanoi and Saigon dialect there are glottal stop initials. Pham mentions that glottal stop initials are inserted before words that begin with a vowel or the glide [-w-] in the Hanoi dialect and in many cases in the Saigon dialect. Glottal stops are simply left out of the Vietnamese orthography.

Ăn 'to eat' [ʔan1]

Ủy 'to delegate' [ʔwi5]

Ác 'be cruel' [ʔa:k7]

Yên 'peaceful' [ʔiən1]

(Pham 2009)

It is however important to note that the status of glottal stop initials in modern Vietnamese phonology does not give historical linguistic information on

sound changes in *Ying*-initial syllables. Pham mentions that glottal stops are pronounced in the spoken language before vowels in general; meaning words that come from Chinese *Ying* syllables or Việt-Mường words alike both supposedly have glottal stops before the vowels.

VI: Preservation, loss and the significance of place of articulation

The phonological shift from glottal stop to nasal initials in Annamese Middle Chinese and their status in Sino-Vietnamese and present Chinese dialects is due to a few factors:

1. There was a merger between *Ying* and *Ri* in grade III, followed by mergers with *Ying* and *Yi* in other grades.
2. There was an absorption of these nasalizations in Annamese Middle Chinese along with other changes described by Phan and deSousa.
3. The patterns in Vietnamese and Southwestern dialects are obscured due to dialect layering but are still visible today.

VI. 1. Mergers

It is possible that Annamese Middle Chinese had palatal nasal initials for *Ying*-initial syllables, and this was likely caused by *Ri* and *Ying* initial syllables merging in grade III. This merger of grade III *Ying* and *Ri* is perhaps the reason why there are palatal nasal readings of Sino-Vietnamese *Ying* syllables. Compare the palatal nasal initial Vietnamese nh- in both *Ying* and *Ri* syllables:

Ying	Hexagraph/Middle Chinese	Ri	Hexagraph/MC
因 <i>nhân</i> “cause”	臻開三平真影 / ʔin	仁 <i>nhân</i> “humaneness”	臻開三平真日 / nyin
姻 <i>nhân</i> “marriage”	臻開三平真影 / ʔin	人 <i>nhân</i> “person”	臻開三平真日 / nyin
一 <i>nhất</i> “one”	臻開三入質影 / ʔit	日 <i>nhật</i> “sun”	臻開三入質日 / nyit

Zhengzhang (2010) pointed out the possibility of a merger and claimed that when the pronunciations of Chinese characters were taught in contemporary Vietnam, the readings of *yīn* 因, 姻 *nhân* became mixed up with *rén* 仁, 人 *nhân*. The same happened with *yī* 一 *nhất* and *rì* 日 *nhật* according to Zhengzhang (2010:314). Unlike Zhengzhang, I do not think that this merger came from characters being taught but rather through spoken transmission in the Vietnamese northern river delta region and these pronunciations influenced Sino-Vietnamese and Modern Southwestern Chinese dialects. We can see retention of velar nasals with the pronunciation of *nhân* 因 as *nie~* in the Xiang dialects in Gangdong and Liangjiang.

As for the Southwestern Chinese varieties, Qu Jianhui (2011) mentions that for the Chenxu Pian 辰淑片 dialects of the Xiang language variety, Middle Chinese open mouth grade III and IV Ying-initial syllables in the dialects of Gangdong and Liangjiang have palatal nasal initials.

1. 咸開三上琰影 : ʔjiemX

yàn 厭 [ɲie] ‘to be bored of’

2. 臻開三平真影 : ʔin

yīn 因 [niẽ] ‘cause’

3. 宕開三平陽影 : ʔjang

yāng 秧 [niõ] ‘seedling’

4. 通開三上腫影 : ʔjowngX

yōng 擁 [nioŋ] ‘to hold in one’s arms’

(Qu Jianhui 2011: 49)

Many modern dialects today still have palatal nasal readings of *Ri*-initial syllables as well. The syllable *rì* 日 in the Dashuitian dialect is read as *niɛ* and in the Longtan dialect it is read as *ni*. The syllable *ròu* 肉 in the Dashuitian dialect is read as *niəu* and the syllable *rén* 人 is pronounced as *jin* in the Xiangxiang dialect of Jinshi. The Xiang language dialects may provide us with clues for a merger of *Ying* initial syllables and *Ri* initial syllables.

This merger of *Ying* and *Ri* influenced the initials of grade III syllables and it could have also influenced the nasalization of *Ying*-initial syllables in other grades via merger with *Yi* initials. Jiang Jialu (2011) mentions that palatalization of *Yi*-initial syllables in Sino-Vietnamese also occurs in grade II. Compare the *Ying* and *Yi* initial syllables below with Vietnamese orthographic palatal nasal *nh*- below:

Ying syllable	Hexagraph/MC	Yi syllable	Hexagraph/MC
榲 nha “fork of a tree”	假開二平麻影/?æ	樂 nhac “music”	江開二入覺疑/ngæwk
鴉 nha “crow”	假開二平麻影/?æ	嶽 nhac “high mountain”	江開二入覺疑/ngæwk
啞 nha “onomonopea for bird noises”	假開二去禡影/?æH	岳 nhac “high mountain”	江開二入覺氣/ngæwk

In modern southwestern Sinitic dialects many *Yi*-initial syllables are pronounced with palatal nasals as well, as can be seen from Coblin (2011), the grade II *Yi*-initial syllable 額 in Huitong County is pronounced as *niɛ*, the grade III syllable 疑 in Xiangxiang is pronounced as *niĩ*, and the grade III syllable 銀 in Shuangfeng is pronounced as *niɛn*.

Initial palatalization of grade II *Ying*-syllables is rare in modern Chinese dialects. One of the rare occurrences however is the palatal nasal reading of the syllable *yā* 榲 ‘fork of a tree’ in Nabi Pinghua *ŋa*. Nasalization is still commonly retained in these grade II syllables, but often as velar nasals. Some grade II *Ying* syllables that are palatalized in Sino-Vietnamese retain velar nasal initials and are clearly visible in some southwestern Chinese varieties.

The *Ying*-initial syllable *yā* 榲 nha ‘fork of a tree’ in grade II has a velar nasal initial in many Yue Pinghua varieties such as Sitang Pinghua *ŋa* and in Yue Baihua varieties such as Nanning Baihua *ŋa*. The grade II syllables *yā* 丫 ‘forked’ and *yā* 鴉 ‘crow’ also appear frequently with velar nasal initials in Baihua and Tuhua dialects of the Yue language varieties. Some *Ying*-initial syllables that appear with alveolar nasal initials in Sino-Vietnamese such as 矮 *nuy* ‘short’ appear with velar nasal

initials as well, for example, in the Xiangxiang dialects the grade II *Ying*-initial syllable *ǎi* 矮 ‘short’ is pronounced as *ŋǎ*.

This palatal nasalization phenomenon eventually influenced some syllables in all the grades as palatal nasalization is found in all four grades for Sino-Vietnamese *Ying*-initial syllables:

wū 汙 *nhọ* 遇開一去暮影 ‘dirty’ grade I

yā 鴉 *nha* 假開二平麻影 ‘crow’ grade II

yīn 因 *nhân* 臻開三平真影 ‘cause’ grade III

yàn 咽 *nhảm* 山開四去散影 ‘to swallow’ grade IV

The so-called alternate reading characters mentioned by Jiang Jialu consist of syllables that are in grade III and grade I:

Yīn 陰 *nham* 臻開三平侵影 ‘dark’ grade III

Yàn 厭 *nhàm* 咸開三上琰影 ‘boring’ grade III

Yòu 幼 *nhó* 流開三去幼影 ‘small’ grade III

Wū 汙 *nhọ* 遇開一去暮影 ‘soiled’ grade I

There is one Sino-Vietnamese alveolar nasal *Ying*-initial syllable that is closed mouth (*hekou* 合口) in grade I:

wō 倭 *nụy* 果合一平戈影 ‘A state in the Eastern Sea (Japan)’ grade I

This development of an alveolar nasal probably occurred after a velar nasalization of zero initialized *Ying*-initial syllables, a similar phenomenon as explained by Zhengzhang (2010). These nasalization phenomena have been

absorbed in early Vietnamese and is an additional phonological change found in Annamese Middle Chinese. Other alveolar nasals in Sino-Vietnamese include:

Wō 倭 MC: ʔwa HV: nuy ‘A state in the Eastern Sea (most likely referring to Japan)’

Wěi 萎 MC: ʔjwe HV: nuy ‘wilted’

Wěi 痿 MC: ʔjwe HV: nuy ‘paralysis’

ǎi 矮 MC: ʔeaX HV: nuy ‘short’

Áo 拗 MC: ʔaeX HV: nũu ‘to pull by the hand’

VI. 2. Absorption into early Vietnamese

There was also an absorption of these nasalized Ying initial syllables in early Vietnamese, following the same pattern seen in the other changes that Phan and DeSousa proposed. Let us revisit the six sound changes that occurred in Sino-Vietnamese as mentioned by Phan and deSousa (2016):

- 1.) Palatalization of labials in chongniu IV syllables
- 2.) Centralization and diphthongization of high/front- and low/back- vowels
- 3.) Plain stops and non-modal phonation reflexes for MC voicing
- 4.) High-series tone in low-register syllables with sonorant initials
- 5.) An *h*- vs. *v*- reflex for **hj*- (*Yun* 云母) initials according to frontness vs. backness in the vowel.
- 6.) Palatalization of velar onsets in grade II open mouth syllables

I propose another change that might have occurred in Annamese Middle Chinese, initial nasalization of *Ying*-initial syllables. This feature has influenced Sino-Vietnamese and modern southwestern Chinese dialects. Evidence from Sino-

Vietnamese readings and data from southwestern dialects suggests that there were mergers of *Ying* and *Ri* initial syllables that led to palatal nasalization as well as mergers with *Ying* and *Yi* syllables. The nasalized *Ying* syllables in Sino-Vietnamese appear with palatal nasals and alveolar nasals. There are a wide variety of modern Chinese dialects that show initial palatal, alveolar and velar nasalization for *Ying*-initial syllables. Over time these patterns became obscured.

VI. 3. Obscurity of patterns

The patterns got obscured to some degree in Vietnamese and Southwestern Sinitic dialects but are visible in several different layers. Initial nasalization for some of these syllables is visible in the Chinese varieties such as Yueyu Baihua and Xiang.

Yīn 因 *nhân* 'cause'

Xiang: Gangdong: : ɲie~, Liangjiang: : ɲie~,

Yā 榘 *nha* 'fork of a tree'

Guangxi Yue: Nanning baihua: ɲa, Yining Baihua: ɲa, Baise Baihua: ɲa

Yàn 厭 *nhàm* 'boring'

Xiang: Gangdong: ɲie~, Liangjiang: ɲie~

There are some syllables whereas the initial nasalization in Sinitic dialect pronunciation seems to have disappeared entirely due perhaps to phenomena such as dialect layering. Take the word 'one' for example:

Yī 一 *nhất* 'one'

Xiang:

Gangdong: *i*

Liangjiang: *l*

Yueyu Baihua:

Wuzhou Baihua: *jet*

Qujiu Baihua: *iet*

Dong'an Tuhua: *i*

Jiangyong Tuhua: *i*

The initial nasalization that occurred in Annamese Middle Chinese did not just happen to the syllables that show initial nasalization in modern Sino-Vietnamese. An investigation for all cases of Annamese Middle Chinese nasalization is extremely arduous and is nasalization is irregularly preserved as is seen in Sino-Vietnamese and Southwestern Sinitic varieties. There are also many instances of possible preserved nasalizations in Southwestern Sinitic varieties that are not preserved in Sino-Vietnamese. Such words include:

Yīn 音: 深開三平侵影

Lou Di a 婁底老街: [nin]

SV: âm

Yāng 央: 宕開三平陽影

Lou Di a: 婁底老街 [nioŋ]

SV: ương

Yīng 英: 梗開三平庚影

Lou di a: 婁底老街 [nin]

SV: anh

The data from Coblin also shows *Ying*-initial nasalization that occurs in *Ying*-initial syllables of other grades such as grades I, and IV.

Ài 愛 : 蟹開一去代影

Lianyuan 漣源 LY: ηε

Anhua 安化AH: ηai

Chenxi 辰溪 CX: ηai

SV CH: ái

Ān 安 : 山開一平寒影

Lianyuan 漣源 LY: ηa

Xupu 溆浦 XP: ηě

Chenxi 辰溪 CX: ηε

SV CH: an/yên

Ēn 恩 : 臻開一平痕影

Lianyuan 漣源 LY: ηε

Xupu 溱浦 XP: ηē

Chenxi 辰溪 CX: ηei

SV CH: ân

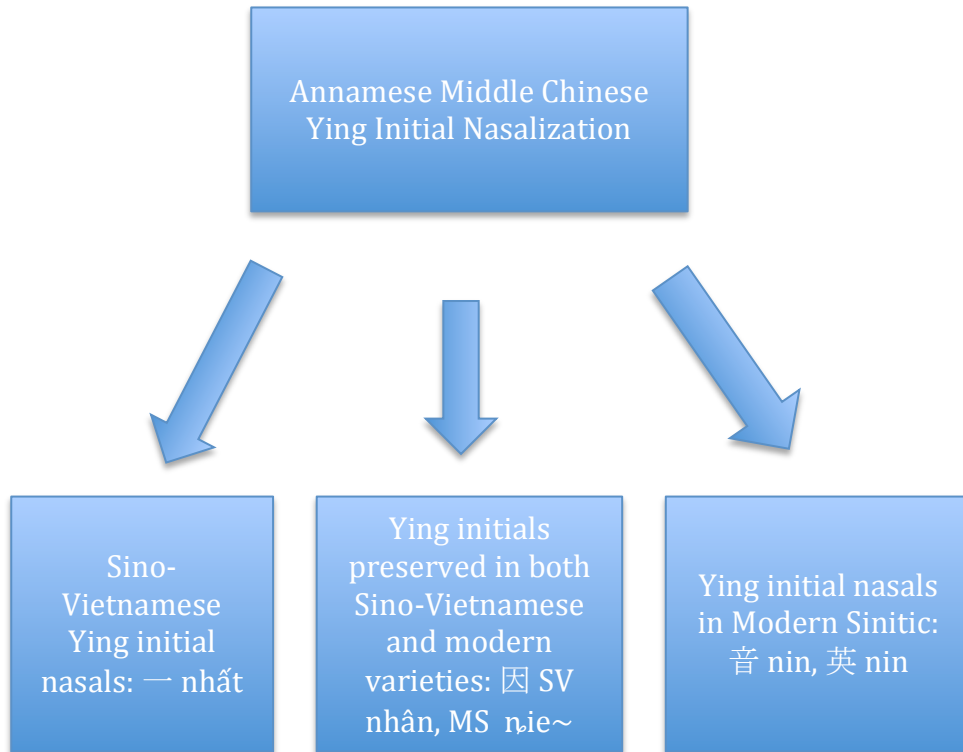
Yān 煙: 山開四平先影

Lou Di a 婁底老街: [nĩ]

SV: yêñ

The southwestern *Ying*-initial nasals in grade III syllables implies a preservation that has been lost in Sino-Vietnamese but slightly modified in dialects such as Loudi-a since the palatal nasal [ɲ-] shifted to an alveolar nasal [n-]. The nasalization phenomenon for these Southwestern dialect syllables in the other grades could have been due to the impact the nasalized grade III Annamese Middle Chinese syllables had on other syllables. The dialect data shows that there is still a wide retention of *Ying* nasal initials in South Western Chinese dialect pronunciations. The *Ying*-initial nasalization retention in Southwestern Dialects as well as that of Sino-Vietnamese implies a common origin, the evidence of which has been obscured by dialect layering. This is perhaps why we see words such as *yī* 一 *nhất* ‘one’ with palatal nasal initials in Sino-Vietnamese but no where else in the Southwestern dialect data. It could also explain why there are initial nasals in

certain *Ying* syllables such as *nin* 音 and *nin* 英 in southwestern dialects but not in Sino-Vietnamese.



Another important detail to note is that *Ying*-initial syllables in Sino-Vietnamese do not demonstrate velar nasal initials, yet most of the dialects for the Modern Sinitic varieties in this data do demonstrate velar initials from *Ying*-initial syllables. This raises questions on the significance on place of articulation because some palatal nasal initials in Sino-Vietnamese refer to velar nasals in other Sinitic varieties. *Ying* initial syllables that render to alveolar nasals in Sino-Vietnamese are realized as velar nasals in some modern Southwestern Chinese varieties.

It is possible that during the time when Annamese Middle Chinese was spoken there was a merger of *Ying* and *Ri* initial syllables in grade III, which led to

the phenomenon we see in Sino-Vietnamese. Zhenggzhang (2010) speculated this to be the case with the example of *yīn* 因 *nhân* and their other syllables in its homophone group [Mandarin: *yīn* 姻茵氤裊緬堙闐禪 Sino-Vietnamese: *nhân*]. This merge might have initially occurred amongst grade III syllables such as *yī* — *nhất*, *yīn* 因 *nhân* and their homophones, then later influenced syllables of grades II such as *yā* 樞 *nha* and *yā* 鴉 *nha*. The Sino-Vietnamese words affiliated with Chữ Nôm and the Alternate Development might have also been influenced by this merger between *Ying* and *Ri*, which has caused nasalization in words of grade III: *yòu* 幼 *nhỏ* and *yàn* 厭 *nhàm* and grade IV: *yàn* and *yè* 咽 *nhằm* and *nhuyết*.

The Sino-Vietnamese *Ying* syllables with alveolar nasals are found in grade I *wō* 倭 *nuy*, grade II *ǎi* 矮 *nuy*, and grade III *ǎo* 拗 *nũu*. Zhenggzhang (2010) also mentions that in some Mandarin dialects, a zero initial from *Ying* can develop into a velar nasal [ŋ-], and then in the next step develops into an alveolar nasal [n-] such as:

Tianjin:

ǎo 襖、奧 [nau]

ōu 歐、漚 [nou]

ān 安、暗 [nan]

Xining:

ào 奧 [nɔ]

wù 惡 [nu]

áng 昂 [nɔ̃]

(Zhengzhang 2010: 316)

Instead of simply a merger of *Ying* and *Ri*, it seems that this could possibly be a merger of *Ying* and *Yi* that followed the merger of *Ying* and *Ri*. After the merger of *Ying* and *Yi*, a process of alveolarization occurred. Zhengzhang's (2010) analysis can be applied in this model with *Ying* initial syllables from Annamese Middle Chinese. In the phonological data below, for the zero initialization and initial velar nasalization phases I provide hypothetical reconstructions based on Baxter and Sagart's Middle Chinese reconstructive system. In the final row the Vietnamese orthography Quốc Ngữ is provided to demonstrate the alveolar nasalization phase in Sino-Vietnamese.

Syllable/ Phonetic Value	wō 倭 'Japan' 果合一平戈影	ǎi 矮 'short' 蟹開二上蟹影	wěi 痿 'paralysis' 止合三平支影	wěi 萎 'wilted' 止合三平支影	ào 拗 'pull' 效開二上巧影
Middle Chinese	?wa	?eaX	?jwe	?jwe	?aewX
Zero Initialization	*wa	*ae	*jwe	*jwe	*aew
Initial Velar Nasalization	*ngwa	*ngae	*ngjwe	*ngjwe	*ngaew
Alveolar Nasalization	nuy	nuy	nuy	nuy	nũu

The shift to a high front vowel ending in the alveolar nasalization phase is another change worthy to note. This shift to a high front vowel ending is found in all of the syllables above except for *ǎo* 拗 *nǚu* “to pull by the hand” which in Sino-Vietnamese has an unrounded high central vowel glide and a high back rounded vowel ending. The above words that gain high front vowel endings are in the outer *Guo* 果 and *Xie* 蟹 rime group and the inner *Zhi* 止 rime group. The syllable *ǎo* 拗 *nǚu* “to pull by the hand” is in the outer *Xiao* 效 rime group. The word “short” *ǎi* 矮 *nuy* is an open mouth *kaikou* 開口 syllable in Middle Chinese, this makes the development of a back rounded vowel |u| (also u in Vietnamese orthography Quốc Ngữ) quite puzzling.

The alveolar nasals in Sino-Vietnamese could have arisen from zero nasalization of *Ying* followed by velar nasalization by merging with *Yi* 疑, and finally becoming alveolarized. If this hypothesized process were to be the case, then it can help explain the phenomenon of the alveolar nasals in Sino-Vietnamese *Ying*-initial words. The velar nasalization step is still realized and retained in modern southwestern dialects (ex. 矮 Liangjiang Chenxu Pian: $\eta\epsilon$, Xiangxiang: ηai . 倭 all Xiangxiang dialects have η - initials¹⁸). This raises a question on the phonological status of those words during the time of Annamese Middle Chinese; were those words realized as velar nasals in Annamese Middle Chinese followed by alveolar nasalization in a later stage? This hypothesis could also complicate the historical

¹⁸ Only the initial has been provided by Jiang Junfeng (2010), not the phonological value of the full syllable.

information on the palatal nasal syllables in Sino-Vietnamese that are realized as velar nasals in the dialect data. It raises the question if velar nasalization happened in Annamese Middle Chinese itself or by influence from the Proto Việt-Mường variety that is the ancestor of modern Vietnamese.

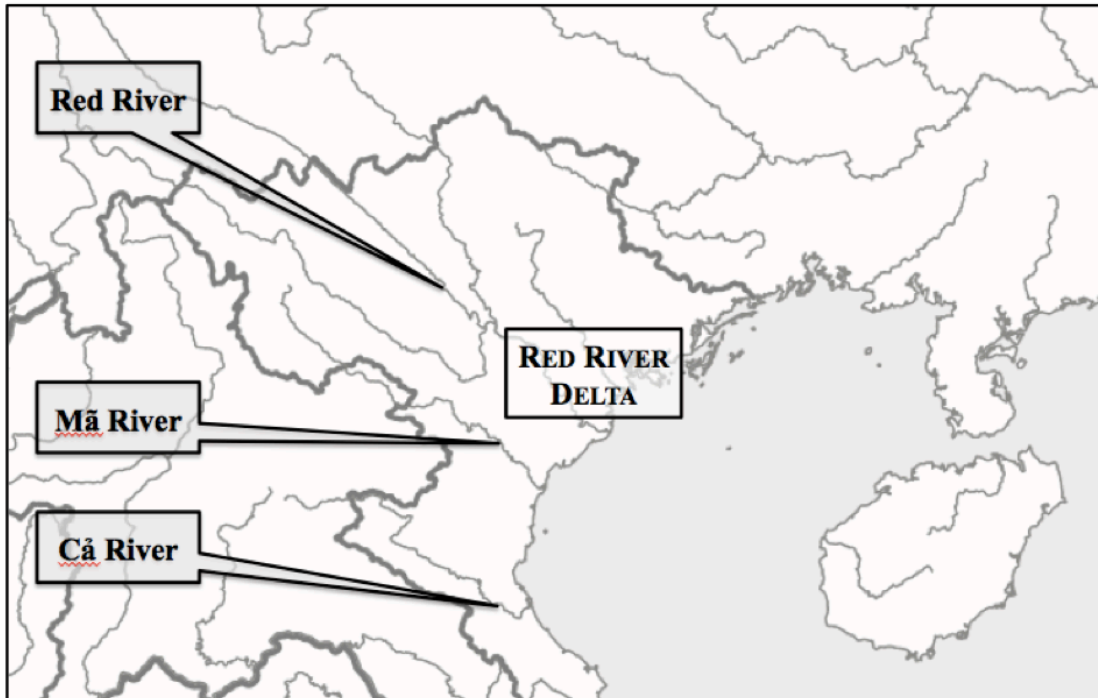
VII: Concluding remarks

In this analysis I have defined Sino-Vietnamese as all Sinitic borrowings into Vietnamese, including Hán-Việt, Chữ Nôm and Alternate Development. Among the 26 nasalized Sino-Vietnamese syllables, few of them are frequently nasalized in Southwestern dialects as well such as *nha* 榲 ‘fork of a tree’ and *nuy* 矮 ‘short’. There are also other *Ying*-initial syllables that although do not nasalize in Sino-Vietnamese, are consistently nasalized in Southwestern dialects such as Xiang and Pinghua; this phenomenon raises implications regarding nasalization, nasal retention and loss in Annamese Middle Chinese. It is also possible that many *Ying*-initial words that were nasalized in Annamese Middle Chinese were preserved sporadically in Sino-Vietnamese and Southwestern Chinese dialects via subsequent, competing dialect layering. These nasalized *Ying*-initials in Sino-Vietnamese and Southwestern Chinese varieties show us clues on another possible feature of Annamese Middle Chinese, which is the occasional reflex of Middle Chinese glottal stop *Ying*-initial as nasals. Zhengzhang’s analysis (2010) on nasal developments from glottal stop initials may also help us further investigate phonological changes from Annamese Middle Chinese. It is possible that in Annamese Middle Chinese, a few *Ying* initial syllables became nasalized via merger with *Ri* and *Ying* initial syllables followed by merger with *Yi* initial syllables, thus giving rise to the palatal nasal *Ying*-initial

syllables seen in Sino-Vietnamese ie. *nhất* — ‘one’ *nhân* 因 ‘cause’. The alveolar nasals that are seen in Sino-Vietnamese such as *nuy* 倭 ‘Japan’ and *nuy* 矮 ‘short’ might have come from the development of zero-initials from glottal stop initials, followed by velar nasalization and finally alveolar nasalization, a phenomenon parallel to that explained by Zhengzhang (2010). There is more work to be done for Annamese Middle Chinese, but we can confidently say that the development of nasals in Middle Chinese *Ying*-initial glottal stop syllables was a characteristic of this variety with traces of that phenomenon being present in Sino-Vietnamese and Southwestern Chinese varieties today.

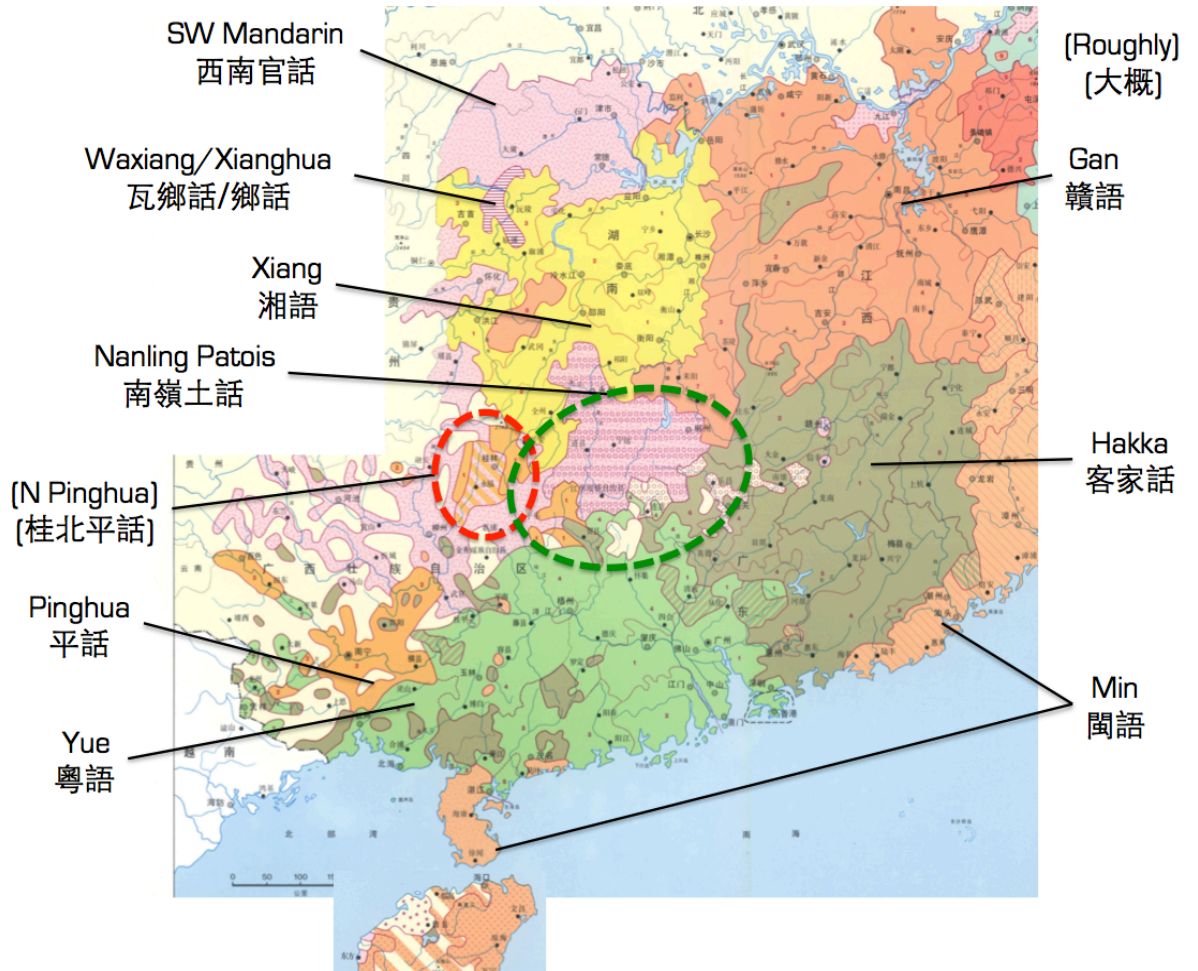
VIII: Appendix: Maps and Timeline:

VIII. 1. Map of the Red, Mã and Cả river delta region in modern day northern Vietnam, the setting for Annamese Middle Chinese. From John Phan (2013)



VIII. 2. Southwestern dialect map of China, including Xiang, Yue and Pinghua.

From Phan and deSousa (2016)



VIII. 3. “The Medieval Southwest”. Approximate area of Southwestern Middle Chinese from Phan and deSousa (2016)



VIII. 4. Timeline of Vietnamese polities, their Chinese contemporaries and important events in the history of Sino-Vietnamese interaction:

東山 Đông Sơn cultures (5th Century BCE) Contemporary of the Zhou 周

- Metallurgy trade with Chinese merchants around the 5th century BCE.

歐駱 Âu Lạc (257-179 BCE) Contemporary of the Qin 秦

- Chinese adventurer Thục Phan founds Âu Lạc kingdom and establishes it's citadel Cổ Loa near modern day Hanoi.

南越 Nanyue, Nam Việt (204-111 BCE) Contemporary of the Han 漢

- 211 BCE Zhao Tuo's expedition into the Bai Yue region.
- 204 BCE Zhao Tuo establishes kingdom of Nanyue. Establishes citadel Giao Chi.
- 179 BCE Nanyue conquers Âu Lạc.
- Approx 2nd Cent. BCE: Nanyue becomes a vassal state to the Han.

Membership in Chinese Empires (111 BCE-10TH Century CE) Han-Six Kingdoms

- 111 BCE Chinese Emperor Han Wudi conquers Nanyue and folds it under full Han administration.
- 43 BCE the two warrior sisters Trưng Trắc and Trưng Nhị lead an armed uprising driving out the Han, established the kingdom of Lĩnh Nam and ruled as queen and vicereen for 3 years.
- 40 BCE The Han general Ma Yuan defeats the Trưng sisters and the Ca and Ma river delta region began a process of heavy sinicization.
- 617 CE The Chinese Tang Dynasty establishes the protectorate of Annam in modern day northern Vietnam.

Independence and the Modern Era (938 CE-19th/20th century)

- 938 Ngô Quyền defeats the Southern Han at the battle of Bạch Đằng River and ends centuries of Chinese rule.
- Late 10th Century: Speakers of Annamese Middle Chinese lose regular contact with China and they began to shift to a heavily Sinicized form of Proto-Việt Mường, the ancestor of Vietnamese.
- 1679 The Nguyễn polity offers amnesty to Chinese refugees after the fall of the Ming dynasty. Borrowings from Cantonese and Min culinary vocabulary.
- 19th-20th Century: Coinage of Sinographic neologisms *Wasei Kango* 和製漢語 in Japan and their circulation into China, Korea and Vietnam.

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