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► **To cite this version:**

Frederic Pain. ”Giao Chí” (”Jiāozhǐ”) as a diffusion center of Chinese diachronic changes: syllabic weight contrast and phonologisation of its phonetic correlates. 2020. halshs-02956831

HAL Id: halshs-02956831

<https://shs.hal.science/halshs-02956831>

Preprint submitted on 3 Oct 2020

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**"GIAO CHỈ" ("JIÀOZHǐ" 交趾) AS A DIFFUSION
CENTER OF CHINESE DIACHRONIC CHANGES:
SYLLABIC WEIGHT CONTRAST AND PHONOLOGISATION
OF ITS PHONETIC CORRELATES¹**

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清華學報, *Tsing Hua Journal of Chinese Studies*, 50(3)

The present essay tackles a particular linguistic facet of the sinicisation process in Southeast Asia. The focal argument addressed throughout this essay lies in the claim that Giao Chỉ should be granted a central position regarding the transfer of Old and Middle Chinese diachronic features—may they be transferred directly or *“by-proxy”*—into Southeast Asian languages from the commandery (*jùn* 郡) of Giao Chỉ 交趾 westwards down to the Gulf of Thailand as well as southwards to the Mekong Delta. The major linguistic argument underlying this essay is that the hallmark of the sinicisation process in Southeast Asia is not so much the monosyllabisation process *per se* but rather the **phonologisation** of its phonetic correlates. Exploiting Ferlus’s lifelong seminal work on Chinese and ‘Southeast Asian’ Diachronic and Areal Linguistics (see bibliography), it will be demonstrated that a pertaining consequence of this monosyllabisation was the phonologisation of a vowel lowering, high pitch and a modal voice developing along the *tense* MC syllables (that is, originating from ancient OC sesquisyllables) and a contrastive vowel raising, low pitch and a breathy voice along the *lax* MC syllables (that is, originating from ancient OC monosyllables); in other words, the monosyllabisation process was conducive to a split of the vocalic system associated with a suprasegmental contrast based on the *“breathy”* vs. *“modal”* feature and a pitch height distinction (Ferlus 2009a, 2014a). It will be shown that the very processes that Chinese transferred into proto-Vietic from the urban areas of the Giao Chỉ commandery in North Vietnam is the monosyllabisation and the phonologisation of the *“tension”* vs *“laxness”* contrast alongside its phonetic correlates (segmental and suprasegmental); furthermore, it will be also be shown that, at a certain point during the Chinese and Southeast Asian tonogenetic process, there emerged a contrast between what is glottalised and what is not; the first loss to be transphonologised into a tone is the deletion of the glottal plosive [-ʔ] in final position followed, or not, by the change of the laryngeal [-h]>[-ʔ] and a transphonologisation into a second contrastive tone after the deletion of the glottal [-ʔ] (Sagart 1988).

¹ This essay is respectfully dedicated to the 85th birthday of Professor Michel Ferlus (École des Hautes Études en Sciences Sociales, CNRS, Paris), I would like to thank him for his numerous and patient comments on earlier drafts of this essay. I would also like to thank Liam C. Kelley (University of Hawai‘i at Mānoa), John K. Whitmore (University of Michigan), Wang Gungwu 王賡武 (National University of Singapore), James Matisoff (University of California, Berkeley), Anthony Reid (Australian National University, Canberra), Anne-Valérie Schweyer (Centre Asie du Sud-Est, CNRS), Alexis Michaud (LaCiTO, CNRS) as well as three *THJCS* anonymous reviewers for their help and comments on an earlier draft of this essay. All remaining errors are my sole responsibility.

0.- Regional linguistic background

0.1. Sinospheric Southeast Asia

Southeast Asia. Is there such a thing? Though the weapons seem to have been (temporarily) laid down on that issue, it seems reasonably relevant for our purposes to briefly address this topic. As a matter of fact, debates over this particular matter took on quite a post-colonial flavour when scholars cracked down on the very idea of a Southeast Asian entity and considered it as one of these Western conceptual *faux pas* piling up in the historiography of the "Orient" (King and Wilder 2003:1-24; Van Schendel 2012; Keyes 1992:9-10). Southeast Asia conjures up some mystical images in the Western *psychè*, such as Angkorian ruins fading away in a junglish heart of darkness or Balinese dancers mimicking *devatas* in colourful temples. However, besides being an emotionally charged word, does Southeast Asia share something more than a geographical location? Is it just an artifact of a post-World War II Western international strategic calculation? Does Southeast Asia share a common "Culture" or a common political and religious framework? Quite curiously (or not), seconding Evans (1993:1), the answer might pretty well be no, Southeast Asia cannot be considered as a coherent 'cultural area', though Mainland Southeast Asia does share common waves of influences from two major cultural areas: China and India. The linguistic and cultural sways of China and India over "Sinospheric" and "Indospheric"² Southeast Asia are far more subtle and complex than it might seem at first glance and are pretty much hovering around an "it's so overt, it's covert" kind of influence. Accordingly, the purpose of this essay is to unravel the diabolically subtle linguistic mechanisms according to which Old and Middle Chinese remodeled the phonology of neighbouring Sinospheric languages in contact; in other words, Mainland Southeast Asia will be considered as a 'linguistic area' *per se*.

Which are those Sinospheric languages? Most of the languages in Mainland Southeast Asia were affected, to varying extents and according to diverse diachronic mechanisms, by Chinese diachronic changes transferred into those specific languages. Moreover, linguistic features can be transferred directly from Chinese into one particular language (or dialect), as well as indirectly from an already sinicised language (or dialect) into a peripheral one to a point that it is getting devilishly complicated to identify and sort out contact-induced changes from intrinsically internal systemic changes; besides, both kinds of changes are more than often overlapping.

Mainland Southeast Asia encompasses Bangladesh, Myanmar, Laos, Thailand, Peninsular Malaysia, Vietnam and Cambodia; some authors would also add some parts of South and Southwestern China on the basis of common indigenous varieties of rice grown there (Enfield 2003:45). Rivers and their tributaries brought waves of migrants southwards into monsoonal hilly areas—in essence, ethnically fragmented, though tightly interconnected (Leach [1964] 1977)—and downstream into large valleys and fertile plains hosting paddy-rice farmers ethnically rather homogenous.

The first group to have moved southwards along rivers into Mainland Southeast Asia some 4000 years ago might be speakers of **MON-KHMER**; they are widely distributed across Mainland Southeast Asia, from Myanmar (*Monic*, *Palaungic*) in their western edges down to Malaysia (*Aslian*) along their southernmost frontiers; from Laos to Thailand, many Mon-Khmer speakers (*Palaungic*, *Katuic*, *Bahnaric* and *Khmuic*) were easily subdued and pushed

² Both terms were coined by Matisoff (1991:485).

upwards onto hilly areas by Tai peoples moving downstream along the Chaophraya and Mekong rivers; the Mon, however, could keep on holding a position of prestige for quite a while, for they played a major role in spreading Theravada Buddhism across Thailand and Laos. Cambodia and Vietnam are the sole countries where a Mon-Khmer language (*Khmer* and *Vietnamese* respectively) was granted the status of a national language surrounded by *Palaungic*, *Pearic*, *Bahnaric*, *Khmuic* and *Katuic* speakers. On the eve of the Common era, Southeast Asia increasingly participated in the international trade linking *Rōmānīa* in its farthest western edge³ to China, its *ad quem* and *a quo* terminus⁴. Its geographic location right in the middle of the trade route between India and China granted the region a strategic position along this very route. The increasing economic development of the Mainland Southeast Asian coastal regions enhanced a political transition from a 'clan-dom' kind of political authority into more complex socio-political networks—called "*galactic polities*" (Tambiah 1976:102-31) and whose ties were mostly bound on a ritual hegemony (Geertz 1968:36-9; 1980)—located in "favourable areas" along the coasts and in the hinterlands along rivers downstream to the sea (Bronson 1977). The Mon-Khmer peoples would take advantage of, and part in, this favorable political and economic transitioning right from the start in the beginning of the Common era.

Whilst some Mon-Khmer communities were politically and economically thriving at the dawn of the Common era, proto-Malayic speakers landed in the south of Vietnam, possibly in the province of Quảng Nam (Blust 1994:45), from Southwest Borneo (Adelaar 1992:207). Under the influence of various Mon-Khmer languages in contact along the southeastern coasts and the central highlands of Vietnam, a form of proto-Malayic gradually evolved into proto-Chamic. The **CHAMIC** languages are now interspersed with Mon-Khmer languages, *Katuic* and *Bahnaric*, mostly in the Central Highlands; under the influence of Mon-Khmer, all the Highland Chamic languages, such as *Rhadè*, *Jarai* or *Chru*, and Coastal Chamic (such as *Phanrang Cham* or *Haroi*) were dramatically restructured and shifted towards sesquisyllabicity or monosyllabicity and were affected by a registrogenesis stabilised in a vocalic split or a tone system (Thurgood 1999). From the fourth century AD onwards, the economic and political hegemony upon the southeastern part of Mainland Southeast Asia regularly bounced back and forth from Mon-Khmer communities—for example, the Fúnán 扶南 confederation in the Mekong Delta was dominated by ethnic Khmers (Ferlus 2011), not to mention the Angkorian polity—to Chamic communities, that is, the various Campā coastal chiefdoms alongside their hinterlands (Hickey 1982:78-120).

Regarding the northern part of Mainland Southeast Asia, farther up in the Chinese commandery of *Jiāozhǐ* 交趾 (Sino-Vietnamese: "Giao Chỉ"), a proto-Vietic dialect began to develop under the influence of Late Old Chinese by the first century AD. We shall extensively come back to this issue of sinicisation of proto-Vietic later on, but some partial and rough pieces of information might be useful at this point though. The **VIETIC** languages can be classified in two major groups. (1) The *Northern Vietic* group consists of languages that were directly affected by the Chinese linguistic influence, that is, the urban highly sinicised Vietnamese dialects and the lesser sinicised Mường languages (Thổ and Nguồn included) from the Giao Chỉ hinterlands. (2) The *Southern Vietic* languages are straddling the Vietnamese-Lao border from the province of Nghệ An (Bolikhambay in Laos) down to the

³ *Rōmānīa* is the generic term to name the regions submitted to the Roman Empire.

⁴ It should also be noticed that, from the 7th-8th to the 11th century, Campā—that is, coastal Southern and Central Vietnam—served as an entrepôt area in the back-and-forth trade route between China and the *Śrīvijaya* Melaka-Straits-based city-ports (Wolters 1967; 1970).

northern rim of the province of Quảng Bình (Khammouane on the Lao side); historically, the Southern Vietic group consists of languages that were too far from any sinicised center to be directly sinicised; instead, they were affected by a second wave of sinicisation through an already sinicised Vietic language, a "by-proxy sinicisation" somehow. As a general frame, the farthest from Giao Chỉ, the more sesquisyllables in the lexicon (whence, the less sinicised); conversely, the closest to Giao Chỉ, the more monosyllables (whence, the more sinicised). Ferlus (1996) subdivides the Southern Vietic branch into five dialectal areas. The *Maleng* [mələŋ²] group is located in Northern Quảng Bình (Vietnam) and in the Nam Theun in Laos; the *Arem* [are:m] group located in the hills of Quảng Bình and now on the edge of extinction; the *Chít* [cít⁷] group straddling the Lao-Viet border around the Mụ Giạ Pass; the *Aheu* [ahə:¹] group living in the Lao district of Khamkeut; and the *Hung* [hu:ŋ⁴] group located in the district of Tương Dương (Nghệ An Province) and across the border in Muong Cham in Laos. Many Southern Vietic languages are dramatically endangered.

Leaving aside the Tibeto-Burman *Pyū* communities⁵ that tightly settled down in large urbanised settlements in the plains of the Irrawaddy valley from the third century BC onwards (Aung-Thwin 2012:63), and of which very little is known, the first Tibeto-Burmans whose offspring have come down to us were LOLO-BURMESE speakers, named *Miǎn* 緬 in the Chinese sources, who might have stormed their way into Upper Myanmar in 832 AD; some 3,000 of them are said to have been a contingent drafted in the *Nánzhào* 南詔 armies during their raids against the *Piǎoguó* 驃國, the "Kingdom of the Piǎo";⁶ so the traditional grand narrative goes.⁷ Be that as it may, Myanmar remains the only country in Mainland Southeast Asia that has granted a Tibeto-Burman language the status of a national language, that is, a *Southern Burmish* language, Burmese (*mranmā cakā*: [mjǎmə: zəgá:]), which is the major Tibeto-Burman language spoken in Southeast Asia, whose first epigraphic attestation dates back from the 1112-AD Myazédi quadrilingual stele, and the native language of some 21,553,000 Burmese (1986 census) and used by some 3,000,000 speakers as a second language or *lingua franca* (Voegelin and Voegelin 1977); the other languages attached to the Southern Burmish branch are the so-called Burmese 'dialects': in addition to Central Burmese (or Standard Burmese) and its dialects, there is also a set of Burmese dialects which Bernot and Bruneau (1972:415) call "Old Burmese type of dialects," in the sense that they have maintained some archaic features. These dialects are: (1) Arakanese [ɟaʔ kʰaʔlŋ] spoken in Arakan and Marma [məɟəmà:] spoken in the Chittagong Hill Tracts, Bangladesh; (2) Intha [ʔén θá:] spoken in the Inle Lake area; (3) Dawe [dəwè:] in the region of Taninthayin in Southwestern Burma; (4) Yaw [jǎ:] spoken in the east of the Arakan Mountains on the plain extending between Saw and Seikpyu. In the Southern Burmish branch, there are also (5) Taung'yo [təwɔ:] spoken in the western hills of the Inle Lake plain, around Heho and in Nyaung Shwe, and (6) Danu [tʰəny] in the region of Pindaya. Each of these Southern

⁵ *Pyū* might be classified among the Luish languages (Bradley 1997:25); they were fully incorporated into the Burmese kingdom of Pagan in 1050 and the last historical mention done of *Pyū* communities is in a Burmese epigraph dated from 1369 AD (Luce 1985).

⁶ Whether or not the *Piǎo* 驃 attested in three Chinese texts spanning several hundred years should or should not be associated with the *Pyū* as a distinct ethnolinguistic group remains a matter of debates (Aung-Thwin 2005:14-5).

⁷ An alternative narrative has been proposed in Aung-Thwin (2012:77-8); according the Aung-Thwins, the Burmese would have lived in the plains of the Irrawaddy valley among the *Piǎo* in these famous 'Nineteen Villages' east of Pagan and from where the founders of the Pagan Dynasty would have originated. If this hypothesis turns out to be correct, the arrival of Burmese speakers in Myanmar would largely antedate the ninth century AD and would have nothing to do with a *Nánzhào* raid, whatsoever.

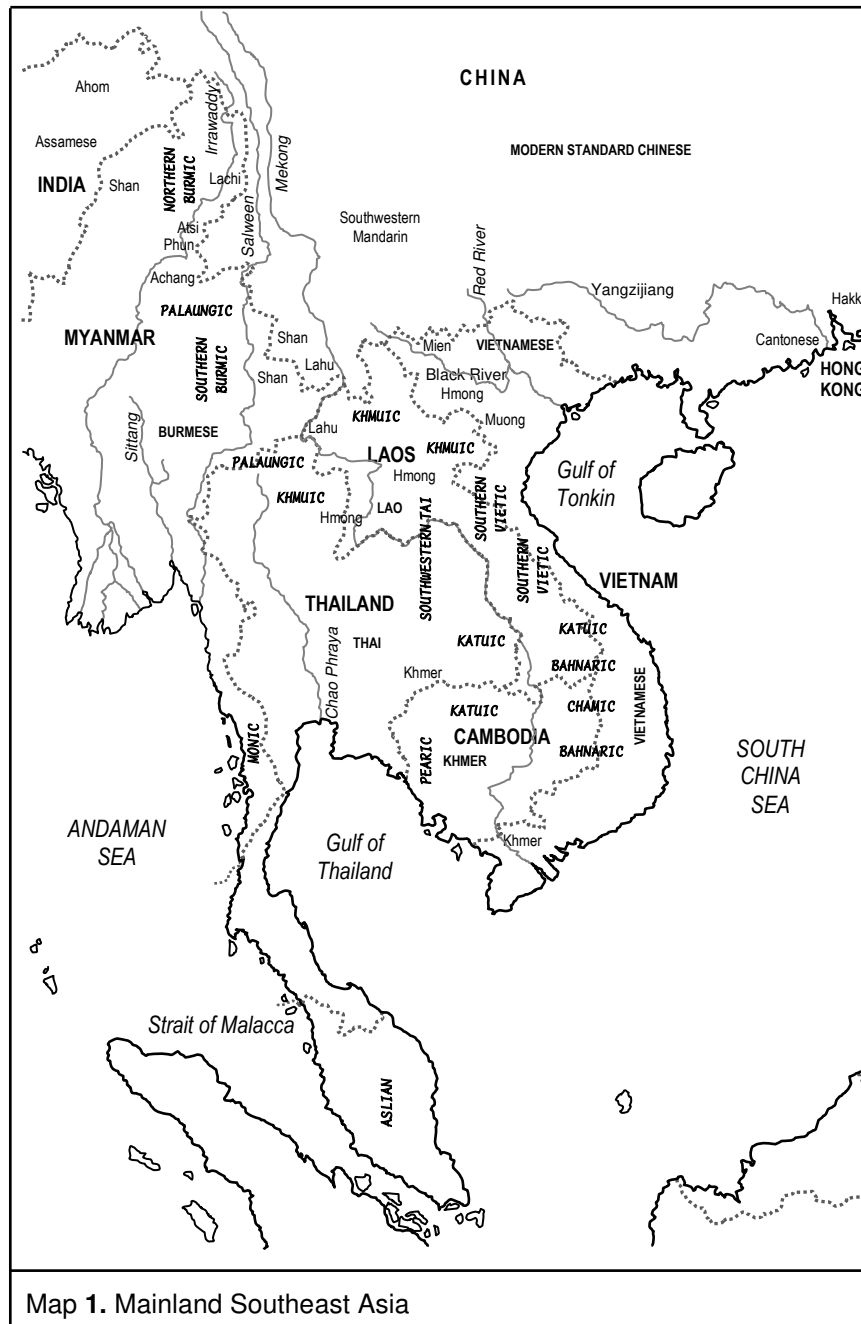
Burmish languages maintained archaic Old Burmese features, and are also characterised by loans from neighbouring languages, such as Intha from Shan, Arakanese from Hindī and Banglā or Danu from Mon-Khmer. The languages of the *Northern Burmish* populations are, to varying degrees, influenced by the Jingpho and Shan languages. All Northern Burmish populations are integrated into the socio-cultural complexes in contact, whether they be Kachin or Shan. The Atsi (autonym ၵၵၵၵ²² ၵၵၵၵ⁴¹), the Maru (autonym ၵၵၵၵ²¹ ၵၵၵၵ²²), the Lashi (autonym ၵၵၵၵ²²) and some Achang (autonym ၵၵၵၵ²¹ ၵၵၵၵ⁵⁵) function as a clan within the Kachin⁸ cultural group and use Jingpho as a literary language. The Phun [p^hʊn⁵⁵] (who spoke two dialects, Northern and Southern) inhabit the Upper Irrawaddy gorges north of Bhamo; this language can now be considered as dead. As the Northern Burmish languages were subject to various linguistic and socio-cultural influences, establishing correspondence rules between the various Northern and Southern Burmish languages is not an easy task. The Burmish forays into Myanmar were later followed by waves of Loloish migrations southwards, such as Lahu [lɑ⁵³xɑ⁴¹], Lisu [li⁴⁴su⁴⁴] as well as by Karenic populations speaking, among others, Pwo [p^hlow] and Pa O [pa ʔu:] and Kachin populations (speaking *Jingpho* [tɕiŋ³¹ p^hɔŋ³¹]).

The Khmers, the Chams and the Burmese were to establish the so-called "Classical Kingdoms" of Angkor, Campā and Pagán respectively, whose socio-political structures took root in, and drew legitimacy from, a Hindu or Buddhist ritualistic symbolism. On the northern frontiers of those Classical Kingdoms, the TAI speakers were patiently waiting for their time to come. From their alleged homeland in the present-day provinces of Guizhōu 貴州 and Guǎngxī 廣西, they were pushed southwards by the Hàn 漢 extension upon Southern China (Stuart-Fox 1998:23). A linguistic branch among them in particular, the *Southwestern Tai* (to whom the Thai-Siamese, the Lao, the Thai of Vietnam and the Shans belong), were integrated into the peripheral socio-political networks of the Angkorian and Pagán polities while they were absorbing whole segments of 'Indo-Khmer' or 'Indo-Mon-Burmese' cultural, linguistic and socio-political features. The thirteenth-century Mongol intrusion and the crumbling of the Classical Kingdoms under their own weight opened up the (Tai) Pandora's Box; the Thai principalities would rush as southwards as they possibly could and would fill up a vacuum the Classical Kingdoms left wide-opened after their downfall. Two present-day countries, Thailand and Laos, are two direct mature offspring of this Southwestern Tai "Drang nach Osten". In the neighbouring countries, the Thai communities are drowned in an ocean of Mon-Khmer or Tibeto-Burman dominant ethnic groups. As far as the Campā kingdoms are concerned, their lack of political integration made of them an easy target to subdue, piece by piece, for their powerful Vietnamese neighbours during their *Nam Tiến* ("migration southwards"); Campā would have completely disappeared by AD 1832 with the eventual annexation of Pāṇḍuraṅga, the last Cham kingdom (Po Dharma 1987).

There are finally some **HMONG-MJEN** communities scattered in northern Myanmar, Thailand, Laos and Vietnam. Their migrations into Mainland Southeast Asia from the Yúnnán 雲南 - Guizhōu 貴州 plateau are pretty recent and might be connected to the Opium Wars (1839-42; 1856-60) and the Taiping Civil War 太平天國運動 (1850-64).

The brief overview sketched out afore gives quite a clear hint of how complex, intricate, overlapping and crosscutting the various linguistic, cultural and socio-political relationships are in Mainland Southeast Asia. And to top this all off, the shadow of a major dominant civilisation and its language: China.

⁸ Let's recall that the term *Kachin* is rather used to describe a cultural complex.



0.2. Old and Middle Chinese: A bird's-eye view

Before tackling the influence of Chinese upon Southeast Asian languages, it seems reasonably relevant to provide the reader with a big picture of the periodisation of the diachronic phases that characterise the history of the Chinese language. Following Wáng Lì ([1958] 2004), Xiàng Xī (1993) and Zhèngzhāng (2003), it has become customary to periodise the linguistic history of Chinese into four major diachronic stages. (1) The first one is the OLD CHINESE stage, extending from the late Shāng 商 dynasty (by the 11th century BC) down to the fall of the Hàn 漢 dynasty in AD 220. (2) The second phase is the one of MIDDLE CHINESE, from the Three Kingdoms era (*Sānguó* 三國) round AD 220 down to the fall of the Sòng 宋 dynasty in 1279. (3) The third period is characterised by an OLD MANDARIN phase, which was the common language spoken in Northern China during the Jīn 金 and the Yuán

元 dynasties from the twelve century onwards and spread across quite a substantial part of China; this linguistic stage ends with the downfall of the Qīng 清 dynasty and the birth of the Republic in 1911. (4) The last stage is the ongoing MODERN CHINESE phase.

Old Chinese (*Shàngǔ Hànyǔ* 上古漢語) must have been an administrative, commercial and cultural lingua franca spoken by various states, clans or ethnic groups in their commercial, administrative or diplomatic interactions. As far up as towards the end of the Shāng 商 dynasty by the 11th century BC, some 18,000 ‘clans’ (*zú* 族)⁹, ‘states’ (*zúyì* 族邑 "lineage settlements") and ‘tribes’ (*yí* 夷 "barbarian")¹⁰ inhabited the area along the Yángzǐ 揚子 river and the need for a common language to communicate must have logically arisen, at least for commercial purposes; the basis language from which this earliest form of lingua franca evolved is likely to have been the speech spoken around Yīnxū 殷墟, near modern 安陽 Ānyáng, in Hénán 河南 province, which was the last capital of the Shāng (Chen 1999:7). With the subsequent Western Zhōu (西周 *Xīzhōu*, 1121-771 BC) dynasty came the *fēngjiàn* 封建, or the so-called ‘feudal’¹¹, era and its increasing political fragmentation. The two sinographs composing "*fēngjiàn* 封建" originate in the Zhōu bronze inscriptions (𠄎 and 𠄎) and refer quite unambiguously to the founding of the regional states (Li 2013:129); each state was governed by a ruler who was genealogically related to King Wǔ 武王, the first Zhōu king, to his brothers or sons as well as to the Zhōugōng 周公, the Duke of Zhōu¹². The purpose was to maintain a territorial and lineage continuum across the Zhōu land, that is, Eastern China. With the time passing, the various kin branches which linked the regional rulers to the Zhōu house tended to weaken down and the regional rulers would anchor their roots in their own region and society far more conveniently than in a remote Zhōu genealogical tree. As each state was granted a wide administrative freedom within its own borders by the Zhōu sovereigns, there consequently evolved an ever-increasing dialectal fragmentation, each state enjoying its own regional dialect. Moreover, the Zhōu territorial expansion northwards to Manchuria and southwards to Guǎngzhōu 廣州, had yielded an assimilation process of the local ‘Barbarians’ since the reign of King Mù 穆王 (1001-956 BC). Therefore, a need for a ‘lingua franca’ naturally and gradually arose in order to facilitate the administrative, cultural and economic interactions between the various states and ethnic groups.

There is quite a consensus among sinologists that this ‘lingua franca’ across Sinitic dialects was the *yǎyán* 雅言 "decorous pronunciation" mentioned in the Analects (Analects VII.17). As Harbsmeier (2001:377) noticed, the *yǎyán* was limited by Confucius to the reading of the *Shūjīng* 書經 ("Classic of Documents") and the *Shījīng* 詩經 ("Classic of Odes")¹³, as well as to ritual occasions; the cultural and educational uses aside, the lingua

⁹ On an analysis of the concepts of *zú* 族 and *yì* 邑 within the framework of the Shāng ruling apparatus, see Chang (1980:159-165) and Li Feng (2008:280-283).

¹⁰ See Pulleyblank (2000:18, n.50).

¹¹ "*Fēngjiàn*" 封建 has been quite inaccurately glossed ‘feudalism’ in the Western languages in order to be consonant with a predetermined European conceptual framework; analysing Zhōu 周 statecraft in terms of a ‘feudal’ system might not be such a productive endeavour. See Li Feng (2003; 2008:235-70; 2013:127-32). Unlike the European feudalism two thousand years later, the Zhōu ‘*fēngjiàn*’ singled itself out by the blood ties binding the vassals to the Zhōu sovereigns.

¹² Also to the Shāng 商 nobility in former Shāng strongholds.

¹³ The *Shījīng* 詩經 is a collection of poems dating back from the Western Zhōu and Spring and Autumn periods; it is composed of 305 poems belonging to one of the three genres: 雅 *yǎ* ‘Court hymns’, 頌 *sòng* ‘eulogies’, and 風 *fēng* ‘folk songs’.

franca also fulfilled administrative and diplomatic purposes. As a matter of fact, the authors of the Classics from the Zhōu onwards were scattered across various states (*guó* 國)¹⁴ and spoke accordingly various regional dialects, yet they did follow the same rhyming patterns which betrays a proficiency in the *yǎyán* in addition to their own regional speech¹⁵ (*tǔhuà* 土話). The Confucian *yǎyán* was most probably based on the ‘lingua franca’ that evolved in the Shāng era and was spoken across the nowadays Hénán 河南 region where political, commercial and cultural activities reached their summit throughout the late Shāng era; accordingly the base dialect is customarily named the Zhōngzhōu 中州 (or Héliuò 河洛)¹⁶ dialect, based on its geographical distribution, that is, the upper Central Plains centered around Luòyáng 洛陽 in the Huánghé 黃河 river watershed (Chen 1999:9).

Zhèngzhāng (2003) posited three Old Chinese sub-stages. The first sub-stage is the **Early Old Chinese** phase from the Shāng to the early Zhōu dynasties; the *jiǎgǔwén* 甲骨文 and some sparse bronze inscriptions (*zhōngdǐngwén* 鐘鼎文) are the condensed engraved part of this linguistic stage. The **Middle Old Chinese** phase, which spanned between the *Dōngzhōu* 東周 era¹⁷ (771–256 BC) and the beginning of the Qín 秦 dynasty (221 BC), witnessed the flowering of literature master pieces such the *Xiàojīng* 孝經 ("Classic of Filial Piety"), the *Lúnyǔ* 論語 ("Analects"), the *Shījīng* 詩經 ("Classic of Odes") or the *Zuǒchuán* 左傳 ("Commentary of Zuo"). Finally, **Late Old Chinese** was the language spoken between the Qín reunification of China (by 221 BC) down to the downfall of the Hàn 漢 dynasty (220 AD). This final Old Chinese stage is pretty much of an interest, for a rough dialectal coloration was gradually and geographically established in some provinces; as a matter of fact, the first Chinese large-scale migrations began during this linguistic stage. As Zhou (1991:31-2) pointed out, one of the first important migrations began with the conquest of Guǎngdōng 廣東 and Guǎngxī 廣西 by Emperor Qín Shǐ Huángdì 秦始皇帝 between 221 and 214 BC (Wang 1958:10-11); he deployed some 500 thousand men to Lǐngnán 嶺南 to prevent a *Bǎiyuè* 百越 insurrection¹⁸. With the centuries passing and subsequent waves of migrations regularly topping off, the linguistic compromise evolving from the *koiné* used between the Imperial troop sent there and the various *Bǎiyuè* peoples (Austroasiatic, Hmong-Mjen, and Kra-dai)¹⁹ is believed to have gradually given rise to the *Yuè* 粵 (or Cantonese) languages.

Middle Chinese (*Zhōnggǔ Hànyǔ* 中古漢語) is usually divided into two sub-stages: EARLY MIDDLE CHINESE and LATE MIDDLE CHINESE. **Early Middle Chinese** is the ‘lingua

¹⁴ Or *bāng* 邦 in the Wèi 渭 River Valley; on the institutional differentiation between the *guó* 國 and the *bāng* 邦 during the *Xīzhōu* 西周 (1121-771 BC), see Li Feng (2008:47-49).

¹⁵ For example, Confucius (Kǒngfūzǐ 孔夫子) originated from the State of Lǔ (Lǔguó 魯國) and spoke its local dialect; however he would use the *yǎyán* in his teaching.

¹⁶ After the name of two rivers: the ‘Yellow River’ (*Huánghé* 黃河) and its tributary in Hénán, the ‘Luo River’ (*Luòhé* 洛河). Quite incidentally, the *Héliuò* 河洛 region seems to be pretty much important in the Chinese *psychè* as a Southern Min folk etymology for the ethnonym *Hoklo* in (POJ *hō-lóh*) Taiwan is 河洛 [ho³³ lo⁷⁵⁵] ‘Yellow River and Luo River’; Taiwanese Southern Min accordingly emphasize their purported long history originating from this particular area, which had been a commercial, cultural and political center up since the Shāng dynasty.

¹⁷ The Eastern Zhōu were called that way because their capital city shifted eastwards from Hào 鎬 (near Xī’ān 西安 in Shǎnxī 陝西) to Luòyáng 洛陽 (Hénán 河南) in 771 BC.

¹⁸ The Qín’s control over the region was rather brief, and four Southern-Coastal commanderies declared their independence after Qín Shǐ Huángdì’s death (Wang 1958:11).

¹⁹ See Norman & Mei (1976); Norman (1988:16-22) and Pulleyblank (1983).

franca' as it is reflected in, and reconstructed from, the *Qièyùn* 切韻 written by Lù Fǎyán 陸法言 in AD 601, from various *yùntú* 韻圖 ("rhyme tables") of that period, and from the *Jīngdiǎn Shìwén* 經典釋文 written by Lù Dé míng 陸德明 (d. 630 AD) which gives clues on the pronunciation as reflected in 14 classical texts. The rhyme books (*yùnshū* 韻書) of that period, among which the *Qièyùn* is the most influential and the best-known, were compiled to prepare for the 'Imperial Examination' (*kējǔ* 科舉) initiated in the Suí 隋 dynasty by Emperor Suí Yángdì 隋煬帝 in AD 605; as a matter of fact, the rhyme books were preparing the candidates for the writing of *lǜshī* 律詩 ('Regulated Verse') in the official examination where the more deliciously poetically dwelling rhymes, the better. The *Qièyùn* gives important pieces of information on the phonological system of a language which had been quite obviously sanctioned as *the* standard of that time, most probably the standard *en vogue* during the *Nánběicháo* 南北朝 era (AD 420-589). It is not such an easy task to sort out which standard dialect prevailed before the reunification of China by Suí Wéndì 隋文帝 in 581 AD; what we do know from Yán Zhītūī 顏之推, a scholar who lived between 531 and 590 AD, is that there were two standard dialects: the Luòyáng 洛陽 standard for North China, and the Jīnlíng 金陵 (present-day Nánjīng 南京) standard for the south of the Yangzi River. The reunification of North and South China in AD 589 under the Suí, however, enhanced the Luòyáng dialect²⁰ across the whole country through the Imperial Examination system (Lǐ Xīnkú 1987; Shào 1982). During the Táng 唐 dynasty (618-907), a new standard fairly different from the standard *koiné* underlying the *Qièyùn*, evolved by the seventh century and was well established by the eighth; this new standard language is named **Late Middle Chinese** by Pulleyblank (1970; 1971; 1991:2-3). No rhyme book vouching for this linguistic stage survived the whims of history; however we can get a good view on the LMC phonological system from various rhyme tables (*děngyùntú* 等韻圖), such as the *Yùnjìng* 韻鏡 "Mirror of Rhymes" only known by a Sòng 宋 retention from the early twelfth century and where the characters are classified into 'rhyme groups' (*shè* 攝), as well as from the lexicographer Huílín's 慧琳 Buddhist Canon *Yīqièjīng Yīnyì* 一切經音義²¹ where the pronunciations are provided in the *fǎnqiè* 反切 spellings. The flowering of such rhyme tables in the Táng period might be congruent with the translation of many Tantric sutras for which the perfect pronunciation was important in order not to invalidate their sacred potentials. Furthermore, the Late Middle Chinese period is of utmost interest for dialectologists; indeed, excluding proto-Mǐn 閩 which is likely to have originated from an Old Chinese layer²², all and any Sinitic languages (such the *Hakka* 客家語, *Gàn* 贛語, *Yuè* 粵語, *Wú* 吳語, ... groups of dialects²³) descend from a Late Middle Chinese northern lingua franca dating back from the late Táng period (Karlgren 1954:212).

²⁰ That is, the aforementioned Zhōngzhōu 中州 dialect.

²¹ The "Pronunciation and Meaning in the Complete Buddhist Canon."

²² See Handel (2010) on that question.

²³ Or (*dà*)*fāngyán* (大)方言.



After the fall of the Táng dynasty in 907 and the domestic disorders of all sorts that ensued, our linguistic documentation on Chinese is pretty much fragmentary; even the eleventh century rhyme table *Huángjí Jīngshì* 皇極經世 by Shào Yōng 邵雍 (1011–1077) provides us with pretty much an insufficient glimpse into the phonology of the standard Chinese used at that period (Pulleyblank 1991:3). During the Northern Sòng (*Běisòng* 北宋) dynasty (960 - 1127), the Chinese language was in a transitioning status rather problematical to identify; even if there were quite many rhyme tables circulating around during that period, they were by and large focusing on ancient pronunciations as resonating in rhyme tables and rhyme books such as the *Guǎngyùn* 廣韻, a 11th century expanded copy of the *Qièyùn* compiled by Chén Péngnián 陳彭年 (961–1017) and Qiūyōng 邱雍 at the behest of Emperor Sòng Zhēnzōng 宋真宗. Be that it may, at that time, Chinese was gradually entering his **Old Mandarin** (*Gǔ Guānhuà* 古官話) stage, as well as in its morphology and lexicon (Jiǎng 2005)

as in its phonology (Norman 1988). With Altaic (Jürchen and Mongolian) overlords storming their way into Northern China, the Middle Kingdom gently shifted to a new chapter of its linguistic history that will not be dealt with here.

1.- Historical and linguistic setting of *Giao Chỉ*. An Overview

1.1. Introduction

In whole Southeast Asia, Vietnam northern regions are unique insofar as China enhanced its power and imposed its direct rule over the southwestern part of 南越 *Nányuè* in the Red River plain²⁴; this was part of 秦始皇帝 *Qín Shǐ Huángdì*'s conquest southwards, which was completed by 218 BC when the Red River plain became part of a military commandery, or 郡 *jùn*. The fall of the Qín Dynasty plunged China into anarchy and chaos and made it possible for *Nányuè* (that is, the southern coasts of *Guǎngdōng*, *Guǎngxī* and the Red River plain) to enjoy independence. This independence was rather brief though, for by BC 111 the armies of 漢武帝 *Hàn Wǔdì* swept southward, overran *Nányuè* and organised it as the province of 交州 *Jiāozhōu* encompassing nine military commanderies, among which three were located in northern Vietnam: *Jiāozhǐ* 交趾, *Jiǔzhēn* 九真, and *Rínán* 日南. The influx of Chinese populations into those three commanderies would increase during the *Suǐ* 隋 (581-618 AD) and *Táng* 唐 (618-907) dynasties and an embryonic Vietnamese cultural and linguistic identity would begin to gradually emerge, and we can venture to date the full emergence of a Vietnamese cultural identity during the *Sòng* 宋 Dynasty and the Vietnamese taking-over of their own supreme administration by the tenth century.

The commandery of 交趾 *Jiāozhǐ* (*Giao Chỉ* in Sino-Vietnamese) was centered in the Red River plain and stretched down to the Mã River in Thanh Hóa (Taylor 1983:26). During the *Hàn* 漢 dynasty, "Jiāozhǐ" must have been pronounced [kraw tɿʔ] (Baxter 1992). It is pretty much of a risky endeavour to identify the dominant ethnic coloration of the *Giao Chỉ* commandery. However, the Late Old Chinese transcription of the very designation of the region, *kraw tɿʔ* (*Jiāozhǐ* 交趾), may give us quite a bit of a hint. Late Old Chinese [kraw] (*Jiāo*- 交) quite likely stands for a transcription of a local root associated with "taro, *Colocasia Esculenta*" (Ferlus 2014a); this root is broadly diffused across Southeast Asia and even beyond, as the very English or French word "taro" seems to have been borrowed from a Polynesian language (possibly from Tahitian [tãro]). This root can be reconstructed as far up as in proto-Mon-Khmer [*trawʔ] (Shorto 2006:475) and has come down to us through various Mon-Khmer languages, as in Monic (Spoken Mon [krao] or Nyah-kur [traw]), Palaungic (Tung-wa [kraʔ] or Sem [klaʊ]) or Katuic (Ong [raw], Souei [ʰraw] < proto-Katuic [*craw]) (Ferlus 1996c; Blench 2009). The very naming *kraw* is therefore quite likely to have conjured up a particular (most probably tuber-based) cultivation practice used by small Mon-Khmer horticultural communities—as opposed to more complex and advanced cereal-growing (probably rice-based) societies²⁵—living in the *Jiāozhǐ* hinterlands "at the foot

²⁴ During the *Qín* 秦 (227-207 BC), the *Nányuè* 南越 (Sino-Vietnamese: *Nam Việt*) was an area stretching from a part of *Guǎngxī* 廣西 in the west to *Guǎngdōng* 廣東 in the east and down in the south to the Red River Delta in Northern Vietnam.

²⁵ Incidentally, the type of cultivation (horticulture vs cereal growing) has socio-political ramifications. Cereal growing allows larger communities to flourish as cereals, such as rice or paddy, can be stored unlike products from horticulture, such as taro. Moreover there seems to be congruence between a shift from horticulture to cereal growing and social complexification. Horticulture, indeed, antedates cereal growing; thereupon, Haudricourt & Hédin ([1944] 1987:176) would write that rice would have first been weeds in rice fields and

of the mountains"²⁶ (*zhǐ* 趾). Allotting ethnonyms according to a particular cultivation mode is pretty common in Southeast Asia. Among some others, the ethnonym 'Khmer' (Anselme 1998; Ferlus 2011) has been attested since its pre-Angkorian <*kmer*> [kme:r] (Modern Khmer <*kmær*> [k^hmaɛ]) and means "field-clearers"; it is derived from the Bahnaric base [mi:r] "cleared field" to which the prefix [k-] is added: [kmi:r] "the one who is working in a cleared field"; the Bahnaric form to name the Khmers is attested in Old Cham [kmir] and was borrowed into Khmer through Katuic [kme:r]. The ethnonym of the South Bahnaric *Sre* [srɛ:] means "[those working in] swidden fields". In Sơn La, North Vietnam, the Mường call themselves [mɔ:l^h] "hand-dibblers", which originates from proto-Vietic *mɔ:l^h? "to hand-dibble"; besides, the Cuối make use of this ethnonym [mɔ:l^h] to name the Thổ from the district of Quỳnh Hợp in Nghệ An province, North-Central Vietnam. Be that as is it may, the region would later be gradually dominated by Vietic peoples, from which the Vietnamese, the *Kinh* 京 "[those living in the] capital city"²⁷, emerged as a newly dominant ethnic group. Incidentally, it is quite interesting to mention at this point that the very geographic boundary between Giao Chỉ and Cửu Chân is congruent with a linguistic isogloss based on tonal disharmonies²⁸ which demarcates the Northern Vietic languages (Việt and Mường) from the Southern Vietic languages (Arem, Rục, Thavung, etc.).

The commandery of 九真 *Jiǔzhēn* (*Cửu Chân* in Sino-Vietnamese) covered the regions of southern Hà Tĩnh and northern Quảng Bình, down to the Hoành Sơn 橫山 Range which marked its border with 日南 (*Nhật Nam*). Cửu Chân must have been inhabited by Vietic (VM) populations if we can rely on the Chinese word to name the region. During the Hàn, *Jiǔzhēn* 九真 must have been pronounced 九 *ku^h? 真 *cin, that is, *kucin, or rather *kăcin in Middle Chinese. MC *kăcin might have been a Chinese transcription of a local autonym, which has come down to us in Thavung [t^hăvɛ:ŋ¹], a Vietic language, where *kti:ŋ²* means "human being, people" from proto-Vietic [*kci:ŋ], composed of the morphological prefix [*k-] and the substantive [*ci:ŋ] "foot," whence *k-ci:ŋ "those who stand on their feet; human being;" the following phonetic change chain [*ci:ŋ]>[ciŋ]>[ciŋ]>[cin] is regular in the Vietic languages. Cửu Chân might therefore have been inhabited by some ancestors of the Southern Vietic Thavung - Aheu.

RìNÁN 日南 (*Nhật Nam* in Sino-Vietnamese) was the last Chinese 'outpost' in Vietnam, which was soon to be incorporated to the *Línyì* 林邑 down to the 11th century when the Vietnamese began their *Nam Tiến*, their movement southwards. The region was inhabited by Chamic peoples and by ancestors of the Vietic Arem, Rục and Măliêng, as indicated by some sparse but significant Chamic borrowings into these Vietic languages. These borrowings include the word for "banana" in Rục [kataj¹] and Arem [ataj] connected to Cham [pataj] or Rhade [mətɛj] in Chamic; the word for "year" in Arem [t^hɔ:n] borrowed from Cham [t^hũn] and the word for "moon" in Rục [pălə̀n²] borrowed from Cham [pl̩̀n]; the antiquity of the Vietic and Chamic relationships can be exemplified in the borrowing of the word for "egg" in Măliêng [tũlu:w³] or Rục [tũlu:l³] which can be connected with Malay *telor* but which was lost in Chamic and replaced by a Bahnaric word; the "egg" was an important exchange good in the region (Ferlus 1996a; Thurgood 1999).

Condominas (1957:159) noticed, when he was working in the Central Highlands, that the Mngong Gar were used to planting ritually a tuber in a rice field before sowing, which symbolically epitomised the chronological primacy of tuber planting (small community) over cereal growing (complex society).

²⁶ Gloss drawn from Kroll (2017:607).

²⁷ As Liam Kelley (pers. com.) noticed, the term 'Kinh' was first used round the 15th century.

²⁸ Cf. Ferlus (1999).

1.2. Việt 越 – Hàn 漢 Relations Reassessed

In order to understand the linguistic influence of Middle Chinese over Giao Chỉ in northern Vietnam, it seems reasonably useful to identify the type of relations that bound northern Vietnam to China, and to sort out what belongs to the modern nationalist imaginary from the actual historical facts. The ‘classical’ historiography steadily focused on the grand narrative of an alleged repeated struggle against China for "national liberation." This grand narrative partook in a 20th-century ethnicisation process which was part of the modern Vietnamese nationalist agenda. However, as we do not have to consider the effects of a "neutral" point of view on the historical facts upon a Vietnamese ‘national struggle for survival’ anymore, we can now adopt a more serene stance on Sino-Vietnamese relations without being accused of mediating an ‘imperialist’ sabotage.²⁹

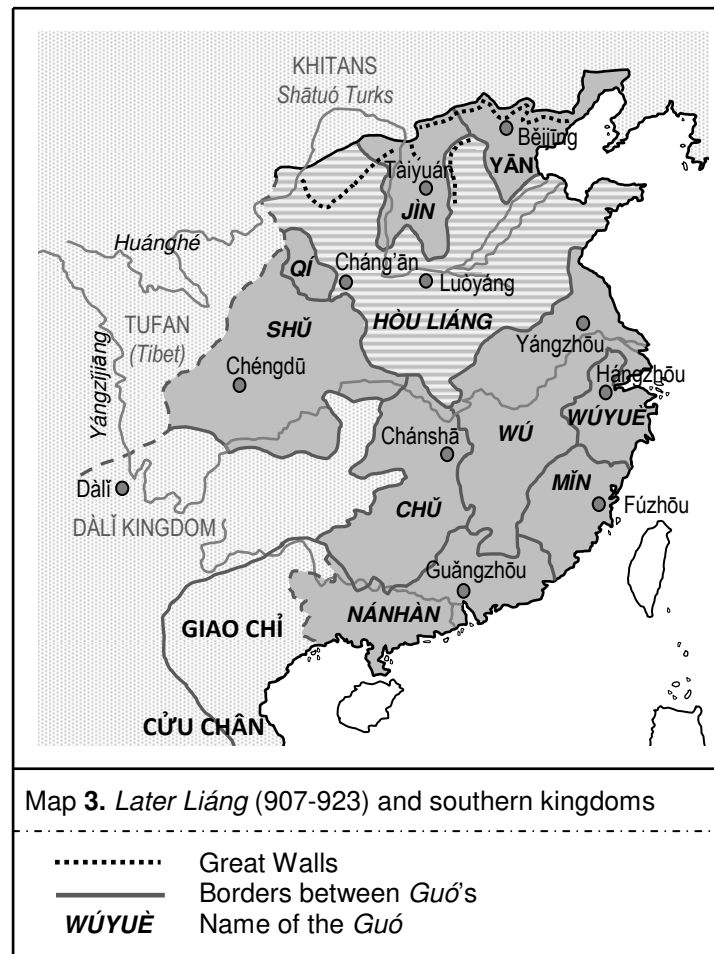
The actual Vietnamese ethnic identity can be traced back from the Hàn dynasty onwards when northern Vietnam was under Chinese direct rule and administration. Massive influx of Chinese refugees, administrators, clerics, artists, tradesmen and soldiers entailed an emerging hybridised Vietnamese cultural identity. By most standards, from the Hàn onwards, quite many Vietnamese cultural features were knowingly and seamlessly borrowed from, inspired by and modeled upon the Middle Kingdom. China was not seen as an aggressor against which to resist, but a prestigious civilization from which to borrow. From the Hàn 漢 down to the Sòng 宋, northern Vietnam history was consonant with the one of the Chinese Empire, and from then on, distinctive Vietnamese cultural and linguistic features began to emerge. Moreover, as Taylor (2010:18) pointed out, it is incidentally doubtful that the Trưng Sisters’ (訶婆徵 *Hai Bà Trưng*) rebellion in 40 CE or, further up, the Đông Sơn 東山 Culture —both hailed as encapsulating Vietnamese resistance against aggressors and a deep cultural past respectively— did actually resemble quite few of what could now be considered distinctively Vietnamese. A full-fledged Vietnamese identity with its distinctive language and culture seems to have completely evolved by the Northern Sòng dynasty (960-1127 AD) and is most likely the result of a diglossic situation which climaxed during the Táng 唐 dynasty (AD 618-907). A diglossic contact situation implies two linguistic systems, the first (Middle Chinese) being the prestigious referent for the other (a Vietic language). In other words, a Middle Chinese *vs.* Vietic diglossia foreshadowed what would become Vietnamese, a sinicised Vietic language.³⁰

Such a diglossic contact situation could not have been culturally and linguistically so productive, had the relations between northern Vietnam and China been hostile. And indeed, the inhabitants of Giao Chỉ seem to have mostly been trusted subjects under *tiānxià* 天下. Giao Chỉ considered itself a full member of the Middle Kingdom, and even watershed events for Vietnamese nationalism, such as the famous victory of Ngô Quyền 吳權 against the *Nánhàn* 南漢 ("Southern Hàn") armies along the Bạch Đằng river in 937 AD —that is, the official starting point of an independent Vietnamese polity— should not be understood as an anti-Chinese movement *per se*, but rather as a retaliation against a very local polity straddling Quảng xī and Quảng đông provinces, which was just one of the numerous polities that had partitioned the Middle Kingdom at the twilight of the Táng dynasty from the 900s onwards. Furthermore, though the Empire was fragmenting, the Khúc Clan, a local family in Giao Chỉ, posed as loyal imperial officials, took over the position of *tiết độ sứ* 節度使 (*jiédùshǐ*, or military governor) in AD 905 and swore allegiance to the Later Liáng 後梁 dynasty; their

²⁹ See, among many others, Tran & Reid (2006) on that topic.

³⁰ See, among many, Wáng Lì 1948; Nguyễn Tài Cẩn 1979; Alves 2016; Phan 2010.

loyalty to the Chinese model was such that even after the fall of the Later Liáng dynasty in 923, they kept on posing as trusted officials of an Empire that had simply vanished (Taylor 2013:44-45).



After decades of turmoil across the Empire, Giao Chỉ seems to have emulated what was the norm in a fragmented China, though quite later than the others: constructing a local kingdom out of imperial provinces. Though this might seem rather hyperbolic, the Vietnamese independence was quite a "casual" independence rather than the result of a long strife towards it; this independence was facilitated by, if not resulted from, a newly emerging approach to imperial administration and power enhanced by the Sóng 宋 dynasty (960-1276)³¹. As a matter of fact, the Sóng approach to statecraft obliterated the ancient imperial traditions; whereas the army was kept on a very short leash, scholar-officials trained in Confucian doctrine took over control of the administration and reshaped the very idea of a Chinese nation (Tackett 2017); the southern provinces in northern Vietnam consequently became beyond the reach of imperial armies and a truly independent Vietnamese polity clearly emerged throughout the end of the tenth century under the leadership of local clans that had to become the first Vietnamese dynastic Houses: the *Nhà Đinh* 家丁 (AD 968-980) and the *Nhà Lê* 家黎 (AD 980-1009).

Regardless of some skirmishes of variable intensity, the relations between both 'empires' were, from the Vietnamese independence onward, based on the well-worn system

³¹ See Churchman (2016) on this issue.

of tribute-offerings (the 貢 *góng*-system) to a prestigious neighbour (China), and Giao Chỉ kept on emulating parts of the Chinese administrative system, while constructing its own specificity in parallel. As a matter of fact, during the 10th-11th centuries, the connections between northern Vietnam and the Empire wavered. However, this does not mean that the prestige emanating from the Chinese civilisation vanished; it just means that a hybridised Vietnamese culture, society and language stabilised whereas, in the meantime, China kept its position of prestige which northern Vietnam had to compromise with. Incidentally, the Vietnamese dual theory of monarchy perfectly echoed the respective position of each element (Chinese and indigenous) making up the whole Vietnamese imperial system: to the Chinese realm belonged much of what would transcend the correct organization of the Cosmos and to the indigenous was bound anything that would take its root in the pragmatic World of the actual life. Accordingly, Vietnamese rulers had two sets of names; the Vietnamese word for "king, Lord, ruler, etc." was *vua* 𡗗 for which no Chinese character existed and for which a Sino-Vietnamese graph (*chữ nôm*) was designed; as Taylor (1983:206) pointed out, the term *vua* is an intimate word which means a ruler who governs according to the local customs and traditions and which began to be used after the Vietnamese independence; as the two elements of the character *vua* 𡗗 clearly attest, the *vua*'s mission was to govern as a king (*vương* 王) who would act as a *bó* 布 'pater familias'.³² This word *vua* originates in proto-Vietic *k·bɔ, which was borrowed into Lao *phō* [pʰɔː (<*bɔːʔ)] "father; chief; man" by the beginning of the Common era. This indigenous term clearly reflects a sympathetic link to the people. On the other hand, the words of Chinese origin as *vương* 王 [*wáng*], and (*hoàng*) *đế* (皇帝) [*huángdì*] both imply respectively a vestige of the provincial past of Vietnam on the one hand and a distant and ceremonial commission to rule from above, a 天命 *tiānmìng* 'Mandate of Heaven', on the other hand, without any consideration for the imperial subjects³³. Moreover, the very title *đế* 帝, during the Later Lê dynasty 後黎 (1428-1789), was mainly used for the *tên thụy* 筭號 ceremony during which the imperial posthumous name was bestowed on the deceased emperor³⁴ and some emperors even refused this title and insisted on being named *vua* while living, as it was the case for Emperors Lê Lợi 黎利 (1385-1433) and Lê Thần Tông 黎神宗 (1607-1662)³⁵.

1.3. Giao Chỉ : A Sociolinguistic approach to 'Đông Kinh' and 'Thanh Nghệ'

There seems to have long been sociological and, most likely, linguistic differentiations between the Red River plain (*Đông Kinh* 東京) Vietnamese and the "other" Vietnamese³⁶ who lived up in the hilly hinterlands. *Đông Kinh* was a place strewn with

³² The posthumous title of Phùng Hưng 馮興 (AD 761-802), *Bó Cái Đại Vương* 布蓋大王, reflects the political development of the concept *vua* 𡗗 who is supposed to act as a *bó cái* 'father-mother' towards his people (Woodside 1971:12).

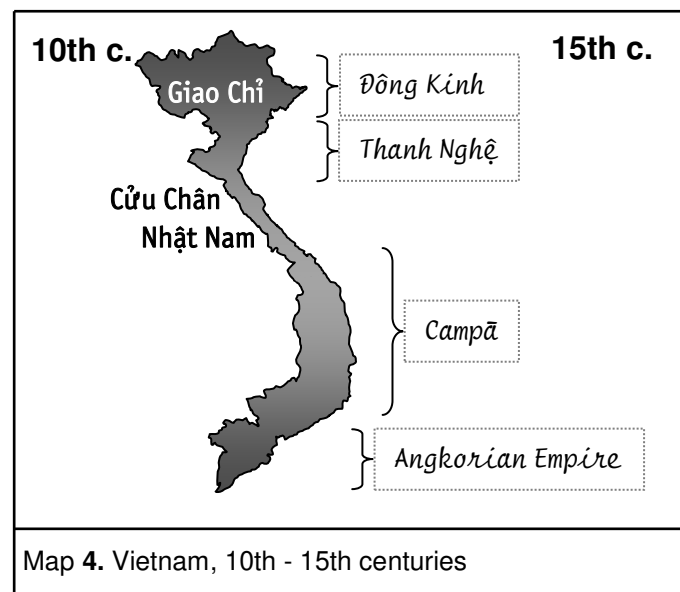
³³ It should be pointed out that the aforementioned *vương-vua* dichotomy (first highlighted by Taylor 1983 and Woodside 1971) is now being seriously questioned; as Liam Kelley (pers. com.) noticed, the 'sympathetic link with the people' connected to the term *vua* is largely based on a pure semantic association based on the benevolent feature associated to the 'father' (but, on the other hand, the image of the father may also be terrifying, strict, or even mean). According to Kelley, this *vương-vua* dichotomy might possibly be rooted in a modern political argument filtered down in the academic circles consisting in demonstrating that Vietnam was Southeast Asian as opposed to Chinese.

³⁴ In: *Khâm định Việt sử Thông giám cương mục* 欽定越史通鑑綱目 (1957 [1884]: v. II, 224).

³⁵ In: *Idem* (1957 [1856]: v. 1, 838).

³⁶ These were called "Mường" by the French colonials; this term was coined to encompass various Vietic ethnic groups (Taylor 2001).

Confucian pagodas and schools as well as with imperial palaces whence to rule Northern Vietnam and associated with a Chinese culture wreathed in prestige and crowned with imperial authority. On the other hand, the "other" Vietnamese from the hinterlands, in the provinces south of Đông Kinh (Thanh Hóa and Nghệ An, the so-called 'Thanh Nghệ' in the 15th and 16th centuries) were downgraded to the status of rustic savages, and were accused—as soon as up in the eleventh century—of dishonouring civilization instructions³⁷, though Vietnamese history offers us frequent examples of Thanh Nghệ warlords or kings, such as Lê Lợi (*r.* 1428-33), taking on the imperial purple; moreover and incidentally, this opposition between two regions (here: Đông Kinh and Thanh Nghệ) looking in different, if not opposite, directions will be highly significant for subsequent Vietnamese political developments down to the twentieth century.



Thus, **ĐÔNG KINH**, or the Red River plain, was the region where Chinese influence was the most deeply anchored; it was the homeland of Sino-Vietnamese. During one millennium spanning from the Hàn administration of the province down to the Táng, there had been regular infusions of Chinese vocabulary and grammatical constructions, though to a lesser extent (Alves 1999); during this millennium, an 'Early Sino-Vietnamese', or 古漢越語 *Gǔ Hànyuèyǔ* (Wáng Lì 1948), gently emerged. As to the Middle Chinese dialect involved in the genesis of Early Sino-Vietnamese, several hypotheses have been proposed. The first author to tackle this issue was Maspero (1912) who hypothesised that Sino-Vietnamese might have originated from a northern Chinese dialect taught in the scholar institutions throughout Đông Kinh and based on the speech spoken in Cháng'ān 長安, the capital city of the Táng. Some half-century later, Hashimoto (1978) challenged the Northern Chinese dialect origin of Sino-Vietnamese put forward by Maspero; on the basis of data collected by Wáng Lì (1948), Hashimoto indentified six similarities between Sino-Vietnamese and Southern Chinese dialects and posited a Southern Middle Chinese *koiné* (close to the *Mǐn* 閩 and *Yuè* 粵 languages) as a donor dialect for Sino-Vietnamese (Hashimoto 1978:6). More recently, Phan (2010) posited a regional Middle Chinese language ("Annamese Middle Chinese") related to *Xiāng* 湘 as the donor language for Sino-Vietnamese originating from the Red, Mã and Cả rivers region (that is, an area stretching from Tonkin in the north to Nghệ An in the south).

³⁷ In: 大越史記全書 *Đại Việt sử ký toàn thư* (IV, bản II:5a-b).

This "Annamese Middle Chinese" would not have been affected by some changes that affected Late Middle Chinese and this idiosyncrasy is reflected in Sino-Vietnamese (Phan 2010:9-13); according to this author, this local Middle Chinese dialect would have been replaced by a hybridised proto-Vietic language and would have barely survived as an adstratum of a new language from which proto-Vietnamese would have eventually evolved.

Whether they be administrative, cultural, religious, commercial or personal (through intermarriages), the linguistic contacts between proto-Vietic and Middle Chinese entailed a process of sinicization of the urban centres across Đông Kinh upon which a Sino-Vietnamese aristocracy ruled. These Sino-Vietnamese clans or families were early Chinese immigrants who, within a few generations, granted their loyalty to Giao Chỉ rather than to the Middle Kingdom (Taylor 1983). During the Sóng and the independence of a Vietnamese polity, the influence of Middle Chinese upon the urban centers diminished and a sinicised proto-Vietic dialect emerged and would give birth to proto-Vietnamese, an urban language. From the urban centres, proto-Vietnamese spread to numerous rural *xã* 社, 'villages'³⁸, scattered across the Red River plains, whereas isolated areas in the mountains down to Thanh Hóa province remained fairly unaffected by Middle Chinese influence and remained strictly Vietic, though influenced by proto-Vietnamese; from those Northern Vietic dialects influenced by proto-Vietnamese were to emerge the highly dialectalised Mường family.

As mentioned above, the **THANH NGHỆ** region, that is, the provinces of Thanh Hóa and Nghệ An, was considered as an area inhabited by rustic uneducated savages. This region, particularly Nghệ An, is characterized by a particular form of linguistic contact between some Southern Vietic languages (such as *Chứt* [cɪt⁷], *Poọng* [pɔ:ŋ⁴], *Thổ* [t^hɔ:ʔ¹]) and an ancient form of Vietnamese whose result was the emergence of the so-called "North-Central Vietnamese", or the "Heterodox Vietnamese dialects" (Cadière 1902; Hoàng 2004; Ferlus 1991, 1996b; Alves 2002; Alves and Nguyễn 2007; Michaud, Ferlus and Nguyễn 2015). The North-Central Vietnamese dialects exhibit some disconcerting diachronic irregularities compared to Middle Vietnamese as reflected in de Rhodes's *Dictionarium* (1651). These irregular correspondences with Middle Vietnamese underscore a multilayered migration history accounting for different layers of borrowings between closely related Vietic languages, and the type of contact involved. It is quite a risky endeavour to date with an acceptable accuracy the vietnamisation of the provinces south of Đông Kinh, particularly in the so-called *Cửu Chân - Nhật Nam*. However, we know that the first Vietnamese immigrants began to settle in Quảng Bình in North-Central Vietnam around AD 1300 and that the influx of Vietnamese immigrants was continuous and speeded up during the 15th-16th centuries (Nguyễn V.L. & Nguyễn V.M. 2010:27-34); we can therefore deduce that Thanh Nghệ, in the north, must have been vietnamised well before the beginning of the fourteenth century and that some erratic diachronic changes attested in the North-Central Vietnamese dialects mirror a linguistic situation where Southern Vietic languages are continuously submitted to the linguistic pressure of a closely related prestigious and sinicised language (Vietnamese). The analysis of the North-Central Vietnamese dialect spoken in Vinh (VV) typifies how a Southern Vietic language, *Poọng-Chứt* branch, reacts when it is in contact with a prestigious closely related language; the Vinh dialect exhibits various lexical layers that are indicative of the successive Vietnamese forays into Southern Vietic areas in North-Central Vietnam. The oldest lexical layer belongs to a *Poọng-Chứt* residual substratum vocabulary, such as *dam* [zɑm³⁵] "crab," *nốc* [nɔk⁵⁵] "small boat," and *gụ* [ɣu²²] "bear"

³⁸ A Ming document from the early fifteenth century recorded over 2500 *xã* scattered across the Red River delta (Whitmore 1984:301).

with a low series tone as in the Poọng-Chứt languages (this word displays a high series tone in Standard North Vietnamese (SNV): *gấu* vs. *ku:*⁴⁶ with a low series tone in Poọng); moreover, the evolution of the initial "plosive + [r]" toward "plosive + [l]" in a restricted list of lexical items is incidentally attested in Poọng: in Standard Vietnamese the group "plosive + [r]" yielded [s] (written *s-*) and "plosive + [l]" yielded [tɕ] (written *tr-*); the very fact that some words display the initial *tr-* [tɕ] in Vinh whereas SNV attests *s-* [s] points to the Poọng evolution of the group "plosive + [r]" > "plosive + [l]" > [tɕ-] > [t-] in Vinh Vietnamese: for example, vv *trùng* [tʷŋ³⁹] compared to SNV *sùng* [sʷŋ²¹] "horn," vv *trâu* [tʷw³⁴] and SNV *sâu* [sʷw³³] "insect," or vv *trọ* [tʷ²²] compared to SNV *sọ* [sʷ^{22?}] "skull." Besides, the treatment of the Middle Vietnamese (MV) initial spirants³⁹ in Vinh Vietnamese allows positing several chronological phases of a Vietnamese dialect overlapping a Southern Vietic language in process of vietnamisation:

- (1) The first vv lexical layer does not attest MV spirants whereas they are attested in SNV. For example: vv *bu* [bʷa³⁵] and SNV *vua* [vʷa³³] "lord, king" or *chi* [ci³⁵] vs. *gi* [zi³³] "what."
- (2) The second vv lexical layer exhibits the treatment of MV spirants into their aspirated homorganic plosive counterpart. For example: vv *phút* [p^hʷt¹¹] and SNV *vật* [vʷt^{22?}] "to pick up," or vv *khảy* [k^ha^j31] and SNV *gậy* [ɣe^j31] "to pinch."
- (3) The third lexical layer attests a hypercorrective spirantization process in a vocabulary where this process is diachronically aberrant. For example: vv *vổng* [vʷŋ³¹] compared to the regular SNV *bổng* [bʷŋ³¹] "high," or vv *gát* [ɣat¹¹] and SNV *cát* [kat⁴⁵] "sand."
- (4) The fourth layer consists of mere borrowings of words with former spirantized medials. For example: vv *răng* [zaŋ³⁵/ɹaŋ³⁵] and SNV *răng* [zaŋ³³] "tooth," or vv *gỗ* [ɣo^{13?}] and SNV *gỗ* [ɣo^{35?}] "sand."

We can consequently deduce from the aforementioned developments that, during its forays southwards, phonetic units of various chronological layers of Old and Middle Vietnamese overlapped a related Southern Vietic language (a Poọng-Chứt language) and were diffused erratically in North-Central Vietnam, that is, from Nghệ An down to Quảng Bình. Vietnamese, language of prestige, was phonetically reinterpreted by the speakers of a dominated Southern Vietic language; it ensued a linguistic compromise from which the North-Central Vietnamese dialects evolved. Snaking down from the Cham-bred Quảng Trị province to the Khmer-populated Mekong Delta, Vietnamese smoothly spread upon the Chamic and Khmer languages; in other words, linguistic 'vietnamisation' seems to have succeeded much better and 'toe the line of regular diachronic rules' upon unrelated languages (Chamic, Khmer) than upon closely related languages (Southern Vietic) in North-Central Vietnam⁴⁰.

³⁹ The proto-Vietnamese lexicon consisted of (1) monosyllables [CV(C)] (where C = consonant, V = vowel), and of (2) sesquisyllables [C₁C₂V(C)] (where C₁ = initial presyllabic consonant and C₂ = medial consonant). The lenition of the medial obstruents C₂ within sesquisyllabic words yielded spirants (weak fricatives); accordingly C₂ medials [p-b] evolved into [β], [t-d] into [δ], [s] into [r], [c-ʃ] into [ɹ], and [k-g] into 'spirant [ɣ]'. During the monosyllabisation process, C₁ dropped and the spirants evolved into more stable phonetic units: [β] stabilised to [v]; [δ] to [z/j]; [r] to [z/ɹ]; [ɹ] to [z/j], and 'spirant [ɣ]' to 'fricative [ɣ]'. On this topic, see Haudricourt (1965:71) and Ferlus (1982).

⁴⁰ Incidentally, it should be pointed out with Vō (1987) that some families in Đà Nẵng who now identify themselves as 'Kinh' trace their ancestry back in the Chams before being fully vietnamised.

1.4. Summing up

Giao Chỉ played an important role in absorbing Chinese socio-cultural, administrative and linguistic features and in diffusing them throughout Cửu Chân and Nhật Nam and, from the 14th to the 18th centuries, along the Vietnamese coasts down to the Mekong Delta. Middle Chinese linguistic features were also transferred from Vietnamese to other languages of its *Sprachbund*, whether they be the Central Highlands Bahnaric or Chamic languages. The fundamentally important linguistic feature to be transferred to other languages in contact seems to have been a syllabic tension that affected some Middle Chinese syllables in contrast with lax syllables, that had immense phonological consequences on the diachronic evolution of languages or even language families in contact. We will now tackle the diachronic evolution of the Chinese language from its Late Old Chinese stage down to its Late Middle Chinese phase.

2.- From Old Chinese to Middle Chinese

2.1. Setting the stage

Reconstructing Old Chinese phonology has long been the favourite topic for harsh debates among sinologists. Karlgren's *Grammata Serica Recensa* (1957) was the first comprehensive study on the phonological structure of "Ancient Chinese" (that is, Old Chinese). On Karlgren's work, some new insights, improvements, and emendations were regularly proposed, though within the same methodological frame; works by Pulleyblank (1962), Li Fang-kuei (1971) and Wáng Lì (1985) substantially improved our knowledge of the Old Chinese phonological structure. However, as Schuessler pointed out (2015:571), the traditional phonological method reached its limits with Baxter's *Handbook* (1992), and from this work onwards, many sinologists opted for new hypotheses, new interpretations of phonetic loan graphs, and an addition of comparative data brought forward by the analysis of foreign loans as epitomised in Pān's (2000), Zhèngzhāng's (2003), Sagart's (1999) or Norman's (1994) works. All the aforementioned authors relied almost exclusively on the comparison between Sinitic languages (the so-called "dialects," *fāngyán* 方言) and/or on mediaeval materials such as rhyme books (韻書 *yùnshū*) and rhyme tables (*yùntú* 韻圖).

Beside the "traditional" sinological approach consisting in comparing modern Sinitic languages and using mediaeval materials (rhyme tables and books), an alternative idea has elbowed its way through the sinological circles, though not so seamlessly. In a series of papers, Ferlus (2009a, 2012, 2014a) has proposed to capitalise on diachronic phenomena observed among the Mon-Khmer languages (that is, a *tense* vs. *lax* contrastive feature) and to hypothesise similar diachronic changes in Old Chinese. In other words, Ferlus's work on Chinese typifies the efficiency of a cross-language approach to tackle specific problems attested in one particular language that partakes in a broader generalising 'panchronic' theory of linguistic change (Haudricourt 1940; Hagege & Haudricourt 1978); Ferlus relocates Old Chinese within its own *Sprachbund*, within its own area of prestige, and makes of Chinese a "normal" language that should be analysed accordingly, regardless of its apart philological tradition that the sinologists granted it.

According to this theory, the Old Chinese lexicon would have been composed of monosyllables [CV(C)] (where C = consonant, V = vowel) and sesquisyllables [C₁.C₂V(C)] (where C₁ = presyllabic consonant and C₂ = main consonant), which is a syllabic structure that is still largely attested in many Mon-Khmer languages, and that most likely originates in

the influence of the syllabic change that occurred in Chinese, probably at the eve of our Common era. Table 1 gives some examples of sesquisyllables in Rục, a conservative Vietic language, that have evolved in monosyllables in Mường and Việt (Vietnamese). Similarly, we would pose a similar loss of a sesquisyllabic element between the stage of Old Chinese and Middle Chinese.

<i>sesqui-syllabic</i>	<i>monosyllabic</i>		
	<i>Rục</i>	<i>Mường</i>	
kuci:t	ce:t	<i>chết</i> ce:t ⁷	"to die"
tǎka:c	ka:c	<i>cát</i> ka:t ⁷	"sand"
kǎtɛ̀j²	ta:j²	<i>dày</i> za:j²	"thick"
kǎcə̀:ŋ²	ciəŋ²	<i>giường</i> zwaŋ²	"bed"
tǎkok	ko:k	<i>gốc</i> ɣo:k ⁷	"stump"

Table 1. Loss of the presyllabic element in Vietic

2.2. An emerging *tense* vs. *lax* syllabic contrast and Middle Chinese ‘registrogenesis’

One of the consequences of the monosyllabisation process that affected Old Chinese and phonologically shaped Middle Chinese, is the emergence of a syllabic *tension* spreading along the syllables from ancient OC sesquisyllables, contrasting with a *laxness* affecting the syllable of former OC monosyllables. A pertaining consequence of this monosyllabisation was a vowel lowering, high pitch and a modal voice developing along the *tense* MC syllables (that is, originating from ancient OC **sesquisyllables**) and a contrastive vowel raising, low pitch and a breathy voice along the *lax* MC syllables (that is, originating from ancient OC **monosyllables**); in other words, the monosyllabisation process was conducive to a split of the vocalic system associated with a suprasegmental contrast based on the "*breathy*" vs. "*modal*" feature and a pitch height distinction. This phenomenon of contrastive compensation is phonologically easy to account for: the OC C₁.C₂V(C) vs. CV(C) contrast basically evolved into a new type of phonological distinction based on a vocalic lowering or raising and phonation-type register contrasts caused by the loss of the presyllable C₁ and a consequential loss of a fundamental contrastive feature. Let us take an example to illustrate this phenomenon of contrast compensation: in Old Chinese, the words 汝 *rǔ* "you (sg.)" and 怒 *nù* "angry" could only be understood apart by a presyllable (noted [c̣]), that is, 汝 *naʔ [c̣naʔ] vs. 怒 *n^haʔ [c̣naʔ]. When, by the eve of the Common era, the presyllable fell, the contrast between both words consequently shifted to a *breathy* (noted [v̤]) vs. *modal* suprasegmental contrast, a vowel split, as well as a palatalisation of the nasal alveolar initial, whence 汝 *nyoX* [ɲ^hʌʔ] would now be opposed to 怒 *nuX* [nɔʔ] in Middle Chinese.

As the example mentioned afore would tend to demonstrate, the contrast shifted from an OC C₁.C₂V(C) vs. CV(C) contrast to a MC contrast based on two syllabic types: T(ense) vs. L(ax). The *tense* syllables (T) evolved from the coalescence of the presyllabic [c̣] and main consonant [n] of an ancient OC sesquisyllable [c̣naʔ]; in other words the inherent tensions of both consonants would add up; the T syllables developed a modal voice, a tendency to vowel lowering and a high pitch. By contrast, *lax* syllables (L) evolved from ancient OC monosyllables and developed a breathy voice, a tendency to vowel raising and a low pitch.

The same diachronic pattern is besides to be observed in the languages of Southeast Asia, especially in Mon-Khmer. Some more examples are presented in Table 2.⁴¹

	T/L	Middle Chinese	Old Chinese	
蕃 <i>fān</i>	L	<i>pjon</i> [pλŋ]	* <i>par</i> [*par]	"edge, screen"
番 <i>bō</i>	T	<i>pa</i> [pa]	* <i>p^sar</i> [*c.par]	"martial"
驛 <i>yì</i>	L	<i>yek</i> [jèk]	* <i>lak</i> [*lak]	"post-horse"
鐸 <i>duó</i>	T	<i>dak</i> [dak]	* <i>l^sak</i> [*c.lak]	"a kind of bell"
儀 <i>yí</i>	L	<i>ngje</i> [ŋè]	* <i>ŋaj</i> [*ŋaj]	"right; ceremony"
蛾 <i>é</i>	T	<i>nga</i> [ŋa]	* <i>ŋ^saj</i> [*c.ŋaj]	"silkworm"
彼 <i>bǐ</i>	L	<i>pjeX</i> [pèʔ]	* <i>pajʔ</i> [*pajʔ]	"that"
跛 <i>bǒ</i>	T	<i>paX</i> [paʔ]	* <i>p^sajʔ</i> [*c.pajʔ]	"walk lame"
居 <i>jū</i>	L	<i>kjo</i> [kλ]	* <i>ka</i> [*ka]	"final particle"
姑 <i>gū</i>	T	<i>ku</i> [kɔ]	* <i>k^sa</i> [*c.ka]	"father's sister"
鋸 <i>jù</i>	L	<i>kjoH</i> [kλ ^h]	* <i>ka-s</i> [*ka-s]	"saw"
故 <i>gù</i>	T	<i>kuH</i> [kɔ ^h]	* <i>k^sa-s</i> [*c.ka-s]	"fact; reason"
鋸 <i>yú</i>	L	<i>ngjo</i> [ŋλ]	* <i>ŋa</i> [*ŋa]	"irregular, uneven"
吾 <i>wú</i>	T	<i>ngu</i> [ŋɔ]	* <i>ŋ^sa</i> [*c.ŋa]	"I, my"
廬 <i>lú</i>	L	<i>ljo</i> [lλ]	* <i>ra</i> [*ra]	"hut; inn; to lodge"
鑪 <i>lú</i>	T	<i>lu</i> [lɔ]	* <i>r^sa</i> [*c.ra]	"stove"
餘 <i>yú</i>	L	<i>yo</i> [jλ]	* <i>la</i> [*la]	"surplus"
塗 <i>tú</i>	T	<i>du</i> [dɔ]	* <i>l^sa</i> [*c.la]	"road"
施 <i>shī</i>	L	<i>syè</i> [ʂè]	* <i>laj</i> [*laj]	"to give, bestow"
他 <i>tā</i>	T	<i>tha</i> [t ^h a]	* <i>l^saj</i> [*c.laj]	"another"
奇 <i>qí</i>	L	<i>gje</i> [gè]	* <i>gaj</i> [*gaj]	"strange"
河 <i>hé</i>	T	<i>ha</i> [ɣa]	* <i>g^saj</i> [*c.gaj]	"[Yellow] river"

⁴¹ The OC and MC reconstructions presented in Table 2 are drawn from Baxter & Sagart (2014b). The pharyngealisation [-ʕ-] proposed by both authors was replaced by an emerging suprasegmental feature of *tenseness* and a sesquisyllabic structure for reasons to be explicated in paragraph (3) of the present essay. Throughout the essay, the Baxter-Sagart system (2014) will be adopted mainly because this system (1) is regularly amended by its authors, (2) proposes a large number of up-to-date OC and MC reconstructed lexical items, and (3) is predicated upon a twofold analysis of the oc lexicon (pharyngealised vs. palatalised) that fairly matches the T vs. L dichotomy proposed in this essay. The phonetic reconstruction indicated between [] is our own reconstruction.

受 <i>shū</i>	L	<i>dzyu</i> [dʒù]	*do [*do]	"a kind of lance"
投 <i>tóu</i>	T	<i>duw</i> [dɔw]	*dʰo [*c.do]	"to throw"
終 <i>zhōng</i>	L	<i>tsyuwng</i> [tʂùwŋ]	*tuŋ [*tuŋ]	"end"
冬 <i>dōng</i>	T	<i>towng</i> [tʰwŋ]	*tʰuŋ [*c.tuŋ]	"winter"
幽 <i>yōu</i>	L	<i>'jiw</i> [ʒiw]	*ʒiw [*ʒiw]	"dark; secluded"
么 <i>yāo</i>	T	<i>'ew</i> [ʒiɛw]	*ʒʰiw [*c.ʒiw]	"small"

Table 2. Loss of the presyllable in OC and MC T vs. L phonological contrast

2.3. Tense vs. Lax and the "Four Grades," 四等 *sìděng*

As already mentioned afore, rime tables and rime books take a good share in the reconstruction of Middle Chinese. The analysis by Mediaeval Chinese scholars of the co-occurrence relationships among the rimes and initials compiled in the *Qièyùn* 切韻 (AD 601) resulted in a tabular matrix system called *yùntú* 韻圖, rime tables, among which the *Yùnjìng* 韻鏡 "Mirror of Rhymes" (12th century) might be one of the oldest known. The Chinese rime tables decompose a Chinese syllable into its four intrinsic phonological components: initial (聲母 *shēngmǔ*), rime (韻 *yùn*), four tones (四聲 *sìshēng*) and four grades (四等 *sìděng*). One of the most diabolically vexing problems posed by those mediaeval materials is incidentally the intended phonetic substance underlying the four grades, which has awoken a large variety of frantically debated speculations among sinologists⁴². However, as Norman (1994:398) pointed out, "there is nothing sacrosanct about the four grades" and it seems that the four grades system could also be analyzed, and worked on, as a binary contrast between two groups of rimes, rather than as rigid system imposing a fourfold contrast analysis of the Middle Chinese rimes.

Accordingly, the **main** contrast between MC rimes seems to have been between grade III on the one hand and the other rime groups (grades I-IV and II) on the other hand. Grade III corresponds to the *yodised* initials in Karlgren's system (indicated with a *-j-* in Karlgren's reconstructions); however, the Karlgrenian *yod* seems not to have the phonetic value of a medial [-j-] as it doesn't surface in any internal or external comparative material; besides, as Lǐ Róng (1956) pointed out, 52% of the Middle Chinese lexicon would belong to grade III which would point to the fact that this specific grade would be the major contrastive group vis-à-vis another of lesser lexical frequency; the four grades system eventually goes down to a binary contrast: grade III would contrast with grades I-IV and II.

The kind of segmental or supra-segmental feature underlying grade III, and contrasting with the other grades, remains the focal issue in Chinese diachronic phonology. Norman (1994) analysed the Chinese lexicon in terms of a major contrast between all the palatalised initials and the others; according to him, all the rimes underwent palatalisation, unless impeded by a pharyngealisation or a retroflexion process. In his view, a phonologically unmarked Class **C** (grade III rimes) would contrast with the other rimes, the phonologically marked Class **A-B**. Phonetically speaking, Norman's "pharyngealisation" does not seem to be a *stricto sensu* "pharyngealisation" as attested in Semitic; it seems to be a

⁴² On the rime tables and books, see Coblin (1996, 2003), Branner (2006), Pulleyblank (1998), Cáo (1988), Shào (1982, 1988), and Lóng (2000).

supra-segmental feature unfolding along the entire syllable and yielding a vowel lowering rather than a pharyngealised coarticulation of the consonant onset; in other words, for Norman, the contrastive feature between grade III and the other grades would be a phonological unmarkedness (Class C) vs. a phonological markedness (that is, "pharyngealisation," Class A-B). His pharyngealisation can somehow be associated with a kind of tenseness, whereas his retroflexion accounts for the phonetic effect of an OC medial *-r-* during its lenition process. Consequently, Class B would just be a subgroup of his Class A characterised by the lenition of the OC medial *[-r-]*.

For Pulleyblank (1973; 1984) Chinese syllables can be classified into two types, Type A (grade III) *vis-à-vis* Type B (grades I-IV, II) whose contrast originated in a prosodic distinction in Old Chinese; the first mora being stressed in type B, whereas the second mora carries the stress in Type A. Baxter & Sagart (2014a) second Pulleyblank's Type A and B, but hypothesise a Semitic-like pharyngealisation *[-ʕ-]* as a contrastive segmental feature, regardless of the phonetic improbability of such a coarticulation with any consonant onset in one unique language⁴³; accordingly, the OC pharyngealised syllables would have evolved into grade I-IV/II rimes contrasting with grade III rimes. Be that as it may, we can charily and respectfully wonder why so a stable co-articulation like a pharyngealisation would have completely disappeared in OC without being transferred across languages in contact, whereas it has remained phonologically distinctive in, say, Arabic since its proto-Semitic stage and transferred to other languages in contact as it was transferred from Semitic to Cushitic.

Ferlus (2009a; 2014a) postulated a contrast in Old Chinese between two types of words: the sesquisyllabic words (*[C₁.C₂V(C)]*) that eventually evolved in Middle Chinese **TENSE** syllables (T, grades I-IV/II) contrasting with the Old Chinese monosyllables (*[CV(C)]*) that evolved in Middle Chinese **LAX** syllables (L, grade III). Moreover, in his view, grade II would make up a subgroup within Grade I and is phonetically marked by the velarisation and eventual lenition of a medial Old Chinese *[-r-]>[-ʕ-]>[-#-]* which would have left a compensatory phonetic trace upon the vowel, as in:

關 <i>guān</i> < MC <i>kwaen</i> [<i>kwæn<k^ʕwan</i>] < OC <i>*k^ʕron</i> [<i>ʕ·kron</i>] "barrier"	Grade II
姦 <i>jiān</i> < MC <i>kaen</i> [<i>kæn<k^ʕan</i>] < OC <i>*k^ʕran</i> [<i>ʕ·kran</i>] "wicked(ness)"	Grade II
艱 <i>jiān</i> < MC <i>ken</i> [<i>kɛn<k^ʕen</i>] < OC <i>*k^ʕrɪr</i> [<i>ʕ·krɪr</i>] "difficulty"	Grade II

In grade III, that is, in **lax syllables**, the lenition of the medial *[-r-]* had no phonetic influence on the vowel for the very reason that grade III is already phonetically marked by a breathy voice that, phonetically, is not likely to coarticulate with a velarised phoneme such as

⁴³ What is basically meant here is that *not any* consonant in a specific paradigm of a particular language or language family can actually coarticulate with a pharyngealisation (regardless of the eventual phonetic correlates upon the rime); let us just come down to some examples to buttress this claim: within the *Semitic* family, only the denti-alveolars can be pharyngealised (as in Damascus Arabic [*t^ʕ d^ʕ s^ʕ z^ʕ ʃ^ʕ l^ʕ*], in Berber [*t^ʕ s^ʕ z^ʕ ʃ^ʕ r^ʕ*] or in Biblical Hebrew [*t^ʕ s^ʕ/t^ʕs^ʕ*]); in the *Caucasian languages*, only the uvulars and the velar [*w*] can be pharyngealised (as in Ubykh [*q^ʕ ʙ^ʕ x^ʕ w^ʕ*] or Tsakhur [*q^ʕ ʙ^ʕ x^ʕ ɠ^ʕ*]); or even within the *Athabaskan* family where only the alveolars can be pharyngealised (as in Chilcotin [*t^ʕs^ʕ ʒ^ʕ z^ʕ*] or Hupa [*t^ʕs^ʕ t^ʕ*]). In other words, Berber or Ubykh palatals or labials can in no way coarticulate with a pharyngealisation; as a matter of fact, had Chinese ever had a pharyngealisation in its phonological paradigm, it would have been the only attested language in which any consonant—notwithstanding its place of articulation—would have been prone to a pharyngealised coarticulation.

[-ʂ-]; a sequence such as [-ʂv̥-] is phonetically improbable. A hypothetical example would read as follows:

OC (*krjan) kran > *kràn (Lax) > pre-MC krèn (> *kʂèn *improbable coarticulation*) > MC (kjen) kèn

A short note on grade I-IV. Grades I and IV are attested in complementary distribution; grade IV was very likely a Grade-I subgroup comprising rimes whose vocalic nucleus was the MC front diphthong [-iɛ-] in the modal voice phonation-type register (T syllables). Be that as it may, grade I-IV is tackled as a coherent group by the sinologists.

Old Chinese		Middle Chinese			
Syllabic structure		Syllable weight	Vowel height	Register	Grade
C-CV(C) : tenseness		CV(C) : tense	lowering	modal	I-IV/II
CV(C) : laxness		CV(C) : lax	raising	breathy	III

Table 3. Tense vs. Lax and MC registrogenesis

Summing up. The four grades would eventually account for a binary contrast between two types of syllables. Towards the absolute, Norman's, Sagart & Baxter's and, very openly and clearly, Ferlus's hypothesis seem to point to a phonetic distinctiveness revolving around an opposition rooted in a supra-segmental trait opposing a **tense** vs. **lax** group of rimes; the syllabic tenseness developed a tendency toward a vowel lowering, whereas the syllabic laxness yielded an inclination towards a vowel raising and a breathy voice. In other words, the Old Chinese opposition between monosyllables vs. sesquisyllables turned to a Middle Chinese syllabic opposition "tense" vs. "lax" with all the phonetic correlated associated to such an opposition, that is, a two-fold division of the vowel paradigm, rime confusions in each group and a phonation-type register distinctiveness based on a "modal voice" vs. "breathy voice" opposition. This analytical framework is well-known among diachronicians tackling the various Southeast Asian registro- and tonogenesis processes. Even more, it can be argued that the opposition between a tense and lax supra-segmental feature was transferred into languages in contact, particularly into Mon-Khmer. We shall address this topic in the next paragraph.

Pulleyblank (1984)	Norman (1994)	Baxter & Sagart (2014a)	Ferlus (2009; 2014a)	Grades of the <i>Qìèyùn</i>
Type A	Class A (<i>pharyngealised</i>)	PHARYNGEALISED Class	TENSE Class	I-IV
	Class B (<i>retroflexed</i>)			II
Type B	Class C (<i>palatalised</i>)	PALATALISED Class	LAX Class	III

Table 4. Main binary contrast between MC grades (四等 *sìděng*) (Grade III vis-à-vis the other grades)

2.4. Acknowledging a diachronic continuum across languages in contact

Sinology is an old venerable discipline where the frontlines move rather slowly. Addressing the history of the Chinese language by expanding the diachronic models used in the study of some Southeast Asian languages in contact, particularly Mon-Khmer, may sound like an offense to the prayed-for linguistic apartness of Chinese. However, Chinese does belong to the diachronic continuum across Southeast Asian languages that Chinese itself generated more than one millennium ago.

In particular, the sesquisyllabic status of Old Chinese seems to be quite problematic to many sinologists. However, it is not so iffy an endeavour to postulate that a fair 48% of the Old Chinese lexicon (Lǐ Róng 1956), the grades-II/I-IV words, are likely to have been composed of sesquisyllables; such a proportion of sesquisyllables is also attested in some languages in contact with Chinese, directly or indirectly, as for example in Arem, a Southern Vietic language, where 55-60% of the lexicon is still made up of sesquisyllables, or in Rục, another Southern Vietic language, where 35-40% of the lexicon are sesquisyllables. Incidentally, Vietic is interesting insofar as it exhibits a coherent diachronic trajectory leading from 55-60% of sesquisyllables (in Arem) to monosyllabic languages such as Mường and Vietnamese, snaking up from North-Central Vietnam to the Vietnamese-Chinese border (the ancient *Giao Chỉ* / *Jiāozhǐ* 交趾 commandery, where the Chinese influence was the most deeply and firmly anchored). This would point to a slow monosyllabisation process originating in Chinese and spreading southwards across Vietic languages in contact where the monosyllabisation process is still ongoing.

Moreover, the sesquisyllabic structure of Old Chinese is mirrored in a handful of borrowings from Old Chinese into proto-Vietic (PV)⁴⁴, a group of languages in contact in *Giao Chỉ* (*Jiāozhǐ* 交趾) and *Cửu Chân* (*Jiǔzhēn* 九真). We will discuss four plausible Old Chinese borrowings into proto-Vietic: OC 蠟 *krʰap* [^{*c}·**rap**] "wax", OC 鋼 *kʰaŋ* [^{*c}·**kaŋ**] "cast iron, steel", OC 鐵 *ʔik* [^{*c}·**lik**] "iron", and OC 弩 *nʰaʔ* [^{*c}·**naʔ**] "crossbow".⁴⁵

The first plausible borrowing from Old Chinese to be dealt with is OC 蠟 [^{*c}·**rap**] "wax". The proto-Vietic reconstructed form is [^{*c}·**ra:p**]; such a reconstruction is based on its various attestations across Vietic, as in Maleng [**kəɣa:p**ʔ], Khapong [**ʔa:p**ʔ] (<^{*c}·**tra:p**ʔ), Thavung [**kʰala:p**ʔ], or in Toum [**kʰla:p**]. The standard Vietnamese form reads *sáp* [**ʃa:p**ʔ] and confirms the proto-initial, as [**kr-**] > [**ʃ-**] in Middle Vietnamese. Connecting OC [^{*c}·**rap**] with PV [^{*c}·**ra:p**] seems to be a reasonable hypothesis.

A second borrowing to be tackled is OC 鋼 [^{*c}·**kaŋ**] "cast iron, steel". The proto-Vietic form [^{*c}·**ka:ŋ**], is mostly reconstructed on the basis of the Vietnamese attestation with a spirantised initial *gang* [**ɣa:ŋ**ʰ], whence an ancient sesquisyllabic word (see fn 39). The Vietnamese form was borrowed into some Mường dialects, such as the Mường dialects in

⁴⁴ As an anonymous reviewer aptly pointed out, Baxter & Sagart reconstruct a regular pattern of Old Chinese pre-initial consonants on the basis of Kra-dai presyllabic consonants. Moreover, a proto-Vietic own sesquisyllabic development cannot be categorically ruled out, though this essay, on the basis of the striking similarity between these four Old Chinese and proto-Vietic items, largely favours the hypothesis of a borrowing from Old Chinese into proto-Vietic.

⁴⁵ The Old Chinese materials are presented as such: reconstructed form by Baxter & Sagart (2014b) [*krʰap*] followed by the OC form reconstructed according to its sesquisyllabic structure [^{*c}·**rap**] (where ^c· is the presyllabic element). The OC sesquisyllable will eventually yield a MC *tense* syllable, that is, a grade-I/IV word.

Thanh Hóa and Hòa Bình [ɣa:ŋ¹]. The other Vietic languages such as Rục or Cuối and the Mường dialect of Sơn La attest [ka:ŋ¹]. Quite interestingly, alongside its loan *gang* [ɣa:ŋ¹] from Old Chinese [*c.kan], Vietnamese also attests a Late Sino-Vietnamese form *cương* [kwaŋ¹] borrowed from Middle Chinese [kan].

The word for "iron" might also possibly be a borrowing from OC 鐵 [*c.lik]. The forms in Phong [k^h.lɛk], Cuối [k^h.rat⁷], Pong [k^h.lɛc], Liha [lac] and Vietnamese *sắt* [ʃat⁷] (<[k.rat⁷] in Middle Vietnamese) point to a proto-Vietic [*k.rac]. Here too, Vietnamese attests two layers of borrowings, a loan (*sắt* [ʃat⁷]) from Old Chinese [*c.lik], and a Late Sino-Vietnamese *thiết* [t^hiet⁷] borrowed from Middle Chinese [t^hiet]. I would tentatively connect OC [*c.lik] with PV [*k.rac].⁴⁶ The OC form is most likely to also have been borrowed into a proto-Kam-Sui [*k.rik]; Modern Kam-Sui forms include: Lajia [k^hjäk⁷], Mulao [k^hɣət⁷], Maonan [c^hit⁷]. Accordingly, proto-Vietic and proto-Kam-Sui might have been the first languages in contact to have borrowed the Old Chinese word, when it was still clearly sesquisyllabic; proto-Mjenic [*^hrɛk⁰] and proto-Tai [*^hlek^{0s}] might possibly point to a later borrowing when Old Chinese began monosyllabising; the presyllable [*c.] was being dropped while leaving a preaspiration upon the lateral [*c.l-]>[*^hl-] as a phonetic compensation but the front-diphthongising of the vowel [*-i-]>[-iɛ-] and the dentalisation of the main initial consonant [*^hl-]>[t^h-] was not ongoing yet when it was borrowed into proto-Mjenic and proto-Tai.⁴⁷

The last tentative loan to be tackled is the OC 弩 [*c.naʔ] "crossbow" probably borrowed into its proto-Vietic shape [*s.na:ʔ]; Khapong [səna:ʔ], Maleng Brô [sna:ʔ], or Liha [sna:] compared to monosyllabic Mường [na:ʔ] account for such a proto-Vietic reconstructed form. The Old Chinese form seems to also have been borrowed, likely through proto-Vietic, into proto-Bahnaric [*s.na:] and proto-Katuic [*sənhə:]; in Pearic, [k^həna:] is recorded in Chong, and Khmer attests <əna> [sna:] "fish-spear, harpoon; pike"⁴⁸. proto-Southwestern Tai attests [*^hna:c], the preaspiration of the nasal [*^hn-] is likely to stand for a phonetic compensation after the presyllabic element fell. Moreover and quite interestingly, we have pretty much of a precise idea about when the crossbow was invented in China; the crossbow, as well as mounted artillery, were two military innovations of paramount importance that were invented during the "Warring States Period" (453-221 BC) somewhere in the course of the fourth century BC (Elvin 1973:26; Ricci 1999:1426, #8310) in South China and first used by the armies of *Chǔ* 楚, *Wú* 吳 and *Yuè* 越 (Li Feng 2013:198). When a new character, 弩, was designed by the fourth century BC to graphically represent the newly-invented concept of "crossbow," it encoded a grade-I word; accordingly, by the fourth century, the contrastive feature that differentiated grade I-IV/II from grade III was still considered contrastive. Assuming that this very contrastive feature was a syllabic structure opposition, sesquisyllabic vs. monosyllabic, we can infer that in the fourth century BC the

⁴⁶ The Late Sino-Vietnamese *thiết* is a bound morpheme, whereas *sắt* is a free morpheme.

⁴⁷ The proto-Mjenic form is drawn from Ratliff (2010) and the proto-Tai form from Li Fangkuei (1977). Whereas the sesquisyllabic structure of proto-Hmong-Mjen is quite uncontroversial, the syllabic structure of proto-Tai is still a debated topic; however, the comparison of proto-Tai with its close relative proto-Kam-Sui would rather point to a sesquisyllabic structure for proto-Tai; for "iron", proto-Tai attests a monosyllabic [*^hlek^{0s}] whereas some Kam-Sui Languages attest a sesquisyllabic structure: *Mulao* attests [k^hɣət⁷] and *Lajia* [k^hjäk⁷].

⁴⁸ The Angkorian social structures were to reflect a "hydraulic society," where canals, rivers, aquatic life, and hydraulic techniques were of paramount importance for the Angkorian social structures; this might account for the semantic shift attested in Khmer (from "crossbow" to "fish-spear, harpoon").

words belonging to grade I-IV/II had not completely monosyllabised yet, and that the T vs. L feature was still contrastive between two main groups of rimes.

<i>proto-Vietic</i>	<i>Old Chinese</i>	(Middle Chinese > Mand.)	Gloss
*k·ra:p	[*c·rap] (*kr ^s ap)	(MC <i>lap</i> [lap] > 蠟 <i>là</i>)	"wax"
*c·ka:ŋ	[*c·kaŋ] (*k ^s aŋ)	(MC <i>kaŋ</i> [kaŋ] > 鋼 <i>gāng</i>)	"cast iron"
*k·rac	[*c·lik] (*l ^s ik)	(MC <i>thet</i> [t ^h iɛt] > 鐵 <i>tiě</i>)	"iron"
*s·na:ʔ	[*c·naʔ] (*n ^s aʔ)	(MC <i>nuX</i> [nɔʔ] > 弩 <i>nǚ</i>)	"crossbow"

Table 5. Plausible OC loans in proto-Vietic

The monosyllabisation process seems to have been a major diachronic feature to be transferred to the Southeast Asian languages in contact. More precisely, the consequence of the monosyllabisation *per se* was transferred, that is, a syllabic contrast based on the *lax* vis-à-vis *tense* feature of a syllable. The transfer of the tension vs. laxness syllabic contrast had an immense repercussion on the registrogenesis (stabilised in a vowel split or in a tonal system) affecting the languages in contact. We shall address this topic in the next paragraph.

3.- Chinese syllabic weight T vs. L and Southeast Asian registrogenesis⁴⁹

Before dealing with the linguistic influence of Chinese upon neighbouring Southeast Asian languages in contact, it seems reasonably relevant to delineate the very diachronic history of Chinese from Late Old Chinese down to Late Middle Chinese. What happened to Chinese during this lapse of time stretching from the *Qín* 秦 reunification of 'China' by 221 BC (Late Old Chinese) down to the fall of the *Táng* 唐 by the tenth century AD (Late Middle Chinese)? When Emperor Qín Shǐ Huángdì 秦始皇帝 ordered that scholars be buried alive and books be burnt, he demanded it in an a-tonal sesquisyllabic language whose syllabic structure would have sounded deliciously familiar to Vietic peoples harboured in the mountainous areas bordering North-Central Vietnam and Laos. On the other hand, Táng Āidì 唐哀帝, the last Táng emperor, could but bewail the fate of a collapsing dynasty and a fragmenting empire in a tonal monosyllabic language whose structure would have sounded familiar to the Vietnamese speakers of today. We shall now address the issue of how such dramatic phonological changes occurred.

3.1. Tension vs. Laxness as an intrinsic consonant feature and its correlates

It has become customary to analyse the phonetic feature of the obstruents in terms of a binary contrast between the 'voiced' vs. 'voiceless' obstruents, making dominant the view according to which the syllabic onset time or laryngeal features were consecutive to the "voiceless vs. voiced" feature of the initial obstruent; in other words phonetic correlates such as aspiration duration, stop closure, vowel duration were assigned to a common denominator: a contrast based on the voiced vs. voiceless quality of the obstruents, particularly in onset position. Accordingly, this new conceptual framework clearly rejected the Jakobsonian binary analysis based on the *tense* ('fortis') vs. *lax* ('lenis') feature of the

⁴⁹ As a reviewer very aptly noticed, the use made of 'syllabic weight' in this essay can be paralleled with the phonemic distinction between 'ballistic' vs. 'controlled' syllable in Oto-Manguean languages; it is here about the issue of the holistic syllable property; see Mugele (1982) and Silverman (1994) on this issue. In this essay, the tenser a syllable, the heavier weight it gets and inversely.

obstruent (Jakobson & Halle 1962). However, there have been some new works in phonetics and phonology acknowledging the relevance of the Jakobsonian perspective on this issue. An inclination towards a revival of the Jakobsonian approach is typified in Jessen's work (1998) in which the author aptly pointed out that the relative tension intrinsic to the obstruents captured the most accurately some phonetic correlates such as glottal tension, vowel height and vowel duration.

The 'tense' feature of an obstruent is consecutive to the glottal tension. The tenser an obstruent, the stronger the glottal tension, and the stronger the glottal tension, the more phonetic correlates 'tension' has upon the vowel. For example, the tension generated by the French obstruents is so weak, that it has no effect upon the phonetic surfacing of the vowel. On the other hand, the tension of the German obstruents is strong enough to consequently generate phonetic correlates on the vowel: the initial 'tense' obstruents (that is, voiceless aspirated) tend to lower the vowel height, whereas the initial 'lax' obstruents (that is, voiced obstruents that are devoicing) incline to raise the vowel height.

<i>obstruent</i>	TENSE	LAX	
<i>vowel</i>	lowering	raising	
<i>Pilz</i> [pʰɪlts]		<i>(du) bist</i> [bɪst]	[ɪ]-[i]
<i>tun</i> [tʰʊn]		<i>du</i> [dʊ]	[ʊ]-[u]
<i>küssen</i> [kʰʏsn̩]		<i>Bücher</i> [bʏçɐ]	[ʏ]-[y]
<i>Tod</i> [tʰoʔt]		<i>doch</i> [dɔx]	[o]-[ɔ]
<i>können</i> [kʰœn̩]		<i>böse</i> [bøʒə]	[œ]-[ø]

Table 6. 'Tension' vs. 'laxness' in German and phonetic correlates

Accordingly, the effect of 'tension' (and, consequently, of 'laxness') upon the vowel sounds like the following *mantra*: if strong enough, 'tension' may yield a vowel lowering, and if lax enough, 'laxness' can generate a vowel raising. The major characteristic of the "tension vs. laxness" correlates upon the rime in Old Chinese and the Southeast Asian languages in contact is that these correlates were **PHONOLOGICAL** in Chinese (and, afterwards, in the affected Southeast Asian languages in contact) whereas they are phonetic in German.

3.2. Syllabic Tension vs. Laxness as a phonological feature in Chinese

Old Chinese and the **FIRST REGISTROGENESIS**. As stated afore, monosyllabisation, even uncompleted, entails the deactivation of a phonological contrast. This loss of contrast was compensated by an emerging contrast based on the syllabic weight T vs L; this phenomenon of phonological compensation is called "**transphonologisation**". Due to the coalescence of the intrinsic tension of both the presyllabic and the main consonants during the gemination, the genuine sesquisyllables yielded a heavy syllabic weight typified by a greater glottal tension unfolding along the entire syllable yielding a higher pitch. Contrastively, the genuine monosyllables developed a laxness characterised by the release of the glottal tension entailing (1) a light laryngeal murmur upon the vocalic nucleus that might be associated with a breathy voice, and (2) a lowering of the larynx associated with a distension of the supraglottal cavity and a vowel raising or a closing diphthongisation. To replace it in a conceptual framework well-known among the linguists specialised in Southeast Asian

languages, the tense syllables are associated with an inclination towards high-series supra-segmental features, whereas the lax syllables inclined towards low-series ones. This particular registrogenesis was first attested in Chinese as a consequence of the monosyllabisation process that affected the Old Chinese lexicon of a prestigious Old Chinese lingua franca (most likely the *yǎyán* 雅言). The monosyllabisation process was then transferred to neighbouring regional Old Chinese dialects (*tǔhuà* 土話) and eventually to Southeast Asian languages in contact. To give a theoretical example: the theoretical **pa* opposing a theoretical ancient sesquisyllabic **k·pa* followed this evolutionary path: **k·pa* > **k·pa* (Tense) > **pá* (Tense, High pitch) > **pa* (Tense) whereas: **pa* > **pa* (Lax) > **pà* (Lax, Low pitch, breathy) > **pàa* (Lax, Low pitch, breathy phonation + diphthongisation) > **pəa* (Lax, diphthongisation) (See tables 7 and 8). Whether or not there remained a pitch contrast is uneasy to guess as the Old Chinese registrogenesis was somewhat blurred by subsequent tonogeneses; just the vocalic split is quite obviously attested. As a rule, during a registrogenesis, when the pitch contrast High vs Low gets dominant, the registrogenesis stabilises into a tonal contrast; on the other hand, when the vowel quality gets dominant, registrogenesis stabilises into a vocalic contrast (Michaud 2012:124). Quite obviously, in Old Chinese, the vowel quality contrast was dominant and the contrast eventually evolved into a vocalic contrast that might have made the pitch contrast ineffective and vanish. This accounts for the first phonological compensation to a syllabic depletion attested in Chinese, which must have occurred between the third and the sixth century AD and the entire lexicon might have verged on monosyllabism around the fourth or fifth century AD⁵⁰, though the exact span of time when monosyllabisation process was completed remains a problematic issue that still needs trimming.

*sesquisyllable	*k·pa	TENSE syllable	>pá	HIGH register
*monosyllable	*pa	LAX syllable	>pà	LOW register

Table 7. Monosyllabisation, tension, registrogenesis: A theoretical example

*sesquisyllable	*k·pa	>*pá		>*pa
*monosyllable	*pa	>*pà	>*pàa	>*pəa

Table 8. Register stabilisation and vocalic split [**a*] > [*a*] - [*əa*]
A theoretical example

The analysis of the still-ongoing registrogeneses affecting the languages in Southeast Asia allows so hypothetical a register stage to be posited, inferred and transposed in Old Chinese. Incidentally, should the syllabic tension generated by the very intrinsic nature of the initial obstruents be strong enough (whether the obstruents be simple as in Mon or geminated as in Old Chinese), parallel effects on the rime may occur. For example, in Mon (Shorto 1962; Jenner 1974) or in Khmer (Henderson 1952), the ‘lax’ initial obstruents (the voiced obstruents that are devoicing: [b g ɣ ʒ] > [b̥ ɟ̥ ɣ̥ ʒ̥] > [p t k c]) generate a lowering of the larynx yielding a pitch lowering, a breathy voice, an onset vowel raising and an opening

⁵⁰ As a matter of fact, it takes centuries for a monosyllabisation of an entire lexicon to be completed, and the speed of completion is quite erratic across dialects of a same linguistic family. For example, within Vietic, Vietnamese was already monosyllabic by the sixteenth – seventeenth century whereas Arem, another Vietic language, is still 55-60% sesquisyllabic.

diphthongisation; on the other hand the tense initial obstruents (that is, the voiceless remaining so: [p t k c]) generate a modal voice, a pitch raising, an onset vowel lowering and a closing diphthongisation (See table 9).

<i>Old Khmer</i>		<i>Modern Khmer</i>		vowel split
T	kañ [ka:ŋ]	[ka:ŋ]	"ring"	[a]>[a]-[ɔ]
L	gañ [ga:ŋ]	[kɔ:ŋ]	"to lean"	
T	tuñ [tuŋ]	[tɔŋ]	"small bucket"	[u]>[o]-[u]
L	duñ [duŋ]	[tuŋ]	"pelican"	
(T = voiced initial ; L = voiceless initial)				
<i>Old Mon</i>		<i>Spoken Mon</i>		vowel split
T	ka' [kaʔ]	[kaʔ]	"fish"	[a]>[a]-[ɛa]
L	gañ [gaŋ]	[kɛaŋ]	"river (in folk tales)"	
T	ciñ [ciŋ]	[coiŋ]	"elephant"	[i]>[oi]-[òɪ]
L	jiñ [ʒiŋ]	[còɪŋ]	"to sew together"	
(T = voiced initial ; L = voiceless initial)				
<i>Late Old Chinese</i>		<i>Early Middle Chinese</i>		vowel split
T	姑 *kʰa [*c.ka]	ku [kɔ]	"father's sister"	[a]>[ɔ]-[λ]
L	居 *ka [*ka]	kjo [kλ]	"final particle"	
T	投 *dʰo [*c.do]	daw [dɔw]	"to throw"	[o]>[əw]-[ù]
L	殳 *do [*do]	dzyu [dʒù]	"a kind of lance"	
(T = sesquisyllable [> gemination] ; L = monosyllable)				

Table 9. Tense vs Lax and vowel split in Khmer, Mon and Chinese
Some examples

While the first registrogenesis affecting Old Chinese as a consequence of the monosyllabisation was stabilising in a vocalic split and the deletion of the breathy voice, unstable suprasegmental feature *par excellence*, a **SECOND TONOGENETIC STAGE** was to take place somewhere round the fifth century, likely caused by the laxness *vis-à-vis* tension contrast upon the rimes but whose diachronic mechanism is still to be accurately delineated though. This second phonological compensatory evolution —still ongoing at the beginning of the sixth century AD (Ferlus 2009a:193)— was the transphonologisation of the loss of the final laryngeals ([-ʔ] and, afterwards, [-h]) into three contrastive lexical tones. The loss of the glottal plosive [-ʔ] yielded a "rising tone" (*shǎngshēng* 上聲) and the deletion of the final glottal fricative [-h] generated a "departing tone" (*qùshēng* 去聲); both tones opposed the earlier voiced finals words from which a "level tone" (*píngshēng* 平聲) emerged (Michaud 2012:119, Baxter 1992:303, Sagart 1999:93). The words with the finals in plosives [-p -t -k] were coined "entering tones" (*rùshēng* 入聲) by Chinese literati, though the very naming "tone" might be somewhat misleading; this category of words might have belonged to a particular category used in the composition of poetry pieces (See table 10).

Finals	<i>generated tones</i>	contour	Example	
*-ʔ	<i>shǎngshēng</i> 上聲	rising	*kaʔ	>ka↗
*-h	<i>qùshēng</i> 去聲	departing	*kah	>ka↘
*-#	<i>píngshēng</i> 平聲	level	*ka	>ka→

Table 10. Deletion of final laryngeals and transphonologisation into lexical tones in Early Middle Chinese

The **THIRD TONOGENETIC STAGE** is characterised by the transphonologisation of an intrinsic contrast rooted in the tension vs. laxness feature of the initial obstruent into tones (Haudricourt 1972); this stage triggered a tonal split, from three to six tones. In this particular frame, the initial voiced obstruents [b d g ʒ] are phonetically ‘lax’, whereas the initial voiceless obstruents (aspirated or not) [p t k c] are phonetically ‘tense’. During this stage, the lax obstruents tensed up ([b d g ʒ] > [b̥ d̥ g̥ ʒ̥] > [p t k c]) and eventually merged into the tense obstruent series, aspirated or not depending on the Sinitic dialect, hence [b > p d > t g > k ʒ > c] = [p t k c] (Haudricourt 1954). While both obstruent series (‘lax’ and ‘tense’) merged, a new contrast emerged through the transphonologisation into a musical height contrast. Accordingly, words with an ancient lax obstruent onset ([b d g ʒ]) developed a lower musical height to come into contrast with words with a genuinely tense obstruent onset ([p t k c]) that developed a higher musical height. The registrogenetic mechanisms during this third stage can be paralleled to those hypothesised for the first one; first of all, according to phonetic mechanisms tackled afore, the ancient ‘lax’ obstruents would yield a breathy voice and a lower register whereas the ancient ‘tense’ obstruents would generate a higher register; this register phenomenon would stabilise in a tone system, causing therefore a tonal split (see Table 11).

Transphonologisation of finals				
	*-#	*-ʔ	*-h	
3 main tones	<i>píngshēng</i> 平聲	<i>shǎngshēng</i> 上聲	<i>qùshēng</i> 去聲	
TONAL SPLIT				
Merger of initials				
High register	<i>yīnpíng</i> 陰平聲	<i>yīnshǎng</i> 陰上聲	<i>yīnqù</i> 陰去聲	[p t k c]
Low register	<i>yángpíng</i> 陽平聲	<i>yángshǎng</i> 陽上聲	<i>yángqù</i> 陽去聲	[b d g ʒ] > [p t k c]

Table 11. Tonal split in Late Middle Chinese

The "*terminus ante quem*" for this tonogenetic stage. The 悉曇藏 *Xītánzàng*, a work written by the Japanese Buddhist monk Annen 安然 (841-889) in 880 AD and the Japanese *Hōbōgirin* 法寶義林, a report of the *bonbai* 梵唄 (pronunciation of Sanskrit *mantra* in Tang Chinese) used by the Shingon sect (真言宗 *Shingon-shū*) indicate that both series of initial obstruents had already merged and transphonologised into tones by the **ninth century AD** (Mei 1970:91 *et sq.*).

Locating a "*terminus a quo*." Proposing a reliable date when the lax obstruents began to devoice is quite risky an endeavour. We do know when the process of devoicing and transphonologisation into tones was completed but we do not know when it began, for no

source attesting this change in Chinese has been found or worked on till today. However, the Portuguese and Spanish transcriptions of Siamese and Khmer material during the 16th century compared to the French transcriptions of the same material by the 19th century are likely to form a reliable mainstay to mark out a time bracket for an entire registrotongenetic cycle to stabilise (into a tonal system, or a vocalic split): three centuries. Therefore, we can posit that the devoicing phenomenon is quite likely to have begun three centuries before the ninth century, that is, round the **sixth century AD**.

Summing up. Any obstruent is characterised by a relative tension that, if strong enough, may interfere with the segmental or/ and suprasegmental structure of a rime. We have seen that, in German, the initial ‘tense’ obstruents (that is, voiceless aspirated) tend to lower the vowel height, whereas the initial ‘lax’ obstruents (that is, voiced obstruents that are devoicing) incline to raise the vowel height. The same interference process was also first attested in Late Old Chinese as a consequence of the monosyllabisation process; the very difference between the consequence of the German and the Chinese kind of ‘tension’ is that its effects upon the rime are **PHONOLOGICAL** in Chinese, whereas it has remained phonetic in Indo-European.

3.3. Final glottal [-ʔ], ‘tension’ vs. ‘laxness’ and registrotogenesis in Southeast Asia

(1) Introduction

The very processes that Chinese transferred into proto-Vietic from the urban areas of the *Giao Chỉ* 交趾 commandery in North Vietnam is the monosyllabisation and the phonologisation of the "tension" vs "laxness" contrast alongside its phonetic correlates (segmental and suprasegmental). At a certain point during the Chinese and Southeast Asian tonogenetic process, there must initially emerge a contrast between what is glottalised and what is not. The first loss to be transphonologised into a tone is the deletion of the glottal plosive [-ʔ] in final position followed, or not, by the change of the laryngeal [-h] > [-ʔ] and a transphonologisation into a second contrastive tone after the deletion of the glottal [-ʔ] (Sagart 1988). To quite an honourable extent, the dichotomy between what is glottalised and what is not, as well as the focal significance of such a contrast for a potential tonogenetic process to occur, might pretty clearly be typified by the proto-Vietic tonogenesis, a proto-language in long-standing contact with Old and Middle Chinese in *Giao Chỉ*. This specific topic will now be addressed along the following paragraphs.

The first scholar to have hypothesised about the origin of the Vietnamese tones was the French sinologist Henri Maspero (1912). Basing himself on his Sino-Vietnamese data (his "*sino-annamite*"), he identified two distinct series of tones, the first hinging upon the voiceless nature the proto-initial, and the second on the voiced feature of the proto-initial. He therefore was the first scholar to group the "voiced vs voiceless" (that is, "tense vs lax") feature of an ancient initial plosive and a specific tonogenetic process under the same canopy.

<i>proto-Initial</i>	Vietnamese tones
voiceless plosives	<i>ngang - sắc - hỏi</i>
voiced plosives	<i>huyền - nặng - ngã</i>

Table 12. Vietnamese tonogenesis (Maspero 1912)

The first author who identified a connection between the deletion of a final glottal articulation and its transphonologisation into a tone was Haudricourt (1954); in this founding paper, he associated the loss of a final laryngeal articulation with a tonogenesis; accordingly, the final glottal plosive [-ʔ] transphonologised into the *sắc-nặng* rising tone, whereas the final glottal fricative [-h] transphonologised into the *hỏi-ngã* departing tone; both series were to contrast with the *ngang-huyền* level tone emerging from words with any sonorant final. Furthermore, the merging of both series of initials (voiced into voiceless) was to split the tone paradigm.

1 (no tone)	2 (3 tones)	3 (6 tones)	Modern Vietnamese
pa ba	pa→ ba→	pa→ pa→	ba bà
paʔ baʔ	pa↗ ba↗	pa↗ pa↗	bá bạ
pah bah	pa↘ ba↘	pa↘ pa↘	bả bã
proto-Vietic			

Table 13. Vietnamese tonogenesis (Haudricourt 1954)

(→ 'level tone'; ↗ 'rising tone'; ↘ 'departing tone';
↗, →, ↘ 'high series tones'; ↘, ↗, ↘ 'low series tones')

Though Haudricourt's account has been largely and aptly accepted as an overarching hypothesis that set the stage for ensuing works on Southeast Asian tonegenetics as a whole (see Matisoff 1973), there remain some very light emendations to be added. (1) First of all, Haudricourt's hypothesis does not take the "sesquisyllabic vs monosyllabic" structure of the Vietic lexicon into account; (2) secondly, the chronology of the transphonologisations into tones of both laryngeals [-ʔ] and [-h], as featured in Haudricourt's paper, might possibly be somewhat misleading; both transphonologisations are in no way simultaneous: the first loss to be transphonologised was the deletion of the glottal plosive [-ʔ] and its rising contour supra-segmental correlate incidentally followed by the evolution [-h]>[-ʔ] and the transphonologisation of the [-ʔ] deletion into a falling contour phonological correlate; moreover there is no *de facto* final [-h] deletion and transphonologisation as some Southern Vietic languages like *Arem*, *Rục* or *Thavung* have kept their final glottal fricative [-h] unchanged whereas they transphonologised the loss of their final glottal [-ʔ]. (3) The recent forays into the diachronic phonology of Chinese have paved the way for further research into the influence of the panoply of Chinese diachronic features over the neighbouring languages in contact.

In order to explain the proto-Vietic, proto-Katuic and proto-Pearic final glottal constriction in sonorant outset, Diffloth (1989) came up with his theory of a proto-Austroasiatic (PAA) creaky voice where he advocated a binary opposition between a "creaky voice" (hence "glottalised") and a "clear voice" (hence "unglottalised"). Though Diffloth's theory might outwardly seem to give a definitive answer to satraps of problems evolving from the proto-Austroasiatic glottalisation (creaky voice), there remain some very light, though pervasive, problems to be tackled and solved, among others the very problem of why

the alleged PAA creaky voice affected proto-Katuic, proto-Pearic and proto-Vietic in a diametrically different way whereas it should per force have affected each linguistic group in a rather similar way. Should the creaky voice have been operative in PAA, such a fundamental "clear [v] vs creaky [ɣ] voice" contrast would have left obvious clues in the Austroasiatic languages instead of being completely lost in most of them (including all Katuic languages but *Talan* and *Ong*).

PAA register	*clear	*creaky		
<i>finals</i>	<i>sonorants</i>		<i>plosives</i>	<i>*voiceless fricatives</i>
voiceless proto-initial	<i>ngang</i>	<i>sǎc</i>	<i>sǎc</i>	<i>hỏí</i>
voiced proto-initial	<i>huyền</i>	<i>nặng</i>	<i>nặng</i>	<i>ngã</i>

Table 14. Vietnamese tonogenesis (Diffloth 1989:148)

Haudricourt and Diffloth seem to locate the origin of the Vietic glottal constriction (the *sǎc-nặng* tone) up into proto-Vietic for Haudricourt and even farther up into proto-Austroasiatic according to Diffloth; for both authors the Vietic glottal constriction would have been internally self-generated; moreover it is quite clear from Diffloth's guesses on the PAA creaky voice that the influence of Chinese upon proto-Vietic should pretty much be swept under the carpet, if not cast off. However, as it will be dealt with below, the influence of Chinese —high-prestige language in North Vietnam— should rather be considered a cardinal point in the emergence of a binary contrast between what is glottalised and what is not and its correlated soon-to-be first tonal contrast.

(2) Late Old Chinese and Early proto-Vietic

As already discussed afore, Late Old Chinese might have been brought southwards down to *Giao Chỉ* (*Jiāozhǐ* 交趾) from BC 218 onwards when Emperor Qín Shǐ Huángdì 秦始皇帝 completed its conquest southwards and gently began to root the Chinese influence in the region; this influence over *Giao Chỉ* would gradually increase down to the *Táng* 唐 dynasty (AD 618-907) when it seems to have climaxed. The influence of a wide array of Chinese cultural and linguistic features were transferred into, and transposed onto, local civilisations and languages, among which proto-Vietic emerged as the first and most affected one (at least in Southeast Asia). To be more accurate, the Vietic proto-language which began to be affected by Chinese, most probably around the second century BC, was "**Early proto-Vietic**" (Ferlus 2014a); the very process that was transferred from Late Old Chinese into Early proto-Vietic was the monosyllabisation process and the phonologisation of the "tension" vs "laxness" contrast alongside its phonetic correlates (segmental and suprasegmental). Both strictly Chinese processes were interpreted, and overtly embraced, by a proto-Vietic urban population in *Giao Chỉ* as an iconic linguistic feature to be mimicked, or a Chinese linguistic reflex to calibrate upon.

During the monosyllabisation process, which was transferred from Late Old Chinese [LOC] into Early proto-Vietic ([EPV], that is, proto-Vietic before LOC influence), a heavier tension evolved upon the initial of the EPV sesquisyllables. The presyllabic and main

consonants geminated and both their respective tensions added up; the tension upon the initial of the sesquisyllables consequently stepped up and settled upon the initial while getting diluted along the rime, which brought about the deletion of the final glottal closure of the rime. Contrastively, the monosyllable intrinsically entailed a relative laxness upon the initial consonant and the syllabic tension spread evenly over the rime, which prevented the final glottal from being dropped.

		<i>Gemination</i>	tension - laxness		
Sesquisyllable	*k·ma:ʔ "rain"	*k+m·a:ʔ	> *k̄ma:ʔ/TENSE	>*kma:	ʔ-deletion
Monosyllable	*ta:ʔ "man"		> *ta:ʔ/LAX	>*ta:ʔ	ʔ-retention

Table 15. Monosyllabisation, gemination and deletion of the final [*-ʔ]

A **Late proto-Vietic** (that is, ‘sinicised’ proto-Vietic, or "traditional" proto-Vietic) emerged out of this new segmental and supra-segmental configuration making theoretically possible a first phonologisation of a distinction between:

- (1) a **TENSE** syllabic feature and its phonetic correlates: heavier syllabic weight upon the initial due to a consonant gemination, unglottalised rimes, and transphonologisation in a non-constricted tone (the later Vietnamese *ngang - huyền* tones)
- (2) and a **LAX** syllabic feature and its phonetic correlates: heavier syllabic weight upon the final due to the retention of the glottal closure, glottalised rimes, and transphonologisation in a constricted tone (the later Vietnamese *sắc - nặng* tones).

Let us now examine the phonetic structure of Early proto-Vietic and how it evolved in Late proto-Vietic. Particularly informative, and stimulating, are some incoherence that surface while comparing Mon-Khmer (as well as proto-Mon-Khmer [PMK] itself) words ending with a glottal stop [*-ʔ] or with constricted sonorants [SONORANT-ʔ] and the emergence of non-constricted tones in their Vietic cognates; as Cage (1985) pointed out, Mon-Khmer words ending with a glottal stop regularly correspond to Vietic constricted tones (Vietnamese *sắc-nặng*), as well as, quite strangely, to non-constricted tones (Vietnamese *ngang-huyền*). Therefore, at some point during their evolution, a constriction ending some Early proto-Vietic rimes just vanished in Late proto-Vietic without generating a constricted tone.

Early proto-Vietic seems to have inherited the proto-Mon-Khmer lack of open syllables in any phonetic environment. The EPV rimes must accordingly have displayed the following phonetic pattern: [*·VOWEL·ʔ], [*·PLOSIVE], [*·FRICATIVE], [*·SONORANT·ʔ] and [*·SONORANT·#]. We shall now take a look at the PMK rimes that are relevant to our demonstration, that is, PMK [*·VOWEL·ʔ], [*·SONORANT·ʔ] and [*·SONORANT·#], and analyse how they evolved into Early and Late proto-Vietic:

1.- PMK rimes [VOWEL·ʔ] > EPV [VOWEL·ʔ] > LPV [VOWEL·ʔ]^{LAX} vs [VOWEL·#]^{TENSE}

An unchanged syllabic layout may prudently be posited at the EPV stage, that is, PMK [VOWEL·ʔ] = EPV [VOWEL·ʔ]. Under the influence of the monosyllabisation process transferred from Late Old Chinese, the Early proto-Vietic syllabic paradigm seems to have split in Late proto-Vietic, as the comparison with (proto-)Mon-Khmer clearly suggests, that is, EPV

[VOWEL-ʔ] > LPV [VOWEL-ʔ]^{LAX} vs [VOWEL-#]^{TENSE}. In other words, non-glottalised open syllables emerged and contrasted, if not phonologically at least phonetically, with glottalised syllables. A closer look at the LPV glottalised vs non-glottalised rimes demonstrates that the PMK final glottal is kept unchanged in the LPV monosyllables, whereas the final glottal got deleted in the sesquisyllables.

LATE AND EARLY PROTO-VIETIC MONOSYLLABLES				
PMK [-ʔ] > EPV [-ʔ] = LPV [-ʔ] > Vietic constricted tones [v ³]-[v ⁴] (<i>sắc-nặng</i>)				
Early-PV	Late-PV/ ^{LAX}	Vietic languages	Mon-Khmer [-ʔ]	Gloss
*ciʔ	= *ciʔ	Vinh dialect: <i>chí</i>	PMK *ci:ʔ	"head louse"
*mɛʔ~meʔ	= *mɛʔ~meʔ	<i>mẹ</i>	PMK <i>mɛʔ</i> "mother"	"female"
*bə:ʔ	= *bə:ʔ	<i>vợ</i>	(LOC *bʌʔ 婦 <i>fù</i>)	"wife"
*kaʔ	= *kaʔ	<i>cá</i>	PMK *kaʔ	"fish"
*puʔ	= *puʔ	<i>nhựa</i>	Khmu <i>buʔ</i>	"to suck (breast)"
*luaʔ	= *luaʔ	<i>lụa</i>	(LOC *roʔ 縷 <i>lũ</i>)	"silk"
*cɔʔ	= *cɔʔ	<i>chó</i>	PMK <i>cɔʔ</i>	"dog"
LATE AND EARLY PROTO-VIETIC SESQUISYLLABLES				
PMK [-ʔ] > EPV [-ʔ] > LPV [-#] > Vietic non-constricted tones [v ¹]-[v ²] (<i>ngang-huyền</i>)				
Early-PV	Late-PV/ ^{TENSE}	Vietic languages	Mon-Khmer [-ʔ]	Gloss
*ɟ-ri:ʔ	> *ɟ-ri:	<i>sí</i>	PMK *ɟri:ʔ	" <i>Ficus</i> "
*m-ta:ʔ	> *m-ta:	<i>da</i>	Khmu <i>mtaʔ</i>	"banyan"
*t-ma:ʔ	> *t-ma:	Mường: <i>ta:¹ ma:¹</i>	Khmu <i>tʰmaʔ</i>	"flea"
*c-ru:ʔ	> *c-ru:	Vinh dialect: <i>su</i>	PMK *ɟru:ʔ	"deep"
*b-lu:ʔ	> *b-lu:	Vinh dialect: <i>trù</i>	Lawa <i>pʰloʔ</i>	"betel"
*p-lu:ʔ	> *p-lu:	Rục: <i>pəlu:¹</i>	PMK *blu:ʔ	"thigh"
*p-ɗo:ʔ	> *p-ɗo:	Rục: <i>pədo:¹</i> 'alcohol'	Khmu <i>pdoʔ</i> 'yeast'	"yeast, alcohol"

Table 16. PMK [VOWEL-ʔ] and EPV monosyllable [VOWEL-ʔ] vs sesquisyllable [VOWEL-#]

It is quite clear from the corpus presented afore that the proto-Mon-Khmer final glottal [*-ʔ] was lost in the Late proto-Vietic sesquisyllables, which eventually generated a non-constricted proto-tone (that is, tones [v¹]-[v²], Vietnamese *ngang-huyền*), while it was kept in the monosyllables, whence eventually yielding a constricted proto-tone (that is, tones [v³]-[v⁴], Vietnamese *sắc-nặng*).

2.- Evolution of PMK [SONORANT-ʔ] and [SONORANT-#] into EPV and LPV

The comparison with cognate proto-Mon-Khmer words in sonorant rimes intrinsically poses intriguing problems that still need solving. It seems that Late proto-Vietic inherited the PMK sonorant paradigm, constricted and non-constricted. However, the PMK and LPV cognate sonorants in final position do not perforce correspond to each other, as far as their constricted-or-not feature is concerned.⁵¹ Three kinds of reflexes basically emerge, while gauging the evolution of the constricted vs non-constricted sonorants from PMK into LPV.

⁵¹ The proto-Mon-Khmer forms are drawn from Shorto (2006).

First type of diachronic correspondence. The final constricted sonorants do correspond in both groups; that is, PMK [SONORANT-ʔ] = LPV [SONORANT-ʔ].

PMK	LPV	Vietic	Gloss
*c·limʔ	*c·lɛ:mʔ	Kha-phong: aɬɛ:m³	"to lick"
*k·laŋʔ	*k·laŋʔ	Mường: klaŋ³	"white"
*s·ka:mʔ	*t·ka:mʔ	Arem: kə:mʔ	"chaff, husks of paddy"
*p·la:ŋʔ	*p·la:ŋʔ	Cuối: bla:ŋ³	"to shine"
*m·rəŋʔ	*m·rəŋʔ	Arem: ʳriŋʔ	"body louse"

Table 17. PMK [SONORANT-ʔ] = LPV [SONORANT-ʔ]

Second type. The final non-constricted sonorants do correspond in both compendia; that is, PMK [SONORANT-#] = LPV [SONORANT-#].

PMK	LPV	Vietic	Gloss
*k·ta:m	*k·ta:m	Arem: kaɬa:m¹	"crab"
*su:m	*so:m	Mường: so:m¹	"shrimp, prawn"
*t·lə:m	*p·lə:m	Maleng-brô: plɛ:m¹	"land leech"
*t·la:n	*k·lə:n	Kha-phong: kalan¹	"python"
*p·laŋ	*p·lɛ:ŋ	Sách: məlaŋ¹	"thatching-grass"

Table 18. PMK [SONORANT-#] = LPV [SONORANT-#]

Lastly, strangely and quite interestingly, PMK non-constricted sonorants yielded LPV constricted counterparts without there being any phonetic or (sesqui- vs mono-) syllabic constraint that might possibly account for the emergence of a final glottal or constriction in Late proto-Vietic. Schematically, PMK [SONORANT-#] > LPV [SONORANT-ʔ].

PMK	LPV	Vietic	Gloss
*c·lu:ŋ	*k·rɔ:ŋʔ	Maleng: kəɣð:ŋʔ	"throat"
*c·ku:l	*t·ku:lʔ	Maleng-brô: ukɔ:lʔ	"knee"
*k·duəl	*k·ɗu:lʔ	Rục: kudəl³	"middle, belly"
*c·ha:m	*sa:mʔ	Việt: tám	"eight"
*mi:ŋ	*mɛ:ŋʔ	Maleng-brô: mə:ŋʔ	"mouth"
*ŋ·ʃu:m	*ŋɔ:mʔ	Việt: nhuộm	"to lacquer"
*buŋ~*bo:ŋ	*buŋʔ	Arem: pùŋʔ	"belly"
*c·ʃun	*ʃunʔ	Việt: nhún	"to bend knees"
*pɔ:ŋ	*pɔ:ŋʔ	Pong: pɔ:ŋ³	"bladder"

Table 19. PMK [SONORANT-#] = LPV [SONORANT-ʔ]

Predicating upon the diachronic trifecta presented afore, and most particularly upon the inclination towards an erratic constriction of the final sonorants in a huge number of LPV words in sonorants, it will prudently be posited an irradiating phenomenon of contagion glottalising the final sonorants in **Early** proto-Vietic. By most standards, the phonetic framework of Early proto-Vietic is quite noteworthy within the Mon-Khmer family, insofar as it seems to have displayed a large battalion of constricted sonorant rimes, as a constricted

suprasegmental feature overarching a high percentage of Vietic sonorant rimes⁵² would actually tend to bespeak.

The Late proto-Vietic rimes in sonorants seem to have evolved in the same way as the LPV rimes [VOWEL-#] vs [VOWEL-ʔ]. In a sesquisyllabic configuration, the constriction upon the sonorant inclined towards deletion, yielding a transphonologisation into a **non-constrictive** tone [v¹]-[v²] (Viet. *ngang-hyền*), while the Late proto-Vietic monosyllables tended to maintain their glottal closure, which was to consequently generate a transphonologisation into a **constrictive** tone [v³]-[v⁴] (Viet. *sắc-nặng*). Somehow the opposition glottalised vs. unglottalised in open syllables diffused to the constriction of the sonorants, therefore accounting for the Vietic genuine peculiarity of its constricted tones in a sonorant rime configuration.

LATE PROTO-VIETIC FINALS															
	<i>glottal</i>	<i>fricatives</i>		<i>Sonorants</i>							<i>plosives</i>				
Monosyl. /L	-ʔ	-s	-h	-m ^ʔ	-n ^ʔ	-ɲ ^ʔ	-ŋ ^ʔ	-r ^ʔ	-l ^ʔ	-w ^ʔ	-j ^ʔ	-p	-t	-c	-k
Sesquisyl. /T	-#	-s	-h	-m	-n	-ɲ	-ŋ	-r	-l	-w	-j	-p	-t	-c	-k

Table 20. Late proto-Vietic phonologisation of the LAX (L) vs. TENSE (T) contrast: *glottalised* (> **constrictive** tone [v³]-[v⁴]) vs. *unglottalised* (> **non-constrictive** tone [v¹]-[v²])

Putting the pieces of the jigsaw together. In the wake of the Chinese linguistic and sociocultural sway over Giao Chỉ and, consequently, over Early proto-Vietic, the Vietic rime system shifted to a new phonological poise that would eventually lead up to Late proto-Vietic. According to the phonetic mechanism explained afore, during the monosyllabisation process, the Late proto-Vietic sesquisyllables were affected by a heavier tension settled upon the initial; this phonetic pattern inclined to bring about the deletion of the glottal closure. Contrastively, the monosyllables developed a laxness upon the initial that prevented the glottal closure from getting deleted. This ultimately led to a phonological distinction between what is glottalised (whence *lax*) and what is not (whence *tense*). As a Sinospheric tonogenesis always began with the transphonologisation of a glottal articulation into a tone in contrast with a corresponding unglottalised rime, the Late proto-Vietic new phonetic configuration would naturally and eventually yield a first tonogenesis; in other words, the new contact-induced **phonetic** binary layout [VOWEL-#] vs. [VOWEL-ʔ] and [SONORANT-#] vs. [SONORANT-ʔ] was **phonologised** and would eventually be transphonologised into a first tonogenesis (constrictive vs. non-constrictive tone).

The phonetic framework mentioned afore would explain why the LPV final glottal stop [*-ʔ] tended to maintain itself in the monosyllables, whereas it inclined towards deletion in the sesquisyllables. It is basically, indeed, about a blatant "*inclination towards*" rather than a clichéd "*rule*". As a matter of fact, if we carefully examine the *Lexique des racines proto-viet-muong* (proto-Vietic) (Ferlus & Sidwell forth), the following rough statistics may be inferred. In an open rime environment (that is, [VOWEL-#] vs. [VOWEL-ʔ]), a fair 75% of the

⁵² It should be pointed out that *Maleng-brô*, a Southern Vietic language, still attests a final constriction in a sonorant phonetic environment; for example: *dɛ:m^ʔ* (< EPV *dɛ:m^ʔ*) 'to taste'; *ci:n^ʔ* (< EPV *ci:n^ʔ*) 'nine'; *kw:j^ʔ* (< EPV *kw:j^ʔ*) 'summit'; *mæ:ŋ^ʔ* (< EPV **mæ:ŋ^ʔ*) 'to taste'; *ʔa:w^ʔ* (< EPV **ʔa:w^ʔ*) 'upper garment'; *ka:j^ʔ* (< EPV **ka:j^ʔ*) 'hair'; *ji:r^ʔ* (< EPV **jə:r^ʔ*) 'to wake up'; *a:ʔal^ʔ* (< EPV **ʔal^ʔ*) 'to run'.

monosyllables are glottalised, whereas only 30% of the sesquisyllables preserved their final glottal stop; in a final sonorant configuration (that is, [SONORANT-#] vs. [SONORANT-ʔ]), an honourable 70% of the monosyllables are constricted, while a tiny 25% of the sesquisyllables are constricted. Accordingly the sesquisyllabic vs. monosyllabic structure of the LPV words had quite an obvious incidence upon the constricted-or-not feature of the rime. It will be assumed that the gemination of the presyllabic and main consonants of the sesquisyllables generated a higher tension upon the initial and weakened the rime final that consequently lost its glottal stop and constriction; on the other hand and contrastively, the monosyllables would develop a laxness over the initial and an even pervasiveness of the syllabic tension upon the whole syllable which prevented the glottal closure from being deleted.

How could this dual treatment of the final glottal and its eventual transphonologisation in a "constricted-or-not" tone be accounted for? How might the following Late proto-Vietic pairs ('regular-70%' vs 'irregular-30%') be addressed?

LPV lexicon	<i>monosyllables</i>	<i>sesquisyllables</i>
± 70%	[-ʔ]/[-ʔʰ]	[-#]
	*ʃi:ʔ "elephant"	*b.lu: "betel"
	*d̪e:mʔ "to taste"	*p.le:m "landleech"
	*ci:nʔ "nine"	*k.lən "python"
	*pəŋʔ "to shoot"	*k.le:ŋ "upstream"
	*kɛ:ŋʔ "wing"	*t.gɛ:ŋ "branch"
	*ʔa:wʔ "placenta"	*m.ri:w "axe"
	*kʰɔ:jʔ "smoke"	*m.rɔ:j "fly"
± 30%	[-#]	[-ʔ]/[-ʔʰ]
	*si: "arm, hand"	*k.ti:ʔ "Indian rhinoceros"
	*d̪am "five"	*k.ɲi:mʔ "porcupine"
	*d̪o:n "taro, tuber"	*s.ranʔ "manioc, cassava"
	*le:ŋ "to go up"	*p.səŋʔ "snake"
	*da:ŋ "sugar cane"	*k.pa:ŋʔ "palm"
	*da:w "elder child"	*k.ra:wʔ "blackbird"
	*sa:j "ear"	*k.lɔ:jʔ "to bind"

Table 21. Late proto-Vietic pairs: 'regular' vs 'irregular' final glottal stop and constriction

The focal issue to be tackled at this point to understand the "regular-70% vs irregular-30%" ratio is the very question of what could (partly) inhibit an innovation—here, the transfer of a LOC contrast between a syllabic *tension* and *laxness* alongside its phonologised correlates—to (entirely) take root and be socially embraced? How could it be accounted for why an innovation occurs in one case, but not in another? It seems pretty much relevant to posit the emergence of two kinds of inhibition: (1) an internal, systemic, inhibition and (2) an external, socio-cultural, inhibition.

System-internal inhibition. As Sapir ([1921] 1949:158; 186-7) pointed out, a linguistic system is quite likely to activate and put up a resistance to a main phonological change, when the latter is psychologically felt by the speakers-hearers to interfere with, and generate an

imbalance in, a structural linguistic equilibrium, whether it be phonological, syntactic or morphological. In the case of the evolution of Late proto-Vietic, the melting-away of the final glottal stop in some monosyllables and its preservation in some sesquisyllables is likely to have taken root in a phonological poise that was still solidly effective in several lexical pairs when the contact-induced innovation affected the LPV lexicon word by word, if not sign by sign. In matter of fact, if we have a look at the LPV unglottalised monosyllables and glottalised sesquisyllables whose evolution seems to have been hampered, it is getting clear that a substantial amount of them belong to phonological pairs. The inclination towards the preservation of some phonological pairs seems therefore to have inhibited the motivation of the Late proto-Vietic speakers-hearers to reproduce an innovation. Somehow, on the brink of a phonological collapse, the old guard of an old phonological poise staunchly resisted a novel equilibrium based on a Tense vs Lax syllabic contrast alongside its phonetic correlates.

Late proto-Vietic phonological pairs

*t-ŋar "straight"	Việt: ngay	*t-ŋar? "to snore"	Việt: ngáy
*ha:r "two"	Việt: hai	*ha:r? "to harvest"	Việt: hái
*ŋɛ: "to hear"	Việt: nghe	*ŋɛ:ʔ "marmite"	Việt: nghe
*k-lɛ: "bamboo"	Mường: tlɛ:ʔ	*k-lɛ:ʔ "snake venom"	Mường: tlɛ:ʔ
*kɛ:l "neck"	Mường: kɛ:əʔ	*kɛ:l? "maggot"	Tum: kaɛl ³
*k-ta:l "hard"	Việt: dai	*k-ta:l? "scrotum"	Việt: dái
*bu:l "muddy"	Việt: bùn	*bu:l? "clump"	Việt: bụi
*k-rəm "to sit on eggs"	Sách: karəm ¹	*k-rəm? "thunder"	Sách: t̪im ⁴
*pa: "three"	Việt: ba	*pa:ʔ "aunt"	Việt (dial.): bá
*ku: "hook"	Cuối: kɿw ¹	*ku:ʔ "owl"	Cuối: ku:ʔ mɛ:w ²
*k ^h o: "bridge"	Pong: k ^h o:ʔ	*k ^h o:ʔ "loincloth"	Cuối: k ^h ɔ:ʔ
*d ^o : "monkey"	Thavung: do:ʔ	*d ^o :ʔ "to cook"	Cuối: dɔ:ʔ
*k-ra: "old"	Maleng: kɿɣa:ʔ	*k-ra:ʔ "widower"	Pong: k ^h la:ʔ
*k-ru: "to bleat"	Liha: k ^h low ¹	*k-ru:ʔ "dragon"	Pong: k ^h lu:ʔ
*hɛ:w "blue"	Pong: hɛ:w ¹	*hɛ:w? "faded"	Pong: hɛ:w ³
*k-ra:w "star"	Cuối: k ^h ra:w ¹	*k-ra:w? "blackbird"	Cuối: k ^h ra:w ³
*p-rə:j "to feed"	Liha: p ^h laəj ¹	*p-rə:j? "to release"	Liha: p ^h laəj ³
*k-ta:m "crab"	Arem: katɿ:m ¹	*t-ka:m? "chaff"	Arem: kə:m ²
*ja:m "sugar cane"	Maleng: jəam ²	*ja:m? "to weep"	Maleng: jəam ⁴
*k-laŋ "kidneys"	Kha-pong: kalaŋ ¹	*k-laŋ? "cradle"	Mường: klaŋ ³
*ha:ŋ "cave"	Cuối: ha:ŋ ¹	*ha:ŋ? "to open (mouth)"	Pong: ha:ŋ ³
*k-ra:ŋ "frost"	Mường: k ^h iəŋ ¹	*k-ra:ŋ? "month"	Pong: k ^h la:ŋ ³
*k-la:ŋ "shoulder"	Arem: kalə:ŋ	*k-la:ŋ? "kite"	Arem: kələ:ŋ ²
*ʔo:ŋ "man (vir)"	Việt: ông	*ʔo:ŋ? "tube"	Việt: ống
*k-ro:ŋ "river"	Việt: sông	*k-ro:ŋ? "alive, raw"	Việt: sống
*k-maŋ "broken rice"	Maleng: kamaŋ ¹	*k-maŋ? "salted"	Pong: kmɛŋ ⁴

Table 22. Late proto-Vietic phonological pairs and system-internal inhibition of the T vs L syllabic contrast

System-external inhibition. Another probable, and overlapping, reason why the Tense vs Lax syllabic contrast was inhibited in some 30% of the Late proto-Vietic lexicon might pretty much be consonant with the distinctive sociolectal structure of Late proto-Vietic; it is also congruent with the socio-economic success story of the urban centers dotting the Red River plains of Giao Chỉ (*Jiāozhǐ* 交趾) as well as their multicultural façade from the Hàn 漢

onwards (Li Tana 2011). The overlapping muddled grey zone that divides EPV and LPV along linguistic and socio-cultural lines is quite likely to have been consonant with the local hinterland elite being eclipsed by a massive influx of Chinese immigrants into the urban centers and an ever growing importance of increasingly sinicised urban-bred cadres at the threshold of the Common era; the opposition between a local hinterland elite and a sinicised urban-bred authority as well as the eventual downfall of the hinterland local elite is moreover epitomised by, and climaxed with, the Hai Bà Trưng (the Trưng Sisters') uprising (AD 40-43), and its eventual crushing by a Hàn army led by General *Mã Yuán* 馬援 (*Mã Viện*) in AD 43. Before going back up north by AD 44, *Mã Yuán* would lay the foundations for direct Chinese governance (Taylor 2013:22); from then onwards, Chinese cultural and linguistic features began to inundate the Red River plains. The sociolinguistic consequence was the emergence of two Late proto-Vietic sociolects: a lightly sinicised peripheric hinterland sociolect and a heavily sinicised urban sociolect. The sociolectal pattern of Late proto-Vietic surfaces in tonal disharmonies, where the sinicised Northern *vs* non-sinicised Southern Vietic dichotomy is betrayed by a constricted-or-not feature of some Late proto-Vietic pairs. Some examples might be useful to illustrate the dichotomy mentioned afore; as both examples below demonstrate, the non-sinicised Southern Vietic languages attest glottalised tones [*v*³]-[*v*⁴], whereas sinicised Northern Vietic languages attest unglottalised tones [*v*¹]-[*v*²] in some sesquiyllables:

	Southern Vietic (glottalised)	Northern Vietic (unglottalised)	Southern Vietic (glottalised)	Northern Vietic (unglottalised)
	Maleng: <i>təboːj³</i> Sách: <i>cəboːj³</i> Rục: <i>cəboːj³</i>	Việt: <i>mơ í</i> Vinh dial.: <i>mu í</i> Mường: <i>moːj¹</i>	Maleng: <i>təkɛːŋ³</i> Arem: <i>kaːŋ²</i> Sách: <i>təkɛːŋ³</i>	Việt: <i>cānh</i> Mường: <i>kiɛːŋ²</i> Mường-bỉ: <i>kɛːŋ²</i>
LPV pairs	*c·ɓuːj [?]	*c·ɓuːj	*t·kɛːŋ [?]	*gɛːŋ
	"lips"		"branch"	

Table 23. Late proto-Vietic phonological pairs and system-external inhibition of the T vs L syllabic contrast

(3) Glottalisation and transphonologisation of the final fricatives [**-h*] and [**-s*]

The transphonologisation of the loss of the final glottal [-ʔ] into a tone yielded a phonological blank to be potentially filled in by another glottalisation. From the following evolution [-h] > [-ʔ] and [-s] > [-h] > [-ʔ] (Sagart 1988) another subsequent distinction between "what is glottalised and what is not" could emerge anew. This eventual consequential glottalisation could **potentially** (but in no way *de facto*) lead up to a further transphonologisation into a tone, that is, in the case of Vietic, into tone [*v*⁵]-[*v*⁶] (Việt *hỏi - ngã*). Accordingly, this very transphonologisation did not affect the whole Vietic branch.

Quite interestingly, the evolution [-h] > [-ʔ] is still to be observed in Maleng-brô, a Southern Vietic language, whereas *Mãliêng* maintained it as a segmental phoneme [-h]. The diachronic evolution seems to have been as follows: [-h] > [-ʔ] > [-#] + transphonologisation of the final glottal [-ʔ] into a second tonal contrast surfacing in a falling contour contrasting in turn with the rising contour originating in the transphonologisation of the final [**-ʔ*] that occurred during the first glottalised *vs* unglottalised tonal contrast.

LPV	Maleng	Maleng-brô	Việt	Gloss
*suh	suh	sɯʔ	tổ	"nest"
*ʔa.loh	lùh	lòʔ	—	"to go out"
*ɓah	ɓah	ɓaʔ	mũa	"to vomit"
*c.peh	pɛh	pæʔ	bẻ	"to break"
*k.rɔh	kəɣòh	kʰròɛʔ	sũa	"to bark"

Table 24. Evolution of the LPV final fricative [$*-h$] > [$-ʔ$] > [$-#$] + transphonologisation into Vietic tone [v^5]-[v^6] (Việt *hỏi* – *ngã*)

The Late proto-Vietic final fricative [$*-s$] has variously evolved across the Vietic languages. In Arem, [$*-s$] > [$-h$] with the final fricative remaining a segmental phoneme; the Pong languages attest the following diachrony: [$*-s$] > [$-c$]/[$-t$] and a consequential shift into another tonal category ([v^7]-[v^8]) in line with a rime closed with a plosive. The short corpus presented below would lead us to prudently implement the following diachronic frame [$-s$] > [$-r^h$] > [$-j^h$] > [$-j^ʔ$] > [$-j$] + transphonologisation of the deletion of the final glottal [$-ʔ$] > Vietic tone [v^5]-[v^6] (Việt, *hỏi* – *ngã*).

LPV	Arem	Rục	Thavung	Maleng-brô	Mường	Việt	Gloss
*mu:s	mùh	mu:r ^h	mu:j ^h	mù:j ^ʔ	mu:j ⁴⁶	mũi	"nose"
*p.la:s	ilæ:h	—	palaj ^{h1}	pəla:j ^ʔ	k ^h a:j ⁵	sải	"brasse"
*p.ta:s	—	ta:r ^h	hata:j ^h	pata:j ^ʔ	ta:j ⁵	tãi (dial.)	"to spread"
*la:s	lìəh	lèar ^h	la:j ^h	la:j ^ʔ	la:j ⁴⁶	lưỡi	"tongue"
*gu:s	kùh	ku:r ^h	ku:j ^h	ku:j ^ʔ	ku:j ⁵	củi	"fire(-wood)"

Table 25. Evolution of the LPV final fricative [$*-s$] > [$-r^h$] > [$-j^h$] > [$-j^ʔ$] > [$-j$] + transphonologisation into Vietic tone [v^5]-[v^6] (Việt *hỏi* – *ngã*)

(4) Once again unto the breach

What was transferred from Late Old Chinese into Early proto-Vietic is not so much the monosyllabisation process *per se* but rather the **phonologisation** of some of its correlates, that is, a syllabic tension generated by a gemination in the sesquisyllables contrasting with a syllabic laxness developing upon the monosyllables, as well as its laryngeal correlates over the rime, whether it be upon the vowel or upon the glottal closure. Moreover, it should be pointed out that the phonetic correlates of the syllabic tension *vs* laxness contrast were differently phonologised in Late Old Chinese (that is, a registrogenesis stabilised in a vocalic split) and in Early proto-Vietic (that is, a tonogenesis stabilised in a tonal contrast based on a constricted *vs* non-constricted feature).

Accordingly, the very first contact-induced Vietic tonogenesis eventually stabilised in a three-tone contrast, two of which—the constricted [v^3]-[v^4] (Viet. *sắc-nặng*) and, later on, [v^5]-[v^6] (Việt, *hỏi* – *ngã*)—contrasted with the third—the non-constricted [v^1]-[v^2] (Viet. *ngang-huyền*).

Finals	[-ʔ]	[-h/-s]>[-ʔ]	[-#]
Tone	v ³ -v ⁴	v ⁵ -v ⁶	v ¹ -v ²
	constricted		non-constricted

Table 26. First Vietic tonogenesis : LPV three-tone system

The second Vietic tonogenesis is the well-studied and well-understood registrotogenesis *"by the initials"*. The 'lax' obstruents (that is, initial voiced obstruents) tensed up (that is, [b d g ʒ]>[b̥ d̥ g̥ ʒ̥]) and eventually merged in their tense counterparts (that is, in initial voiceless obstruents: [b̥ d̥ g̥ ʒ̥]>[p t k c]+tonal split). This phase stabilised in a tonal split where the phonological contrast is based on the musical height. There is nothing particular to comment on this tonogenetic stage, for it has become a well-cleared terrain for diachronicians.

3.4. Diffusion Further Southwards: From Giao Chỉ to the Gulf of Thailand

As amply discussed afore, Giao Chỉ was the linguistic area where the major sinicisation process took place. However, linguistic sinicisation did not stop there but followed the trade routes down to the Gulf of Thailand and the Mekong Delta. Two scenarios of diffusion of Chinese diachronic changes are to be addressed quite asunder: a "southwestward-diffusion" pattern, where the transfer of diachronic changes seems to have occurred directly from Middle Chinese into neighbouring languages in contact, and a "southward-diffusion" pattern where sinicisation seems to have taken place by proxy through an already sinicised language, mostly Old and Middle Vietnamese.

The *"southwestward-diffusion" pattern*: from Giao Chỉ to the Middle Mekong Valley and westwards down to the Gulf of Thailand. As a matter of fact, there are reasons to believe that the Chinese somewhat controlled the trade route from Giao Chỉ down to the Gulf of Thailand, mostly to avoid the sea route off the Vietnamese coasts made quite hazardous by Cham piracy; this transcontinental road is called *Trans-Cordillera Trail* by Hoshino (2003:50-3), or *Han Trail* by Ferlus (2009b:45-8). The Middle Mekong region must have been incorporated into the Tiānxià 天下 realm for quite a long time, as according to the 吳書 *Wúshū* ('Book of Wú') of the *Sānguózhì* 三國志 ('Records of the Three Kingdoms'), a polity named *Tángmíng* 堂明 located north of Cambodia in the Middle Mekong Valley sent tributes to the Wú 吳 Court between AD 226-31 (Wang 1958:120). Moreover, Táng records, such as the *Táng Huìyào* 唐會要 or the *Xīn Tángshū* 新唐書, are pretty unequivocal as to the special administrative status bestowed upon the prefecture of *Zhǎngzhōu* 長州 located in Middle Mekong Valley which was under the direct control of the provincial government (*Dūhù fǔ* 都護府) at Giao Chỉ (*Jiāozhǐ* 交趾) (Hoshino 2003:48-9); this would suggest quite a significant Chinese administrative, commercial and, most likely, linguistic influence over the Middle Mekong region. Two Mon-Khmer linguistic groups are likely to have been affected by the monosyllabisation process transferred from Chinese along this Han Trail (or Trans-Cordillera Trail).

The first linguistic group to have been affected by the transfer Chinese diachronic changes is **Pearic**, a Mon-Khmer branch whose speakers are now scattered in Western Cambodia up in the Cardamom Hills but who would have for generations untold been influential enough in Thailand to have founded important political networks, if we give some credit to the Samrê oral tradition, and who would have established their main political power

around Chanthaburi in Thailand, according the oral tradition of the Khmers living there now (Martin 1997:70). The Tense vs. Lax phonological contrast (alongside its phonologised phonetic correlates) was quite likely directly transferred from Late Old Chinese or Early Middle Chinese into proto-Pearic (Ferlus 2009b). As it was the case for proto-Vietic, the monosyllabisation process was transferred into Early proto-Pearic and, above all, the phonologisation of the phonetic correlates of the tension generated by the gemination of the initial and presyllabic consonants of the sesquisyllabic words. Contrastively, a phonological laxness evolved along the monosyllabic words; what was transferred is not so much the monosyllabisation process *per se* but the phonologisation of its phonetic correlates. The phonologised phonetic correlate of the syllabic tension generated in the sesquisyllabic words was a **creakiness** affecting the vowels contrasting with the clear voice characterising the vowels of the monosyllabic words. Another consequence of the tension was the softening of the final obstruents into their homorganic counterparts [-p -t -c -k] > [̣m ̣n ̣j ̣ʔ], which is rather commonsensical since the tension focused upon the initial and died down at the end of the rime while leaving a creakiness upon the vowel (except in the rime ending with the fricative [-h]) and consequently softened the articulation of the final plosives. Accordingly, as it was the case in proto-Vietic, the syllabic tension vs laxness transferred from Chinese into Early proto-Pearic generated a phonological contrast in Late proto-Pearic between "what is glottalised" (in the Pearic case: *creaky-voiced*) and "what is not glottalised" (in the Pearic case: *clear-voiced*).

LATE PROTO-PEARIC FINALS												
	<i>vowel</i>	<i>fricatives</i>		<i>Sonorants</i>							<i>plosives</i>	
Monosyl./L	-#	-s	-h	-m	-n	-ŋ	-ŋ	-r	-l	-w	-j	-p -t -c -k
Sesquisyl./T	̣#	̣s	-h	̣m	̣n	̣ŋ	̣ŋ	̣r	̣l	̣w	̣j	̣m ̣n ̣j ̣ʔ

Table 27. Late proto-Pearic phonologisation of the LAX (L) vs. TENSE (T) contrast:
Clear voice (^{LAX}[v]) vs. *creaky voice* (^{TENSE}[ṿ])

The Pearic second registrogenesis does not pose any particular problem. The devoicing of the voiced initial obstruents and the merger of both series split the number of phonation types, from two to four: contrastively to the Late proto-Pearic phonological phonation pair "*clear voice vs creaky voice*", a new contrastive pair "*breathy voice vs breathy-creaky voice*" was phonologised. During the tensing-up process of the voiced initial obstruents conducive to their devoicing, a supra-glottal murmur was generated and spread along the vowel: this is the well-known breathy voice phonation, one of the features of the second register in the Southeast Asian register languages. Accordingly, after the initial voiced obstruents tensed up to their complete devoicing, the clear and creaky voices have been both articulated in a breathy phonation in the newly generated second register.

		<i>First Register</i>	<i>Second Register</i>
		[p- t- c- k-]=[p- t- c- k-]	[b- d- ʒ- g-]>[p- t- c- k-]
Monosyllables	L	clear voice	breathy voice
Sesquisyllables	T	creaky voice	breathy-creaky voice ⁵³

Table 28. The two registers and four phonation types in Pearic

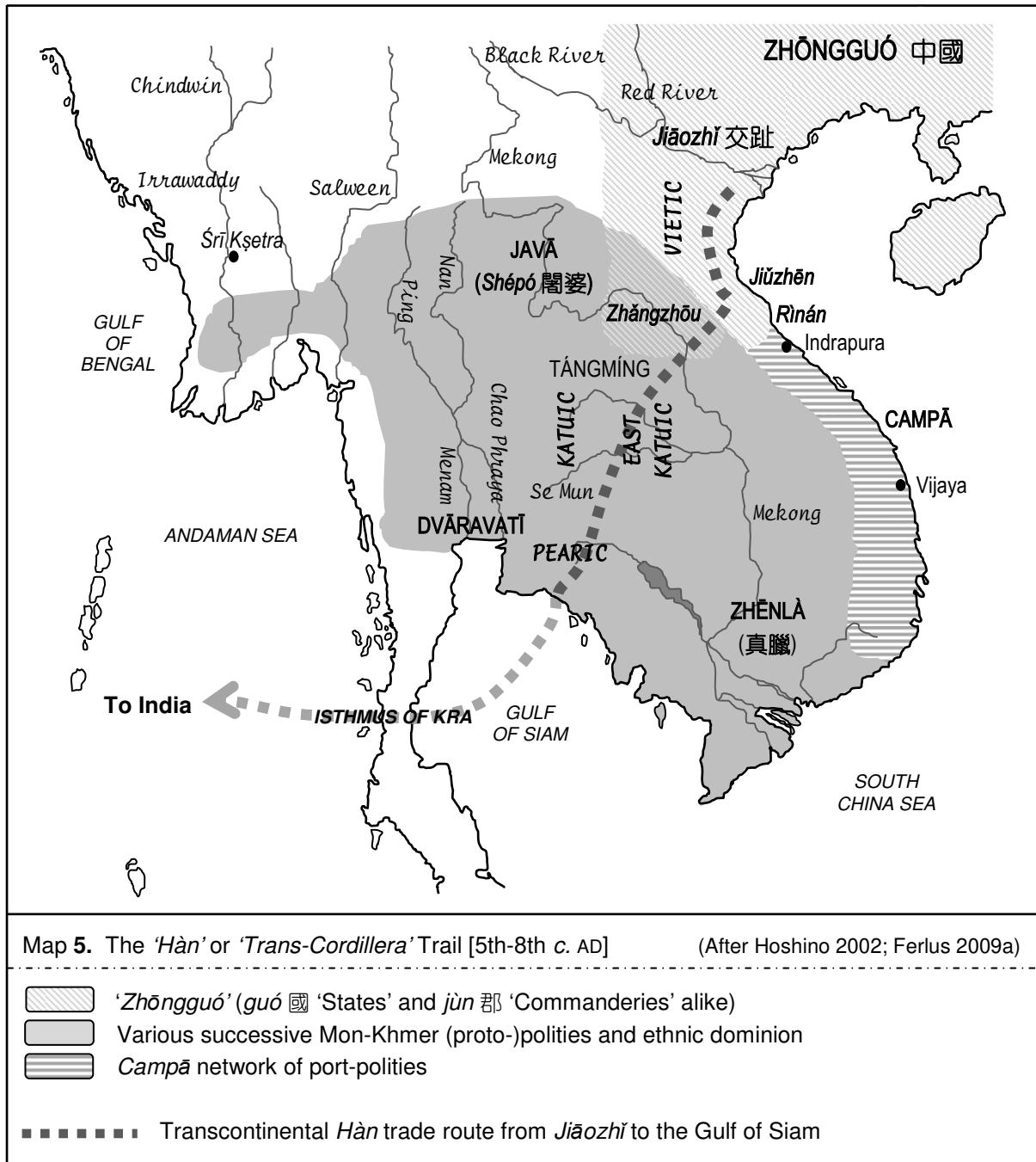
The four phonation types in *Chong*, examples drawn from Suwilai *et al.* (2008)

R1 clear-voiced		R3 breathy-voiced	
dɔŋ	"dense jungle"	jà:m	"to weep, cry"
k ^h lo:	"blind"	kì:p	"hoof (of animal)"
wɛ:k	"to push aside"	nə:n	"a rise, hill"
ʔu:t	"wood"	t ^h læw	"to go out for fun"
R2 creaky-voiced		R4 breathy-creaky-voiced	
təkɰp	"under the floor"	ch̥ɰ:ŋ	"Chong"
k ^h əmy:c	"spirit"	kəp ^h ɰt	"shrimp"
kəp̚:t	"cotton"	kəp ^h ɰ:c	"sharp pointed stick"
k ^h əŋɛ:m	"trunk (of tree)"	ml̥ɰ:k	"salty"

Note. Pearic is quite noteworthy insofar as it lost the proto-Mon-Khmer final laryngeal [*-ʔ] as soon as in its Early proto-Pearic stage, consequently generating open syllables. The Pearic final consonant paradigm was resupplied with a laryngeal [-ʔ] rather lately, well after its Late proto-Pearic stage, most likely not under any Chinese linguistic influence. Why a creaky voice in an open syllable did eventually evolve into a laryngeal rime ([-#]>[-ʔ]) in the Pearic (diachronically) sesquisyllables remains pretty much of a problem that further research will have to outguerrilla.

There might have been pretty much of a similar transfer process from Chinese into proto-East Katuic (Ferlus 2009a:46; Diffloth 1989:140-4) located in Central Laos precisely along the *Hàn* 漢 transcontinental trade route down to the Gulf of Thailand but whose diachronic modalities still need delineating though.

⁵³ As an anonymous reviewer, quoting DiCano (2009), noticed, the *breathy-creaky* phonation is pretty much time-controlled: the breathy phonation affects the beginning of the rime whereas the creaky phonation colours the very end of the rime.



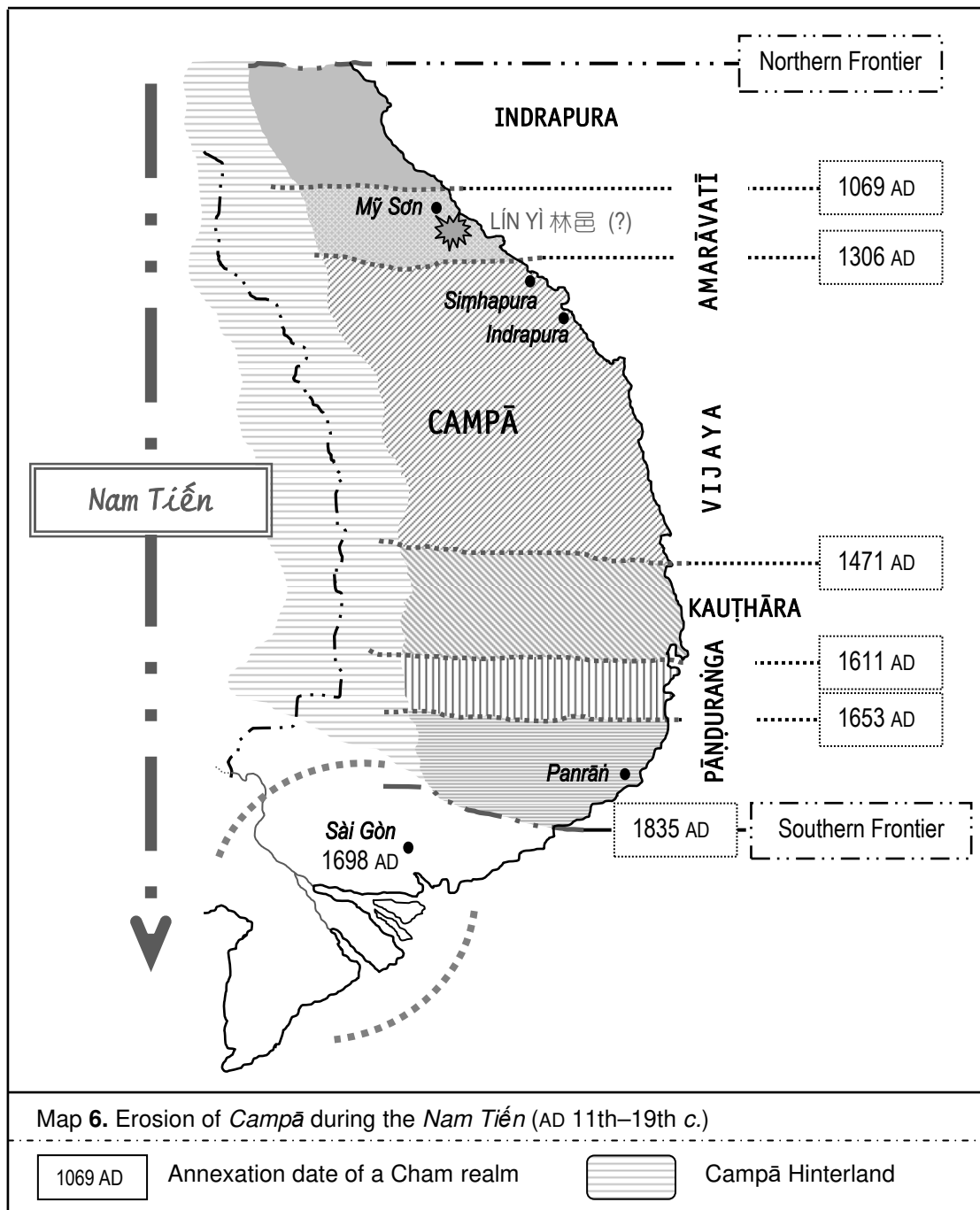
The *"southward-diffusion" pattern*: from Giao Chỉ to the Mekong Delta, snaking down along the Vietnamese coast. According to this diffusion scenario, sinicisation would have occurred *by proxy* through already sinicised Old and Middle Vietnamese dialects during the *Nam Tiến*, that is, during the Vietnamese "S-movement Southwards" which would end up down in the Mekong Delta. Old Vietnamese dialects would first have been in contact with other (lowly sinicised) Northern Vietic languages—among which the Mường languages—scattered in those deliciously rustic Giao Chỉ hilly and swampy rural hinterlands (as far down as in Thanh Hóa province). Afterwards, those Old Vietnamese dialects would have spread over some Southern Vietic languages (most likely Pọng-Chút) during their migration southwards into the provinces of Nghệ An, Hà Tĩnh and northern Quảng Bình; from this

very contact situation between a prestigious sinicised urban language (Old Vietnamese) and some "rural hinterland" genetically related languages (some Pọng-Chứt dialects), the North-Central, or Heterodox, Vietnamese dialects would have eventually emerged and evolved according to diachronic mechanisms already sketched out afore in the present essay. As far as the Southern Vietic languages are concerned—the Vietnamese heterodox dialects excluded—, they are still now being sinicised and, as a rule, the closer to Giao Chỉ, the more sinicised (that is, the higher percentage of monosyllables in their lexicon).

The relations between the newly independent Vietnamese polity and its southern-frontier neighbour, **Campā**, during the *Nam Tiến*⁵⁴ are quite an interesting issue to bring up at this point⁵⁵. The Cham realm consisted of a network of port-polities whose regional centers were concentrated at the river mouths; Chinese annals depicted them as rather prone to piracy and pretty effective in controlling it. The ethnic coloration of Campā was mainly connected to "Malay," whether they speak coastal 'sanskritised' Chamic dialects or Chamic Highland dialects such as *Rhadè*, *Raglai* or *Jarai*, each of which were besides represented at the royal Court (Gay 1988:49-58), which basically attests a Cham control upon its mountainous hinterlands (as well as upon the Mon-Khmer Bahnaric populations). The sustained economic development of the Red River plain region yielded an important population increase from the tenth century onwards and a consequential Vietnamese infiltration south of the Sông Giang River in search for new pieces of land to clear for cultivation (Lê Thành Khôi 1992:162-3); the Vietic populations in Campā were first seamlessly integrated within the various Campā polities at their northern frontiers but the sparse and scattered Vietnamese peasant communities would eventually be followed by military troops and the political relations between both Vietnamese and Cham polities would therefore gradually deteriorate. The Chams strove to survive for a while as a political and socio-cultural entity with some various success through intermarriages or attempted marriage alliances within both the Trần 陳 and Cham nobility (Taylor 2013:141, 144) or through some clever diplomatic associations with the Middle Kingdom against the Vietnamese—for example at the end of the fourteenth century when the Chams won Chinese military supports against the Vietnamese by lavishing the *Ming* 明 Court with tributes and cunningly depicting the Vietnamese as the constant aggressors (Hall 2011:243). However, the fall of Vijaya, an important socio-political and economic center of the Cham maritime power in AD 1471 can be equated with a slow but tragically continuous loss of Cham political self-determination, even if some Cham polities survived mainly as *trấn* 鎮 "territories with some varying degrees of political and socio-cultural autonomy" subjected to the Nguyễn overlordship down to 1835 (Po Dharma 1987).

⁵⁴ As John Whitmore noticed (pers. com.), the *Nam Tiến* was not a straight forward push southwards but rather a back-and-forth competition between two more or less equal realms for 500 years (10th-15th centuries), if not a thousand (5th - 15th). Moreover, still according to Whitmore, only since the 17th century would the Vietnamese contact have been steady and consistent enough to have a substantial linguistic impact upon other languages.

⁵⁵ Two types of Cham-Vietnamese relations along two routes should be addressed here: a Continental route snaking down Vietnam, and a Sea route that linked the Cham and Jiāozhǐ 交趾 coastlines within a maritime trade network, called *Jiāozhǐyáng* 交趾洋, stretching from the Mekong Delta to *Hǎinán* 海南 Island and the *Guǎngxī* 廣西 ports facing the Tonkin Gulf from the 13th to the 15th century (Shiro 1998; Li Tana 2006). However, only the continental route is relevant for our present linguistic purpose and will therefore be dealt with.



The historical sketch drafted afore has important linguistic implications on Chamic diachronic evolution; as made clear, Chamic has been in a linguistic (and socio-cultural) contact situation with the Bahnaric and, secondarily, Katuic languages (Sidwell 2007) from the *Campā* Hinterlands as well as with Old and Middle Vietnamese dialects during the *Nam Tiến* (the linguistic influence of Vietnamese is actually still active now). What has been transferred from Chinese into Chamic through Mon-Khmer is a rampant monosyllabisation process and the phonologisation of its phonetic correlates depending on the proxy-language that transferred the process; in other words, Chamic languages whose monosyllabisation process was transferred from a Mon-Khmer register language incline towards a registrogenesis and a vowel split (as in Western Cham under the influence of Khmer), whereas Chamic languages whose monosyllabisation process was set into motion under the

influence of a tonal language will tend towards a tonogenesis (as in Eastern or Phan Rang Cham under the influence of Vietnamese). Accordingly, in the case of Chamic too, what was transferred (albeit by proxy sinicised languages) is the **phonologisation** of the phonetic correlates of the Tense *vs.* Lax syllabic contrast (that is, between a tense sesquisyllabic and a lax monosyllabic structure). As it is too vast an issue to be dealt with here, just the influence of Vietnamese upon Chamic will be briefly addressed.

An overlapping Mon-Khmer and Vietnamese influence on a Chamic language is typified in Eastern, or Phan Rang, Cham tonoregistrogenesis. First, under the influence of Hinterlands Mon-Khmer, possibly Bahnaric, and according to phonetic mechanisms already largely addressed afore in the essay, the proto-Chamic initial obstruents tensed up and merged into their proto-voiceless counterpart; this yielded a phonation contrast between a breathy voice [ɸ] and a lower pitch [̀] unfolding along the vowels after a devoiced proto-Chamic voiced obstruent and a contrastive modal voice [v] and a higher pitch [́] upon the vowels articulated after the other proto-Chamic initials. It should first be pointed out that in the case of proto-Chamic dissyllabic roots, the devoicing of the initial of the first syllable spread to the main initial; if the initial of the second syllable is a sonorant, the devoicing phenomenon is most than often hampered though; secondly, a breathy voice phonation is quite unstable and is all the more likely to disappear when a tonoregistrogenesis is stabilised in a vowel split or in a tonal contrast; in the case of Phan Rang Cham, the breathy voice seems to have disappeared more rapidly in sesquisyllables than in monosyllables (Han, Edmondson & Gregerson 1992)⁵⁶.

proto-Chamic Initials		<i>Phan Rang Cham</i>		phonation
voiceless	*kapa:l	kəpál	"thick"	modal voice higher pitch
	*kɔw	ków	"I (familiar)"	
	*tapaj	təpát	"rice wine"	
	*kra	krá:	"monkey"	
	*tapuŋ	təpúŋ	"flour"	
	*pɔ	pó:	"HONORIFIC"	
voiced	*təbus	təpə̀h	"to help"	breathy voice lower pitch
	*bubah	pəpə̀h	"mouth"	
	*dua	tʷə̀:	"two"	
	*dada	ʔǎ̀tə̀:	"chest"	
	*blɛj	plɛ̀ɛ	"to buy"	
	*glaj	klə̀ɛ	"forest"	

Table 29. The two registers in Phan Rang Cham (or Eastern Cham)

Within the socio-historical framework drafted afore, a Cham-Vietnamese bilingualism situation gradually emerged (Brunelle 2008). The Vietnamese contrast between the glottalised *vs.* unglottalised tones was transferred into Cham. In other words, a contrast between "what is glottalised and what is not" has gradually emerged in Phan Rang Cham and its registrotogenesis has consequently stabilised, or is stabilising, in a four-way tonal contrast that has been, or is being, phonologised according to the dialects under scrutiny.

⁵⁶ The data presented in Table 29 were collected in July-August 2004 during a fieldwork in Thái Giao and La Chử, Ninh Phước District, Ninh Thuận Province.

Yet, the issue of the phonologisation of the tones in Phan Rang Cham is no way locked away as the process seems to be still ongoing now; Moussay's Phan Rang Cham dialect is pretty surely a phonologically four-tone language (Moussay 1971), but the Cham dialect analysed in Han, Gregerson & Edmondson (1992) seems to be a phonologically three-tone language. Be that as it may, instrumental phonetics demonstrates that the "glottalised vs. unglottalised" feature of the rime final clearly affects the pitch. A completed Phan Rang Cham registrotogenesis might be summarised as sketched in Table 30.

		Rime	
		<i>unglottalised</i>	<i>glottalised</i>
Initial	voiceless	Level tone – modal	Rising tone – constricted
	voiced	Departing tone - breathy	Departing tone - constricted

Table 30. Vietnamese induced *glottalised* vs. *unglottalised* contrast in Phan Rang Cham (or Eastern Cham)

In other words, what has been, or is being, transferred from Vietnamese into Phan Rang Cham is the tonal distinction between **unglottalised** "*modal ngang - breathy huyền*" and **glottalised** "*sắc - nặng*", and, most importantly, the sinospheric rule to phonologise it.⁵⁷

	<i>proto-Chamic</i>	Phan Rang Cham
unglottalised	*tɯj	tɯi [→] "to follow"
	*pataw	pətaw [→] "Lord"
	*dua	twɔ _↓ "two"
	*batɛj	pətɕɯ _↓ "banana"
glottalised	*pa:t	paʔ ^ʔ "four"
	*təpat	təpaʔ ^ʔ "honest"
	*dɔ:k	tɔʔ _↓ ^ʔ "to fill in"
	*batuk	pətɔʔ _↓ ^ʔ "cough"

Table 31. Phan Rang Cham (or Eastern Cham)
The four tones

4.- Conclusion: the *mantra* that has been chanted

The *tense* vis-à-vis *lax* feature of a consonant—and consequently of a syllable, as the tension spreads and dies down along the syllable—is consecutive to the glottal tension generating this consonant. The tenser an obstruent, the stronger the glottal tension, and the stronger the glottal tension, the more phonetic correlates tension has over the vowel. This is not a novel discovery *per se*, for it was already discussed by Jakobson and, recently, by other authors, among whom Jessen 1998 who aptly demonstrated that the tension of the German obstruents generates phonetic correlates on the vowel: the initial 'tense' obstruents tend to lower the vowel height, whereas the initial 'lax' obstruents incline to raise the vowel height.

⁵⁷ It should be recalled with Thompson (1965:16) that, indeed, the *huyền* tone has also remained slightly breathy in Vietnamese.

Exactly the same phonetic mechanisms and inclinations are attested in Late Old and Early Middle Chinese and were transferred into Southeast Asian languages in contact, whether they be transferred directly from Chinese or from already sinicised proxy-languages. The major difference between the phonetic correlates of the "syllabic tension vs laxness" distinction in Germanic on the one hand, and across the Sinospheric languages on the other hand, is that the phonetic correlates remained strictly **phonetic** in Germanic whereas they turned **phonological** in the Sinospheric languages. In other words, what was transferred from Chinese into Sinospheric languages in contact (directly or "by proxy") is not so much the monosyllabisation process *per se* but the **phonologisation** of its phonetic correlates consecutive to the *syllabic tension vis-à-vis syllabic laxness* generated by their initial consonant(s) respectively.

Furthermore, the aforementioned phonologisation process was transferred across Southeast Asian languages in contact from the Giao Chỉ commandery, southwestwards to the Gulf of Siam, and southwards snaking down to the Mekong Delta.

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